University-Industry Collaboration and Malaysian Public UniversitiesFunding Model

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Abstract: The volatility of the global economy as a result of the falling oil prices worldwide has affected the domestic economy of Malaysia as a whole. This scenario has consequently changed the landscape of the Malaysian education industry, particularly in the management of the 20 public universities all over Malaysia. The shrinking operating budget allocated by the Ministry of Higher Education (MoHE) from total funding to only 70 percent has changed the public universities funding model in seeking financial resources to cope with the shortcomings.Thus, this paper aims to discuss the impact of educational budget cuts on the Malaysian public universities and propose practical solutions to overcome this impact on operating expensesof these universities from the viewpoint of the stakeholder theory. Key to our recommendation is the establishment of university-linked companies (ULCs) that are adapted based on the existing model of the Malaysian Government-linked Companies (GLCs) through University-Industry Collaboration (UIC).

Keywords: *University funding model, University-Industry Collaboration (UIC), Government-linked Companies (GLCs), University-linked Companies (ULCs)*

1. Introduction

In both developing and developed countries, the government provides the main source of funding to universities (Ahmad & Farley, 2013). Nevertheless, there is a global trend of decreasing government funding for public universities in many countries (Amran et al., 2014).Despite its important role in changing the landscape of higher education (Ahmad, Farley & Naidoo, 2012; Kettunen, 2008; Strehl, Reisinger & Kalatschan, 2007), funding systems continue to undergo reforms.As noted by Johnstone (1998), reforms could arguably affecthigher education institutions (HEIs) in terms of overall organizational development, financialoperations, marketization, as well as the needs to have higher level of accountability, quality and efficiency. The decrease in budget allocation for public universities is therefore directly linked to the reforms taking place in higher education funding, which has been predicted to change the behaviour of universities (Schiller & Liefner, 2007).

Understanding why these reforms are necessary is indeed important. However, it is also essential to examine the impact of such funding reforms on public universities. Undeniably, the global economic volatility which has affected the domestic economy of a fast developing country like Malaysia which is aiming to achieve the developed nation status, has inevitably resulted in operating budget cuts of up to 30 percent allocated by the Ministry of Higher Education (MoHE) from total funding to only 70 percent for public universities (Abdullah, 2017).This has had a significant impact on the funding systemsof public universities whichneed to providethe financial resources to cope with the shortcomings due to the deficiency in the operating expenses. Thus, this paper presents a discussion on the impact of educational budget cuts on the Malaysian public universities and proposes practical approaches to overcome the deficiency in the funding for operational expenses by adopting and adapting the existing model of Malaysian Government-linked Companies (GLCs) by gaining experience and lessons learnt from University-Industry Collaboration (UIC) through the lens of the stakeholder theory.

2. Funding Systems of Public Universities: The Search for University Funding Model

In the wake of the volatility of the global economy which has inevitably affected the local economy, funding for education in Malaysia has been drastically reduced by 30 percent (Abdullah, 2017). Such deficiency has definitely resulted inmassive changes in operational budget, especially in the higher education sector.Thus, reforms in the funding systems become necessary in order to cope with this situation.

On the one hand, reforms in the funding systems of public universities have gradually begun to take a toll on these universities, which will surely have an impact on the higher education sector. On the other hand, these reforms have also provided the *freedom* (see Freeman, Wicks &Parmar, 2004) for these public universities from the perspectives of multiple stakeholders of which the government is part of, and not limited to the narrow view of the shareholder (see Sundaram&Inkpen, 2004), of which the government is either the major or the sole shareholder. Although it may still be argued to what extent does this *freedom* entail, or whether such *freedom* is *economic* or *political* or both, such reforms have presented these public universities with the opportunities to view their "business as the creation of value for stakeholders and the trading of that value" in which these two, that is, "[v]alue creation and trade[,] have to go together" (Freeman, Wicks &Parmar, 2004).

Such huge responsibility must be shared by all.Nevertheless, key roles in must be led by the university's board of directors and its top management, many of whom may have vast experiencein managing profit-oriented or non-profit-oriented organizations in both the public and the corporate sectors. It should be noted that even though university's board of directors and its top management should be in the saddle, members of the academic staff who are already saddled with numerous key performance indicators (KPIs) should be given the *freedom* to remain focused on what they do best and the main reasons why they have been employed.More importantly, these KPIs, which are mainlyteaching, conducting research and supervision, disseminating knowledge through publication and providing consultancy services,should take into consideration value-based Key Intangible Performance indicators(KIPs). KIPs have been proposed by top American universities such as California State University, Cornell University, and Ohio State University as well as Malaysia's own apex university, UniversitiSains Malaysia (Masron, Ahmad & Baba Rahim, 2012).

However, a public university is not merely a government statutory body; it is also an educational institutional which in its initial conception was non-profit-oriented. Yet, a business organization must be profit-oriented. Therefore, there is a need to search for a business model that is able to function as a funding model for the public university. As a government statutory body, the public university does not have to look far. Its University-Industry Collaboration (UIC) initiatives can be the starting point.

University-Industry Collaboration (UIC)

In general, University-Industry Collaboration or Universities-Industry Collaboration(UIC) is defined as a relationship between parties in the academia and the industry with the aim of transferring either knowledge or technology, both of which have been used interchangeably (Bekkers&Bodas Freitas, 2008; Agrawal, 2001). Such partnership has been attributed to mounting pressures on both sides.For the university, these pressures arise due to the quest for new knowledge and issues of increased operating cost and reduced budget allocation from the government for the universities as well as the changing role of HEIs in the economic growth of a country and the expectation from the society(Ankrah& Al-Tabbaa, 2015) that goes beyond their traditional sphere (Blumenthal, 2003).Meanwhile, for the industry, the need to cope with technological advances and improve on quality to remain relevant and competitive for the local and global industries have driven companies to form such collaboration (Ankrah& Al-Tabbaa, 2015).

UIC is a strategy to complement the core competencies of two parties to gain competitive advantage on a sustainable *win-win*basis (Bleeke& Ernst, 2002). It also provides operational value to the embedding organizations by enabling employees to effectively collaborate and integrate disparate expertise in order to achieve objectives, to gain benefits, and to provide values to organizations (Cross, Borgatti, and Parker, 2004) in Yee SeowVoon 2015). Hence, there is much experience to be gained and lessons to be learnt.

Nevertheless, there is more than just valuable experience gained and lessons learnt that universities should benefit from such collaboration. Universities should be able to model their business operations based on proven successes. In addition, within the context of the Malaysian public universities, their status as government statutory bodies, especially public universities which have gained autonomy from the government, accords these universities with the privilege to form collaboration with Government-linked Companies (GLCs).

Government-linked Companies (GLCs)

In Malaysia, Government-linked Companies (GLCs)refer to companies that have a primary commercial objective and in which the Malaysian government has a direct controlling stake. GLCs and their controlling shareholders constitute a significant part of the economic structure of the Malaysian economy. They account for approximately RM260 billion or approximately 36 percent and 54 percent, respectively, of the market capitalization (see Table 1) of the Malaysian Stock Exchange,*Bursa Malaysia*, and the benchmark Kuala Lumpur Composite Index (KLCI). Although there is increasing empirical evidence on the impact of government ownership and company performance in developed markets,little attentionhas been given to modern developing economies such as Malaysia to examine what constitutes governance structure and its impact on company's performance.

Table 1: Market capitalization and shareholding levels of listed Malaysian GLCs

No	Company	Market Cap (RM millions)	Total Govt Shareholding (%)
1	Malayan Banking Berhad	44,708	63.50
2	Telekom Malaysia Berhad	34,871	63.80
3	Tenaga NasionalBerhad	32,966	73.70
4	M.I.S.C Berhad	29,387	72.10
5	Sime Darby Berhad	14,214	57.30
6	Petronas Gas Berhad	14,148	89.80
7	PLUS Expressways Berhad	13,350	77.00
8	BCH Berhad	12,495	47.90
9	Golden Hope Plantations Berhad	5,466	78.80
10	Malaysia Airline System	4,838	80.80
11	Proton Holdings Berhad	4,586	68.80
12	Petronas DaganganBerhad	3,954	78.00
13	Island &PennisularBerhad	3,781	56.30
14	UMW Holdings Berhad	2,523	58.60
15	Kumpulam Guthrie Berhad	2,224	82.50
16	Affin Holdings Berhad	2,112	54.30
17	Malaysian Airports Holdings Berhad	1,639	77.30
18	Bintulu Port Holdings Berhad	1,568	71.30
19	POS Malaysia	1,471	35.40
20	NCB Holdings Berhad	1,298	60.20

Table 1 (continued)

21	UEM World Berhad	1,291	50.80
22	MIDF Berhad	1,259	40.10
23	Boustead Holdings Berhad	1,004	71.30
24	BIMB Holdings Berhad	963	67.60
25	CCM Berhad	881	69.40
26	Malaysian Nasional Reinsurance Bhd	714	69.30
27	MNI Holdings Berhad	707	84.60
28	UDA Holdings Berhad	692	56.70
29	MRCB	542	30.60
30	PelangiBerhad	429	43.20
31	Time Engineering Berhad	336	51.90
32	Malaysia Building Society Berhad	252	79.10
33	Faber Group Berhad	127	41.40
34	Formosa Prosonic Industries Berhad	111	28.50
35	Central Industrial Corporation Berhad	66	38.60
36	YaHorng Electronics (M) Berhad	51	29.60
37	Hunza Consolidation Berhad	47	19.10

38	D'Nonce Technology	41	24.40
39	Johan Ceramics Berhad	31	73.40

Source: Ahmad, Aliahmed and Ab Razak (2008, p. 21)

Stakeholder Theory

It is argued that stakeholder theory enables managers to strategize on their operations instead of mainly addressing management and economic issues from theoretical perspective (Freeman, Wicks and Parmar, 2004).The emphasis of stakeholder theory can be expressed by two fundamental questions that are connected to purpose and human relationships:(1) “what is the purpose of the firm?” which promotes managers “to articulate the shared sense of the value they create and what brings its main stakeholders together”;(2) “what responsibility does management have to stakeholders?” which urges the managers to show “how they want to do business” or in other words,“what kind of relationships they want and need to create with their stakeholders to deliver on their purpose” (Freeman, Wicks &Parmar, p. 364). In addition, the importance of values in doing business has long been stressed (Freeman, 1994).

Nevertheless, there have been proponents of the separation thesis between ethics and economics in doing business as they argue that the goal of maximizing shareholder value becomes the only goal seemingly appropriate in modern corporate governance in whichthe purpose of all activities are geared towards achieving this goal (Sundaram&Inkpen, 2004) and in doing so, overlooking values. This view has been accepted to be scientifically proven, which is favoured by those who call themselves economists who have had an influence on some management theorists (McCloskey, 1998). One of the central issues that divides the opponents of the separate thesis from their proponents is the assumption that all activities, regardless of their diverse nature, are grouped together and regarded as an approach to corporate governance from the stakeholders' perspective,as cautioned by Freeman, Wicks and Parmar (2004) in their critique of the mischaracterization of the stakeholder theory.As a result, the stakeholder theory has been interpreted in various ways.

Another key issue is highlighted by Freeman, Wicks and Parmar (2004) is addressingmany groups that exist among the stakeholders and conflicts which mayarise. This provides another strong justification for not forsaking ethics and thus values in business. As values give meaning to purpose and human relationships, people in different groups are able to work together and be rewarded in the form of both the tangibles (e.g., financial rewards) and the intangibles (e.g., trust). Hence, there would be abundant resources for modern-day managers, which enable them to manage challenges with higher chances of success in dealing withthe performance of the corporation, employees as well as suppliers and the stakeholders including customers. The next issue raised revolves around value itself, that is, whose value or values (Sundaram&Inkpen, 2004). Nevertheless, there are examples of large companies which have had long-term success in finding and providing answers to value questions in their businessesaccording to the stakeholder theory(Freeman, Wicks &Parmar, 2004). Such long-term success has been made easier with the adoption of pragmatic approaches. In other words, as asserted by Freeman, Wicks and Parmar (2004), the stakeholder theory advocates managers to be realistically practical and eclectic in their approach and not confined to one single way of thinking or concept.

It is acknowledged that many groups or individuals exist among the stakeholders. Therefore, the interests of each group and individual and their activities should receive attention from the managers to establish a *win-win* situation for all (Freeman, 1994; Donaldson & Preston, 1995; Freeman, Wicks &Parmar, 2004). This will create shared values among all parties who should ideally be moving towards the same direction. Failure to achieve this may lead to disruption and the resulting effects can either be an end to the sharing of the values created initially or new form of collaboration would surface (Venkataraman, 2002). Thus, managers have the daunting task of ensuring that conflicting issues are addressed. Nevertheless, the stakeholder theory is able to offer clearer explanation and direction to managers in the true interests of all parties involved in business activities because this theory posits that the creation of value and its relationship with business are have connections with the creation of value for stakeholders (Freeman, Wicks &Parmar, 2004).

Optimizing value creation by managers means to create products and services that customers are willing to buy, offering jobs that employees are willing to fill, building good rapport with suppliers that companies are willing to have, and being good citizens in the community, and it is undeniably important to have this value in business (Freeman,Wicks &Parmar, 2004). To sum up, stakeholder interests have to be interrelated and work to achieve the same goal (Venkataraman, 2002). To maintain good relationships between all stakeholders in order to reduce conflicts among them, immediate solutions are needed to resolve the conflict and therefore keep the stakeholders in the value-chain. The worst scenario that should be avoided is the political interference that favour certain party. Stakeholders, however, can see the interrelation of each important party to the organization due to the recent wave of corporate alliances and the existence of issues such as supply-chain management.(Freeman, Wicks &Parmar, 2004).

In summary, the stakeholder theory views that managers and participants of an organizationought to be taught to givereasonably fairattention to all parties in the organization by considering more universally, resourcefullyand imaginatively about how these important parties in the organization should be treatedaccording to the organizational policies. The market value of an organization isdifficult to be maximized continuously in the long run if anessential part of the organization is not given attentive treatment. This is because values are created when there are good relationships among the stakeholders. Such harmonious relationships exist when the stakeholders share the same purpose or organizational goal.In addition, as noted by Venkataraman (2002),managers who adopt the stakeholder theory in their approachesare prone to developing strongerfoundation towards entrepreneurship, as the theory directsthem to the correct way of thinking about the risks in entrepreneurship. Hence,managers would be involved in risk-taking activities and decisions that lead to increasing the interests of stakeholders.

3. Funding Model for Malaysian Public Universities: The University-linked Companies (ULCs)

One of the proposed approaches to funding model that can be adopted by a Malaysian public university is by applying University-Industry Collaboration (UIC) concept. Introducing and creating University-Linked Companies (ULC) is arguably one of the solutions embraced by the UIC concept. ULCin this regard, refers to a company by which majority of the shares would be owned by the university. The income from the ULC will return to the university and should be used to cover the deficiency in the operating expenses.

For internal business opportunities, the university can give priority and advantage to ULC to contest and win in the bidding of any of the university huge projects. Meanwhile, for external business opportunities, the university can identify potential industries that allow ULC to enterinto a partnership or collaborationwiththeir respective companies which can be in the form of joint-venture partnership to explore opportunities that have been carefully considered and evaluated.

In any business, there will always be the pluses and the minuses. Some of theadvantages of ULC from which public universities may benefit are as follows:

- The formation of ULC is very easy because it is formed under Company Act 1965 (Malaysia) through Companies Commission of Malaysia.
- It is easy to incorporate changes in its constitution through amendments to articles because as most of the ULC are owned and controlled by the university.
- Most of the ULC run on sound business lines as they have their surpluses to run their projects.
- ULC would enjoy financial autonomy because it depends on the university for initial investment. The profit gained from ULCwould be utilized for the further expansion activities of the university.
- ULC would be able to facilitate university development comprehensively by taking up hugeprojects areasin which the private sectors seem to be reluctant to invest.
- ULC would be able to provide jobs opportunities to the university students and help the university overcome or minimize graduate employment issues.

Nevertheless, there are also some of the disadvantagesof ULC which public universities should be aware of and they include:

- ULC is autonomy in theory, but in practice, it is not fully autonomous because the university's board of directors and its topmanagementmay have the authority and may interfere in the day-to-day operation of the company. Because important policy decisions depend on them, bureaucracies in the university departments may affect the organizational operations of the company.
- As ULCswould most likely recruitgovernment civil servants, theiroperational effectiveness in the organisation may not be maximized because they may lack thetechnical expertise.

- Much of the slackness in ULC management would remain under the grab of public services. Thiswould not be treated as efficiently as it might have been in the private sector because of the state of affairs surrounding the ULC.

In their ULC model, there are several strategies that public universities most likely can apply. These can be summarised as follows:

1. Cascade down 30 percent of deficiency to be gained by every faculty and department in the university. The effect of the deployment of this strategy could be:

1.1 Responsibility of academic staff increase from 6 KPIs to 7KPIs.
1.2 The quality of teaching and learning will decrease because academicians have to spend more time on conducting training sessions and providing consultancy services to gain income for the university.
1.3 Stress among university employees will increase especially during appraisal session because of anxiety that results from lack of achievement in income generation according the targeted amount or percentage.
1.4 Work-life balance of university employees will be severely affected. More time would be spent at work instead of balancing it with quality time spent with their family. There would be more working weekends and fewer holidays.
1.5 Work satisfaction among university employees especially members of academic staff would be affected as they would be required to do what they are not trained to do or may lack experience, especially in sales, marketing, advertising and promotions.

2. University employees especially members of academic staff may have negative impression of the university's top management if they fail to identify other ways in generating income and are unable to facilitate the process of cascading down the responsibility to each faculty and translated by the faculty's top management especially the dean in the way it is supposed to be, and this process continues with each department in every faculty.
3. Initiate endowment fund.
4. Organize knowledge exchange activities and events.
5. Create research fund.

4. Conclusion

In this paper, we have discussed the impact of educational budget cuts on the Malaysian public universities and presented practical approaches to generating income in order to minimize this impact on operating expenses of these universities. One of the proposed approaches is to establish university-linked companies (ULCs) in which majority of the shares are held by the university concerned. This is to ensure that the income generated from such ULC will be able to overcome the deficiency in the funding for operational expenses resulting from the educational budget cuts. Nevertheless, the paper has also recommended that the key roles should be played by the university's highly experienced board directors and top management. In other words, faculty academic members of staff should not be involved directly. If cascading down strategy is deployed, faculty members of staff would be involved directly and this could affect their motivation because they may not have the competency to generate income as they have been recruited as academicians.

Therefore, the concept of UIC that can be applied in the context of Malaysia which has public universities as government statutory bodies and GLCs that are already operating successful business models from which ULC of public universities can replicate. The existing model of the Malaysian Government-linked Companies (GLCs) can be adapted by ULCs through University-Industry Collaboration (UIC) from the viewpoint of the stakeholder theory.

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