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Insight

Trade Trends: New Forces Reshape Thailand's International Prospects

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Content

Executive Summary

Thailand's slumping export performance has focused attention on how to remedy it. Looking beyond specific products and industries, it is important to consider certain broad trends and opportunities in today's global environment that will affect most Thai companies going abroad.

The old order of international business is being reshaped as never before. Conventional products, services and business strategies are becoming obsolete as the economic and social landscapes change, technology advances, and global consumer needs and preferences are transformed. Thai businesses that aspire to establish a stronghold in the global market need to work harder to keep ahead of today's trends, but they can benefit too.

This edition of Insight presents various perspectives on how and why Thai companies should adapt to the new international environment. With a clearer understanding of emerging trends, both government and the private sector can prepare for transition and seize the opportunities. Chapter 1 surveys the changing landscape of global trade, identifying the opportunities and challenges for firms exploring new frontiers. Chapter 2 discusses strategies to increase value-added in products and services, and their importance in helping achieve strong and sustainable export growth. Chapter 3 looks at Thailand's big opportunity to become a regional hub for trade. Finally, Chapter 4 reviews some trends of the new digital age and their implications for international commerce. We highlight the key digital challenges and opportunities for Thai businesses.

In the years since the 2008 financial crisis, global trade has slowed, while its dynamics and structures have been transformed. This creates both opportunities and challenges for Thai firms. Three major trends will drive international trade going forward: 1) Developing countries will become the main engine for trade growth, thanks to rising purchasing power, urbanization and south-south trade. 2) Changing consumer preferences will favor certain categories of products with outsize growth. These include food and beverages and consumer products in developing countries, environmentally friendly products in developed countries, and healthcare products and services in aging societies. 3) The age of "digitalization" will change international trade in multiple ways, including the types of products and services sold across borders, through the use of new technologies and new trading platforms, all of which businesses have to keep up with.

Value creation is one of the game changers that will lift Thai exports and ensure sustainable growth in the long run. Given Thailand's rich agricultural resources, EIC sees high potential in agro-based products and processed foods. If Thai exporters increase the value-added of these goods, not only will their income improve, but they will also become less vulnerable to the volatile prices of commodities and primary farm products. Thai exports would become more unique. In the service sector, value-added can be created through technology and innovation. Businesses should also consider offering new services tailored to specific groups of consumers.

EIC analysis finds that the foundations for a sustainable value-added economy include: 1) investment in R&D to facilitate innovation, 2) development of human capital via an effective education system and training of quality researchers and scientists, and 3) regional connectivity that facilitates growth in trade and investment. Above all, companies must not skimp on R&D if they truly want to succeed through value creation.

Transforming Thailand into a regional trade hub would change the game for the nation's businesses and economy. Thailand would serve as the product distribution center for the Greater Mekong Sub-Region and beyond, attracting both Thai and foreign firms to establish or expand offices and operations here. Five key ingredients are needed to make a successful trade hub: 1) a central location situated between producers and target markets, 2) convenient infrastructure for transportation and transfer of goods, 3) straightforward customs regulations, 4) tax incentives for trade and investment, and 5) products that fit consumers' needs.

Becoming a regional hub would enhance Thailand's exports and economic growth, boosting per-capita income and competitiveness. EIC sees Thailand as especially well positioned to serve as a hub for the agri-business and food industries, given our competitive advantages. However, capacities that need immediate improvement include 1) better transport infrastructure to support growth of trade, and 2) more flexible, trade-friendly customs regulations and processes. Thai companies, for their part, need to study their capabilities, seek out new trade opportunities and fully capitalize on trade promotion policies.

The emerging digital age is another trend that cannot be overlooked, because it will bring about multi-faceted changes to international trade. Products, services and business models will become more digital-based. New innovations will enhance the effectiveness of international transactions. Digital technology connects buyers and sellers across the globe more easily, reducing the cost of accessing products and services, increasing competition, and diversifying sales channels. These changes will undoubtedly transform most sectors of business and industry. To succeed, most businesses will need to become adept at new strategies and business models that suit the emerging challenges and opportunities.

Exploring new frontiers and trends in global trade

Factors contributing to future demand

	Emerging markets	Developed markets
supporting factors	urbanization; higher purchasing power	high purchasing power; environmental concern; aging population
products needed	value-added products and consumer goods	value-added products, green products and products for aging society

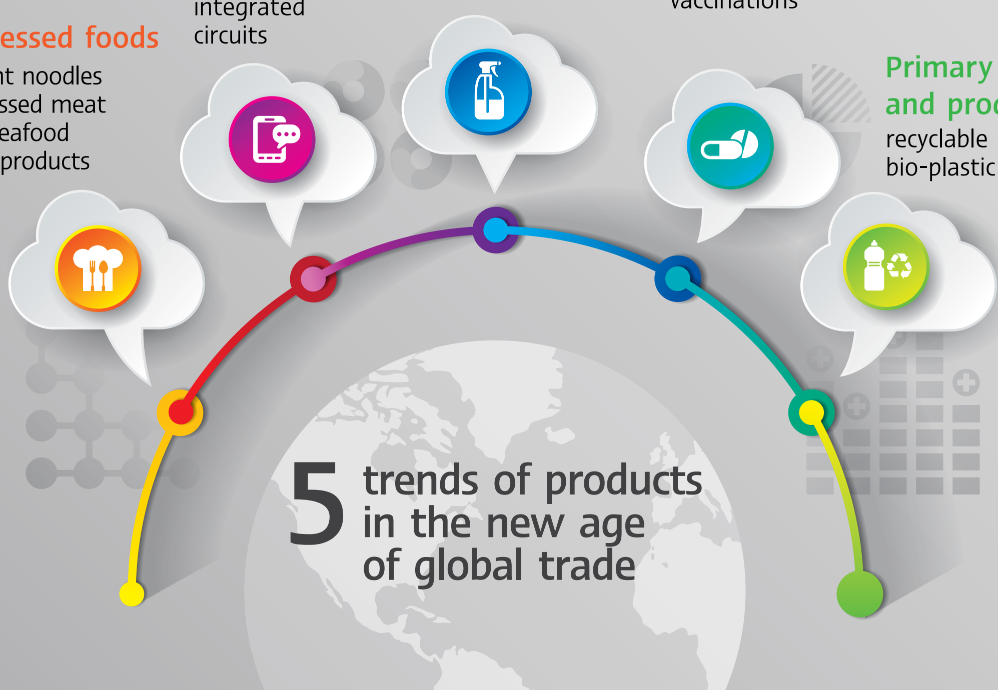
Processed foods
instant noodles
processed meat and seafood
dairy products

Electronics
smartphones
tablets
integrated circuits

Customer goods
soap and detergent
cosmetic products

Pharmaceutical products
medicines
vaccinations

Primary plastics and products
recyclable plastics
bio-plastic



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Exploring new frontiers and trends in global trade

Ever since the 2008 financial crisis, global trade has grown at a slower pace than the world economy. Unlike the period before the crisis where trade volume expanded 1.6 times as fast as world GDP. But following the crisis, fragile economic and financial conditions, including the slow recovery of developed markets (DMs) have dragged on global demand. In the 5 years period ahead, EIC expected trade growth to rebound, but not as high as in the past (Figure 1) due to the changes in three dynamics of global trade: 1) emerging markets (EMs) will become major drivers of world trade; 2) new patterns of demand in both EM and DM countries will favor certain products with outsize growth; and 3) digital technology will reshape products, services and international trade.

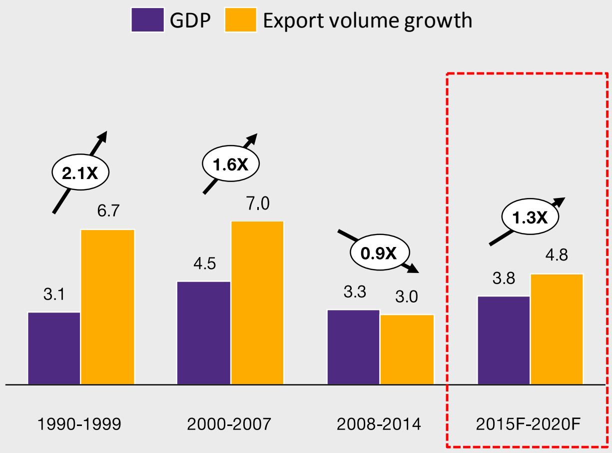
1) Emerging markets (EMs) will become major drivers of world trade.

In the coming years, China, India, ASEAN, the Middle East and North Africa will exert an ever-increasing influence on global trade. The IMF projects that demand for imports from EM countries will grow on average by 6.1% between 2016-2020, higher than that of DM countries as well as the overall global demand (Figure 2). This growth will come from major EM economies such as China, India, the ASEAN-5 (Thailand, Malaysia, Indonesia, the Philippines and Singapore), the Middle East and North Africa (MENA), as well as Cambodia, Laos, Myanmar and Vietnam (CLMV) (Figure 3) from the ongoing rise in purchasing power and urbanization, which will generate this surge in demand.

1 Global trade volume growth is outpaced by economic growth.

World growth and trade volume growth

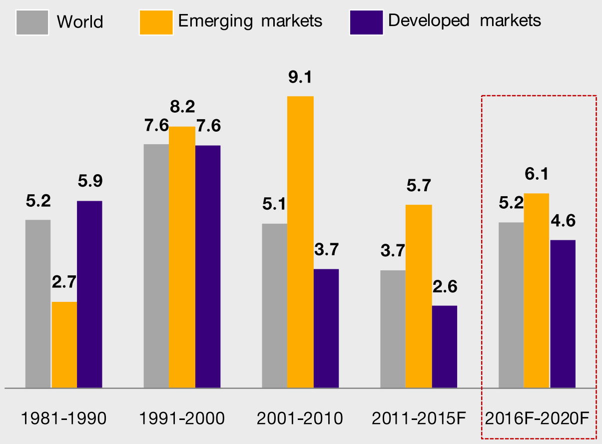
Unit: % YOY



2 Between 2016 and 2020, demand for imports among EM countries will grow by 6.1% on average.

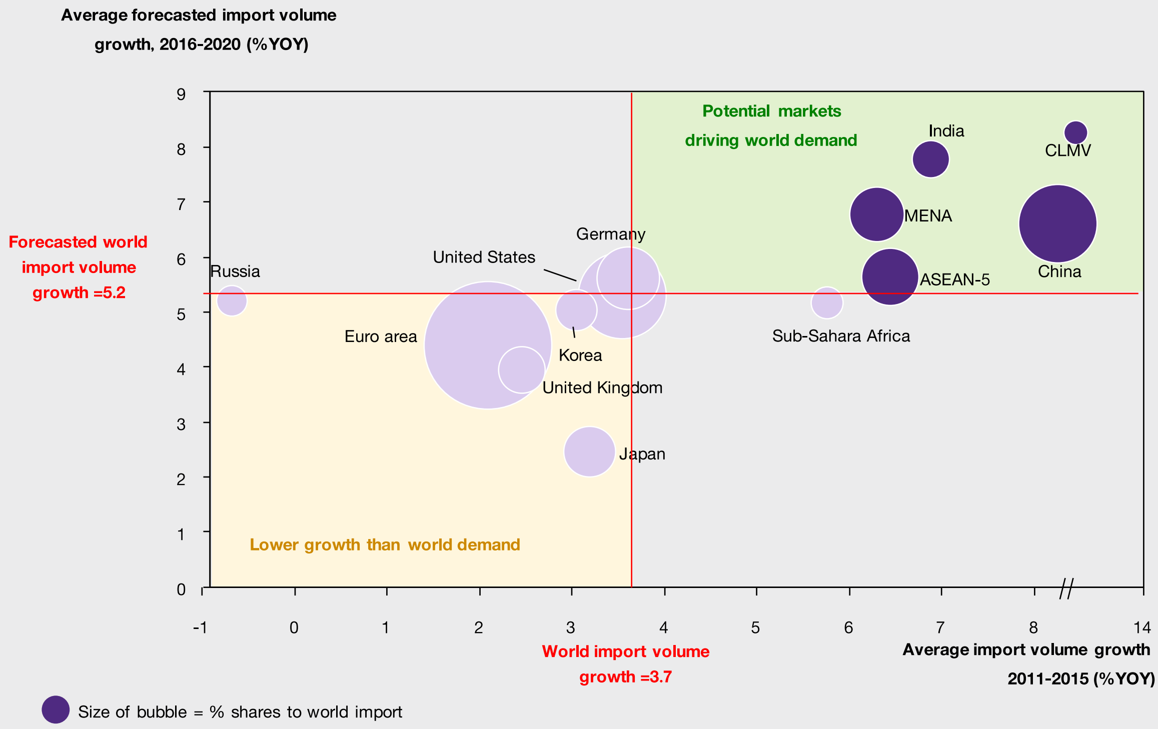
World, DM, and EM import volume growth

Unit: % YOY



Source: EIC analysis based on data from IMF

3 EM countries will become increasingly influential for global trade going forward.



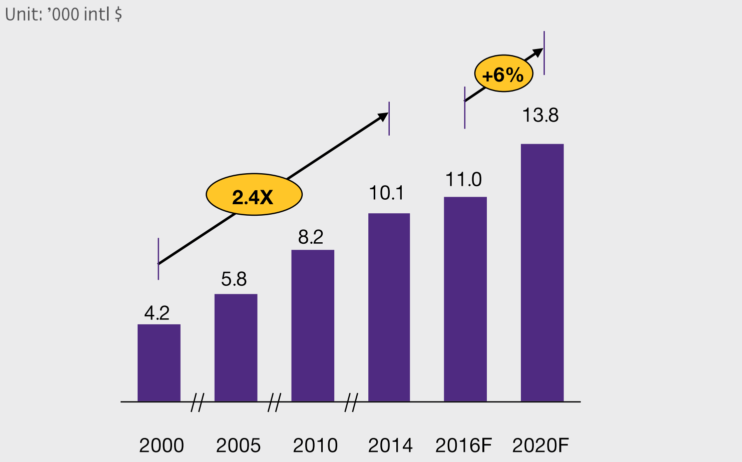
Source: EIC analysis based on data from IMF

Rising incomes and living standards in EM countries following the economic growth will help generate greater demand for imports of consumer goods. Higher purchasing power[1] in EM countries increased 2.4 times between 2000 and 2014, and is expected to continue to grow by 6% on average each year during 2016-2020 (Figure 4). Moreover, the share of population living below the poverty line in EM countries fell from 31% in 2002 to 17% in 2011, and is expected to drop to 13% in 2015 (Figure 5), thanks in part to poverty reduction in populous China and India.

[1] Purchasing power as measured by GDP per capita under the PPP concept (Purchasing Power Parity)

4 GDP per capita of EM countries rose by over 2.4 times between 2000 and 2014.

GDP per capita (PPP concept)



Source: EIC analysis based on data from IMF

5 The share of population living in poverty in EM countries has been in persistent decline.

Population living below poverty lne*- by region

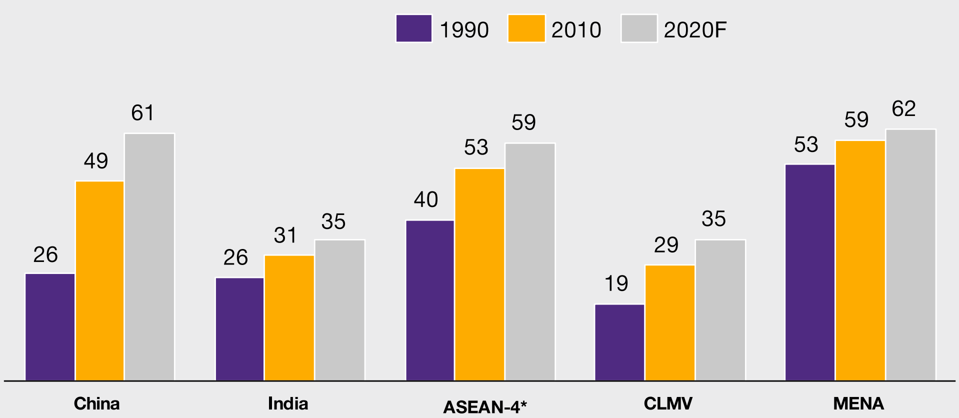
** Poverty line = below $1.25 /day*
Source: EIC analysis based on data from World Bank

Urbanization in the EM countries is spurring demand for more value added products. Take China as an example, the urban share of China's total population rose from 26% in 1990 to 49% in 2010, and is expected to reach 61% in 2020 from China's so-called "Go West" policy which aim to develop its western regions and boost urbanization in second- and third-tier cities. Likewise, India and CLMV are urbanizing fast as they transform themselves into global centers for manufacturing. Thus, the urban share of population in the aforementioned countries is expected to rise from around 30% at present to 35% by 2020.

6 EM countries are experiencing rapid urbanization.

Ratio of population living in urban areas

Unit: % of total population



Thailand, Malaysia, Indonesia and Philippines
Source: EIC analysis based on data from UN

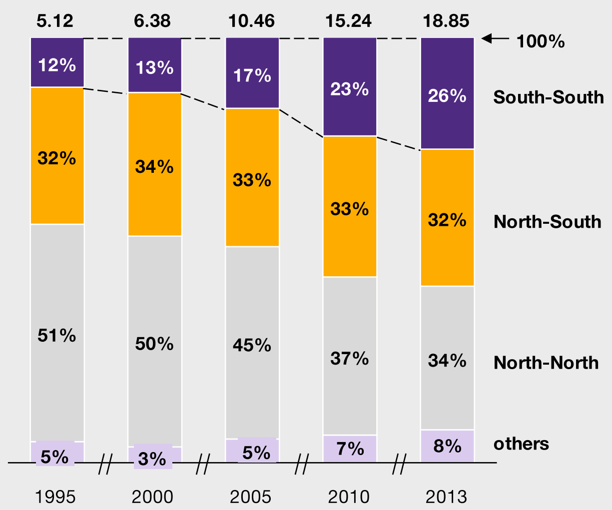
Rising income and urbanization expands the middle class and shifts consumer demand toward higher-quality and more value-added products. In addition to basic food items and primary processed agricultural products such as rice and sugar, people in the EM countries begin to consume more prepared foods and healthy options. They also buy the same smart phones, tablets and other high-tech products that are popular in developed countries.

Beyond consumers, world industry is being reconfigured in a way that increased trade among EM countries themselves. This so-called "south-south" trade is driven by the relocation of production bases from DMs to EMs in order to take advantage of cheaper labor and production costs. This is especially true for labor-intensive industries such as automobiles. After Japanese carmakers set up major factories in Thailand, Thailand has become a hub for Japanese cars exports especially to other developing countries both inside and outside the region, including Saudi Arabia, Indonesia, Malaysia and Vietnam. This has increased Thailand's trade with other EM countries. Worldwide, the south-south share of total trade doubled from 13% in 2000 to 26% in 2013. The Asian Development Bank (ADB) expects this type of trade to exceed that of north-north trade, the trade amongst DM countries, by 2030 (Figure 7). However, as GDP and the middle class populations expand in the EM countries, labor and production costs will inevitably rise, causing a relocation of factories toward countries that are still less developed, as per the "flying geese" theory.

7 The share of south-south trade rose from 13% in 2000 to 26% in 2013.

Value of global trade & regional shares

Unit: USD billion



Source: EIC analysis based on data from World Bank

China is a good example to start. Having now become "the factory of the world," domestic labor costs have risen, causing Chinese firms to invest in CLMV, India and elsewhere. From 2005 to 2013, the value of Chinese outward investment in CLMV skyrocketed by 39 times and in India expanding 13 times, broadening the production base there and giving those countries a greater share of global trade. Rising Chinese investment abroad, the liberalization of financial flows, and infrastructure investment by the Asian Infrastructure Investment Bank (AIIB) will increase use of the yuan as a global currency. **(BOX: China's dominance in trade internationalizes RMB)**

As EM countries liberalize trade, share of south-south trade will continue to grow. In recent decades, EM countries have greatly reduced their most favored nation tariff rates (MFN rates) on imported of manufacturing goods. China cut its MFN rates for manufacturing goods to 8.9% in 2014, from above 40% in 1992. India has also reduced its rate to 9% in 2014, from above 50% in 1992. Moreover, the increased of free trade agreement amongst EM countries will help fuel the growth of south-south trade, for example, the ASEAN Free Trade Area (AFTA), the South Asian Free Trade Area (SAFTA), the Gulf Cooperation Council (GCC), which help reducing trade barriers and further integrating regional supply chains. This better enables businesses to select the right country for production depending on local resources and capacities. For example, Thai producer of electric cables for cars has set up a plant in Cambodia to take advantage of lower labor costs. The company can then imports the parts made in Cambodia and assemble them back in Thailand with lower tariffs rate under AFTA. Going forward, trade agreements will be a crucial driver of growth in trade among EM countries.

Given the increasing importance of EMs in global trade, business owners should explore trade and investment opportunities in these countries.

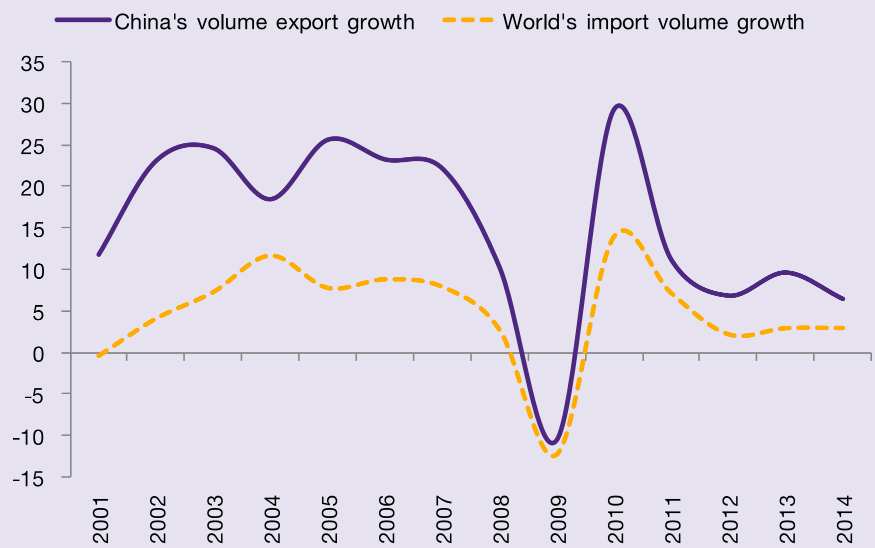
BOX: China's dominance in trade internationalizes RMB

Rising global use of renminbi (RMB) is driven by China's huge trade, which has increased dramatically since the nation joined the World Trade Organization in 2001. From 2001 onward, China's export growth outperformed global demand, even during the financial crisis (Figure 8), thus increasing China's share of world exports to 13% in 2014, up from 4% in 2001. Increasing exports together with domestic investment enabled China to sustain very high economic growth of around 9% on average from 2001-2014.

8 China export of goods has outperformed the world's demand even during the global financial crisis

World import volume and China export volume

Unit: %YOY



Source: EIC analysis based on data from IMF

China's GDP growth has steadily boosted its trade with emerging Asia. China has become a key trading partner for many of Asia's developing markets, both in terms of exports and imports. Emerging Asia accounted for 13% of total China's exports in 2014, up from 6% in 2000, and 10% of China's 2014 imports, rising from 8% in 2000.

China's growing role in world commerce has also increased the role of its currency in trade settlemen. In 2009, Beijing launched a pilot scheme to promote the international use of RMB. It started by allowing only a few countries in Asia to use RMB to settle trade with Chinese firms. But since 2012, the government has allowed every country in the world to use RMB for trade settlement with any Chinese company that holds an import-export license.

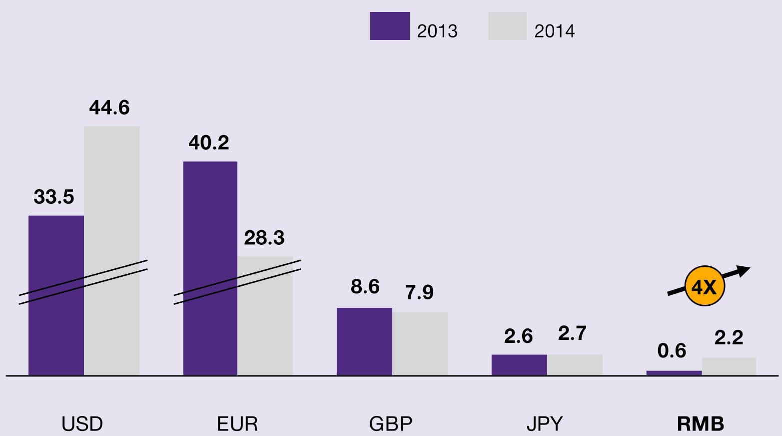
China also internationalized by opening its financial and capital markets to foreign investors. Local companies can now issue RMB-denominated bonds outside of China to raise funds, a financial instrument known as a 'Dim Sum' bond. Selected foreign investors are now allowed to participate in the onshore capital market, boosting demand for RMB. In addition, the government set up the Shanghai Free Trade Zone in 2013, allowing most onshore RMB to be convertible and flow in and out of China freely. China has also increased its presence in global financial markets by establishing international development banks, including the New Development Bank (NDB) and Asian Infrastructure Investment Bank (AIIB), which allows China to provide RMB loans to countries and projects around world, which will fuel use of the currency abroad in the coming decades.

Now the RMB is the world's 5th most-used currency in trade settlement, representing 2.2% of world payments in 2014, trailing only USD, EUR, GBP, and JPY (Figure 9). The use of RMB quadrupled from 0.6% of global payments in 2013 to 2.2% in 2014. Today, foreign users of RMB in settlements gain a variety of benefits from Chinese firms. According to an HSBC survey on RMB internationalization (2015), some 49% of respondents have been asked to switch to RMB settlement by their Chinese counterparts, of which more than 50% are willing to offer a discount of up to 5% in return. Moreover, using RMB in trade settlement helps reduce foreign-exchange hedging costs and makes it easier for a company to manage its cash flow. Apart from these advantages, using RMB can help a foreign firm gain more business from China, at better terms of credit.

9 In 2014 RMB has accounted for 2.2% of world payment

Value of world payments- by currency

Unit: %of world payment



Source: EIC analysis based on data from SWIFT

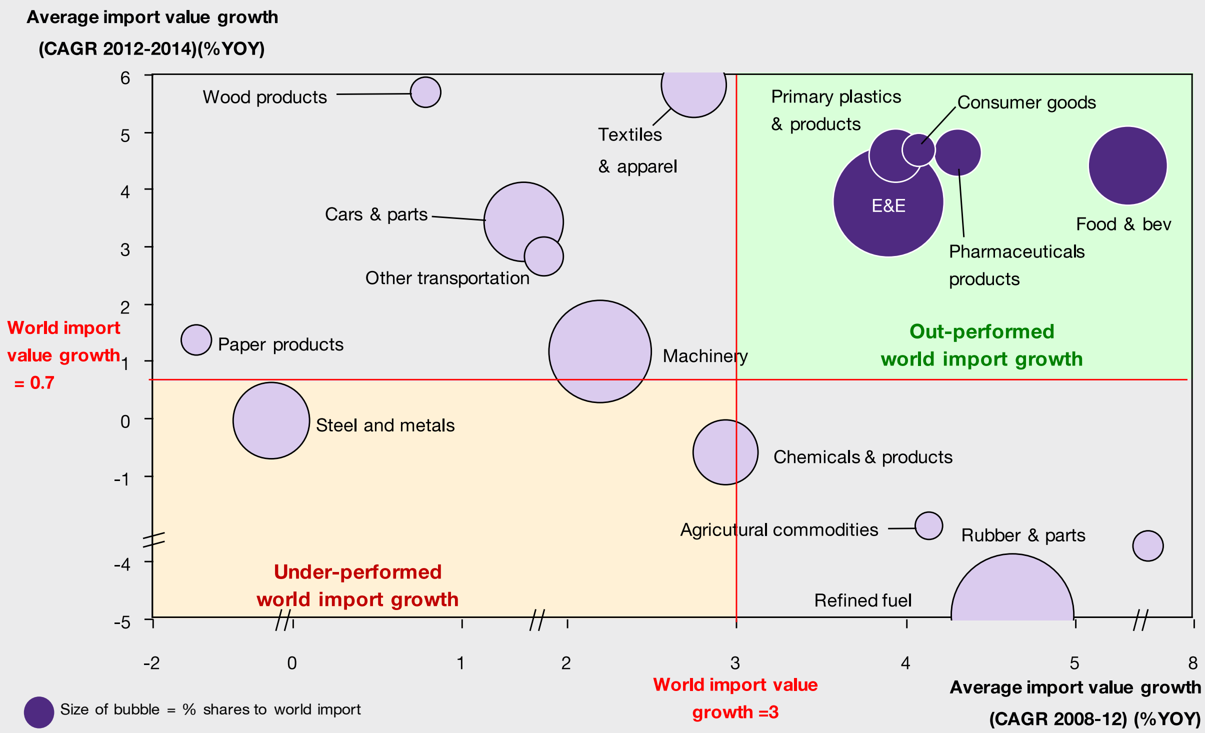
The main obstacle to increasing use of RMB is China's economic slowdown. China's GDP growth is likely to slow to below 7% in the next few years, which is deemed as its 'new normal' rate. The recent deceleration results in part from the government's efforts to reduce heavy reliance on investment and instead drive growth with domestic consumption. China's downturn may affect growth of global trade, especially with emerging Asia.

Yet China will remain a leader in trade, even if its trade growth is unlikely to bounce back to double-digit rates. Despite slower trade, China's imports and exports are expected to grow faster than those of the rest of the world. Moreover, the restructuring of GDP growth toward more domestic consumption will fuel China's demand for imported consumer goods as urbanization increases and the middle class expands. All these will also favors continuing growth in global use of RMB.

2. Changes in demand in both EMs and DMs will drive outsized growth in trade of certain products.

EIC expects that changing demand in both EM and DM countries will generate high growth potential for five key product groups: 1) food and beverages, 2) consumer goods such as personal care products and cosmetics, 3) electronics and parts, 4) primary plastics and products, and 5) pharmaceutical products. Growth in trade of these products has consistently exceeded global import demand even during the economic crisis (Figure 10).

10 The growth in demand for products including food and beverages, consumer products, electronics and parts, primary plastic and products and pharmaceutical products have consistently exceeded global demand.



Source: EIC analysis based on data from Trademap

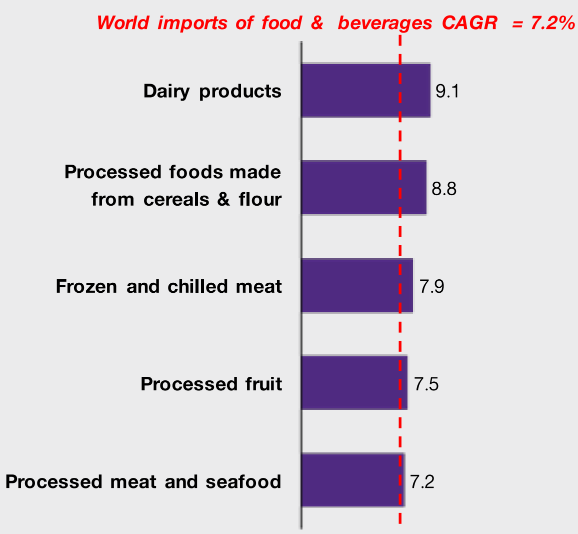
EM countries that experienced an increase in income level will demand more processed and ready-made food products. Food and beverages products with high potential growth include dairy products, foods made from cereal and flours, frozen and chilled meat, processed fruits, and processed meat and seafood. Due to the change in pattern of consumption among people in EM countries as they become more like that in DMs (Figure 11). China, for example, increased its imports of dairy products by 35% per year from 2010-2014 and increased its imports of processed food made from flour and cereals by 24% per year. Moreover, China import of processed meat and seafood also increased by 21% per year from 2010-2014, following the rise in income per capita which increases purchasing power and the consumption of more value-added foods. Apart from China, CLMV also are importing more food and beverage products. During 2010-2014, CLMV increased their imports of processed meat and seafood by 26% per year, and of food products made from flour and cereal 17% per year.

Higher living standards in the EM countries will raise demand for other consumer goods. During 2010-2014, world import of consumer products such as cosmetics and personal care products increased by 7%. Leading the import growth were China, at 20% per year, India 13% per year, and the ASEAN countries increasing 8% per year. In response, P&G, Unilever and other big makers of consumer goods have already expanded production bases into both China and India to support the growing demand in both countries.

11 EM countries that experienced an increase in income level will demand more processed and ready-made food products.

Import growth of food & beverages products

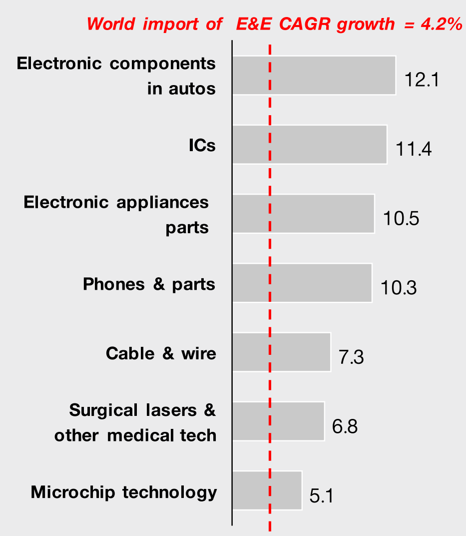
Unit: % CAGR from 2010-2014



12 Demand for electronic parts that can be used across multiple industries and in smartphones will expand significantly in the future.

Import Growth of E&E Products

Unit: % CAGR from 2010-2014



Source: EIC analysis based on data from Trademap

As for electronic products, demand for electronic parts that can be used across industries and in smartphones will have high growth going forward. The constant development of smartphone and tablet technology will drive demand for circuit boards and microchips, as demand for smartphones drastically grows in EM countries such as China and Vietnam. Moreover, electronic parts will become more integrated into daily life as they are used across more types of industries, especially in the automobiles industry, electrical appliances, and medical equipment, given that most industries will need to keep up with new technological advancements, for example sensors and touch-screen monitors in cars (Figure 12).

Demand for plastics will continue to grow in the EM countries to meet rising demand for plastic products and storage containers, while DM countries will opt for more use of bio-plastics. During 2010-2014, world imports of plastics rose by 5% per year, benefiting mainly from import growth in China and India, by 10% and 11% per year, respectively. Imported primary plastics are increasing, following the need to use as raw materials to produce plastic products as domestic demand grows. On the other hand, the use of bio-plastics remains limited today. But, this is likely to change because consumers in the DM countries are demanding more green products. These consumers are willing to pay higher prices because they have high purchasing power. During 2010-2014, imports of bio-plastics by the U.S. and South Korea grew by 13% and 14% per year, respectively.

At the same time, global demand for medicine and pharmaceutical products will rise as population expands and more countries become "aging societies." Many advanced economies like Japan, Germany and the U.S. long ago began their national era of aging. Japan's share of the population aged above 65 years is now 26%, rising to 32% by 2030, while the figures for Germany are 21%, heading toward 28% by 2030, and the U.S. 15%, going on 21% by 2030. This demographic change is reflected in these countries' rising imports of healthcare and pharmaceutical products despite a slowdown in their economies. Currently, pharmaceutical products ranked as one of the Top 5 products imported by Japan, Germany, and the U.S.

As a result from growing demand in the aforementioned 5 products groups, Thai businesses should find ways and opportunities to develop their products to meet the changing demand, for example, creating more value added products in food and beverages industry especially through processed and ready-meals, which could be done via research and development. Moreover, Thai business should leverage the advantageous location and going into ASEAN Economic Community (AEC) as a way to push consumer products into the region. For electronic products, businesses should find a way to integrate themselves into the value chain of the industries that use higher technology to upgrade their products, so that Thai business could also grow and developed themselves. As for primary plastics and products, Thai businesses should expand into other EM countries such as CLMV, where their demand for plastics will increase following the population and income growth. Furthermore, Thai businesses should also invest and develop their products to meet the growing demand in green products especially in those DM countries such as bio-plastic.

3. Digital technology will reshape products, services and international trade.

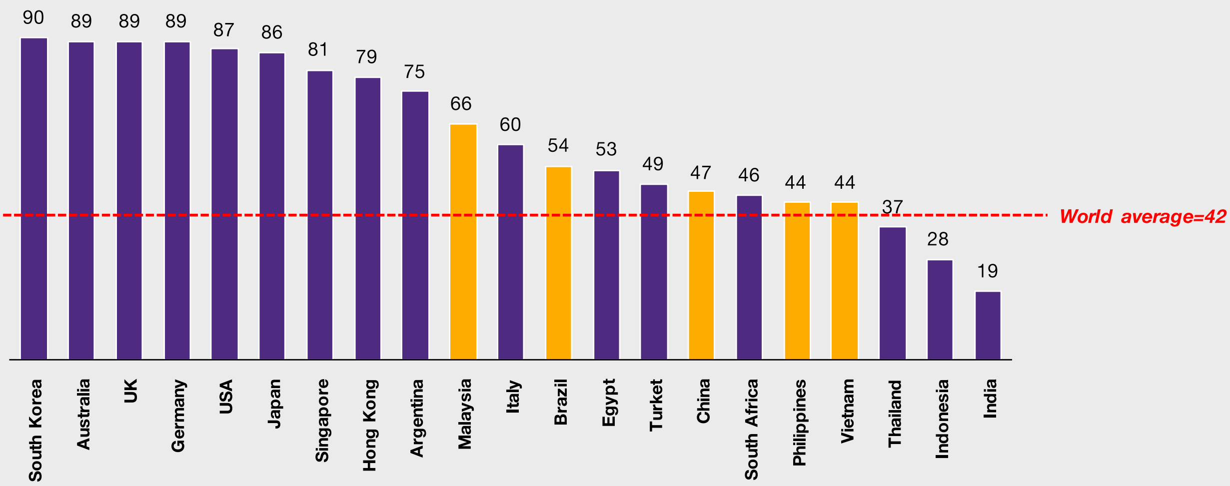
Nowadays digital technology plays an important role in every region around the world, including those in EM countries. During the past years, share of world population owning mobile phone has increased to around 51%. Moreover, internet users in the world have also increased around 21%YOY or 525 million people, making the share of world population gaining access to internet increased to 42%. Not only people in DM countries that gain better access to internet, but also those living in EM countries, for example in Malaysia, Brazil, China, Philippines, and Vietnam, where their population have higher access to internet than the world average (Figure 13). As more people across the world gain access to internet, the digital age has become more important and essential in influencing people way of life, and how new products and services are created and traded across the world.

Digitalization will reduce the role of some physical goods, while help facilitating and increasing efficiency of international trade. In the so-called digital age, some physical products will be replaced by digital goods. Moreover, digitalization will help facilitate international trade, for example by allowing online payments, creating online platform for e-commerce, and using tracking systems to monitor the delivery of goods. Thus, businesses need to adapt to the digital era by incorporating and taking advantages of digitalization to create and improve their competitiveness in the world.

13 EM countries are increasingly gain access to the internet

Internet penetration – by countries

Unit: % to total population



Source: Digital, Social and Mobile in 2015 report from We Are Social

Given the ongoing transformation of the global trade environment, EIC believes that the game changers that can strengthen Thailand's export competitiveness are: 1) improving the value-added of products and services to meet changing demand, 2) promoting Thailand as the regional trade center by developing a supportive environment and upgrading businesses, and 3) increasing business potential by taking advantage of opportunities available in the digital age.

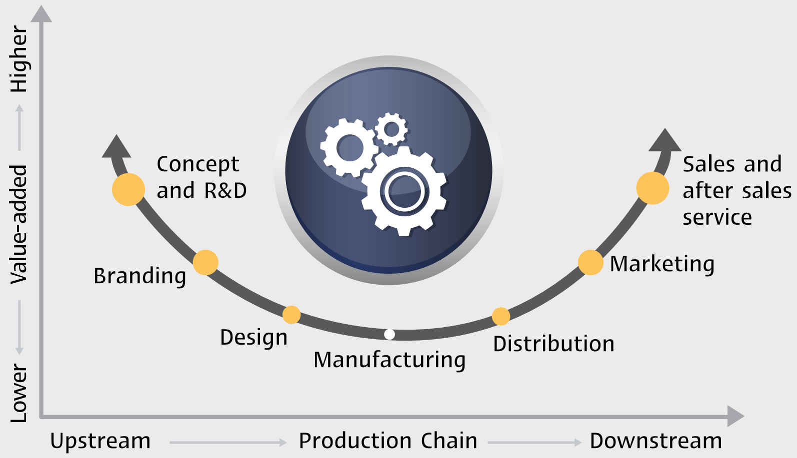

idea
R&D

2

Refocusing export towards sustainable growth through value-added and innovation

Value-added creation should be one of the key growth models for the Thai economy. It would result in changing the game to lift Thailand's production potential and provide a strong foundation for the export sector. Value creation can be done at every step of the value chain, from downstream processes to upstream ones (Figure 14). In the upstream processes, value-added can be created through branding, product and packaging design, production methods and innovation resulting from research and development. Creating value-added in downstream processes includes marketing campaigns, product distribution and after-sale services. These channels of value-addition can be integrated into business strategies to attract new customers, create product differentiation or develop niche markets that will lead to stronger competitiveness and sustainable, long-term growth for individual businesses and the nation.

14 Value-added creation can be achieved throughout the value chain.



Source: Harvard Business Review

Japan serves as a role model of a nation whose businesses create diverse and interesting products with high value-added. Japanese value creation starts by using research and development to design innovative products. One good example is the development of watermelons that are square-shaped. This innovation not only allows farmers to optimize refrigerated storage space and makes the fruit easier to transport, but add four or five times more value to the product compared to regular watermelons. New techniques even allow Japanese farmers to raise heart-shaped watermelons, an eye-catching novelty whose value is 10 times that of the normal fruit.

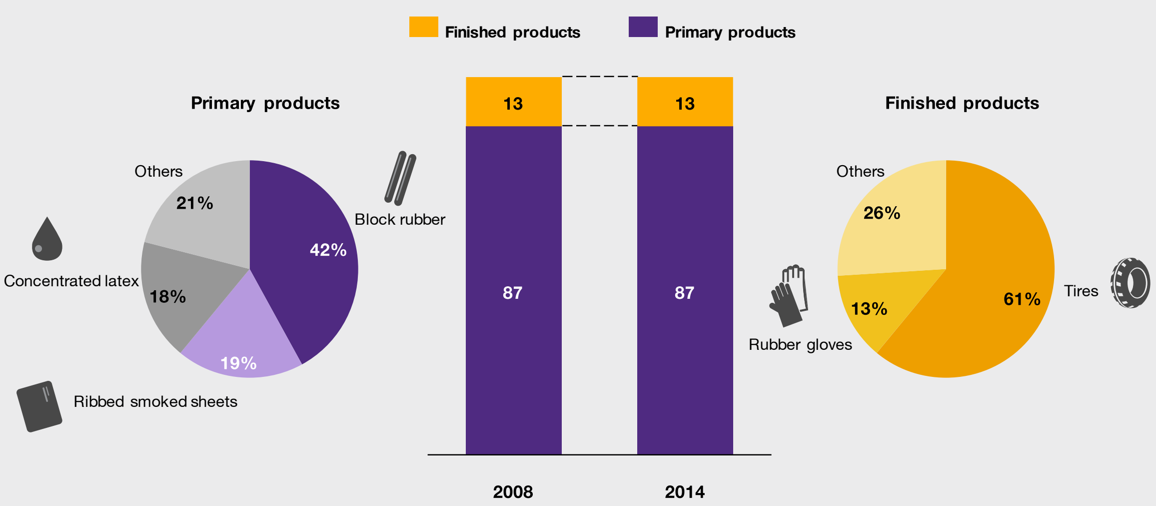
Better design of packaging can create product differentiation and increase value-added. Japan is also known for tremendous innovation in packaging design. Indeed, packaging business can create as much revenue and huge success as manufacturing firms. An example is cosmetics and beauty products, which sell much better in well-designed packaging. Mochi, a traditional Japanese sweet, is often sold in beautiful packaging that includes notes on history and local origins, attracting more customers and increasing value-added by several-fold.

In our view, Thailand should focus its value-added creation on agro-based industries, to take advantage of the nation's strong agricultural base and abundant natural resources. Today, most Thai farm products are exported as raw materials or primary processed products, with limited value-added. Rice, for instance, is mostly exported in the form of polished rice. Whereas almost 90% of Thai rubber is exported in semi-processed form as ribbed smoked sheets, block rubber and concentrated latex (Figure 15). EIC, however, believes that Thailand has high potential to create value-added in these and other agricultural products. For example, natural rubber can be processed into downstream products, such as tyres and gloves, while some agricultural produces can be processed into various foods products. The value-added can also create via packaging development that improves storage life and increases product appeal. Packaging can also create uniqueness and include the stories behind the origins of the products to capture customers' interest. Alternatively, developing brands can differentiate Thai products. These value-added strategies can potentially raise export revenue as well as mitigate fluctuations in income that result from volatile prices in commodity markets.

15 Almost 90% of Thai rubber exports are in the form of semi-processed products with low value-added.

Proportion of Thai rubber exports

Unit: % of total export quantity



Source: EIC analysis based on data from MOC and Rubber Research Institute

One good example of how value-added can be created throughout the value chain is "Riceberry," a healthy new variety of rice. Riceberry is a crossbreed between Hom Nin rice (black aromatic rice) and Hom Mali 105. When cooked, the rice turns dark purple, with a soft texture, slightly sweet flavor and unique fragrance. It has several health benefits including anti-oxidants and other nutrients, suitable for all types of consumers especially the elderly, diabetics, pregnant women and other health-conscious people. Several Riceberry products have already reached the market, including rice bran oil, Riceberry bran capsules, Riceberry ice-cream, dietary supplements, high-protein pasta made from broken rice, and biofuel using Riceberry husks. Value creation covers the entire value chain, utilizing even broken milled rice and rice husk, with zero waste.

Moreover, processed Riceberry products are 10 times more profitable than selling regular Hom Mali rice. A pilot study conducted jointly by the National Innovation Agency (NIA), Maejo University, a Riceberry community enterprise in Lampun Province and a private company compared profit from selling a ton of regular Hom Mali rice to profit from a ton of Riceberry, as well as selling Riceberry product in the form of brown rice together with byproducts from rice husk and broken milled rice and selling processed Riceberry products. The study found that processed Riceberry products can generate 86,000 baht in profit, whereas Hom Mali rice, even at the higher price from the government's rice-pledging scheme, makes a profit of just 9,000 baht. So here is a new product with potential to raise the nation's income and improve the livelihoods of Thai farmers while limiting the impact of volatility in rice prices in the global market.

Riceberry
value-added creation model

Hom Nin rice

Hom Mali 105 rice

Thai Riceberry

Outstanding trait

- Dark violet grain, soft and aromatic when cooked
- Well-known antioxidant properties with high nutrition
- Suitable for health-conscious consumers, diabetics and pregnant women

Value-added creation model from Riceberry against Hom Mali rice

Rice production cost at 6,000 baht/ton

Model 1

Selling a ton of Hom Mali rice — 1 ton → Revenue earned 15,000 baht → Net profit 9,000 baht

Model 2

Selling a ton of Riceberry rice — 1 ton → Revenue earned 25,000 baht → Net profit 19,000 baht

Model 3

Selling packaged Riceberry Brown rice

Selling broken-milled rice and rice husk

→ Net profit 36,000 baht

Model 4

Value-added creation from selling processed Riceberry products with zero waste

Examples of high value, processed products

- Dietary supplement
- Food products
- Use rice husk and broken-milled rice as biomass

→ Net profit **86,000 baht**

10 times of model 1

EIC's view

Model 4 contributes the highest value-added to Thai rice. Not only this will improve the livelihoods of Thai farmers, this model also generates higher export revenue and raise overall GDP for Thailand

Riceberry

Source: EIC analysis based on data from National Innovation Agency (NIA)

Using Riceberry to create product differentiation can serve as a strategic move to avoid direct competition on price. One example is donuts. The donut market in Thailand is worth around 3 billion baht, growing at a rate of 15-20% annually. The business is highly competitive, crowded by existing large players, new entrants and foreign chains. To gain an edge, Dunkin Donuts (Thailand) introduced "Riceberry Donuts" in 2014 under the concept of "Rice Donuts, Making Donuts the Thai Way." The company also introduced a tea drink that uses Riceberry milk as an ingredient. Dunkin Donuts thus became the first donut company to replace wheat flour with Riceberry flour, enabling it to differentiate its products from competitors, taking advantage of the healthy-eating trend, while cutting costs from imported wheat flour.

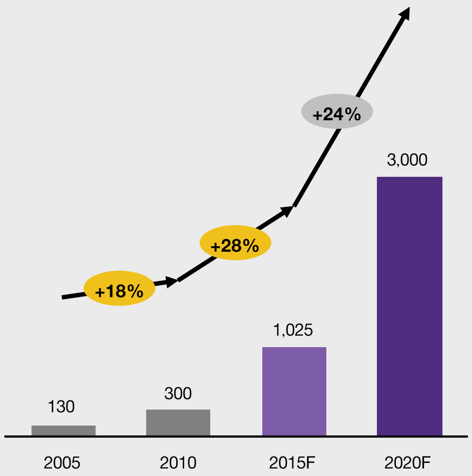
Another interesting case of innovation in an agricultural product is anti-aging cosmetics using extracts from Hom Mali rice, which have been shown to be as effective as leading cosmetics brands. The basic component found in almost all Hom Mali varieties contains antioxidants and enzyme inhibitors that reduce skin darkening and slow the decay of collagen. Research studies from Chiang Mai University found that rice-extract cosmetics can reduce up to 70% of lines and wrinkles. More importantly, such products can also increase the value of Thai Hom Mali rice by up to 300 times!

Turning agricultural products into bio-plastics is a good way to take advantage of rising "green demand," or demand for environmentally friendly products. The benefits include not only creating value from Thai farm products, but also curbing dependency on petroleum-based plastics, supporting both the agricultural sector and manufacturing industry. This concurs with the government's policy to promote Thailand as ASEAN bio-plastics hub. Bio-plastics can be used to make various everyday products such as boxes, food storage containers, kitchenware, thread and textiles, motor vehicle parts, mobile phone cases, electrical appliance parts, sports equipment, children's toys and even construction materials like floor paneling and insulators. The data show that global demand for bio-plastics may reach 3 million tons by 2020 (Figure 16). Consequently, leading global businesses are paying more attention to this material. Such products are becoming more popular among consumers, mostly in developed economies, who have higher incomes and purchasing power as well as a willingness to pay more for environmentally friendly goods. EIC believes that bio-plastics is one of the most interesting business opportunities in the short-, medium- and long-term. This is because it addresses the needs of today's large markets with high purchasing power as well future markets that will grow in line with the global trend toward green products.

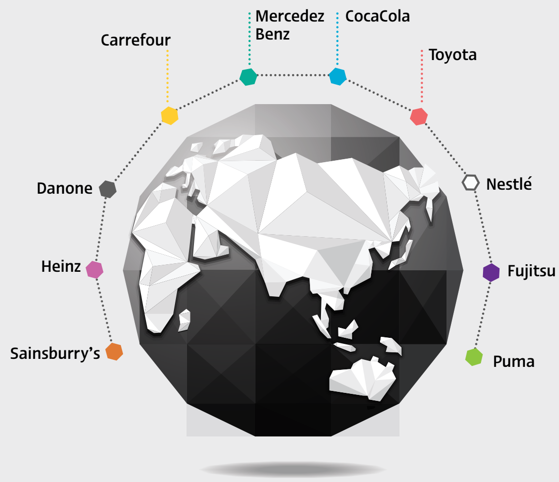
16 Global demand for bio-plastic products may reach 3 million tons by 2020, equivalent to a growth rate of approximately 24% per annum.

Global bio-plastic demand and their recent application by large retailers and brandowners.

Unit: thousand ton



Some top brands already use bio-plastics



Source: EIC analysis based on data from European bioplastics and The Freedonia Group, Inc. (Wolrd Bioplastics)

Given that Thailand already has relevant upstream and downstream industries, the nation has strong potential to develop its bio-plastic industry. Today, the local bio-plastic industry is still small. Yet bio-plastics will likely be used in a large variety of goods whose consumers are increasingly concerned about the environment and global warming. Thailand has the capacity to expand this industry given its large supplies of raw materials or feedstock. These include cane sugar and cassava, for which supplies usually exceed domestic demand and have mostly been exported every year. They can be processed into bio-plastics to create more value-added here. The downstream industries in Thailand are also strong, with over 3,000 plastics converters that can adjust production processes to make goods from bio-plastics. The sector that requires further development is probably the mid-stream industries, such as production of bio-plastic resin and bio-plastic compounds that are currently being imported (Figure 17).

17 Thailand has high potential to develop the bio-plastic industry given its abundance of raw agricultural materials and plenty of existing downstream producers.

Bio-plastic value chain

Biomonomer

- **Lactic Acid** production in Thailand with capacity 100,000 tons/yr, currently not used in bio-plastic resin production (but used for export)

Current players
Mitr Phol
PURAC

Thai Readiness

Bio-plastic compound

- Lack of bio-plastic compound domestically

Current players
-

Thai Readiness

End users

- Domestic market of bio-plastic is small
- Consumers are concerned about price over environment
- Big market is in EU, US and japan

Current players
Cafe Amazon
Major Cineplex

Thai Readiness

Agricultural feedstock

- **Sugarcane and sugar,** Thailand is the second largest sugar exporter. At present, there are 51 sugar factories in Thailand
- **Cassava,** Thailand is the world’s largest exporter of tapioca product, with market share of over 60%

Current players
Mitr Phol
PURAC

Thai Readiness

Bio-plastic resin

- **PBS pilot plant** project with total capacity of only 20,000 tons will start at the end of 2015
- Bio-plastic resin (PLA) 2014 imports to Thailand around 422 tons/yr

Current players
PTTMCC

Thai Readiness

Bio-plastic products

- Plastic converter (>3,000 companies) can partly develop machine or newly invest in bio-plastic converter
- Production cost is now relatively high
- Converter lacks bio-plastic knowledge, so having problem with product development

Current players
Sunflower Group
UTP Co., Ltd.

Thai Readiness

Note: Thai readiness ranks from = ready = not ready

Source: EIC analysis based on data from FTI

The food processing industry is another sector that can create more value-added using Thai agricultural goods. According to the National Food Institute, 85% of the raw materials used by the Thai food industry are domestically produced. Thai businesses in this industry should develop more innovative and advanced methods of food processing to meet rising demand for products like healthy food, medical food (formulated for use in disease management), functional food, organic food, halal food and food for athletes and the elderly. Foods like these that cater to specific needs and more sophisticated demand, whereby consumers require particular nutritional elements, touch, smell, taste or image. This creates more value-added than just ordinary processed food.

Value creation is not limited to the manufacturing sector but also applies to services. The service sector is the largest contributor to the Thai economy, at around 56% of GDP, yet it mostly provides traditional services employing low-skilled labor with limited value-added. World Bank data show that the value-added of Thailand's service sector was only 46.3% of GDP in 2014, which is approximately at the same level as that of Cambodia, Laos and Vietnam, with an average level of 42.5%. Hong Kong and Singapore, by way of contrast, create much more value-added in services, at around 92.7% and 74.9%, respectively. Thailand clearly needs to upgrade and modernize its service sector. Businesses need to integrate innovation and communications technologies that will improve quality of service, raise customer satisfaction and better differentiate their offerings.

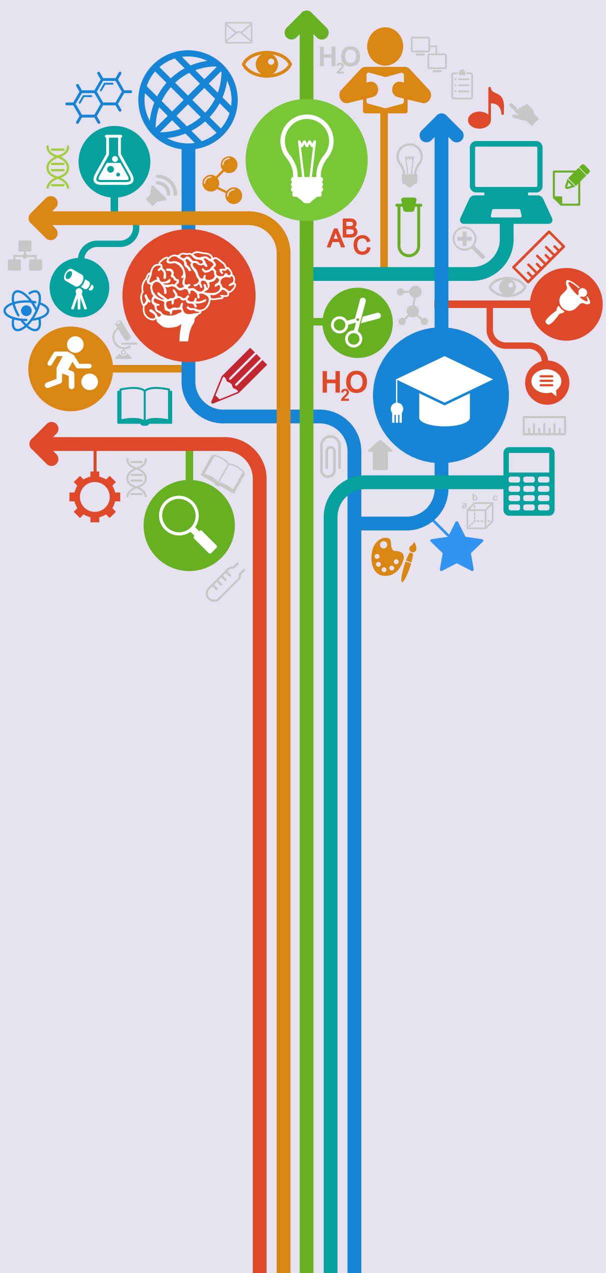
One example is the use of online customer surveys by four- and five-star hotels in Thailand. These surveys collect useful data on customer satisfaction and at the same time create a database for each customer's preferences, such as for room and bed type, pillow softness and bath fragrance. Such details enable the hotels to enhance a customer's satisfaction on the next visit and create a feeling of exclusivity that leads to brand loyalty.

In addition, a number of high-end hotels in Thailand and overseas have begun to equip rooms with new technology. Doing so adds value to a hotel's basic service and appeals to the demands of business travelers and trendy tourists. These facilities include free Wi-Fi service, free computer facilities or laptop lending facilities, iPhone and iPod stands, digital entertainment systems, Nespresso or Martello coffee makers, electronic security boxes, temperature-controlled swimming pools with automatic water-level management, and energy-saving shower heads. Adding these amenities improves convenience and satisfaction for customers, while creating value-added that generates income for the hotel. Thai business owners should build on the nation's diverse and beautiful tourist attractions as well as reputation for good service by integrating modern technology to increase value-added.

The service sector can also create value-added by appealing to niche markets. For example, in healthcare, businesses can venture into specialized services such as fitness club and one-stop beauty center for ladies, private yoga classes for pregnant women, swimming lessons for toddlers, and specialty clinics. In IT services, cloud computing and "big data" are fast gaining popularity. In the financial sector, providers should unveil diversified and specialized products, such as retirement planning packages, annuity life insurance that guarantees a steady income stream in retirement, business matching services, and loans for investment in emerging markets. These innovative services will create value-added and provide an edge against competitors.

BOX: "Building world-class export industries: Lessons from South Korea"

South Korea, among the poorest countries in the world just 50 years ago, has emerged as one of the world's star economies, driven by its rapid development of high-tech industries. The nation prides itself as an exporter of high-tech and premium products including cars, mobile phones and computers. South Korea's model clearly offers lessons for Thailand.

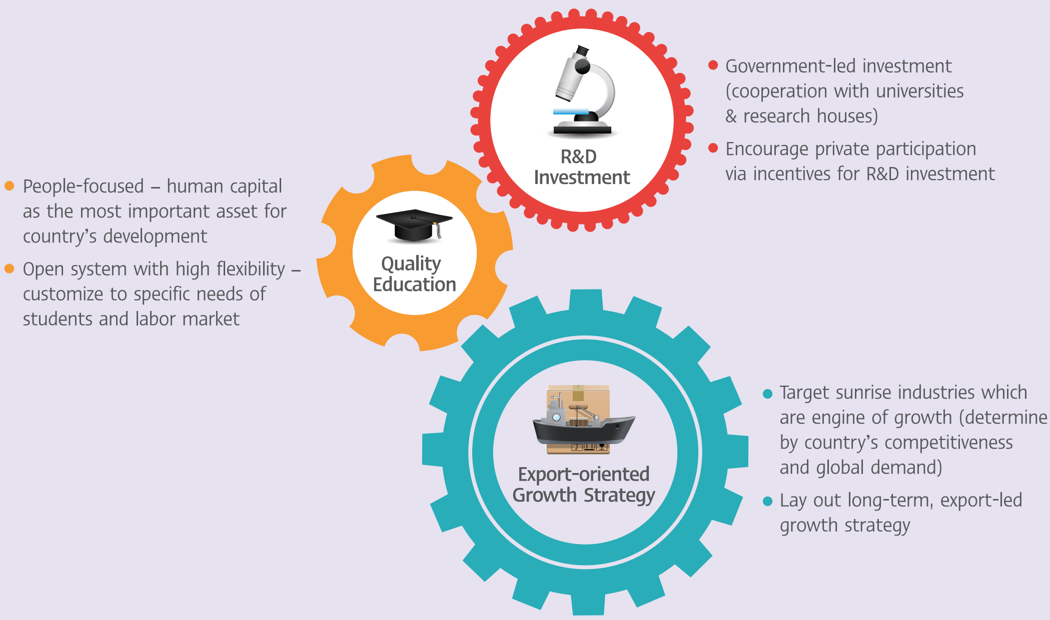


South Korea's foremost success factor has been investment in research and development (R&D), with the goal of systematically creating an innovation platform for science and technology research while decreasing reliance on foreign technology. The government spearheaded investment, then deployed various tax incentives to get the private sector more involved in innovation. These efforts paid off, and today South Korea is among the few countries in Asia considered a global leader in innovation, according to the Global Innovation Index (GII), an annual survey by Cornell University, INSEAD and the World Intellectual Property Organization (WIPO).

The second key to success was establishing high-quality education to develop human capital. South Korea boasts one of the best education systems in the world. The government follows the principle that people are the key ingredient in successful development. Each academic institution is allowed to design its own curriculum and textbooks, while the government only oversees the core curriculum. As such, courses and textbooks are highly flexible, and students are provided with a vast array of majors from which they are free to choose as suits their interests and talents.

The last success factor is the government's export-oriented policy targeting industries with competitive abilities. The government handpicks industries with high potential for growth and development in the global market, and relies on them as long-term growth engines for exports. Examples are electronics and mobile phones. South Korea aspires to become one of the world's top-three makers of robots, partly to prepare for future shortages of labor. Robotics and other industries that receive government support are those having high value-added and corresponding well to global demand trends.

18 R&D investment, education and export-oriented growth strategy are 3 keys to South Korea's international success



Source: EIC analysis

BOX: "The K-pop wave: high-value exports of popular culture"

South Korea has also succeeded overwhelmingly in exports of pop-cultural products. The K-pop wave is winning fans all around the globe, especially Asian teens and housewives. Films, TV series, actors, pop singers and bands, comic books, novels, online games and magazines are all driving the craze for things Korean.

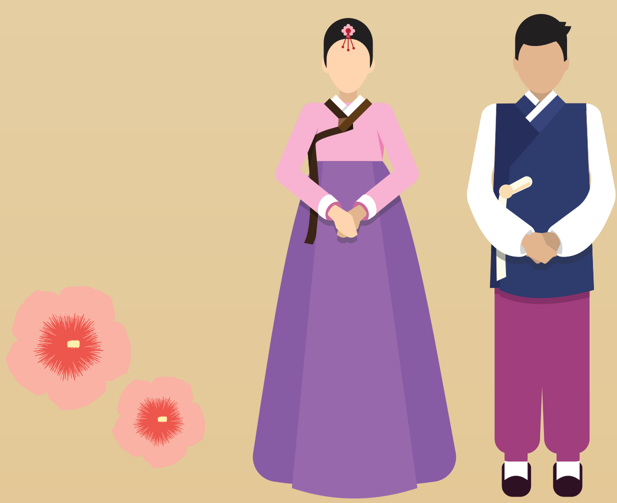
Three key factors propelled Korea's success in developing exportable cultural products within just a few years:

1) Systematic planning and management of cultural exports under government initiatives. The Ministry of Culture and Tourism set up offices of the Korea Tourism Organization in major cities around the world to serve as culture ambassadors and information centers. These offices are credited with many successful campaigns, particularly tours to locales shown in popular films and TV series. The government passed the Culture Industry Promotion Act in 1999, and set up various working units such as the Korean Institution of Promotion and Development, the Cultural Research Institute, and the Center for Cultural Technology Studies, all of which were designed to develop the industry and enhance its competitiveness. With strategic planning and infrastructure already well established, the government expects that by 2030, exports of cultural contents will contribute $13.7 billion to annual GDP and account for 1.6 million jobs.

2) Promotion of research and development in the film industry, which includes creation of a specialized Films Studies Institute. Originally intended to counter western influence on young Koreans and instill a new national youth culture, strategic development of the nation's film industry later turned into a lucrative business. Soon enough, Korean films became a major cultural export. In order to produce the right films for consumers' evolving tastes, consumer behavior research is conducted on a regular basis. Apart from entertainment, these films also offer educational value because they often feature tidbits of information on Korean culture and travel, as well as business negotiation techniques and marketing ideas.

3) Proactive marketing and promotion strategies. The government and private sector together developed marketing of culture that initially rode the wave of the Asian culture trend, and later focused on K-pop. Among the strategies were employing Korean actors as product presenters, putting Korean fashion models on international catwalks, and supporting Korean actors and directors on film promotion tours abroad. These efforts led to the creation of business in other areas such as tourism, fashion, cosmetics, electrical appliances, mobile phones, cuisine and even plastic surgery for women who aspire for the Korean look. These marketing strategies helped make Korean goods and services trendy.

The clear vision and strategy of South Korean policy makers supported K-pop's rise. Thailand, with its rich historical heritage, distinctive cuisine, martial arts like Muay Thai, and traditional dance, costume and festivals, similarly has a high potential to succeed in exporting culture. The nation's already world-renowned historical sites and traditions can be used as starting points for the growth of offshoot businesses. But long-term success requires clear vision, steady support and synergy among all relevant parties.

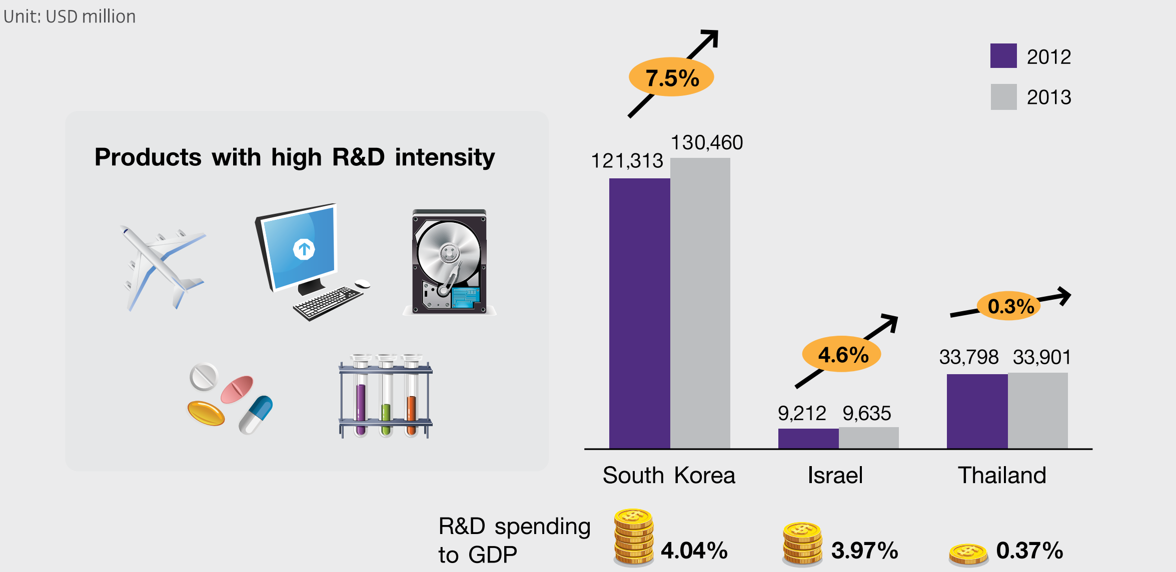


Implications for Thailand's national agenda

Advancement in technology and science is becoming ever more important in the world today. Economic growth based on value-added requires substantial investment in R&D that will drive innovation. According to World Bank data in 2011, R&D spending of South Korea and Israel accounts for 4.04% and 3.97% of GDP, respectively. While National Research Council of Thailand reported that Thailand's spending on R&D accounts for a mere 0.37% of GDP. Thanks to such investment, both South Korea and Israel have succeeded in raising economic welfare and creating high value-added and high-tech exports. In 2013, the high-tech exports of both countries grew by 7.5%YOY and 4.6%YOY, respectively, whereas Thailand saw almost no growth (Figure 19). Recognizing the need for more R&D investment, the Ministry of Science and Technology recently announced the goal to increase R&D spending in Thailand to 1% of GDP, or 130 billion baht, by 2016. The bulk of such investment (70%) is expected to come from private companies, which will receive investment tax incentives. More recently the cabinet agreed to raise the ceiling on income tax exemptions from 200% to 300% for firms that invest in R&D. The rest of the investment (30%) will be grants from the government with special promotion to selected industries, such as electronics, automotives, food and SMEs.

19 R&D spending was key to hi-tech exports success in South Korea and Israel.

High-Technology Exports*



Source: EIC analysis based on data from World Bank and National Research Council of Thailand

Another major challenge lies in development of human capital via high-quality education, which will enhance the productive capacity of the labor force. High-quality education is critical for the development of human capital that can innovate new products and services to support the country's growth. The challenge for Thailand in the coming years, in EIC's view, is to produce a new generation of researchers and scientists who can catalyze technological advancement. According to the National Science and Technology Development Agency (NSTDA), Thailand has only 11 researchers per 10,000 citizens, a very small ratio compared to around 100 researchers in developed countries. The lack of human capital is one reason why Thailand still lags behind many countries in terms of technological advancement.

Educating new researchers is only one step toward success, because career advancement and incentive schemes are also important to sustain the quantity and quality of researchers. For example, those working for government agencies should enjoy secure positions and clear advancement paths. They should be freed from the bureaucratic procedures characteristic of government work. Opportunities to collaborate with industry will facilitate the transfer of knowledge into the real economy. Thus the government should work with the private sector to set up a truly relevant research agenda based on real problems faced by industry. This will ensure that academic research helps enhance the capacity and competitiveness of the commercial sector in tangible ways. Corporate research grants and networks involving researchers from both the public and private sectors, as well as those from abroad, would support greater collaboration that will upgrade the quality of Thai innovation.

Last but not least, regional economic connectivity is the big picture. The AEC provides valuable opportunities to expand trade and investment in the region. It also serves as an important platform for economic collaboration that Thai businesses can benefit from. In a single-market context, agricultural raw materials can be sourced from CLMV, which will enhance resource-sharing and regional competitiveness. The implementation of the ASEAN Seafood Federation, founded in 2010, will bolster the seafood industry and allow ASEAN to strengthen its leadership in food exports. Other promising types of collaboration include product development and technology (led by Vietnam), food quality and consumer protection (led by Thailand), production factors sustainability (led by Indonesia, Myanmar and the Philippines), and logistics (led by Malaysia). These collaborations, if successful, would provide a major boost to industrial competitiveness in both Thailand and ASEAN as a whole. This would help ensure that growth in the region remains stable and strong.

Implications for businesses:

Continual investment in R&D to foster innovation is the key enabler for progress; doing so will equip businesses with tools to support sustainable growth in the long term. Today's Thai companies and international operations here are paying more attention to investment in R&D as they realize how important it is for product development and value creation for products and services. R&D is the key factor to sustain long-term growth. In Thailand, one company stands out in this respect. Namely, SCG, the Siam Cement Group, is an interesting case study for its emphasis on innovation. The company has totally invested over 5 billion baht in R&D in the past 10 years to achieve high value-added products and services (HVA). Its goal is to differentiate itself from competitors. In particular, its subsidiary, SCG Chemicals Co. LTD. has increased its share of revenue from HVA to 35% of total revenue, with a goal to reach 50% to gain pricing power in the future.

Behind SCG's success lies the clear vision of the company's leadership, who focus on R&D and the application of science, technology and innovation as tools to meet current and future demand. The company expands its R&D team every year. They nurture an innovative mindset and innovative organizational culture in employees starting from new recruits. They also place great emphasis on human development through higher education, training in Thailand and overseas, and research collaboration with the government, Thai universities and world-class researchers. For example, they have set up a collaborative program, SCG-University of Oxford Centre of Excellence, to conduct research for commercial purposes and invent high value-added products and services to serve the market.

Improving value-added based on R&D is not only limited to corporates, but is viable for SMEs as well. According to the Office of Knowledge Management and Development (OKMD), SMEs are important drivers of the economy, generating a large share of income and employment. Thus, for a country to attain sustainable growth, SMEs must also develop strongly by improving creativity and innovating new products and services that meet rapidly changing customer needs. For instance, a small Japanese firm with fewer than 30 employees has developed a nano-technology camera that is being used on a NASA spacecraft. An industrial cluster of SMEs in Italy built a reputation for high-quality and well-designed products. Italian SMEs are able to improve upon their production processes, management and marketing. Key industries that form such clusters include those that require artistic skills such as fashion, leather products, shoes, bags, furniture and ceramics.

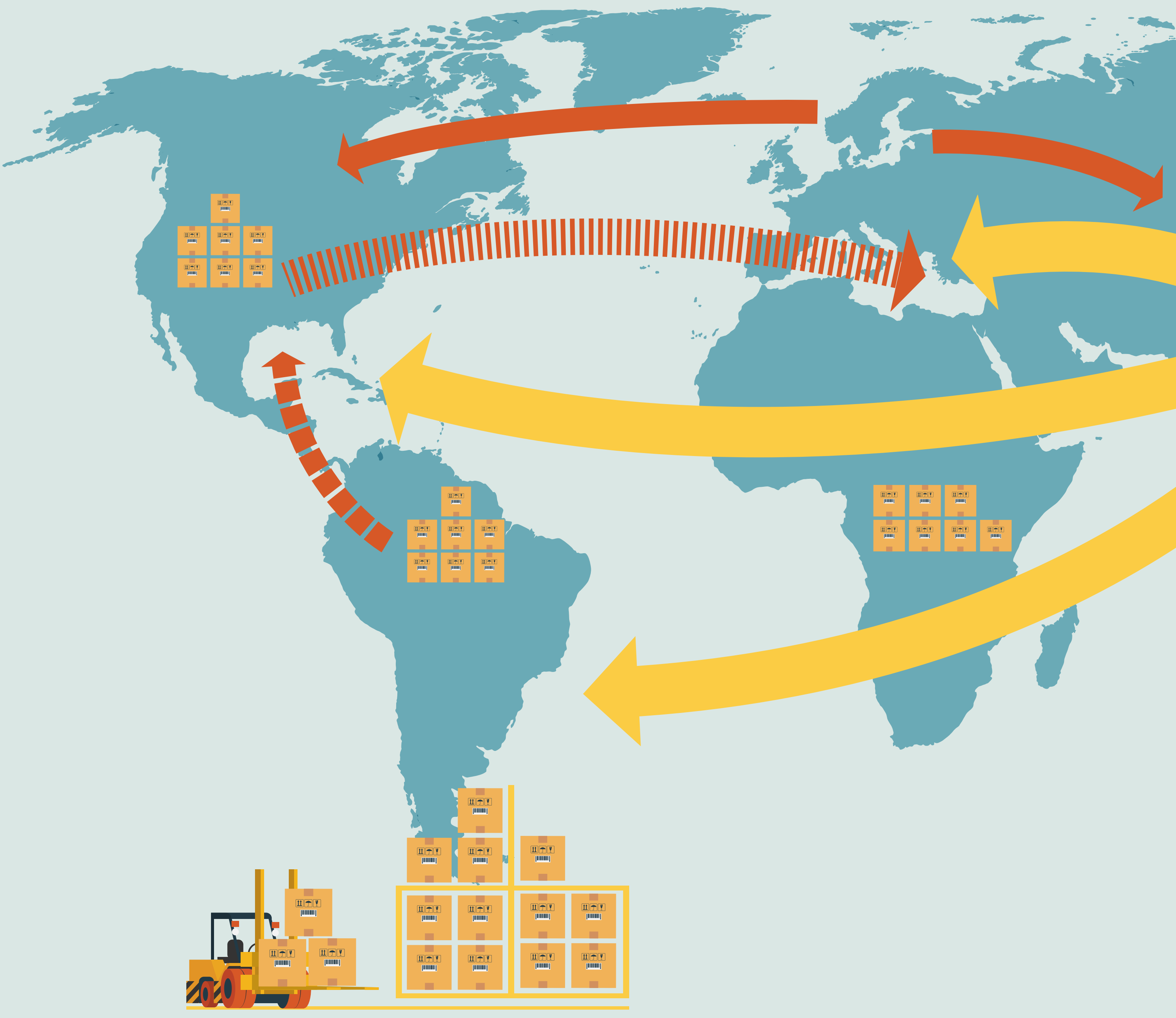
For Thailand, encouraging SMEs to utilize innovation and creativity is a natural next step to enhance potential and strengthen the economy. The Office of Small and Medium Enterprise Promotion recently launched a priority plan for SME development for 2015-2016. The plan proposes four strategies: 1) increasing efficiency of SMEs through integrated government management procedures, 2) supporting and developing SMEs throughout their business cycle 3) improving value-added in SME products and services, and 4) coordinating with government and private-sector networks in and outside Thailand. The main goal is to put SME promotion high on the national agenda, obtain comprehensive support for SMEs and strengthen small Thai companies.

SMEs should capitalize on government support to innovate products and services and achieve higher value-added. Examples of government measures to support SMEs include technical guidance from educational institutions, measures to increase financial access for SMEs, etc. The government also provides advice on adapting research findings to business. The intent is to raise standards for Thai SMEs to reach a world-class level. This plan encourages the development of creativity among SMEs in the manufacturing, service and agriculture sectors. To increase value-added and differentiate from competitors, SMEs should design and innovate products by building on new technological foundations as well as local culture and wisdom.

Thai SMEs have recently become more proactive at undertaking R&D and product innovation. Earth Born Co., Ltd., for example, has increased the value-added of their products instead of cutting operating costs. The company has created a variety of organic products using coconut oil. Not only does this increase value-added for the agricultural raw materials, the company also achieves zero-waste manufacturing by turning leftovers from the production process into high value-added products. In addition to its first-mover advantage in Thailand, it benefits from effective sourcing of raw materials, privately owned land to set up factories, and strong brand building. As a result, Earth Born has become Thailand's leading exporter of processed coconut products.

Moreover, Earth Born continues to invest in R&D to steadily develop new products. For example, the company has developed non-dairy products based on coconuts such as non-dairy yoghurt to meet new market demand. They also plan to develop more products from light coconut milk, which is leftover from coconut oil production, so as to cut costs from waste management. Additionally, the company also aims to branch out into beauty products in the future. EIC believes that many other Thai SMEs have a similar potential to innovate and increase value-added in their products and services, as long as they understand market trends and seize business opportunities by clearly targeting the right markets.

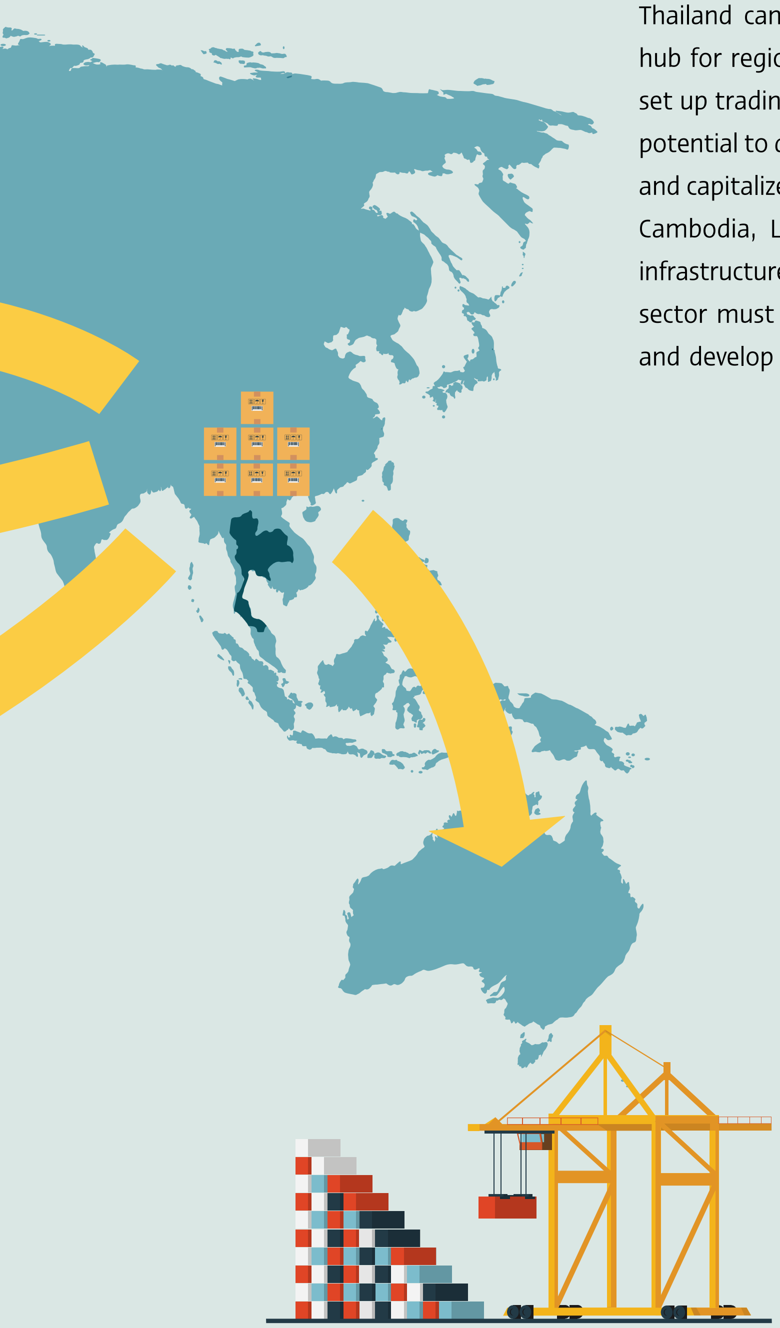
Innovation can help even the smallest businesses. For instance, DOME Ordinary Partnership developed "Dome Korakoch2," a 3D printer that can be used by manufacturers for cheaper prototyping, reducing time needed for design and development. Its distinguishing features are its large printing base, strong structure, precision and a printing head that consistently works well for long hours. This capability therefore supports printing of products for end use as well as molds. Besides, the printer is environmentally friendly for household use. The raw material input is bio-plastic made from agricultural products such as maize, cassava or sugar cane. This innovation caters well to current market demand for environmentally friendly products.



3

Raising the game: Capitalizing on Thailand's strategic location as an entrepot

Thailand can greatly develop its international business by becoming a hub for regional trade, and encouraging Thai and foreign companies to set up trading headquarters here. EIC believes that Thailand has a strong potential to develop a more supportive trade and investment environment and capitalize on its logistical advantage of being surrounded by booming Cambodia, Laos, Myanmar and Vietnam (CLMV). However, improving infrastructure and rules and regulations is just a starting point. The private sector must actively exploit opportunities to benefit from this strategy and develop their strengths to compete at a global level.



What is an entrepot and what are its benefits?

A trading hub country or entrepot serves as a center for the distribution of goods and services to neighboring countries and beyond. Singapore, Hong Kong and the United Arab Emirates (U.A.E.) are exemplary entrepots because they produce or import goods, then export or distribute most of these products to numerous foreign markets, especially regional markets. For example, Singapore trades electronic components and fuels with countries throughout the Asia-Pacific region and the Middle East. The U.A.E. distributes metal products, minerals and fuels to countries in South Asia, the Middle East and North Africa. A large number of foreign trading companies have been set up in these countries. As a result, the exports of each these countries is much higher than 100 per cent of GDP, and their ports and airports handle very high volumes of goods, especially for re-exporting purpose (Figure 20).

20 Trading-hub countries have high export to GDP ratios and overseas shipment volumes, especially for re-exports

Comparison of entrepot indicators during 2013-2014

	Singapore	Hong Kong	U.A.E.	Thailand
Export to GDP ratio (%)	187.6	219.6	99.5	75.0
Re-export to total export ratio (%)	66.9	98.5	62.2	0.03
Volume of traded goods at maritime port (million TEUs*)	33.5	22.4	19.3	7.7
Volume of traded goods at air ports (million metric tonnes)	1.9	4.1	2.4	1.2

Remarks: The twenty-foot equivalent unit (TEU) is a unit of cargo capacity.
Source: EIC analysis based on data from World Bank, The Airports Council International, Ministry of Commerce (Thailand), Hong Kong's Census and Statistics Department, International Enterprise Singapore and Dubai Export Development Corporation

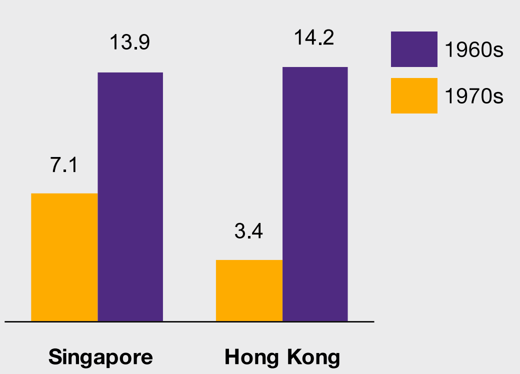
The key to create a trading hub is establishing a favorable environment for trade and investment. EIC sees five factors as being critical to a country's success in becoming an entrepot: 1) geographical location linking manufacturing or resource bases and target markets in the region, 2) infrastructure that facilitates efficient transport of goods and people, 3) streamlined customs procedures, 4) tax privileges that support trade and investment, and 5) products that meet market requirements. Two additional, complementary factors also help: 1) financial and capital markets that allow businesses to access funds to build stability and support rapid expansion, and 2) political stability to sustain business operators' confidence in the long term.

Becoming a trading hub would stimulate Thailand's economic growth and enhance the business sector's potential to compete abroad. As EIC sees it, Singapore's GDP grew 14%YOY in 1970s because that was when the nation stepped up its quest to become an entrepot, rapidly boosting exports. The same is true of Hong Kong in that period. If Thailand could follow suit, it would increase exports and lift economic growth from last year's paltry level of 0.7%YOY, thereby increasing GDP per capita (PPP concept) (Figure 21). Having an environment that is conducive to trade, including favorable taxes and good infrastructure, would enable Thai businesses to reduce costs and save delivery time, enhancing their international competitiveness. Centralizing the import, export and domestic distribution of goods in a single location would allow businesses to become more efficient.

21 Becoming trading hubs clearly raised Singapore and Hong Kong's GDP growth and GDP per capita

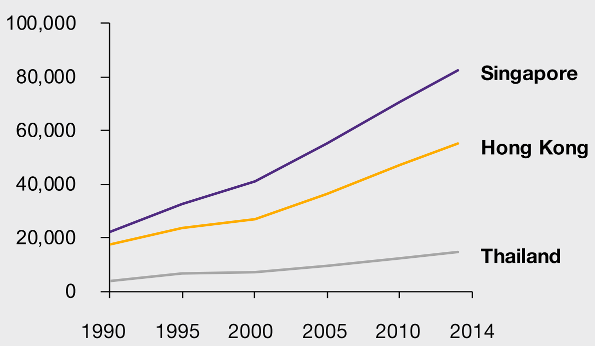
GDP growth rate of Singapore and Hong Kong

Unit: %YOY



GDP per capita (PPP concept) in Thailand, Singapore and Hong Kong

Unit: Intl $



Source: EIC analysis based on data from World Bank

How did Singapore succeed in becoming a trading hub?

The factors behind Singapore's success were not just its strategic location, but also development of good infrastructure and logistics. Over the past 30 years, Singapore has transformed itself from being a country with just a few inherent economic strengths into a world-class trading hub for energy, agricultural commodities and precious metals. It did this by exploiting its geographical advantage, linking trade between East and West by virtue of its location on the Malaysian Peninsula. However, its strategic location is not Singapore's only edge. The country's extensive land, water and air transport systems as well as modern telecommunications enable it to efficiently handle enormous volumes of goods shipments to destinations worldwide. In addition, large sites near its airports and ports have been developed into warehouses and logistics hubs, enhancing the speed and efficiency of shipments.

However, because physical infrastructure can be duplicated, Singapore has built on its advantage by creating tax privileges and customs systems that promote trade and reduce the costs of doing business. The World Bank report on Doing Business has ranked Singapore as the world's easiest place in which to operate each and every year since 2007. Testifying to this distinction, more than 1,800 large international corporations have set up regional headquarters in Singapore, thanks in part to the government's numerous privileges such as corporate income tax incentives for companies involved in international trade as well as tax incentives for R&D activities. Moreover, Internet systems (TradeNet and TradeFirst) are used to reduce administrative costs and enhance governance.

Singapore's role is not just as a product distributor. It also adds value to products to meet global demands. It imports basic electronic components from Taiwan, China and Malaysia and assembles them into more sophisticated components for mobile phones and computers that are in demand by consumers worldwide. Electronic components have risen to become Singapore's number one export, accounting for 30% of the country's total export value, with a compounded growth rate of 8% per year during 2001-2014. The key driver of this success has been government policies to promote business innovation, such as tax incentives for R&D and schemes to help SMEs use technology.

In addition, the government proactively developed human resources and attracted skilled manpower from abroad to alleviate domestic shortages. In the initial stage of its plan to become a trading hub, Singapore recognized that it lacked enough skilled workers. The government therefore set out to develop the education system, which today is recognized as one of the world's best. The International Trading Institute was established with a focus on training personnel for trade. The government also adopted a liberal immigration policy to bring in foreign experts and executives. Incentives include low taxes on personal income.

Moreover, Singapore developed its financial markets to enable companies to access funds, risk management tools and assistance in venturing into foreign markets. Singapore is home to over 200 regional headquarters of foreign banks, which, in addition to performing financial transactions, provide financial advisory services on international trade. Singapore's stock exchange is large and has a wide range of debt, equity and derivative products. Companies can access funds for business expansion and avail themselves of risk management tools. Moreover, the government arranges activities to prepare entrepreneurs before introducing their products abroad, and has entered into more than 20 free trade agreements to reduce trade barriers with major foreign trading partners, allowing businesses easier access to markets and sources of raw materials.

What are Thailand's development strengths and what needs to be improved?

Thailand can advance as a trading hub, especially in the agriculture and food sectors, by better matching supply to demand in target markets. Based on our analysis of market trends, EIC considers Thailand is able to become a trading hub for food and farm products, owing to the country's ability to grow a great variety of crops and its geographical location in the middle of the Greater Mekong Sub-Region. These factors give Thailand a comparative advantage in terms of access to raw materials and primary processed goods from neighbouring countries, which can be imported to make prepared foods and other products in growing demand. For example, sugar and cassava can be turned into bio-plastics for export to the U.S. and E.U., while organic foods can be shipped to China or the Middle East, where consumers have recently become more health conscious.

But stronger government policies are needed to encourage more research and development in new products that would increase Thailand's competitive advantage. EIC believes that Thailand should do more to add value to existing products in a way similar to how Singapore refines costly petrochemicals from imported crude oil. Investment in R&D is one of the crucial factors. The Thai government has begun to put more emphasis on policy to boost private sector R&D, such as tax exemptions and support for tech investment funds. These supporting policies, once successfully implemented, will elevate Thailand's importance as a creator of value in the supply chain, rather than simply producing commodities or distributing goods.

Thailand needs to improve transport infrastructure to prepare for higher flows of trade and to increase physical links to potential markets. To begin to catch up with the likes of Singapore, Thailand has to revamp its weak transport infrastructure, especially for freight. Projects in the pipeline should be kept on track and accelerated. These include the double-track rail projects, the East-West and North-South high-speed rail link projects, Chiang Saen port development project to connect ASEAN to Southern China and the project to redevelop U-Tapao as the nation's third major commercial airport. Once these projects are in operation, Thailand will have a more complete multi-modal transport system. This will help reduce today's high logistics costs and give businesses easier access to raw materials. All this will position companies to better respond to market demand.

22 Thailand's current tax incentives can compete with those of Singapore, Hong Kong and Malaysia

Comparison of tax incentives for IHQ and ITC in Thailand, Singapore, Hong Kong and Malaysia

	Thailand	Singapore	Hong Kong	Malaysia
Personal income tax rate for eligible expatriates	0% - 15% [1]	0% - 20% [2]	2% - 17% [3]	Exempted
Corporate tax rate for income received from domestic associated enterprises	10% [4]	17%	16.5%	10% [5]
Corporate tax exemption for income received from overseas associated enterprises	✓ [6]	✓	✓	✓
Withholding tax exemption for dividends paid from IHQ to its overseas entities	✓ [7]	✓	✓	✓
Maximum exemption and reduction period of corporate income tax	15 years	5 years	unlimited	10 years

Remark:
[1] Exempted if chargeable income is not more than THB 240,000.
[2] First SGD 20,000 of chargeable income is exempted from income tax.
[3] First HKD 40,000 of chargeable income is charged at 2%.
[4] Income from royalties, provision of management, technical, and support services or treasury center services, but the amount must not be more than total income and royalties exempted from corporate tax
[5] Exempted if income from qualifying services is less than 20% of total assessable income.
[6] Income stated in 4 includes income from dividends and capital gains from the sale of shares of overseas associated enterprises (must be the shares of overseas associated enterprises that do not beneficially own, directly or indirectly, more than 25% of the total asset), sales income from out-out transactions, and fees earned for services relevant to the international trade business to overseas customers.
[7] Including interest earned from IHQ and applied to interest paid on the loan used by the IHQ for treasury center service activities only. In addition, IHQ also get a specific business tax exemption for income received from such loan.
Source: The Revenue Department of Thailand, Singapore Economic Development Board, Inland Revenue Authority of Singapore, Inland Revenue Department of Malaysia, Inland Revenue Department of Hong Kong and Asian Development Bank

Despite attempts to improve tax incentives, Thailand still urgently needs to revamp its customs and excise system to become more business- friendly. Thailand recently enacted tax incentives for any company operating as an international headquarters (IHQ) or international trading center (ITC). The incentives are intended to compete with other countries within the region (Figure xx), especially through the reduction in corporate income tax from royalties and for the provision of management, technical and support services from 20% to 10%, which is lower than the tax in Singapore and Hong Kong. EIC expects that this change will help attract more foreign-owned firms to use Thailand as a base for distribution or international business operations. The change can also benefit any Thai company wishing to establish an IHQ or ITC, although an existing corporation would need to establish a holding company in order to take advantage. Yet attractive tax incentives alone won't greatly stimulate trade and investment in Thailand. Other measures will need to be improved. Customs and excise procedures need to be gain transparency and flexibility. Adopting agreements made under the World Trade Organization's Trade Facilitation Agreement can achieve this, which would also cover agreements under the GATT article on Freedom of Transit and the national single window. These measures would help upgrade Thailand's international trade facilitation system to provide better service to both Thai and foreign businesses.

23 Singapore, Hong Kong and the U.A.E. have supporting factors to be trading hubs

Comparison of key factors in becoming a trading hub

● Best ⟷ ○ Worst

	Singapore	Hong Kong	U.A.E.	Thailand
Infrastructure readiness	●	●	◕	◑
Trade-friendly custom procedures	●	●	◕	◔
Legal and tax incentives	●	●	◕	◑
Well-established financial and capital markets	◕	●	◑	◑
Capabilities to meet global demands in goods and services	●	●	◑	◔
Government supports and political stability	●	◕	◑	◔

Source: EIC analysis

What benefits will entrepreneurs receive and how should they adapt?

Once better trade conditions have been established, entrepreneurs should seek more opportunities and channels to produce and distribute their products abroad. Entrepreneurs should track market demand so that they can provide the right products. One example with high potential is instant food products. Thai entrepreneurs can use raw materials from domestic sources or neighboring countries to create value-added exports. Thai entrepreneurs can also become distributors of raw materials and commodities from around the world to other parts of the region, as done by Cargill, Inc., which established international headquarters in Singapore as its hub for Asia-Pacific business. Beyond its ability to produce its own palm oil in Indonesia, Cargill is also an importer and supplier of food products from all over the globe including flour, cocoa, snacks and processed food.

Cargill also handles other services and products used in a variety of production supply chains. The company is not only a food products manufacturer and distributor, it also provides materials and food sourcing services to businesses, including materials required for food containers as well as beverage and food ingredients, such as gelling and thickening agents, cultures and enzymes. Cargill is the region's leading oilseeds and animal feeds distributor. In addition, it provides freight transport services for metal- and energy-related products. Thus entrepreneurs should expand their opportunities by investing in more than just one product, especially when demand is growing for other product types. If entrepreneurs cannot produce popular products themselves, they can source them elsewhere and serve as distributors to end-users.

Establishing good business partnerships is a crucial factor to gaining better access to raw material sources and new markets. This is evident in the case of Cargill, which has more than 35 cocoa suppliers across five continents, providing the company a diversified platform to respond to different demands of consumers in each country. Cargill has also established cooperation in R&D with its customers, such as its research cooperation with United Biscuits Company on how to improve efficiency in using chocolate to produce snacks that better meet market demand. Thus, a good business partnership generates product innovations to create a stronger competitive edge.

Entrepreneurs should look for cooperation from both the public and private sectors in capacity building and development to support Thailand's trading hub strategy. Numerous government and private agencies, such as the Industry Ministry, the Foreign Affairs Ministry and various financial institutions, have come up with policies aimed to provide assistance to Thai entrepreneurs wishing to expand their businesses to overseas markets. Such assistance includes sharing marketing information, consultation and business matching services as well as financial assistance for expansion. EIC recommends Thai entrepreneurs to take this opportunity to explore their trading partners' needs as well as to analyze their own strengths and needs in handling international trade. This suggestion applies to businesses of all sizes, including SMEs. By preparing now before Thailand establishes trade-friendly environment, Thai entrepreneurs will be able to penetrate foreign markets more effectively and reap big financial gains from international sales.

Although world economic growth in the next five years may not be prosperous as the past, Thailand's business sector should not disregard market opportunities close to home, especially CLMV. Economists expect that disappointing GDP growth around the world will cause global trade to grow more slowly than during the past decade, especially among the original G3 markets, the U.S., E.U. and Japan. But Thai businesses should not dismiss emerging markets, especially CLMV. These countries are potential consumer markets that also can serve as production bases with costs lower than in China. EIC advises Thai businesses to take full advantage of their strategic location to develop trade with counterparts in growing CLMV. Thai companies should start planning their business strategies now and prepare in every way to engage in trade with CLMV.

Becoming a hub for trade will entail the risk of higher dependence on international conditions. Thus, Thai entrepreneurs should have measures to cushion themselves from market fluctuations in terms of both demand and supply. Acting as a regional trading hub will inevitably expose Thailand to the risks of openness. Businesses will depend more upon global economic conditions. For example, a problem affecting a foreign business partners' ability to supply raw materials might disrupt a Thai company's ability to produce or export. Slower growth of overseas economies might have a bigger impact on Thai companies that export. Thus Thai entrepreneurs should diversify risk by importing raw materials from various sources and reduce their demand risks by expanding their customer bases. For example, Dubai imports instant food products from all around the world, namely the U.S., U.K. and China, and exports them to markets in Middle East and North Africa. This strategy helps mitigate impacts from fluctuations in both supply and demand.

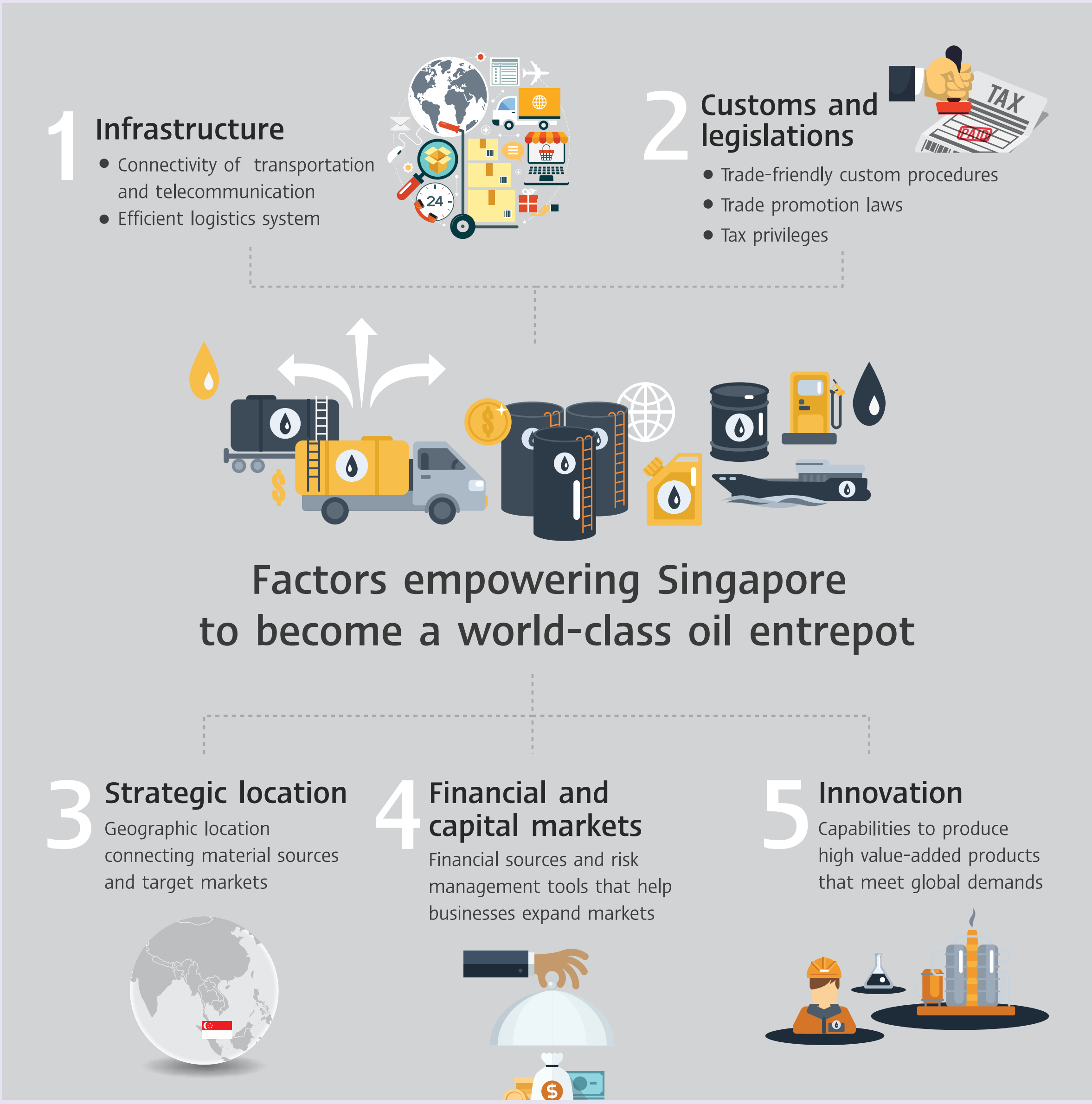
BOX: Singapore keeps moving ahead to lead in trade of oil

Singapore has developed itself into one of the world's top three oil trading hubs today, with help from its geographical advantage together with its world-class infrastructure and good planning. Singapore's oil trade first began in 1891, even though it had no natural crude oil resources of its own. However, its strategic geographical location enabled Singapore to start importing crude oil from Saudi Arabia and the United Arab Emirates and turn it into refined petroleum products for export to Asia-Pacific countries including Malaysia, Indonesia, Australia and China. Singapore also built effective infrastructure designed to accommodate freight transport, such as oil depots and deep-sea ports. It also has developed a great variety of petro-chemical-related industries as well as an accommodative financial system and rules and regulations that promote investment. These factors gave Singapore an advantage compared to other countries in the region, making it the world's third-largest oil trading hub, following the U.S. and the Netherlands.

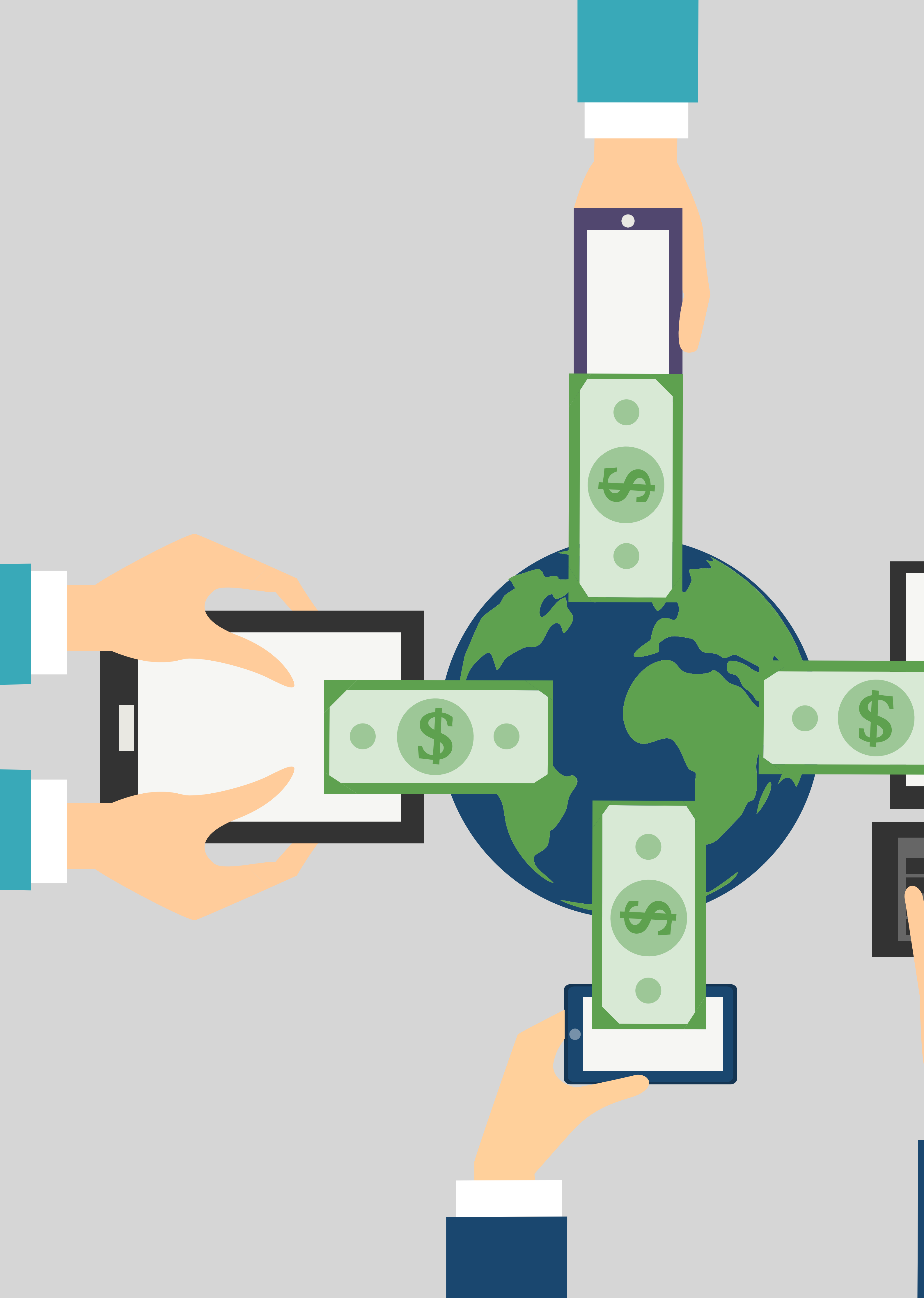
Singapore's ability to attract foreign investors to establish regional headquarters also gives Singapore a crucial role in setting oil prices in the region. Besides being one of the world's leading refiners of oil, Singapore also has a crucial role in setting Asia's oil trading prices. The nation trades large volumes of oil because it hosts regional headquarters of more than 300 of the world's leading oil companies, including Vitol, Mercuria, ExxonMobil and Royal Dutch Shell. Consequently, oil prices in Singapore are considered to accurately reflect actual market demand and supply in the region. Thailand's retail oil prices use the price in the Singapore market as a reference to reflect market mechanisms and maintain international standards.

Singapore has continually improved its oil production efficiency and innovation to sustain its role as one of the world's top oil trading hubs. Despite already having a variety of comparative advantages, the Singaporean government has kept upgrading the country's oil refinery capacity and efficiency in order to reduce unnecessary production costs. They aim to sustain its competitiveness because its trading partners like Malaysia and India have recently started their own efficiency improvements. Moreover, Singapore also focuses on the development of petro-chemical products, such as lubricant, in order to locally create more value-added from oil. The government also promotes R&D in alternative energy, namely biodiesel, in preparation for changing demand. EIC believes that these factors will help Singapore maintain its leadership as an energy-trading hub.

24 Factors empowering Singapore to become a world-class oil entrepot



Source: EIC analysis



4

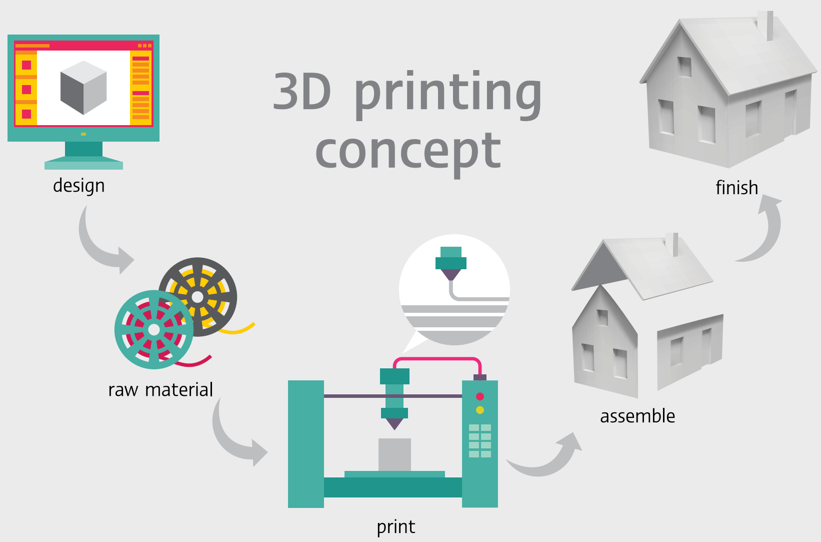
Digitalization transforms international trade

Digitalization – the increasing adoption of digital technologies throughout everyday life, society and business - is modernizing the economy, driving major productivity and efficiency, and creating new jobs in many sectors. It is also changing international trade in many ways, from expediting trade itself to transforming physical goods into digital ones that can cross borders in a millisecond. No company or industry can afford to ignore these changes. They must recognize and capture opportunities arising from digitalization, whether by simply adapting business to cope, or more aggressively transforming products and processes to get ahead, or taking radical steps to not just compete but change the competitive field itself, known as "disruptive innovation."

For many years already, digital products and services have been speeding up cross-border exchanges, from downloads of e-books and music to call center operations outsourced from distant countries. The infrastructure that supports the internet continues to expand, continually diminishing old barriers of distance and cost. Digitalization reduces marginal costs for production and distribution, especially costs associated with access, discovery and delivery. This happens in three main ways:

1) Digitization – the conversion of analog data into digital form – has transformed many types of physical goods into digital ones that can be copied and transmitted in an instant. Examples are e-books, MP3s and streaming movies. Today consumers can choose from a near-endless supply of games, movies, music, books, magazines and newspapers from almost anywhere in the world. Although most digitized goods are consumed domestically in the same country where they are produced, more and more are sold across national borders. About 50% of Amazon’s media sales, worth over $10 billion per year, comes from international markets (Figure: Amazon’s net sales from outside North America) Netflix, an on-demand, internet streaming media service based in the U.S., began its international expansion in 2010 and now has over 18 million members abroad. That figure is about 30% of the total members, and rose almost 80% within a year from 2013. In Southeast Asia, Ookbee, a Thai startup, provides a digital magazine platform that distributes over 500 titles throughout Thailand, the Philippines, Malaysia and Vietnam. Magazine and book publishers now routinely provide digitized reproductions of their printed products, distributing them to buyers electronically. These are only a few examples that elaborate how digitization has turned flows of physical goods into transmissions of digital files. More is on the way.

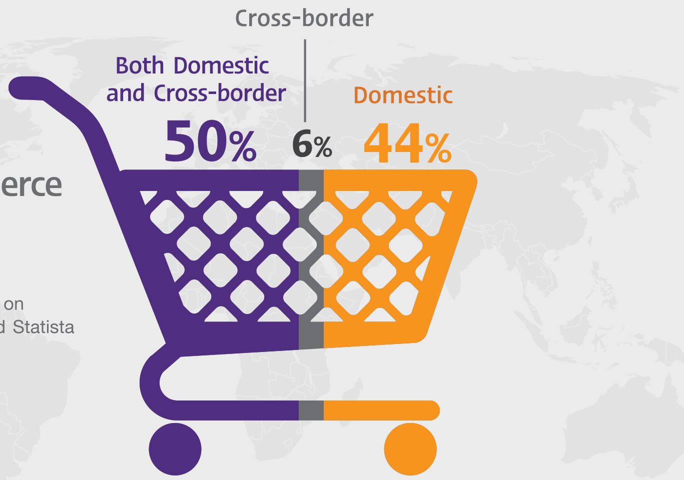
The new technology of 3D printing could change the production of goods and flows of trade. The machine produces objects by depositing layers of material to create finished parts that can be easily assembled into a complete product. Using a 3D printer, products can be made closer to the point of purchase or consumption, or can even be done at the household-level instead. It also allows far more customization because it does not require a new set of machines, only a simple change of setting in the software program. This has the potential to transform production lines and supply chains. Transfer of intermediate goods or parts could be taken out of the value chain, because 3D printing transforms raw materials into finished products, thus changing cross-border trade dynamics and reducing the role of intermediaries.



2) Digitalization enhances the efficiency and accuracy of flows of physical goods, thanks to services like online shipment tracking systems and user review websites. Technologies like the Global Positioning System (GPS) and radio frequency identification (RFID) track the identity, location, and other conditions of goods, which hugely supports the supply chain linking manufacturers, suppliers, distribution centers, retailers and customers. These technologies help facilitate shipments and and ensure quality in terms of transparency and reliability. A buyer can now locate the current position of a shipment and determine the port and transit time by simply entering a tracking number into a track-and-trace system, providing convenience and peace-of-mind.

Digitalization enhances the cross-border selection of goods and services when physical observation is difficult or impossible. For example, TripAdvisor, the world's biggest travel review website, provides information to help consumers choose where to stay and eat and what to do. Customers make informed decisions based on rankings, comparisons and reviews. TripAdvisor generated over $1 billion in revenue in 2014, covering more than 890,000 hotels in 45 different countries.

3) Digitalization creates platforms that facilitate international sales and markets. Services like Alibaba, Amazon, and eBay offer digital platforms that instantly connect individual market participants across borders. The internet cuts search costs and harmonizes prices, and improves a producer's ability to market to customers around the world (Figure: Cross-border e-Commerce). Alibaba, eBay, and Amazon are the top three e-commerce players in the market today; each provides a different platform where buyers and sellers come together to exchange goods. While they operate similarly, each is unique in its own way. Amazon has tremendous logistics and inventory capabilities, manufacturing and self-branded products and contents. EBay is unique in offering retail products using auction-style sales. Alibaba positions itself as a business exchange ecosystem with functional "marketplaces as a platform for third parties."



Global e-commerce is increasingly cross-border

Source: EIC analysis based on data from PayPal, Ipsos and Statista

BOX: About-face: Alibaba starts bringing global products to China

Alibaba was founded by Yun Ma, known as Jack Ma, in 1999. It has over 330 million active members globally and made over $8.5 billion in net sales in 2014, up 56% from the previous year.

"Our vision is in 10 years, we will help two billion consumers in the world shop online. Our globalization will still be focusing on helping small businesses and helping them do business in the most efficient way."

Jack Ma
Executive Chairman, Alibaba Group

Alibaba, or Alibaba Group Holding Ltd., based in China and listed as BABA on New York Stock Exchange (NYSE) in September 2014, positions itself as an intermediary to facilitate trade transactions between suppliers and buyers across national borders. It provides online and mobile marketplaces in both retail and wholesale trade, as well as cloud computing, payment, and other related services.

Alibaba describes itself as an ecosystem with support from its businesses that can be categorized into four main groups:

1) China retail business: Taobao Marketplace (C2C online shopping platform), Tmall (third-party B2C platform for brands and retailers), Juhuasuan (online group-buying marketplace).

2) Global retail business: AliExpress (global consumer marketplace, allowing consumers to buy products directly from wholesalers or manufacturers in China).

3) Wholesale business: Alibaba.com (global B2B trading platform), 1688.com (China's B2B trading platform).

4) Other affiliated companies such as Alimama (online marketing platform), Aliyun (cloud computing subsidiary) and Alipay (online payment solution provider).

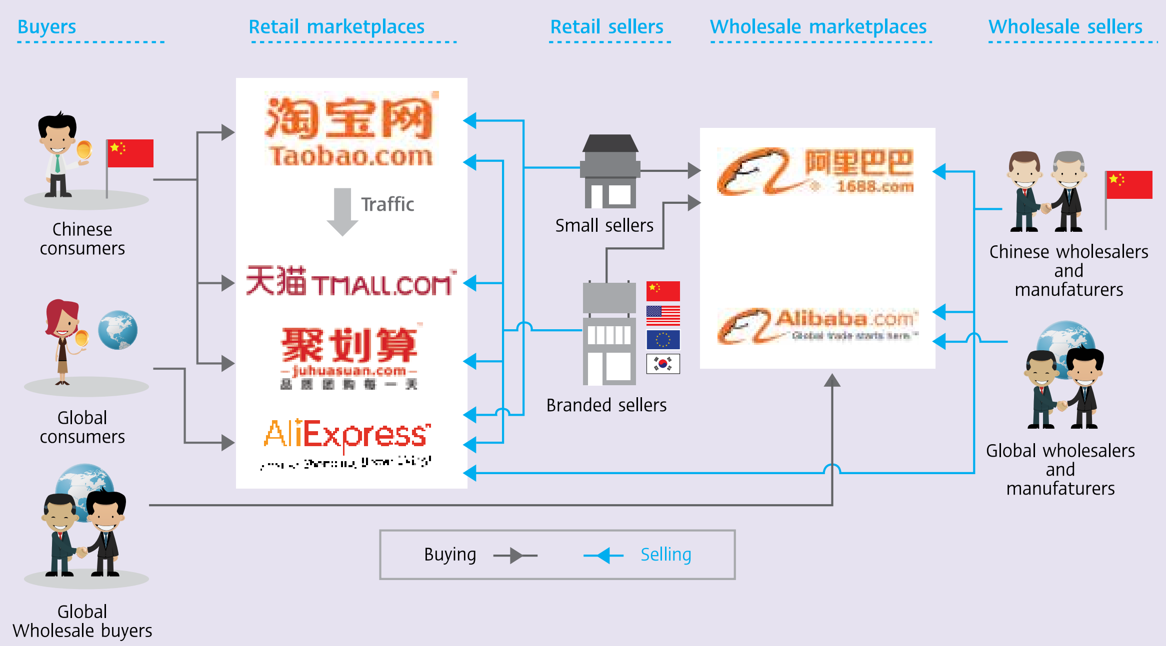
Compared to the top two global players - Amazon and eBay - Alibaba has a stronger presence in the B2B (business-to-business) space, especially in selling products from China to the world. Alibaba's wholesale revenue was over $1 billion in 2014, representing over 11.8% of its total revenue. To achieve it, Alibaba launched several initiatives within the B2B space, such as partnerships and expansions to increase its footprint in many Asian countries, including Thailand, Vietnam, Malaysia and India. In addition, it recently announced a service on its domestic wholesale website, 1688.com, which brings products into China from all over the world and allows local merchants to source products from foreign suppliers - initially starting from Spain, Portugal, Italy and South Korea. Alibaba has a goal to turn its all-Chinese 1688.com website into the world's largest import sourcing portal, through which Chinese buyers and foreign sellers will be able to trade directly. In other words, by allowing Chinese buyers to source products from overseas, 1688.com is the inverse of Alibaba.com, which connects Chinese suppliers with overseas buyers. Sellers can choose to be listed for free on Alibaba, which allows them to display up to 50 products on the website as a tryout. More extensive service is available for a fee.

For seamless cross-border trade, Alibaba provides merchants with information and services that facilitate customs clearance, product inspection and logistics. Basic information including customs and duties for each country is provided on the website. It currently offers its merchants Alibaba.com's Inspection Services through authorized third-party inspectors, backed by a 20-times money-back guarantee. The inspectors certify that goods being produced and shipped reach the stated quality standards. Its affiliate, Alipay, has launched cross-border payment services and offered Yu'E Bao, a money market fund to its members. Alibaba can use its B2B business model to smooth out cross-border trade processes, which could help ease friction in such commerce, with a significant impact on businesses around the world.

Alibaba does not have any representative office in Thailand but has announced a few partnerships with local companies to increase its footprint here. In April 2015, it appointed ReadyPlanet as the first reseller of B2B Alibaba.com services in the Thai market. ReadyPlanet is an online platform that helps sellers to create and maintain online stores. Among Alibaba's worldwide total of 36 million registered users, around 570,000 are in Thailand. Among Alibaba.com's 40 product categories, categories with high potential for Thai businesses include food & beverage, agriculture, apparel and beauty.

Thanks to its proximity to China's tens of thousands of manufacturers, Alibaba has risen to the top of B2B cross-border commerce. It has a strong lead in the Chinese market, whereas Amazon dominates in the U.S. What Alibaba has yet to fully exploit is its big opportunity to bring western merchants to the massive, largely untapped Chinese market. Today, many factors make it hard for western companies to sell in China, including logistics and barriers of language and culture. Because Alibaba has already proved its business model by successfully connecting Chinese manufacturers to the outside world, it is in a good position to bring foreign companies in.

Alibaba Group



Source: Alibaba Roadshow

How digitalization changes businesses

Digitalization is changing the economics of businesses and stakeholders' participation in different industries:

1 Automotives

Vehicle safety and autonomous driving technologies
- Autonomous driving technologys
- Parking sensors
- Navigation system

New business models
- Car sharing, i.e., Uber, Lyft
- Marketplace platform, i.e., Mobile.de, AutoScout24, One2Car

Online communications and marketing channels
- Online customer service
- Offcial accounts on Twitter, Instagram

2 Wholesaling & retailing

Virtual goods
- Games, software, e-books

Online dealers and shops
- Virtual stores, i.e., online sites for Tesco, Central, BigC, Walmart, Target

Multi-channel approach
- Online marketing strategy
- Online customer service

New business models: online-only, outsourced supply chain, outsourced distribution, review website
- E-commerce platforms: eBay, Alibaba, Amazon
- Specialized online-only store with in-house supply chain: Diapers.com, Soap.com
- Online-only store with outsourced supply chain: Gilt Groupe
- Shopping & delivery service: Instacart
- Others: review websites, online marketplaces for deals, coupons

3 Oil & gas

Oil field technologies
- Real-time drilling system: data collection, system control
- 4D visualization and modeling
- Remote communications facility linking onshore and offshore staff
- Production management system

4 Manufacturing

Digitalize value chain /processes
- Electronic ordering process
- Customized product development
- Automated transfer of data to connected planning and manufacturing systems

5 Banking & finance

Digital Banking
- Internet banking channel and products: mobile banking, online banking, online payment

New "disruptions"
- Non-bank channels: Alipay, crowd-funding, peer-2-peer lending
- Online/mobile payment system: PayPal, Alipay, Apple Pay

Yet despite the growth of digitalization and the new opportunities it has created, an unfavorable regulatory environment has sometimes formed a barrier that favors legacy businesses. The problem is regulation that is inadequate or unclear, or enforcement that is weak, involving issues like privacy, intellectual property rights and censorship. Other problems involve technological infrastructure, logistics, customs and tariffs. The most common barrier is localization requirements, which force companies to establish local data centers or use local ICT infrastructure in order to be permitted to provide services in a country. This raises costs and reduces the resources available to invest in innovation by requiring duplicate facilities. Brazil, China, Indonesia, Malaysia, Nigeria, South Korea, Venezuela and Vietnam are among the many countries imposing such restrictions on digital businesses.

In Thailand, the main impediment to further digitalization is the availability, quality and affordability of underlying infrastructure. Thailand needs to increase internet and broadband access, and regulators need to reinforce online security and regulations. Secondly, more needs to be done to encourage development of online businesses. More lending specifically for online development and better logistics would help. Beyond government, private companies and financial institutions should participate, especially in promoting e-payments and non-cash transactions, and providing sources of funding.

Implication - challenges and opportunities for businesses

Digitalization is a megatrend that is affecting all aspects of business models. Companies are adapting their strategies and models to cope with challenges and opportunities. Yet the penetration of digital commerce remains low and relatively few products and services have proven successful so far. To move forward, businesses need to:

1) Understand the real impact of digitalization on their business and make appropriate adjustment as new opportunities arise:

New sales channels digitalization can open new doors and expand the customer base. However, companies need to find the right balance when combining online and offline sales, because consumers expect products to be available through all channels and they demand the brand experience to be equally satisfying throughout. Even Walmart, the world's largest company by revenue, and which started its online store over a decade ago, is still struggling catch up with Amazon.com in terms of online sales. In 2015, Walmart plans to invest up to $1.5 billion in its global e-commerce business, even though its online sales accounted for only 2.5% of its total sales. This shows that online business is so important that even such a dominant company cannot ignore it.

New payment solutions and shopping procedures with digital payment technology, customers can now shop online with little effort thanks to the "one-click" process, whereby customer data, shipping information and payment instructions are already stored in a smart payment solution, such as Google Wallet, Apple Pay, Square Wallet, etc. New payment technology can also facilitate offline business transactions in less-developed countries where banking services remain spotty, such as in Africa and India. Companies must also adapt their payment systems to local practices and standards to allow a broader range of customers to participate easily and conveniently. For example, customers in Thailand are still reluctant to make online payments. Instead of accepting payment only by credit card, debit card or money transfer, many sellers therefore offer cash-on-delivery service or cash payment via convenience stores. Moreover, Zalora, a Southeast Asian fashion e-commerce site backed by Germany's Rocket Internet incubator, offers a return & refund service in Thailand, where this type of service is not yet widely known. If a buyer is not 100% satisfied with the purchase, Zalora allows him or her to return the item for a full refund via any 7-Eleven shop.

New ways of marketing and communicating with consumers digitalization has changed the way consumers engage with brands and companies. It creates new ways to influence, inform and understand customers through social media and digital marketing, and monitoring and tracking management systems. Online marketing can be an efficient way to reach and engage a large customer base in a short period of time. Unilever, Procter & Gamble Co., and Kraft Foods Group report that 20-35% of their total media and marketing expenditures are being spent on digital channels. This includes everything from buying online banners and Facebook ads to search engine optimization, SEO.

2) Developew business models and products companies cannot presume that any current strategy, business model, system or product is going to continue to function in the same way forever or deliver the same successful results. They need to welcome the creative and digital perspective at every level, especially from the management level. The rise of startups is proof: witness Google, Facebook, Salesforce, Twitter, Apple and dozens more. Apple was once a small company on the verge of bankruptcy, until the launch of its first iMac in 1998. Now it has become the most valuable company in the world. Kodak, on the other hand, failed to adapt to new technology and never fully grasped how the world was changing as digital photography “disrupted” its industry. Kodak filed for bankruptcy in 2012. Similar torpedoes also sank Blockbuster, Research in Motion (the maker of BlackBerry) and Nokia.

3) Leverage digitalization to go global, even as an SME Online platforms enable the smallest SMEs and even individuals to become micro-multinationals. The development of e-commerce makes it easier and cost-effective for small companies to digitalize their operations, to scale up and expand the customer base quickly. Nasty Gal, an American fashion retailer, is a case in point. Sophia Amoruso started her business as a tiny solo shop on eBay selling vintage women’s clothing, shoes and accessories, growing it into an e-commerce site with $100 million in sales in 2012 within less than seven years. Her particular style and way of engaging online followers has helped Amoruso build Nasty Gal from an ordinary eBay store to one of the world’s fastest- growing retailers, with customers in 50 countries.

Digital disruption in banking will provide a new way for SMEs and individuals to gain greater access to capital, allowing them to raise funds that may previously have been out of reach. The following are a few examples: micro-finance, crowd-funding (Kickstarter, Indiegogo), peer-to-peer lending (Lending Club, Prosper) and small business lending (OnDeck, Kabbage, Alibaba e-Credit line, PayPal Working Capital). Pebble, a Palo Alto-based startup, raised over $20 million in less than an hour via Kickstarter in March 2015. Pebble’s case was not only the most-funded campaign in the platform’s history, but also the fastest-funded.

crowdfunding concept

New way to find a project by raising many amounts of money from a large number of people (crowd) from anywhere in the word, typically via the internet (crowdfunding platform)

BOX: Nasty Gal – One woman's eBay store becomes global fashion dynamo

Nasty Gal was begun by Sophia Amoruso, a twenty-something woman who started selling vintage clothing, shoes and accessories on eBay. At the beginning, it was only a side project helping her earn extra cash to supplement pay from her minimum-wage job at an art school. Amoruso purchased second-hand items like old Chanel jackets and Yves Saint Laurent dresses at very low cost from Goodwill and Salvation Army thrift stores, then sold them on eBay. Two years later in 2008, she decided to launch Nasty Gal as a standalone website, growing it into a company with over $100 million in annual sales by 2012.

Nasty Gal's footstep to success

Nasty Gal caters to an international cult of fashion-obsessed, super-stylish girls. Amoruso built a brand that resonated well with millennials by specializing in one-of-a-kind, authentic vintage pieces as well as new clothing, shoes and accessories by independent designers around the world. As its name suggests, the brand is not for professional women or preppy students. The outfits are unconventional and sexy, like a pair of black leggings paired with a white shredded-knit sweater and bright pink mini-skirt. Most items are under $100, yet with profit margins of over 60%. Nasty Gal successfully turned vintage finds into high-margin sales. For this reason, the brand has been profitable from day one, which makes it easier to grow either organically or via external funding.

Amoruso started the business small, tweaked it and grew, and kept tweaking and growing. She initially did everything out of her apartment, from taking pictures of merchandise to writing product descriptions. The eBay platform allowed her to "partner with the customers." She learned to understand who was buying her products and what they really wanted, and to respond to customer comments. Because she knew her clientele so well, she was able to source the right products based on a strong sense of what they would buy and why.

Moreover, she leveraged social networks and the eBay platform to reach out to an audience and turn them into customers. She engaged with them using early social media like Myspace on an ongoing basis, before most retailers fully understood how. Eventually Nasty Gal moved to Facebook. She started a competition for her Facebook fans to come up with the best titles for her vintage collections and gave the winners gift cards to shop at her store. The growth of Nasty Gal has also been driven by word-of-mouth and its active online presence via Facebook, Twitter, Instagram, Pinterest and Tumblr.

Amoruso's sense of style and ability to embrace digitalization have turned Nasty Gal into an e-commerce retailer with over 500,000 customers in 50 different countries around the world. It may have been a fluke or her unique fashion sense or the combination of both that led to success, but we cannot deny the fact that Amoruso successfully leveraged social media and online marketing to her benefit. She started with a Myspace page in 2006 to advertise her business and gathered 60,000 friends by reaching out to fans of brands, music and fashion magazines, who she thought might appreciate Nasty Gal's uniqueness. Within just seven years, Nasty Gal sales topped $100 million.

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Sutapa is Chief Economist and First Executive Vice President at Siam Commercial Bank (SCB), where she leads the Economic Intelligence Center (EIC). She previously served as Head of Credit Risk Analytics Division under Risk Management Group.

Before SCB, Sutapa set up and headed the Risk Analytics and Research Group at TMB Bank during her secondment from ING Group. Prior to joining the banking industry, Sutapa was Economist (EP) at the International Monetary Fund (IMF) in Washington, DC. She had also served as Advisor to the Thai Senate Committee on the Economy, Commerce, and Industry, as well as Director of Macroeconomic Analysis Section at the Thai Ministry of Finance.

Sutapa holds an undergraduate degree in Applied Mathematics from Harvard University and a doctorate degree in Economics, Management, and Policy from Massachusetts Institute of Technology (MIT). She was a recipient of Thailand's most prestigious King's Scholarship. In 2007, Sutapa was honored by the Asia Society as Asia 21 Young Leaders Fellow, selected among a diverse group of professionals under 40 from the Asia-Pacific region.

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