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Identifying Growth Constraints in Halal Cosmetics Ecosystem and Adapting to New Norms

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### **Abstract**

To improve the incomes of a population and attain sustainable development, a nation's primary goal must focus on continuous and inclusive economic development. Such optimal conditions will create economic security with greater and better employment opportunities for her citizens. This study seeks to look at the *halal* cosmetics sector, which is fast expanding globally, with special focus on the situation in Malaysia. Subsequently, it is crucial to diagnose the factors affecting the growth of *halal* cosmetics SMEs operating in the *halal* cosmetics ecosystem. A cybernetics and systems-based approach will be developed to understand the dynamic nature of growth variables and their relationships will be mapped based on data gathered from various groups of stakeholders in Malaysia. The research method chosen is qualitative due to the multi-faceted nature of the *halal* cosmetics industry. The cybernetics analysis had identified the most binding constraint variable within the *halal* cosmetics industry. This will enable policy makers and SMEs to take intervention initiatives and thereby ensure the growth of *halal* cosmetics industry and increase inclusive growth in this industry. It has also paved the way for the stakeholders to predict behavioural changes of the affected variables should any of the related growth constraint variable alter. Advent of COVID19 pandemic has impacted the cosmetics industry as a whole and use of augmented reality coupled with the rise of skin care gadgets has ensured survival of this industry.

*Keywords:* Growth constraints; Halal cosmetics; Cybernetics analysis; SMEs; Pandemic

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### **1. Introduction**

In order to create economic security with greater and better employment prospects for its citizens, a nation must attain sustainable development through perpetual and inclusive economic development that has both rapid and positive impact on the livelihood of its population. This aspiration was the second main thrust in the Eleventh Malaysia Plan. The main crux of inclusive development is on the improvements of societal well-being including “the capacity of economic, political and social systems to provide the environments for a sustainable societal well-being on a long-term basis” (Rauniyar and Kanbur, 2010).

Growth diagnostics approach developed by Hausmann, R. et. al. (2005) suggests an analytical framework, to identify the most binding growth constraints, and assumes that elimination of the identified binding constraints will allow economic growth to accelerate. These binding constraints are related to production function such as physical and human capital, governance, institutions, infrastructure, and geography. It will allow policymakers to design and adopt policy designs that address the most binding constraint whilst respecting pertinent factors in their country's economic, political and social context (Hausmann et.al., 2005). Consequently, growth diagnostics methodology is a practical strategy that consists of identifying the most serious constraint(s) that has the greatest negative impact though not all constraints bind equally (Rodrik, D., 2010). However, this methodology does not consider the dynamic nature of growth constraints of interactive systems which in this case is between the consumers, business and the governance systems.

Cybernetics and Systems Science regard systems as a complex, multi-dimensional networks of information systems that can be unified as they are governed by underlying laws and principles. Cybernetics is the science of communication and control in complex, dynamic systems where the core objects of study are information, communication, feedback, and adaptation (Schwaninger, M., and Scheef, C., 2016). While systems theory focused more on the structure of systems and their models, cybernetics concentrate on how systems function, how they control their actions, and how they communicate with other systems or with their own components (Principia Cybernetica Web). A study conducted by Khairul Akmaliah et.al. (2015) explained that cybernetics and systems approach coupled with growth diagnostics framework will enable identification and mapping of growth constraints variables relationships resulting in an analysis which addresses the dynamic nature of growth in an ecosystem.

Halal is a global industry which is substantial and represents a vibrant opportunity for the worldwide economy and Malaysia. The fast growing affluent and tech savvy Muslims, making up 26% of the global population in 2020 and forecasted to reach 2.2 billion in 2030 (GIER 2019/2020), are the drivers of the *halal* economy as they are keen to embrace the consumer market whilst

leading a faith based lifestyle (Özlem Sandikci, 2011). The same report noted that Muslim spend on cosmetics is estimated at

USD64 billion in 2018 and predicted to reach USD95 billion by 2024. Even with the onset of Covid-19 pandemic which saw the world economy paralysed, the long-term growth of this sector is still expected to expand albeit slower than previously forecast (McKinsey, 5 May 2020).

GlobalData report indicated that Malaysia's cosmetics and toiletries industry, is set to grow from USD1.6 billion in 2018 to USD 2.1 billion by 2023, driven by strong domestic demand and private consumption and to grow at a compound annual growth rate (CAGR) of 4.2%; with the colour cosmetics category forecasted to grow the fastest at 4.71% CAGR between 2018 – 2023. Shivangi Gupta, Consumer Analyst at GlobalData, concludes, "As discerning consumers in Malaysia are growing more conscious of the harmful effects of chemicals used in cosmetics and toiletries, the demand for products with 'natural' claims are set to rise in the future".

A leader in *halal* economy, Malaysia had targeted *halal* cosmetics industry as a gateway for wealth creation and sustainability. Malaysian SMEs makes up 98.5% of the country's business establishments, contributed 38.3% towards its gross domestic product (GDP), and accounted for 66.2% of its employment. Malaysia's Ministry of Entrepreneur Development and Cooperatives (MEDAC) made efforts to simplify the bureaucratic processes for SMEs development under its National Entrepreneurship Policy 2030 (The Edge Markets, 2020; The Star, 2019). MEDAC hopes that by establishing a holistic and conducive entrepreneurial ecosystem it will support the country's inclusive, balanced and sustainable entrepreneurship development agenda.

The cosmetics industry is highly competitive but international attitudes, strict ethical governance and lack of harmonised *halal* regulation worldwide has curtailed global expansion of local *halal* cosmetics SMEs. The resulting lockdowns imposed by Covid19 pandemic caused a major disruption to the global supply chain of raw materials further hampered their efforts. SMEs are also struggling to keep up with the rapid development of technology required for communications, transactions and marketing which has been made mandatory due to onset of Covid-19 pandemic. Another plague *halal* cosmetics producers face is the flooding of fake and illegal cosmetics (The Malaysian Reserve, 2018; New Straits Times, 2018).

To Muslims, *halal* and *haram* are vital issues, as it affects individuals and societal well-being and covers everything and all stages from raw material sourcing to the distribution of end products, up to delivery to consumers (Man & Sazili, 2010). Halal cosmetics refer to beauty products that have been manufactured, produced and is composed of ingredients that are permissible under Islam. Alas, majority of Muslim beauty consumers are unmindful that numerous cosmetics contain *haram* ingredients that is impermissible (Abdul Aziz et.al., 2014). Thus, *halal* cosmetics SMEs face continuous uphill battle to expand.

Non-Muslims worldwide are increasingly receptive to *halal* cosmetics as they are produced in virtuous consumerism fashion and conducted in an ethical business environment (Elasrag, 2016; Alam & Sayuti, 2011). Dazinger (2019), stated that beauty buyers are drawn to cosmetics that are natural, clean and sustainable, which fits the definition of *toyyiban*. Aoun and Tournois (2015), reported that *halal* companies undertake social responsibility towards the environment, community and economy, through symbiotic relations for sustainability, as they fight against animal cruelty, environmental degradation and promotes green marketing.

Clearly *halal* beauty industry has significant potential to grow exponentially even during post-Covid-19 pandemic. Malaysia has all the necessary infrastructure to support its *halal* economy and has proven this by its booming *halal* food sector. Whether it has the necessary infrastructure to support its *halal* cosmetics sector remains to be proven.

This study would provide information to Malaysia's policy makers and agencies on how to create a more conducive and comprehensive *halal* cosmetics ecosystem, and provide a robust ecosystem to support and safeguard local *halal* cosmetics SMEs, repeat its success in the *halal* food sector and ultimately attain inclusive development for the betterment of her citizens. While local *halal* cosmetics SMEs can address the growth constraint factors to enable them to remain viable and expand.

A cybernetics and systems-based approach is developed to understand the dynamic nature of growth constraints variables, and their relationships mapped to identify which growth constraint variables are proving to be the greatest obstacle. The relationships will be mapped based on data gathered from bibliography and published sources as well as through interviews with various groups of stakeholders in Malaysia. This comprehensive method is used as it addresses the dynamic nature of growth and aid in unearthing the root cause of growth constraints.

## 2. Literature review

To improve the incomes for the population of any nation and realise sustainable development, there must be continuous and inclusive economic growth as outlined under the Sustainable Development Goals, set by the United Nations General Assembly and targeted to be attainable by 2030 (UN Resolution 70/1). It is believed that attainment of Goal 8 (promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and Goal 9 (build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation) will create greater economic security with expansive and better employment opportunities for citizens of developing nations (United Nations website).

These features can be found in the *halal* cosmetics industry but only if *halal* cosmetics SMEs play an active role, both domestically and internationally, with the government authorities providing a conducive *halal* cosmetics ecosystem.

### 2.1. Inclusive development

Economic growth is necessary, but on its own is insufficient to improve the welfare of a population. A development approach that encompasses an agenda beyond growth and income is needed to ensure that the benefits of growth are shared equitably across all parts of society. Policy makers currently advocate that to improve living standards in a developing world and achieve positive societal transformation, that nation must provide a robust ecosystem and subscribe to inclusive growth. However, an increase in GDP may not bring equal benefit to all citizens resulting in greater economic inequalities to the poor (Abbott et al 2016). In 2010, Rauniyar and Kanbur defined inclusive development to mean improvements to societal well-being on a sustainable long-term basis through increased capacity of the economic, political and social systems. Inclusive development thereby focuses on efficiency in distribution of social and material benefits across various social communities and addresses the structural factors that impacts marginalised vulnerable citizens.

### 2.2. Growth diagnostics, cybernetics and systems approach

Growth diagnostics approach developed by Hausmann, Rodrik and Velasco (2004) suggests an analytical framework to identify the most binding constraints that hinder economic expansion. The hypothesis assumes that elimination of the detected binding constraints will allow growth to accelerate. These binding constraints are related to production function such as physical and human capital, governance, institutions, infrastructure, and geography. It will allow policymakers to design and adopt policy designs, be it orthodox and/or heterodox, which tackle the most binding constraint whilst respecting pertinent factors in their country's economic, political and social context (Hausmann *et.al.*, 2005). Consequently, growth diagnostics methodology is a practical strategy that consists of identifying the most serious constraint(s) that has the most negative impact though not all constraints bind equally (Rodrik 2010). However, this methodology does not consider the dynamic nature of growth constraints of interactive systems which in this case is between the consumers, business and the governance systems.

Cybernetics and Systems Science regard systems as complex, multi-dimensional networks of information systems, which though different, can be unified as they are governed by underlying laws and principles. While systems theory focused more on the structure of systems and their models, cybernetics concentrate on how systems function, how they control their actions, and how they communicate with other systems or with their own components (Schwaninger M., 2016; Principia Cybernetica Web). A study conducted by Khairul Akmaliah *et.al.* (2015) explained that cybernetics and systems approach coupled with growth diagnostics framework will enable identification and mapping of growth constraints variables relationships resulting in an analysis which addresses the dynamic nature of growth in an ecosystem. In this study, the system-in-focus, *halal* cosmetics industry ecosystem, will be examined from a human activity system. This will enable a cybernetics analysis to be conducted in identifying the growth drivers and constraints variables in the *halal* cosmetics ecosystem as well as the relationships between them with special emphasis on *halal* color cosmetics.

### 2.3. Halal cosmetics market

Rising demand for *halal* cosmetics among affluent Muslim millennials is mirrored by the largest expansion in over a decade, for global cosmetics sales, with Muslim spend on cosmetics projected to grow by 6.8% per annum to reach USD95 billion by 2024. Even with the onset of Covid-19 pandemic, which incapacitated the world economy, the long-term growth of this sector is still expected to expand albeit slower than previously anticipated (McKinsey 5 May 2020). According to Juliet Shor's hugely popular "Lipstick Effect" consumers indulge in little luxuries to look attractive as a morale booster during economic downturn (Hill *et al.*, 2011); inferring that even if the world economy spirals downward the beauty business is likely to float.

Table 1. Top 10 Halal cosmetics consumer markets

Position	Country	Halal Cosmetics Spending, USD	Position	Country	Halal Cosmetics Spending, USD
1	India	5.4 billion	6	Bangladesh	2.9 billion
2	Indonesia	3.9 billion	7	Iraq	2.2 billion
3	Russia	3.6 billion	8	Kazakhstan	2.1 billion
4	Turkey	3.4 billion	9	France	1.8 billion
5	Malaysia	3.1 billion	10	Iran	1.8 billion

Source: Figures from GIER 2018/19

Table 1. revealed that the top three countries with the highest *halal* cosmetics spending are India, Indonesia and Russia, and France as top ninth are of Muslim minority countries. A situation that augurs well for *halal* cosmetics companies and investors.

Doreen Bloch, CEO of Poshly, a beauty data company, reiterated that people are still buying cosmetics and skin care however spending has shifted to different beauty categories as the pandemic has pushed other things to the front of consumers' minds and faces (Wischhover, C. 2020). Large cosmetics producers such as L'Oréal and Sephora have leveraged on virtual reality (VR) and augmented reality (AR) that allows buyers to try out entire combinations of different products without being

physically present on site before they purchase online. Olay and Clinique encourage users to use apps that permits individualized hair and skin analysis hence facilitate personalized product recommendations. Other brands offer real-time assistance as users try on different products via AR app, to suggest the right combination of products and how to apply make-up products.

### 2.3.1. Halal cosmetics and beauty consumers

The revitalization of Islam and religious principles in emerging countries, with young educated and affluent Muslims, have given rise to a generation of Muslim consumers who want to lead a balanced faith-based existence and yet eager to join the global consumer culture (Özlem Sandikci, 2011). The same report noted that Muslim spend on cosmetics is estimated at USD64 billion in 2018 and predicted to reach USD95 billion by 2024. Even with the onset of Covid-19 pandemic which saw the world economy paralysed, the long-term growth of this sector is still expected to expand albeit slower than previously forecast (Gerstell, E. et. al., 2020).

According to AlQaradāwī (2001), the term *halal* means “permissible for consumption to be used by Muslims, whereas *haram* is anything that is unlawful or forbidden”; whilst Surah Al Baqarah 2:168 outlines that *halal* is for all mankind. Halal encompasses every stage of the delivery up till end consumers, including raw materials sourcing, logistics, production, marketing including financial transactions (Che Man & Sazili, 2010).

Cosmetics is defined as “any substance or preparation intended to be placed in contact with various external parts of the human body or with teeth and the mucous membranes of the oral cavity, with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odours and/or protecting them or keeping them in good condition” (National Pharmaceutical Research Agency website). Halal cosmetics refer to beauty products that have been manufactured, produced and consists of ingredients that complies to Shariah law and with reference to *halal* standards. Study by Sutono (2015) highlighted that *halal* must be accompanied with *toyyiban* and free from alcohol, *najs*, contamination and any genetically modified organisms (GMO). According to Sugibayashi, K. (2019) “*halal* cosmetics transcends beyond religion because they require rigorous scientific investigation to come up with a product that is safe, effective, pure, and sensitive to the holistic needs of the Muslim community”.

Shiffman (2007) defined consumer purchase behaviour as “the behaviour that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs”. Gogoi (2013) propounded that during the buying process consumers are influenced by external as well as internal motivations that may change purchase intention and in so doing affect behaviour.

Wilson and Liu (2011), argued that perceived importance of *halal* is built into the Muslim consciousness as *halal* is preordained and dictates the moral conduct of Muslim. They posited that *halal* certification communicates to and reassure consumers that the products are made using Shariah compliant ingredients, processing, marketing using ethical business transactions. Muslim consumers are highly receptive to beauty and skin care products as Muslim modesty has been redefined due to influence by social media and e-influencers, who leverage on global digitisation and IR4.0 technology advancements (Wilson et. al., 2013). Recent consumer behaviour studies affirmed that *halal* beauty consumers will prioritise the product features especially quality, *halal* certification, brand name and visibility, social influence, pricing, packaging, celebrity endorsement (Alhedhaif et al., 2016; Kamaljeet, K. et.al., 2018; Putri, T.U. and Abdinagoro, S.B., 2018; Qaisar Ali, 2019).

Meanwhile, non-Muslims worldwide are increasingly interested in *halal* brand, as they are aware that *halal* cosmetics are produced, using eco and animal-friendly processes, in an ethical commercial environment (Elasrag, 2016; Alam & Sayuti, 2011). An article written by Dazinger (2019) stated that beauty buyers are drawn to new brands and cosmetics that are natural, clean and sustainable, these features correspond to the definition of *toyyiban*.

### 2.3.2. Halal Cosmetics SMEs in Malaysia

Small and medium-sized enterprises (SMEs) in the manufacturing sector are defined as small and medium independent firms that are non-subsidiary, which sales turnover not exceeding RM50 million OR whose fulltime personnel numbers is below 200 (www.smecorp.gov.my). The SMEs GDP contribution to Malaysia’s GDP in 2018 increased to 38.3% compared to 37.8% in 2017 (Department of Statistics Malaysia). SMEs in Malaysia constitute 98.5% of Malaysia’s business establishments and account for 66.2% of employment (SME Corp, 2020; The Star, 2019).

In Muslim majority Malaysia, global cosmetics brands such as L’Oréal, Revlon, Maybelline, Estee Lauder and Shiseido dominate *halal* cosmetic market, while SMEs command a smaller market share (The Borneo Post, 2019). Recognising this, the Minister of Entrepreneur Development and Cooperatives then, Mohd Redzuan said, “The government will continue to bolster the contribution of SMEs through the National Entrepreneurship Policy 2030 by enhancing the capacity and participation of young entrepreneurs and SMEs in the national and global economy” (The Malaysian Reserve, 2019). To penetrate this captive cosmetics market, Malaysia has pledged to increase efforts in facilitating business procedures for SMEs especially with regards to NPRA notification of registration, *halal* certification and exporting processes whilst concurrently educating the masses and stakeholders on benefits of *halal* cosmetics (The Edge, 2020). It intends to do this via leveraging and operationalising on its robust *halal* ecosystem which would have a sizable impact in increasing wealth creation of stakeholders within this business sector and encourage comprehensive inclusive development.

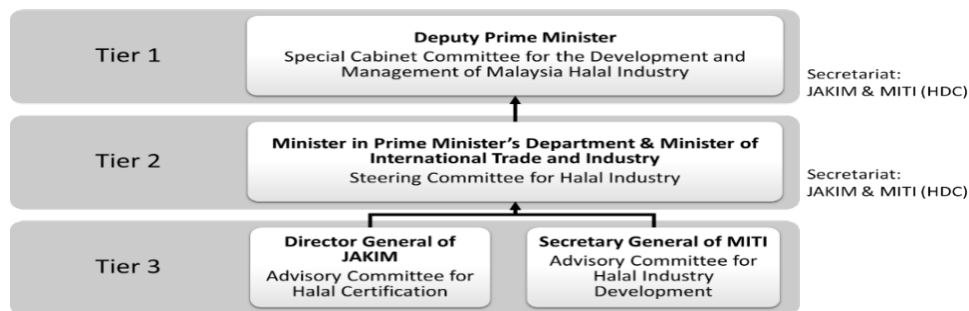
Just as regulatory bodies continue to monitor and increase enforcement to combat the flooding of fake and illegal cosmetics, consumers must also be more responsible and accountable when purchasing *halal* cosmetics (The Malaysian Reserve, 2018; New Straits Times, 2018), while SMEs must strategies and deliberate on pertinent internal and external issues that affect consumer purchase behaviour of *halal* cosmetics and explore new markets. (Allied Market Research, 2017)

Halal manufacturing stresses on sustainable production that should have minimal impact on the Earth’s natural resources. In 2015, Aoun and Tournois stated that companies who are *halal* certified are ethically managed, oppose animal cruelty, environmental degradation and advocate green marketing. This includes conducting ethical business and manufacturing practices that supports smart alliances and sustainability.

Entry to the international *halal* cosmetics market are challenging as producers face issues concerning formulation of cosmetics and skincare ingredients, presence of diverse *halal* certification standards and lack of a consistent certification framework employed by different countries.

#### 2.4. Regulatory and support mechanism

The Malaysian government had instituted substantial measures including the governance structure of Malaysia’s *halal* industry and its ecosystem (Fig. 1) and given prominence in all its three Malaysia Plans (RMK9, 10 and 11).



Source: Adapted from HDC

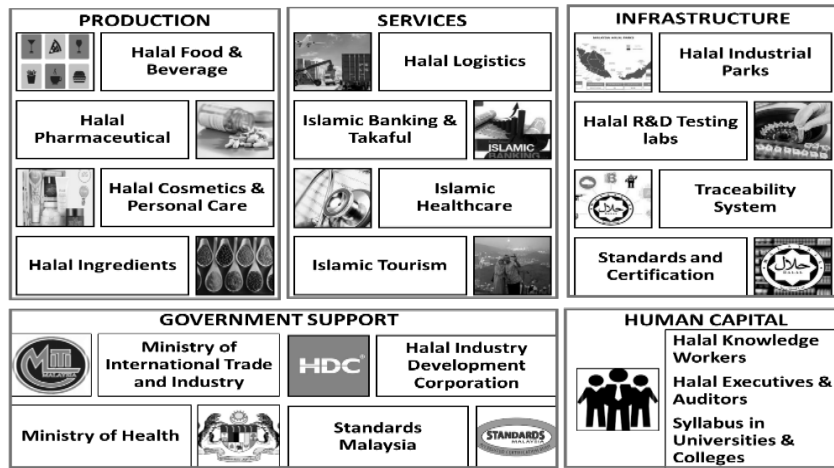
Figure 1. Governance structure of Malaysia’s Halal industry

Malaysia’s global *halal* ecosystem is progressive and dynamic, as it incorporates standards, regulations, infrastructure, logistics and human capital capacity development in its thriving *halal* industry and Islamic Finance sector. This resilient *halal* ecosystem is supported by various government agencies, government linked agencies and private enterprises that ensures the sustainability and expansion of *halal* industry (Table 2).

Table 2: List of agencies involved in cosmetics Halal governance

Agencies	Responsibility
Malaysian Islamic Development Department (JAKIM)	Manages issues regarding halal certification, administration and Shari’ah including monitoring and enforcing halal certification integrity both locally and globally
Standards Malaysia	Establishes halal standards and acts as the national accreditation body
Halal Industry Development Corporation (HDC)	To position Malaysia as a global halal hub as well as to accelerate the development of the halal industry worldwide in particular on the development of halal standards and capacity building for halal products and services.
Malaysia Halal Council (MHC) which also includes the Ministries of Health; Agriculture and Agro-based Industry; Domestic Trade and Consumers Affairs; and Education	It role is to consolidate, reconcile, and resolve issues of JAKIM, Standards Malaysia and HDC to develop halal in a more integrated and holistic manner.
SME Corporation Malaysia (SME Corp)	Is the central coordinating agency (CCA) under the Ministry of Entrepreneur Development and Cooperatives (MEDAC) that coordinates the implementation of development programmes for small and medium enterprises (SMEs) across all related Ministries and agencies including acts as the central point of reference for research and data dissemination on SMEs and entrepreneurs, as well as provides business advisory services for SMEs
Centre for Cosmetics, National Pharmaceutical Regulatory Agency (NPRA)	To safeguard the nation’s health by determining quality, efficacy and safety of cosmetic products through continuous monitoring and dissemination of information.
Ministry of Domestic Trade and Consumers Affairs (MDTCC)	Conducts enforcement and monitoring programme to protect Halal integrity Halal logo and consumer’s interest.
Ministry of International Trade and Industry (MITI)	Formulates strategies and provides incentives to encourage trade and investment in Halal products and services at the domestic level and promote Halal Standards as a benchmark tool at the international level
Malaysia External Trade Development Corporation (MATRADE)	To provide an avenue for businesses to develop and expand their exports of halal products overseas. Organises trade events such the Malaysian International Halal Showcase (MIHAS) annually which is considered the world’s largest halal trade fair
Cosmetic, Toiletry and Fragrance Association (CTFA)	Works to promote trust and confidence in the personal care industry and to ensure that regulations are competitive and internationally harmonized
Malaysian Industrial Development Authority (MIDA)	Promotes investments in the manufacturing and services sector as well as coordination of industrial development in Malaysia
Malaysia Productivity Corporation (MPC)	Identifies potentials in halal industry as well provides training and consultancy to SMEs and industries to meet halal standards and requirements

In 2014, JAKIM leveraged the dawn of IR 4.0 with the introduction of Malaysia Halal Certification System (MyeHalal), a comprehensive centralised database system that integrate online registration and management system; published in 2017, a *halal* e-book that seeks to harmonise *halal* standards (New Straits Times, 2017); and introduced Malaysia International Halal Authorities and Bodies System (MyIHAB) in 2018. Figure 2 depict the current comprehensive *halal* ecosystem practised in Malaysia.



Source: Adapted from HDC

Figure 2. Malaysia’s Halal industry ecosystem

### 3. Research methodology and findings

The methodology of this study will utilize that outlined by a previous study conducted by Khairul Akmaliah *et al.* (2015) on the study of inclusive growth of a district in Malaysia, though this research will ascertain growth constraints variables that have led to the success, stagnation/failure of selected Malaysian *halal* cosmetics SMEs as well as unearthing roles of government agencies in providing standards, talent enhancement, monitoring, financial and advisory support, to facilitate growth of this substantial emerging *halal* sector. The study will firstly seek to identify the growth constraints variables that affect growth of the *halal* cosmetics SMEs within the *halal* cosmetics industry ecosystem, and understand the relationship between them, so that appropriate policies can be executed to accomplish the objective of inclusive growth.

The objective of the growth analysis is to identify and understand the growth constraints that affect the growth of *halal* cosmetics SMEs in Malaysia which is recognised globally to have an all-inclusive *halal* ecosystem. The study uses a qualitative approach in which the growth constraints variables eventually emerge from the findings. Data are gathered from multiple sources including from published sources (which comprise secondary data from bibliographic and printed media), and through interviews (primary data) of officials from government and government linked agencies. Qualitative data on *halal* cosmetics consumers and *halal* cosmetics SMEs were derived by using information gleaned from bibliographic journals, public domains such as newspaper articles and company websites (derived mainly from textual data available on the internet). Additional data from *halal* cosmetics consumers were obtained through interviews whereby participants interviewed were chosen through convenience sampling. Meanwhile, data on government agencies were gathered from the respective institutions’ website, newspaper databases and internet search via Google search engine, as well as from interviews with the executives of JAKIM *halal* unit, Halal Development Corporation (HDC), National Pharmaceutical Research Agency (NPRA) and other relevant departments, who are directly involved in the policy formulation, *halal* certification and implementation of *halal* regulations in its respective ecosystems.

In order to gain insights from the two groups of stakeholders, cosmetics consumers and government agencies within the *halal* cosmetics ecosystem, a total of 15 participants were asked semi-structured and open-ended questions during the in-depth interviews. All interviews were recorded and transcribed immediately after the interview sessions (Table 3). Morse (1994) suggested that data saturation is achieved after six interviews.

Table 3. Respondents of the study, objective, and reasons for selection and interview outcomes of the study

Respondent Group	Cosmetics Consumers	Supporting Agencies (JAKIM, NPRA, HDC)
Choice of respondents	10 individuals who use make-up	Executive from three government (JAKIM, NPRA) and government linked agencies (HDC) who assists SMEs in the cosmetics industry
Objectives	<ul style="list-style-type: none"> <li>i. To identify criteria used when selecting cosmetics</li> <li>ii. To affirm their opinion about halal cosmetics</li> </ul>	<ul style="list-style-type: none"> <li>i. To ascertain assistance given to SMEs in cosmetics and <i>halal</i> cosmetics industry</li> <li>ii. To identify problems faced when dealing with <i>halal</i> cosmetics SMEs growth and expansion (local and international)</li> <li>iii. To distinguish their aspirations for the <i>halal</i> cosmetics industry in Malaysia</li> </ul>
Reasons for selection	<ul style="list-style-type: none"> <li>i. Potential groups that benefits from growth of <i>halal</i> cosmetics industry</li> </ul>	<ul style="list-style-type: none"> <li>i. Potential government agencies that facilitate Malaysia <i>halal</i> cosmetics SMEs growth and sustainability</li> </ul>
Selection criteria	<ul style="list-style-type: none"> <li>i. Identify and select 10 individuals who uses make-up based on convenient sampling techniques</li> </ul>	<ul style="list-style-type: none"> <li>i. Identify agencies that support <i>halal</i> cosmetics industry</li> <li>ii. Choose potential representative from top managerial position responsible for planning, supporting and facilitating <i>halal</i> cosmetics SMEs</li> <li>iii. Determine representative aspirations for <i>halal</i> cosmetics industry development</li> </ul>
Focus questioning	<ul style="list-style-type: none"> <li>i. Describe what are the qualities they look for when purchasing cosmetics</li> <li>ii. Discuss aspirations for <i>halal</i> cosmetics industry</li> </ul>	<ul style="list-style-type: none"> <li>i. Describe agency's role in <i>halal</i> cosmetics industry</li> <li>ii. Discuss issues/problem faced by agencies in facilitating growth of <i>halal</i> cosmetics SMEs</li> <li>iii. Determine representative's aspirations for <i>halal</i> cosmetics industry development</li> </ul>
Interview outcome	<ul style="list-style-type: none"> <li>i. Gathered information on purchasing criteria cosmetics consumers look for</li> <li>ii. Collected views of consumers about <i>halal</i> cosmetics</li> <li>iii. Gathered consumers' perspectives on the future of <i>halal</i> cosmetics</li> </ul>	<ul style="list-style-type: none"> <li>i. Identified approaches to facilitating business growth of <i>halal</i> cosmetics SMEs</li> <li>ii. Ascertained problems that hamper facilitation process related to <i>halal</i> cosmetics SMEs</li> <li>iii. Gathered perspectives on the future growth of <i>halal</i> cosmetics industry in Malaysia</li> </ul>

Five cosmetics SMEs were studied based on several criteria: SME must be locally owned, possess valid JAKIM *halal* certification, have been in the market for the past six years (ability to sustain), has internet presence and sells using various platforms (distribution), actively market their products and sells colour cosmetics domestically and internationally (Table 5).

Whilst Rothschild (1990) stated that the global economy and biological ecosystem are similar as both consists of a system in which there is interaction amongst the participants, Moore (1993) stated that “innovative businesses cannot evolve in a vacuum as they must attract resources of all sorts, drawing in capital, partners, suppliers, and customers to create cooperative networks”. Later in 2001, Korhonen maintains that industrial ecology is dynamic as to implement changes to improve the economy, whilst routine economic behaviour must be redirected continuously. This ecology similarity must be acknowledged and respected by manufacturers, consumers, policy makers and media. Industrial ecosystem also stresses on aspects of sustainable development (Galateanu, 2013).

Unearthing the path each stakeholder believes the establishment should take, and understanding what the major stakeholders want, is critical if the business change leads to improvements in all systems and subsystems. Following this, the system-in-focus is defined by the human activities that occur within the *halal* cosmetics industry ecosystem that results in inclusive development. The study will adopt CATWOE Analysis, as it can be used for thought-provoking regarding business problems and solutions, through understanding stakeholders' perspective and the impact that this view will have on the course of the business change (Checkland and Scholes, 1990). This same research methodology was applied by Khairul Akmaliah *et al.* (2015). It is used to identify what the business is trying to achieve, what the problem areas are and how stakeholder perspectives affect the people involved in it.

CATWOE systems thinking tools focus on the existing *halal* cosmetics industry system or processes that take place within the industry ecosystem, and entails examining how the features of elements within the system or process interact externally and internally. Based on the CATWOE criteria the system-in-focus is defined as a transformative system for societal well-being. The system recognises the following:

1. Customers (C) are stakeholders who benefit or suffer when the system or process changes;
2. Actors (A) are the people within the organisation who perform activities and conduct the transformation;
3. Transformation (T) is the major business activity of the organisation or business system carried out within the system in question to achieve the system's goals of inclusive growth
4. Worldview (W) are beliefs and reasons that clarifies why certain activities occurs and what it should accomplish;
5. Owners (O) are system owners who control the organisation or business process and able to initiate change;
6. Environment (E) are the constraints imposed within the environment surrounding the business activity.

Cybernetics principles based on Rastogi (1979) work was also applied in the study as it is aligned to CATWOE and the concepts of control, system activity and structure. Using the concepts of control and regulatory mechanism function, human activities were better defined and detection of interrelationships between distinguished human activities were further structured.

To build the growth constraints variables framework, the study first analysed and then uncover the growth constraints variables using qualitative analysis of statistical data; gathered textual information from online search platform including bibliographic sources, newspaper and professional magazine articles and reports as well as published articles from organisations' websites (secondary data); and interview transcripts (primary data). The open coding was then conducted manually by applying






grounded theory (Strauss and Corbin, 1990) which is suitable for this study as it supports inductive approach in generating growth constraint variables from multiple sources of data. A list of growth constraints variables was then generated (Table 4).

Table 4. List of growth constraint variables in *halal* cosmetics industry and their definition in this research context

1. <b>Consumer awareness</b> – consumer is aware of the information about the product and their rights	15. <b>Halal raw materials</b> - raw material obtained through halal sources and must not be harmful to human
2. <b>Consumer behavior</b> – actions of consumers and the motives of their actions	16. <b>Halal certification</b> – an official document stating that the product and its production methods adheres to the Islamic law (Shariah Law) and requirements issued by JAKIM
3. <b>Knowledge of producers</b> – awareness, understanding or skills obtained by producers through experience or education	17. <b>Cost of production</b> - total cost incurred by SME to produce a specific quantity of a product
4. <b>Knowledge and skills of employees</b> - awareness, understanding or skills obtained by employees through experience or education	18. <b>R&amp;D Technology</b> - includes activities that SMEs undertake to innovate and introduce new products
5. <b>Competency and capability of SMEs</b> – the competence and ability of the SMEs to sustain and grow the organization	19. <b>Quality of product</b> - the perception of the degree to which the cosmetics or service meets the customer's expectations
6. <b>Marketing</b> – activities and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large	20. <b>Suppliers</b> - an entity that supplies goods and services to the SME
7. <b>Social media</b> - use of social media platforms to connect with consumers to build SMEs brand, increase sales, and drive website traffic	21. <b>National Pharmaceutical Research Agency (Cosmetics Unit)</b>
8. <b>Advertisement</b> - marketing communication that employs an openly sponsored, non-personal message to promote or sell the product or related services	15. <b>JAKIM</b>
9. <b>Sales</b> – activities related to selling to obtain revenue	16. <b>HDC</b>
10. <b>Price</b> – the amount of money for which the cosmetics is sold	17. <b>SME Bank</b>
11. <b>Award</b> - prize or other mark of recognition given in honour of achievement in the cosmetics industry	18. <b>SME Corp</b>
12. <b>Blogger</b> - person who writes content in a weblog to share views on the product/ subject	19. <b>MATRADE</b>
13. <b>Distribution</b> - to spread the product throughout the marketplace through various platform so that people can buy it	20. <b>Source of funds</b> - retained earnings, debt capital, and equity capital
14. <b>Production</b> - process of combining various material inputs and immaterial inputs (plans, know-how) in order to make cosmetics for consumption (output)	21. <b>Training programs conducted by agencies</b> – training programs offered by government and GLCs to cosmetics companies
	22. <b>Enforcement</b> - process of ensuring compliance with laws, regulations, rules, standards, and social norms
	23. <b>Trade events</b> - exhibition organized so that companies in the cosmetics industry can showcase and demonstrate their latest products and services, meet with industry partners and customers, study activities of rivals, and examine recent market trends and opportunities
	24. <b>Mentor</b> - a person with experience in a business who supports and advises someone with less experience to help them develop in their work

} For roles of institutions refer to Table 2

Table 5. Features and activities conducted by five local *halal* cosmetics SMEs

Company						
Criteria	March 2010	January 2013	2016	2007	2014	
<b>Establishment</b>	March 2010	January 2013	2016	2007	2014	
<b>Founder/Owner/Producer</b>	Iconic Founder: Datuk Sri Siti Nurhaliza Celebrity and Family Business Muslim	Nur Aini Zolkepli Entrepreneur Muslim	Siblings Dahlia Nadirah & Luqman Hakim Juhari Family Business Muslim	Audri Zin Cosmetologist by qualification	Sabrina Tajudin, and Tawfik Nasir Beauty blogger turned entrepreneur	
<b>Halal Certified</b>	Yes	Yes	Yes	Mineral base Majority are halal but some certs are pending	Vegan	
<b>Product Market</b>	Origin: Malaysia International Market: Indonesia, Brunei, Singapore, Asia Barat	Origin: Malaysia International Market: • Singapore	Origin: Malaysia International Market: • Canada – Rayan Beauty • UK – Pure Modus	Origin: Malaysia Target Market: Malaysia • Niche for consumers with problematic skin	Origin: Malaysia Market (Ship Worldwide): • Singapore; Brunei, Indonesia • France, Brazil, Mexico	
<b>Revenue Turnover</b>	First year sales were recorded at RM21mil, followed by RM27.7 million in the second year and an estimated of RM32 million in the third. Growth rate of SimplySiti's turnover is between 20 and 30 per % per annum. Plans to list co. on Bursa Saham	RM11.7 million in 2018 RM13.2 million in 2019	N/A	N/A	N/A	
<b>Marketing Plan</b>	<b>Product (halal / organic/ vegan)</b>	Organic	Wudhu' Friendly	Natural sources Vit. E and Olive Oil Wudhu friendly & Cruelty free	Mineral base with no alcohol and for problematic skin	Vegan and Cruelty free
	<b>Price</b>	Affordable	Cheaper and affordable	Affordable	Affordable	Affordable
	<b>Place</b>	<ul style="list-style-type: none"> <li>Website</li> <li>E-Platform</li> <li>Pharmacy</li> <li>Shopping Mall</li> </ul>	<ul style="list-style-type: none"> <li>Website</li> <li>E-Platform</li> <li>Nurraysa Business Associate (NBA) – Agent / Dropship</li> </ul>	<ul style="list-style-type: none"> <li>Website</li> <li>Social Media (Insta, FB)</li> <li>Network of stockists, distributors and drop ships</li> <li>Pretty Suci &amp; Fashion Valet</li> </ul>	<ul style="list-style-type: none"> <li>E-platform/ online retailer</li> <li>Website</li> <li>Social Media (Insta/ FB)</li> <li>Malls</li> </ul>	<ul style="list-style-type: none"> <li>Website; online retailer</li> <li>Social media (FB and Insta)</li> <li>Watsons</li> <li>Shopping Malls</li> <li>Agent / Dropship</li> </ul>
	<b>Promotion</b>	<ul style="list-style-type: none"> <li>Online (Instagram, FB), blog</li> <li>Newspaper coverage</li> <li>Artist testimony</li> <li>Advertisement (Television)</li> <li>Roadshows in malls across Malaysia</li> <li>Simplysiti Warehouse sale</li> <li>Theme song "It Used to Be My Secret, Now It's Yours"</li> </ul>	<ul style="list-style-type: none"> <li>Social Media (Insta, FB)</li> <li>Newspaper</li> <li>Television</li> <li>Artist testimony</li> <li>Blog</li> <li>Billboard adverts</li> </ul>	<ul style="list-style-type: none"> <li>Social media</li> <li>Social media promotions</li> <li>Exhibitions and local bazaars. International exhibitions in China, Brunei and Africa.</li> <li>Interviews with print media to create branding and product awareness.</li> <li>Advertisements on billboard</li> <li>CSR by donating RM1 per sale</li> </ul>	<ul style="list-style-type: none"> <li>Agents</li> <li>Sponsorship of cosmetics for TV dramas and movies</li> <li>Merdeka promotion in FB in 2018</li> </ul>	<ul style="list-style-type: none"> <li>Website</li> <li>Social Media (Insta/ FB)</li> <li>Online retailer (Shopee, Zalora, Hermo)</li> </ul>
<b>Award</b>	<ul style="list-style-type: none"> <li>Best Halal Product 2010</li> <li>Cosmopolitan Award 2010 – "Best Water-Proof Mascara"</li> <li>Halal Journal Award 2010 – "Best Halal Product"</li> <li>UDC Business Award 2011 – "Best Upcoming Cosmetic Product"</li> <li>Brand Laureate – SME's Chapter Awards 2011 – "Most Promising Brand"</li> <li>Halfest Award 2012 – "Halal Packaging" 2<sup>nd</sup> place</li> <li>Strongest brand award 2016 – "Malaysia's Strongest Brands"</li> <li>BOSS Award 2016 – "People Choice's Awards"</li> </ul>	<ul style="list-style-type: none"> <li>Awarded Asia 100 Favourite Product 2018-2020</li> <li>SEBA Award 2017 – "Emerging Woman Entrepreneur of the Year"</li> </ul>	Her Beauty Award: Best of Local Malaysian Beauty Brands 2019 - "Best Lip Matte"	Claimed to have won awards for its kabuki make-up brush and mineral 2-in-1 face powder	<ul style="list-style-type: none"> <li>HER BEAUTY AWARDS 2019: Best of Local Malaysian Beauty Brands</li> <li>Best makeup Sponge – Breena Beauty Blending Pearl Pink Marie Claire Beauty Awards 2019</li> </ul>	
<b>Manufacturer</b>	Manufactured in Korea	GIM COSMETIC INDUSTRIES SDN BHD, Malaysia	KOSMETIK ALWAN SDN BHD, Malaysia	Miliyasutra Industries Sdn Bhd, Malaysia	Manufactured in Malaysia by OEM	
<b>Points of Difference</b>	Self-made with money and well known to fans for her beauty	Attending mentorship programmes	Mother as investor and mentor in business	Lack of funds (paid adverts is low) but educated in the field	Beauty blogger with massive network	

Having obtained this list, interrelationships of the growth constraints variables were then constructed based on evidence and interpretation of the data, and in accordance to understanding of the problems in the *halal* cosmetics industry ecosystem. The framework developed will enable greater understanding of the relationships amongst the growth constraint variables as it affords a visual representation of the *halal* cosmetics industry.

To establish model authentication, the method conducted by Khairul Akmaliah *et al.* (2015) was replicated, whereby in this instance there was continuous reiteration of the data and model which was then validated against similar existing studies. Eventually a growth diagnostic framework of the *halal* cosmetics industry ecosystem was created which demonstrate the interplay between the growth constraint variables involved in the Malaysia *halal* cosmetics ecosystem (Figure 3). The relationship is shown by arrows between variables that describe either cause (affect) or associated relationships. The cause arrow means that the origin variable is the antecedent of the end variable; for example knowledge and skills of employees will affect production but it has an associated relationship with certification body (JAKIM/MAIN) as in order to obtain *halal* certification JAKIM/MAIN will want to know whether employees in the production line has knowledge about *halal* standards and practice them. In other words, the associate arrow defines a relationship between two growth constraint variables but it is not a causal one.

The most binding growth variable is the one that causes and affects the occurrence of most other growth constraints and thereby acts as a control function in the system. To illustrate, in the role of the government agency, the growth constraint variable of the Cosmetics Unit in NPRA directly affect four growth constraints (knowledge of producers, consumer awareness, *halal* certification, enforcement and advertisement) and is associated with four other growth constraint variables (HDC, certification bodies, R&D Technology), consequently this variable is found to be one of the most binding constraints in the *halal* cosmetics industry. While for the SMEs, the *halal* certification constraint variable is affected by most growth constraint variables (NPRA, certification bodies, production knowledge of producers, *halal* raw materials) and in conjunction affects other growth constraint variables (consumer behaviour, marketing, price, sales, cost of production) and associated with four growth constraint variables (training programs, source of funds, HDC, quality) within the SMEs jurisdiction.

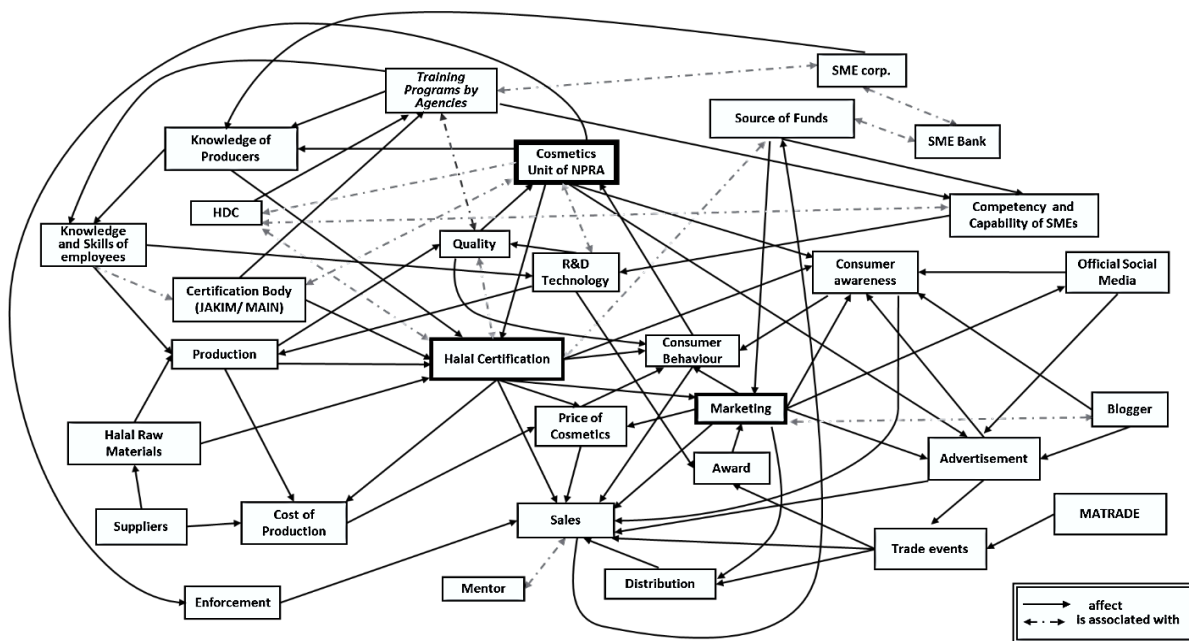


Figure 3. Halal cosmetics industry ecosystem growth constraint variables interrelations

Thus, cybernetics and systems approach coupled with growth diagnostics framework has enabled identification and mapping of growth constraints variables relationships and generated a comprehensive growth constraint variables model for *halal* cosmetics ecosystem in Malaysia. As it is modelled according to human activities, the model demonstrates the dynamic nature of growth in the *halal* cosmetics ecosystem.

The resulting network (Figure 3) shows that some of the binding constraints relationship exists in a circular structure known as feedback cycles (Rastogi, 1979) and can be related to variables in other circles (Figure 4 and 5) known as external variables. While other relationship exists in incomplete circles. Figure 4 demonstrate that circular structure of which the main growth constraint appears to originate from the Cosmetics Unit of NPRA which contribute towards knowledge of producers who then dictate the knowledge and skills that they require from their employees as this will then affect the production process which then affects status of *halal* certification of the *halal* cosmetics. Having *halal* certification allows SMEs to market it as a value proposition and result in rising sales thereby increase the SMEs revenue that can then be used to improve the capability and competency of the SMEs who can then invest in R&D technology to produce better quality products. Having new cosmetics products will see the SME submit for notification to NPRA.



Figure 4. Effect of NPRA (Cosmetics Unit) to SMEs activities

Meanwhile, Figure 5, illustrates the interplay between 2 circular systems of which consumers affect the law enforcement activities of Cosmetics Unit of NPRA further demonstrating major role of NPRA as the binding growth constraint variable of several systems.



Figure 5. Interrelationship between consumers, NPRA (Cosmetics Unit) and SMEs

The smaller cycle denotes that NPRA affects consumer awareness and therefore consumer behaviour. As stated in an indicated that if there are changes to the interview with NPRA head of cosmetics unit, the unit receives 7000 new cosmetics applications monthly and thereby only able to monitor safeness of cosmetics offered by SMEs through the various media platforms (printed and online). It will only carry out its enforcement duties once there are ample number of validated complaints from consumers.

#### 4. Analysis and discussion

A list of growth binding constraint variables and a map of their inter-relationships at a specific point in time was generated using the cybernetics analysis and researchers' inductive reasoning, grounded on exposure and knowledge about the *halal* cosmetics ecosystem. Based on the analysis, the most binding constraints were identified to enable policy makers from both the government and SMEs to plan on interventions required, eliminate growth hurdles and achieve desired growth and expansion.

The system of focus derived from the mapping of the various growth constraints indicated that changes in the system of focus will affect the overall system. For example, the role of the Cosmetics Unit in NPRA is identified as one of major growth constraint variable as it directly affects four growth constraint variables namely knowledge of producers, consumer awareness, ability to apply for *halal* certification, enforcement and advertisement. It is also associated with four other growth constraint variables: HDC, JAKIM *halal* certification body and requirement of R&D technology. Thus, the Cosmetics Unit in NPRA is identified as one of the most binding constraints in the *halal* cosmetics industry ecosystem. It is not surprising when comparing its small size to the job scope and responsibility it has been given whereby the Cosmetics Unit have to process over 7,000 applications monthly.

Through an understanding of the cybernetics growth analysis, researchers were able to do a comprehensive analysis and extract several circular structures that reveal the interconnectedness of some growth constraint variables (Fig. 4 and 5). This has also enabled researchers and policy makers to analyse the relationships and recommend actions to be taken to improve the effectiveness and efficiency of each variable thereby ultimately improve economic inclusiveness of the *halal* cosmetics industry ecosystem. As in the case of the Cosmetics Unit in NPRA, the stakeholders, in particular the policy makers, can predict the overall impact on the other growth constraints variables within the circular structure (Fig.4) if the policy makers decide to establish a National Cosmetics Research Agency. They can monitor if in fact this new establishment, may overcome previous problems and cease to affect the *halal* cosmetics ecosystem negatively. That is, the performance of the growth constraints variables in this specific circular structure can be monitored and information gathered be applied to further improve the circular system. In other words, the cybernetics analysis will enable future prediction to be made with regards to the behaviour of growth constraints and its impact on the ecosystem and growth of the system in focus. The above behaviour indicates that the growth constraint variables within the circular structures, Figures 4 and 5, will thus also alter and may cease to become a hurdle and replaced by new growth constraint variables. Impact of these new variables on the circular structure and the overall system can also then be studied.

On the flip side of cause and effect, the cybernetics analysis also revealed that possession of *halal* certification is most affected by many growth constraint variables such as NPRA, certification bodies (JAKIM and MAINS), production knowledge of producers and supply of *halal* raw materials. In conjunction, possession of *halal* certification growth constraint variable affects other growth constraint variables such as consumer behaviour, marketing, price, sales, cost of production and is associated with four growth constraint variables (training programs, source of funds, HDC, quality) within the SMEs jurisdiction. This revelation will help SMEs decision makers to strategise accordingly to their favour.

Thereby, using cybernetics analysis will empower all stakeholders and especially policy makers to continuously monitor the impact of changes on any of the growth constraint variables within the system-in-focus. They can

initiate pre-emptive actions to ensure the sustainability and expansion of *halal* cosmetics industry and result in inclusive economic development for the betterment of society.

In fact, the impact of Covid19 pandemic and restrictions on the system in focus can be further predicted, and preparations and intervention taken by *halal* cosmetics industry stakeholders, to minimise the negative effect and turn it into an opportunity. Halal cosmetics SMEs must be equally innovative as the large global brands and use AR and VR to further their agenda as technology is not as expensive as before and consumers have accepted and expect the new norms that is currently applied in the beauty industry.

## 5. Conclusion and implications

The application of cybernetics theory has been used in analysing the growth constraint variables of *halal* cosmetics industry whereby the list of growth constraint variables was generated, their inter-relationships were mapped, and circular structures presented to denote their interconnectedness. The cybernetics analysis had also identified the most binding constraint variable within the *halal* cosmetics industry which will enable policy makers as well as SMEs to take intervention initiatives and thereby ensure the sustainable growth of *halal* cosmetics industry and increases inclusive development in this industry. It has also paved the way for the stakeholders to predict behavioural changes of the affected variables should any of the related growth constraint variables alter.

Some of the issues that may arise for future research in the same field is that results may differ as the system-in-focus that was studied is dynamic and time related. It is also heavily dependent on the knowledge and experience of the researchers, location and time of study and accordingly may not be replicable in other location or at other times.

The growth constraint variables studied are those chosen by researchers and therefore not exhaustive. This implies that more growth constraint variables should be studied to make it more comprehensive but with this expansiveness comes other research issues and implications. However, the advantage would be that more circular systems can be exposed and be of greater assistance to policy makers.

rapport between interviewees and researchers must be positive to ensure information obtained is reliable and trustworthy as it affects interpretation of data obtained. Thereby, both interviewees and researchers must be equally vested to improve situation of the system-in-focus and collaborate to ascertain what is the most growth constraint variable so that appropriate action and recommendation can be initiated.

Though the study was conducted before and during the Covid19 pandemic crisis, a post pandemic study should be carried out to fully comprehend the ramifications of this global crisis on the cosmetics industry as a whole, and on *halal* cosmetics industry in focus as consumers adapt to the new norm.

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