

# A CALL FOR MODELING AN ONLINE AGRO-ENTREPRENEURSHIP ONE-STOP INFORMATION PORTAL

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**ABSTRACT:** *Unemployment is one of the global issues as many graduate's work-forces remain unemployed after graduation. The increasing rate of unemployed graduates is an issue that currently governments throughout the globe put the concerns. In addressing the unemployment issue, many initiatives have been devised by authorities in providing job opportunities for graduates. In Malaysia, one of the government initiatives was the Agricultural NKEA of Malaysia's ETP that put emphasis on the agro-based productions such as aquaculture, organic farming, seaweed farming, herbal products, fruits and vegetables, and premium processed food. From an information management point of view, such initiative requires an integrated information service composing all critical aspects of agricultural-based and agro-entrepreneurship employments. However, an initial scrutiny on agricultural-centric web pages provided by government's agricultural-related agencies indicated that agricultural information resources, services and products are isolated and scattered. This circumstance may strain graduates and students who seek job opportunity and employment in agricultural-based business or agro-entrepreneurship. Subsequently, this research is proposed to examine the relevant and critical information resources and services provided and available from governments' agricultural-related agencies. The potential outcome of the proposed study is the identification of the uninformed, integrated, and critical agro-entrepreneurship information resources, services and products into a framework of one-stop information portal retrievable by graduates for know-what, know-when, know-why, know-who, know-where and know-how of agro-entrepreneurship.*

**Keywords:** Employability, Agricultural Information, Information Management, Agra-Entrepreneurship, One-Stop Information Portal

## 1. INTRODUCTION

Unemployment and job placement is one of the global issues and Malaysia has no exception [1]. Work-forces in industries such as oil and gas and manufacturing lost their jobs. Graduates work-forces remain unemployed after graduation. It is estimated that around 161,000 graduates (8.8%) from Malaysian universities remain unemployed out of 400,000 unemployed people in the country and the number keeps growing every year [2]. This number indicates the seriousness of employability issue as unemployed graduates are a group of potential workforces that deserves attention for nation building and sustainability.

In addressing the employability issue, governments through their authorities and the private sector have together devised many programs. In Malaysia, initiatives such as Startup Malaysia [3], SITEC [4] and Higher Education Initiative [5] are established aiming at equipping graduates as well public with value-added skills and training as a catalyst for their career. With such skills and adequate training, many sectors can be considered as alternatives for graduate's employment such as entrepreneurial; information related entrepreneur and technologist rather than joining government services.

Malaysia had also introduced Economic Transformation Program (ETP). Through the Malaysian ETP, the government had initiated the National Key Economic Areas (NKEA) [6]. The Malaysia NKEA composed of 12 programs [7] with agriculture as one sector prioritized by the government required participation from Malaysian citizen including unemployed graduates. The agricultural NKEA states that it "... also aims to attract more new entrants into the industry which will maintain a steady pipeline of demand for human capital" [8]. It is notable that the phrase "new entrants" include graduates and public that is targeted by the government as part of an agricultural initiative in addressing the employability issue. As such, the phrase "a steady

pipeline of demand for human capital" may also include graduates who are employed in agriculture industry which mean that graduate should also consider agriculture as one of the potential employment areas in fighting against unemployment.

In attracting "new entrants" and providing "steady pipeline of demand for human capital" into agriculture business, sufficient supportive infrastructure must also be provided. Information content available online is a critical infrastructure and plays a critical role in nurturing the interest of public and graduates to get involved in the context of agriculture business or agro-entrepreneurship. The agriculture-related information content had been provided online by government's agriculture-related agencies such as Department of Agriculture (DoA) (<http://www.doa.gov.my/>), Malaysian Agriculture Research and Development Institute (MARDI) (<https://www.mardi.gov.my/index.php/>) and National Farmers Organizations (NAFAS) (<http://nafas.com.my/v2/index.php?lang=my>) to name a few. All these government's agriculture-related agencies offer information about resources, services and products related to their functional scope.

An initial examination had been made on the webs of agriculture-related information content. The examination found that, even though easily accessible, an initial observation indicated that agricultural-related information on those webs is isolated and scattered in nature. On top of organizational-centric information, the webs merely contain information about resources, services and products each agency offers and responsible for. This circumstance makes accessing and getting right, uninformed and related information and services provided by multiple government departments and agencies related to agriculture is challenging.

From the information management perspective, nurturing the awareness on employment opportunities in agribusiness or agro-entrepreneurship is considerably a hard-hitting challenge due to the isolated and scattered information resources and services that are related to agro-entrepreneurship, as the agricultural-based government agencies provide diverse information content based on their functional business' scopes. The dispersion and isolation of agricultural related information may distract the potential graduates to embark on agro-entrepreneurship. Driven by this challenging issue, therefore, this proposed study attempts at first, identify the critical agro-entrepreneurship information content (resources, services and products) provided on each web and upon the identification, integrated and uniformed agricultural information content would be modeled into a framework considering all necessary agricultural elements. In this sense, the framework would serve as a one-stop information portal retrievable by graduates in particular and public in general, for know-what, know-when, know-why, know-who, know-where and know-how of agriculture and agro-entrepreneurship. The know-what, know-when, know-why, know-who, know-where and know-how knowledge about agriculture and agro-entrepreneurship gathered into the framework is, therefore, an effort in boosting up the employment opportunity.

## 2. LITERATURE REVIEW

The related literature in respect to the idea of the proposed study is presented in the following sections;

### *Employability Issue in Malaysia*

Graduates and public nowadays struggle for a job. In Malaysia, a number of 42,954 fresh graduates were found themselves jobless and it steadily increased to 52,282 in 2013 [9]. As for the public, it was reported that Malaysia's Deputy Minister of Human Resource saying that "the employability rate in the country was 3.4 percent" [10]. Even though the employability rate in Malaysia is still under control (below 4%) the total of 1,054,000 (approximate values) population out of more than 31 million Malaysian, the jobless citizens remain an issue in Malaysia.

### *Government and Private Initiatives towards Employability*

Malaysia's government put the best effort in addressing the employability issue. A lot of government's initiatives focusing on unemployed public and graduates have been in place. For example, Ministry of Human Resource Development Fund (HRDF) had introduced the "Apprentice Scheme" to increase the supply of skilled workers in the country (The Malaysian Times, 2015). Through this initiative, the government had significantly reduced the unemployment rate i.e. about 80% of youths have been employed after the training and skill development of Mechatronics and Plastic Injection Moulding. Other programs such as 1 Malaysia Training Scheme (SLIM), Graduate Career Accelerated (CGAP), Graduate Employability Management Scheme (GEMS) and Graduates Enhancement Programme for Employability (GENERATE) [11] have been establishing and intensified by government commence from 1<sup>st</sup> June 2011. These programs focalize at

equipping unemployed graduates to intense the level of ability by preparing them with knowledge, skills and working experience, thereby it also can increase their chances of getting a job.

On top of government initiatives on employability, the private sector has also put an emphasis and plays an important role towards the employability among Malaysia citizens. The 9th Malaysia Plan had allocated a sum of US\$5.6 billion under the privatization program, which will increase access to new markets, create demand for domestically produced intermediate good and components, help to create Malaysian multinational corporations, and more importantly help create more jobs in the longer term [12]. Program such as Startup Malaysia (<http://startupmalaysia.org/home>) is designed and executed to help entrepreneurs navigate the startup ecosystem and advance startup science that composed of Business Advisory Services @SME Hub, Tunas Usahawan Belia Bumiputera (TUBE), Branding & Packaging Mobile Gallery, and Access to Financing, Human Capital Development, Infrastructure, Innovation & Technology Adoption and Market Access. The Selangor Information Technology and E-Commerce Council (SITEC) has been tasked to encourage small and medium enterprises (SMEs) to go online by providing e-commerce education and training (e.g. Selangor E-Commerce Class 100) by helping those SMEs to sell on online shopping platforms (via the Selangor Online 100 initiative), as well as through mobile applications (Selangor Apps 100). Part of private initiative, Malaysia's universities also encourage graduates towards entrepreneurship development in Malaysia [13] as an employment opportunity.

### *The National Key Economic Areas (NKEAs) and Agricultural NKEA as Employment Opportunity*

National Key Economic Areas (NKEAs) is an Economic Transfer Programme (ETP) collective effort for Malaysia's economic growth (<http://etp.pemandu.gov.my>). The NKEA focuses on the 12 sectors namely Greater Klang Valley; Oil, Gas & Energy; Palm Oil & Rubber, Wholesale & Retail; Financial Services; Tourism, Electronics & Electrical; Business Services; Communication Contents & Infrastructure, Education, Agriculture and Healthcare [14]. These NKEAs will receive prioritized government support including funding, top talent and Prime Ministerial attention. The economic growth through NKEAs is a strategic initiative both for national wealth and providing job opportunity for the citizen. Through agricultural NKEA that focuses on transforming a traditionally small-scale, production-based sector into a large-scale agribusiness industry can contribute to economic growth and sustainability. As stated in ETP [14] [6] "the transition from agriculture to agribusiness will be led by private sector investment as the primary driver of economic growth". This message implies that the agribusiness is the aim of government to be adopted by citizens including graduates. By "adoption" and involvement of Malaysian citizens in the agri-business on the large scale, the employability is expected to be reduced.

### *The Role of Malaysia Authorities in Driving the Agra-Entrepreneurship*

Agriculture is one of prioritized Malaysia 10th NKEA's agenda together with other 11 priorities. The aim of agricultural industry is to achieve the National Agro-Food Policy to achieve the target such as food security, high-value agricultural development, and private investment as a catalyst for the transformation of modern agriculture [7, 15]. Agricultural production under the NKEA is expected to increase in 2015 as most anchor companies enter their production stage.

Nurturing the interest among citizen and fresh graduates to penetrate agri-business are challenging effort. The challenge is partly due to know-what, know-when, know-why, know-who, know-where and know-how of agriculture and agro-entrepreneurship are not easily available. The information content provided by 13 agencies (Department of Agriculture Malaysia ("DoA") [16], Department of Veterinary Services (DVS) [17], Department of Fisheries Malaysia (DoF) [18], and Malaysian Quarantine and Inspection Services Department (MAQIS) [19]. While under federal agencies it has several agencies which are Malaysian Agricultural Research and Development Institute (MARDI) [20], Farmers' Organization Authority (FOA) [21], Federal Agricultural Marketing Authority (FAMA) [22], Fisheries Development Authority of Malaysia (LKIM) [23], Muda Agricultural Development Authority (MADA) [24], Malaysian Pineapple Industry Board (MPIB) [25], Kemubu Agricultural Development Authority (KADA) [26], National Entrepreneurial Group Economic Fund (TEKUN National) [27], and Bank Pertanian Malaysia Berhad (Agrobank) [28] is department-centric.

By department-centric information, the individual departmental role, resources, services and products are gathered into departmental web and easily accessible online by users. However, the department-centric information makes the seekers of agricultural related information jump from one department web to another department web to retrieve the desired agricultural information. This time-consuming information seeking may discontinue users (including graduates) from browsing useful and critical agricultural information. This, in turn, may distract those potential "new-entrants" from the government initiative on agriculture and agro-entrepreneurship.

### ***Agriculture Industries and Agra-Entrepreneurship in Perspectives***

Under the 11<sup>th</sup> Malaysia Plan, agro-food gross domestic product (GDP) is projected to achieve RM36.2 billion in 2015 and the figure is estimated to reach RM46 billion in the year 2020, which translates to 42.4 percent of total Malaysian GDP in 2020 [29]. Apart from fulfilling the domestic demand, the agricultural sector has a huge export prospect. The growing global demand for agricultural products provides great potential to expand the sector's contribution to Gross National Income (GNI).

The country's agricultural NKEA identified 16 Entry Point Projects (EPPs) to spur growth in this sector [15] as aims to transform agriculture into agro-entrepreneurship, moving towards a model which is inclusive but simultaneously anchored on market centricity, economies of scale, and value chain integration [29]. The huge domestic and overseas'

demand on the agriculture product such as Ornamental Fish Farming, Aquaculture Feed Mill, Aquaculture Export Centre and Button Mushroom Farming [15] for example, lead the MoA Malaysia to emphasizes the involvement of public and private as a pipeline of human capital collectively penetrating this industry. The MoA's emphasis opens the vast opportunity for agro-entrepreneurship that appeal to citizens (public and graduates) to join in. In a larger setting, agriculture offers many agro-entrepreneur opportunities for the public to start a business in this field because historically farming is a profession that highly carried prestigious business [1] that lead towards success.

### ***The Role of Information in Nurturing the Awareness on Agra-entrepreneurship***

In nurturing the awareness on the potentials of agro-entrepreneurship prior to getting public invested in this industry, the role of information could not be neglected. Nowadays, young people do not yet recognize agro-entrepreneur as an opportunity to start creating jobs directly and indirectly [1]. This is because the information and information spread that leads to awareness of the whole society [30] pertaining to the broadcasted issues. Yet, information leads to awareness [31] of everything including agriculture. Knowledge is power in doing things appropriately. These statements are applied to the context of creating awareness among public and graduates towards the potential of agro-entrepreneurship.

Currently, the thirteen MoA agencies provide a diverse and rich information about departmental resources and services. However, these resources and services located everywhere, isolated and scattered that may hinder users from getting the complete and accessible information resources [32-33]. For examples, the Federal Agricultural Marketing Authority (FAMA) (<http://www.fama.gov.my/>) deals with information on marketing food and agricultural products. Many other MoA's agencies [34] such Farmers' Organization Authority (FOA) (<http://www.lpp.gov.my/>), TEKUN National (<https://www.tekun.gov.my/>), Department of Veterinary Services (DVS) (<http://www.dvs.gov.my/>) and Agrobank (<http://www.agrobank.com.my/>) provide specific information varieties on departmental services and role that possibly distract the potential comers into agro-entrepreneurship. In an endeavor to provide the complete, uninformed, integrated, critical information resources and services, an alternative approach should be explored.

### **3. RESEARCH METHODOLOGY**

By the nature of this research, the foundational approach of qualitative method will be adopted. Aligning with the foundation approach, this proposed research will focus on the information resources and services provided and available from governments' agricultural departments and agencies. The research process will include the identification and gathering all relevant information from agricultural-centric websites of thirteen agencies under the Ministry of Agriculture. The gathered data would be devised and thermalized into a model or framework of related, sequenced and interrelated agricultural processes using the appropriate computerized tool. The thematic model/framework would

then be tested by an expert from selected government agencies and randomized graduates. The outcome of the testing process or verification by respondents then would be formalized into a complete working framework for developing web-centric information useful for nurturing interest among public on agriculture and agro-entrepreneurship.

#### 4. DISCUSSION: THE POTENTIAL OUTCOME OF THE STUDY

Providing information that matches seekers' need is critical. The availability of appropriate information will help seekers or users to establish activities of their interest. In the context of achievement of Malaysia's Agricultural NKEA, the agriculture and agro-entrepreneurship know-what, know-when, know-why, know-who, know-where and know-how should be provided adequately. Such knowledge would facilitate public and graduates to penetrate the agricultural business in response to the unemployment issue. The financial, plantation, technical, product and marketing motivational support factors are also critical in nurturing the awareness and interest in agro-entrepreneurship. However, these factors are secondary compared to information and knowledge factor (know-what, know-when, know-why, know-who, know-where and know-how). For example, prior to embark on financial factor, the information of which financial scheme and where to locate the fund must be made known to those potential new entrants. Further, what technical support is necessary for the selected agricultural case and where to get such support must be provided in advance before new entrants (public and graduates) present themselves to respective agricultural agencies. This shows that information must be in the first place in supporting any endeavor.

As justified in the literature section, the information provided by the government's agricultural-related agencies is departmental-centric. The departmental-centric information may distract information-specific seekers from getting related and appropriate agricultural-related information easily. This implies the need to provide information that is adequate and integrated for ease of retrieval. Providing information in such way fall under "one-stop" concept. In the context of concern of this proposed research, the framework of one-stop information portal accessible online is expected to contain information component and content capable of facilitating public in general and the unemployed graduates with adequate information that lead to the awareness on opportunities in agro-entrepreneurship as envisioned in the Agricultural NKEA. Structurally, the framework of online agro-entrepreneurship one-stop information portal would be a provision of integrated and step-wise agricultural-related information resources, services and products.

#### 5. CONCLUSION

The government's agricultural-related agencies have provided agricultural-related information for the public in supporting agricultural NKEA. However, the information is departmental-centric and less useful in encouraging potential entrants such as graduates to benefit from it due to the isolated and scattered information. This drawback leads to the

need for modeling an agricultural-related information that composed of integrated, critical and procedural agricultural information resources, services and products accessible online is necessary. It is envisaged that this kind of information provision and delivery would help in nurturing the awareness and interest among potential entrants in agriculture and agri-entrepreneurship activities. The participation of new entrants such as graduates in agriculture and agri-entrepreneurship thorough the adequate information provision and delivery mean would eventually decrease the unemployment issue the nation faces currently.

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