

## **An Examination of the Implementation Federal Government Strategic Plans in Malaysian Public Universities**

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### **Abstract**

*The National Higher Education Strategic Plan beyond 2020 announced in 2007 has outlined the seven thrust to transform Malaysian higher education system in achieving the world class standard and to make Malaysia as the hub of higher education in Southeast Asia. Indeed this plan also addresses the funding reforms which create a challenge for the public universities to achieve the government objectives. Together with the strategic plan, the Malaysian Government has also introduced funding reforms. The findings from both methods quantitative and qualitative data show that the funding reforms would not affected the implementation of government strategic plans. However, there were several issues that the government need to consider in order the execution of the government strategic plans can generate beneficial outcomes.*

**Keywords:** Higher education, government objectives, funding, strategic planning

### **1. Introduction**

In 2007, the Malaysian government introduced two policies - the National Higher Education Strategic Plan beyond 2020 and the National Higher Education Action Plan 2007-2010 (Country Report - Malaysia, 2008; Sirat, 2009a) – with the intention of fostering academic excellence and enhancing the quality of higher education in Malaysia (Hussin, Yaacob, & Ismail, 2008; World Bank/EPU, 2007). These policy changes in the national strategic plan can be seen as Malaysia's response to a host of issues relating to the betterment of research and teaching in the nation's higher education institutions (MoHE, 2007a, 2007b). Furthermore, with the intent to enhance the funding cost effectiveness of higher education in Malaysia, the government has also proposed reform concentrated on: (1) strengthening industry and research collaboration; (2) providing greater autonomy to universities; and (3) strengthening their performance cultures in order to encourage teaching and research activities (EPU, 2010a).

This research investigates the impact of the government strategic plans and funding reforms initiated by the Federal Government on public universities in Malaysia. It intends to determine whether the funding reforms have appeared to be leading to the desired changes in the universities. It examines whether the universities have incorporated the reforms as intended by the government.

### **2. Literature Review**

An important issue for higher education institutions in Malaysia is the global challenge posed by the internationalisation of higher education (Sirat, 2009a). Changes in educational systems in today's competitive global environment have prompted several countries to restructure their resources for financing higher education to ensure it aligns with the overall government strategic planning (Johnstone 1998).

The Malaysian government seeks to develop strategies and plans to ensure that higher education institutions in Malaysia are encouraged to undertake change and achieve excellence to face the competition posed by the global education market. The objective of these plans is to ensure that Malaysian universities achieve world-class status and operate as a hub for higher education in the Southeast Asia region (MoHE, 2007a).

General academic excellence and human development in the nation constitute the basic orientation of these reforms but these plans are also accompanied by certain practical goals and reforms to revamp the funding mechanisms of higher education institutions in the country. Previous research has indicated that funding systems are one of the most important tools for policy change and strategic management of higher education institutions (Kettunen, 2008; Rolfe, 2003; Strehl, Reisinger, & Kalatschan, 2007a). According to Johnstone (1998), funding reform can intervene in situations such as: (1) expansion and diversification; (2) fiscal pressure; (3) market orientation; (4) demand for greater accountability; and (5) demand for greater quality and efficiency. Improved funding systems can stimulate strategic activities including staff development and improvements of structures, outcomes, activities and processes.

Given the complexity of the higher education industry and the competitive nature of the global education market, the traditional mode of funding higher education in Malaysia has become inadequate and an improved financing model for Malaysian universities was recommended by World Bank/EPU (2007). The report identifies three strategies to diversify funding: (1) increased resources diversification and cost sharing; (2) balanced growth in university and non-university sub-sectors; and (3) incentives for private growth.

This paper examines results directly to research question: Has the change in the Federal Government funding contributed to the achievement of the government objectives stated in the National Higher Education Strategic Plan beyond 2020?

## **2.1. Malaysian higher education strategic planning**

Strategic planning is an important policy instrument to ensure that the development agendas of public universities in Malaysia are in line with the government objectives of increasing the quality of higher education system in Teaching and Learning (T&L), Research and Development (R&D), and quality of university management (Ahmad, Farley, & Naidoo, 2012; Hussin, et al., 2008; Singh & Schapper, 2009; World Bank/EPU, 2007). Strategic planning enables government to develop a coherent and methodical framework to initialise required changes and manoeuvre universities into the right direction for the future (Larsen & Langfeldt, 2005).

Two blueprints National Higher Education Strategic Plan beyond 2020 and National Higher Education Action Plan 2007-2010 outlining detailed strategic plans for the transformation of higher education in Malaysia were announced in 2007 (Country Report - Malaysia, 2008; MoHE, 2007a, 2007b). In this paper, the researcher examines the main strategic planning document with the aim to initialise the vision of reforming higher education in Malaysia. This plan was divided into four phases as follow:

- Phase I – Laying the foundation (2007 – 2010)
- Phase II – Strengthening and enhancement (2011-2015)
- Phase III – Excellence (2016 – 2020)
- Phase IV – Glory and sustainability (beyond 2020)

In year 2012, the strategic plan has entered to the second phase of its implementation. However, this paper will highlight the discussion of the National Higher Education Strategic Plan beyond 2020. As outline the strategic plan focuses on seven strategic thrusts as follows:

## **2.2. National Higher Education Strategic Plan beyond 2020**

In order to foster the development of Higher Education Institutions (HEIs) in Malaysia, the Federal Government announced the National Higher Education Strategic Plan beyond 2020 in August 2007. It is the most comprehensive plan launched till date and it intends to transform Malaysian higher education system. It aims to help HEIs achieve world class standard and make Malaysia a hub for higher education in Southeast Asia (Ministry of Higher Education, August 2007). This plan was divided into four phases as follow: Phase I – Laying the foundation (2007 – 2010); Phase II – Strengthening and enhancement (2011-2015); Phase III – Excellence (2016 – 2020) and Phase IV – Glory and sustainability (beyond 2020).

HEIs in Malaysia have to incorporate the key performance indicators outlined in the strategic planning into their institutional agenda and implement a comprehensive strategic plan in line with government strategic planning (Khalid 2008). The strategic plan focuses on seven strategic thrusts as illustrated at Figure 1.

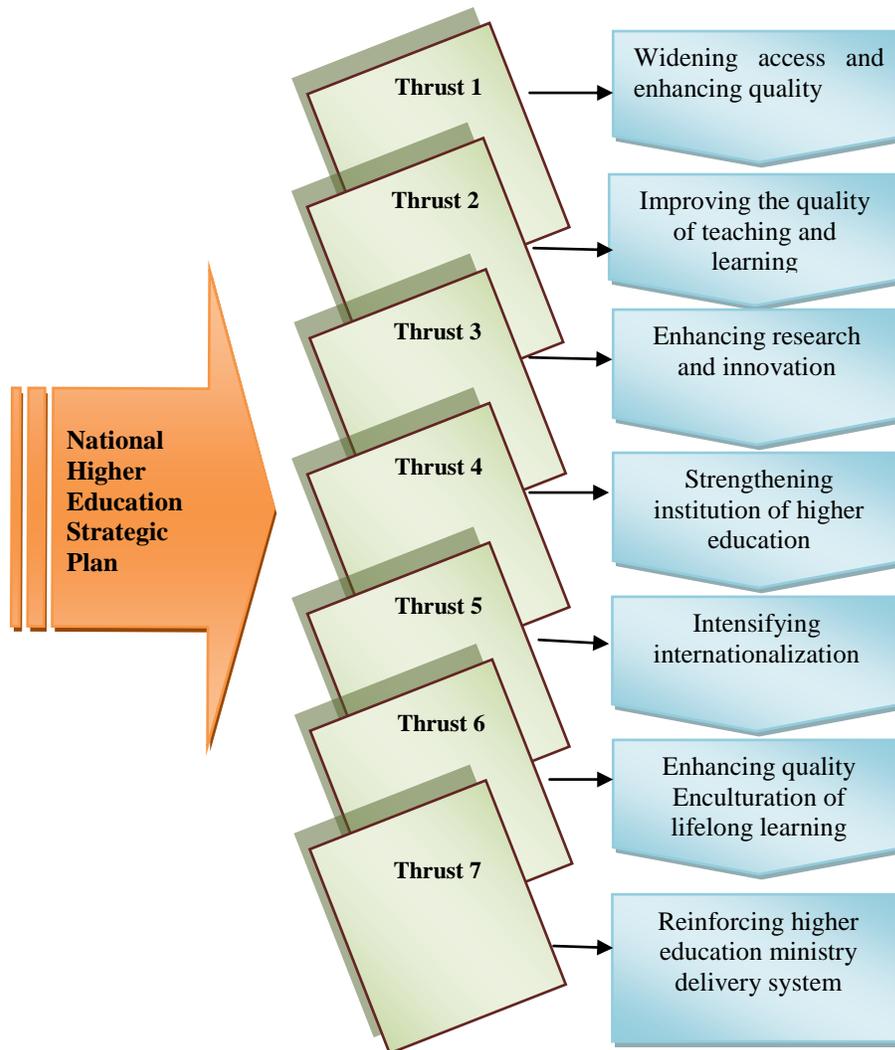
*Thrust 1: Widening access and enhancing quality*

This GO seeks to increase educational opportunities and widen access to higher education by providing more opportunities to students. By the year 2020 the government hopes that 50 per cent of the cohort of 17-23 years attains higher education and 33 per cent of workers have tertiary qualifications, especially in science and technology.

*Thrust 2: Teaching and learning*

To build a more responsive plan, with some flexibility in its vision, objectives and scope for improvement, this strategic plan also provides the input necessary to enhance the quality of teaching and learning environment. This strategic thrust will ensure that all students in institutions of higher learning get the benefit from quality learning experiences in line with the needs of individuals, economy and society (MoHE, 2007a). In order to enhance R&D activities and create a research culture in universities, Ministry of Higher Education (MoHE) encourages public universities to increase the number of students at postgraduate level to between 18 to 24 per cent in 2010 (Sidhu & Kaur, 2011).

**Figure 1: The Seven Strategic Thrusts**



Source: Adopted from Ministry of Higher Education (2007a)

*Thrust 3: Research and development*

Over the period of this strategic plan, the government has developed a plan to enhance the R&D capacity of universities. With this new development the government objectives have set the goals of developing and strengthening research capacity and innovation that can compete globally. The government's goal is to ensure that at least six public universities are able to be classified as RUs by 2020, with twenty centres of excellence receiving international recognition and ten per cent of the research commercialised (MoHE, 2007a).

The government has recognised the important contribution of higher education sector in promoting ecosystem-based innovation through R&D (Abdullah, 2010). Therefore, the government has encouraged public universities especially RUs collaborate with industries to promote innovation in the form of MoU/MoA in areas of staff mobility, supervision, product development, commercialisation and technology transfer at local and international level (Sirat et al., 2010). The R&D collaboration carried out by the universities and industries are expected to contribute to additional income through commercialisation and business activities. For example, in the year 2000 the research collaboration between USM and 35 organisations from twelve countries gave the institution access to 81 projects with a value of RM 5.9 million (Kaur, Sirat, & Mat Isa, 2011). However, Hambali, Faruqi and Manap (2008) argue that in reality it is not an easy task to adopt a business culture in public universities. A previous study based on data from 16 Malaysian public universities reports that out of 313 potential products only 58 were successfully marketed in 2008 (Ab Aziz, Harris, & Norhashim, 2011).

*Thrust 4: Strengthening institution of higher education*

This strategic thrust focuses on meeting the growing demand in private and public higher education which is a significant concern of Malaysian Government. In addition, the government has stipulated that by 2020 at least 75 per cent of academic staff in public universities must have a PhD. According to statistical data provided by the MoHE, in 2010 out of 30,252 academic staff 9,199 had a PhD qualification, 16,420 had a Master's degree and 4,318 had a bachelor's degree. Furthermore, any university which achieves the targets set for income generation will be given autonomy.

*Thrust 5: Intensifying internationalisation*

With respect to strategies for intensifying the internationalisation of higher education in Malaysia, the government aims to promote initiatives that can mould and shape private and public higher education in the country so that they can compete globally. In the coming years, this thrust aims to make Malaysia a hub for excellence in higher education in order to attract foreign students to pursue programs in Malaysia (Mohamad, Jantan, Omar, Mohamad, & Mat Isa, 2008). Sirat (2008b) has outlined three key trends in the global market that affect Malaysia and its plan for internationalising education: (1) the number of international students from China has declined; (2) the rapid development of higher education infrastructure in the Arabian Gulf region attracts students from middle east countries to the region; and (3) bureaucratic blocking in Malaysia affects efforts of internationalising higher education. By 2020, international students enrolment in HEIs in the country is targeted to be about 15 per cent of the total student enrolment (MoHE, 2007a; Yusof & Sidin, 2008). Currently, data shows that the number of international students enrolled in Malaysian HEIs in 2010 was 62,705 (MoHE, 2011), which is a much lower number than the target of 100,000 set in the National Higher Education Action Plan 2007-2010 (MoHE, 2007b; Sirat, 2008b). The government aims to provide better programs and teaching quality in order to attract international students to pursue their studies in Malaysia.

*Thrust 6: Enhancing quality enculturation of lifelong learning*

In general, this strategic thrust aims to encourage individuals and communities to enhance their knowledge and skills so that they can adapt readily to a changing work environment. Universities have an important role to play in this development of human capital as institutions that enable learning, reflecting, and engaging citizens (Ehlers & Schneckenberg, 2010). Therefore, the government has set targets for HEIs to help individuals to enrich their knowledge and skills through distance education, e-learning, learning in the workplace, and part-time learning. This aims to create lifelong learning as a culture and a way of life to support the development of first class human capital.

*Thrust 7: Reinforcing higher education ministry delivery system*

In order to ensure the successful execution of the strategic plan, the government has established 23 Critical Agenda Projects or CAPs, each with its own objectives, indicators and targets (Embi, 2011). This CAP is divided into five pillars: (1) governance (2) leadership (3) Academia (4) T&L and (5) R&D (MoHE, 2007a). The CAPs also cover other areas such as Apex University agenda, internationalisation, graduate employability, Mybrain 15, lifelong learning, quality assurance, development of holistic students, industry-academia, e-learning, top business school, centre of excellence, entrepreneurship and knowledge transfer program.

In addition, the MoHE has set up a body called Programme Management Office (PMO) at the ministry level and affiliated agencies called Institutional - Programme Management Office (i-PMO) at the university level. The PMO and i-PMOs aim to provide support for the implementation, planning and execution of National Higher Education Strategic Plan beyond 2020. While the PMO acts as a steering committee that structures the universities performances according to the strategic plans, the i-PMOs are required to provide information on these areas to the PMO. The PMO and i-PMO act as a monitoring mechanism that helps overcome the problem of moral hazard and ensure that the government receives returns on its investment in higher education (Kivistö, 2005).

### *2.3. Higher education funding reforms*

The demand for public higher education in Malaysia is very strong since it is heavily subsidised by the Federal Government. In practice most of public higher education institutions costs are financed by the Malaysian Federal Government through allocation of budget every year as well as lump-sum funding for development and capital expenditures (Country Report - Malaysia, 2008; Ismail & Abu Bakar, 2011). Therefore, being owned and funded by government, the public universities must ensure that the strategic planning is in line with the principal objectives.

The Malaysian government provides 90 per cent funding to all public higher education institutions through budget allocation each year and another 10 per cent come from students' fee (Lee, 2000a; MoHE, 2007b). A study from the World Bank indicated that Malaysian government contribute 2.7 per cent of its Gross Domestic Product (GDP) for education compared to others OECD countries like Thailand 1.0 per cent, China 0.8 per cent and India 0.7 per cent (World Bank/EPU 2007). In fact, the contribution of public expenditure on higher education per student as a percentage of GDP per capita in Malaysia has shown a decline from 116.6 per cent in 1990 to 71 per cent in 2006 (Tilak, 2008).

In addition, Sato (2007) pointed out that the funding Malaysian public universities have changes and its now moving from government budget to self-funding with more capability for institutions to generate more income. Here, the influence of government control is still high compare to the university autonomy with self-funding which have the characteristic of market forced.

Meanwhile, a more responsive form of universities key functions has been addressed to give a great impact on the realisation of Federal government objectives. Instead the strategic planning has proposed a concern with the manner in which the Malaysian public universities should be able to generate more income for the operation and development expenditure. The National Higher Education Strategic Plan beyond 2020 outlines the strategies needed for universities to subsidise their income from internal resources. Phase I of this strategic planning (years 2007 - 2010) requires that operating expenditures be subsidised through internal resources by 15 per cent in comprehensive/focused universities and 20 per cent in RUs.

Phase 2 of planning (years 2011 - 2015) aims to strengthen the financial resources of comprehensive/focused universities to achieve targets of 20 per cent of operating expenditure, while Research Universities have a target of 25 per cent of operating expenditure and 5 per cent of development expenditure. In Phase 3 (year 2016 - 2020) the government will expect comprehensive/focused universities to supplement 25 per cent of their operating expenditure and 5 per cent of development expenditure, with research universities supplementing 30 per cent of their operating expenditure and 10 per cent of development expenditure. Autonomy will be given when focused/comprehensive universities are able to finance 30 per cent of their operating expenditure and 10 per cent of their development from internal resources. Meanwhile, the goal of autonomy for research universities is 40 per cent of operating expenditure and 15 per cent of development expenditure. In an effort to take the initiative of income generating, the Ministry of Higher Education hope it can be done without affecting the function as a centre of excellence in academic institutions of higher learning.

Indeed, the government has planned to introduce the implementation of Performance-Based Funding (PBF) mechanism. The proposal to implement this funding mechanism has been several time discussed on the National Higher Education Strategic Plan 2007-2010 and in Tenth Malaysian Plan (2011-2015) (MoHE, 2007b; Unit Perancang Ekonomi, 2010).

The Prime Minister, Dato' Seri Mohd. Najib Tun Razak outlined the general direction of financial reforms in the higher education sector in conjunction with a broader vision to transform public sector governance during the 2010 budget speech. He announced that expanding access to quality and affordable education was one of the Key Performance Indicators (KPIs) for the government (Mohd Najib Tun Abdul Razak, 2009). The proposed funding changes for HEIs in Malaysia were announced by the Prime Minister on 10<sup>th</sup> Jun 2010 while tabling the Tenth Malaysian Plan (2011 to 2015). A host of changes were introduced, such as performance-based funding for public tertiary institutions and implementation of Rating of Malaysian Universities and University Colleges or SETARA. Under the SETARA system, information about the rating of universities will be available to the public who can assess the performance of HEIs. It will then ensure finance flows to HEIs are transparent, thus promoting accountability in the expenditure of public funds. The design of the system is comprised of two components, namely, fixed and variable. As the fixed component does not take into account, the variable component such as intellectual development in R&D and student co-curricular activities will be based on the SETARA performance rating (EPU, 2010a).

The government has also proposed reforms for enhancing the funding cost effectiveness of higher education in Malaysia, by concentrating on: (1) strengthening industry and research collaboration; (2) providing greater autonomy to universities; and (3) strengthening their performance culture in order to encourage teaching and research activities. The Tenth Malaysian Plan states that the proportion of government funding to public universities will be reduced and public universities must seek alternative funds to improve the quality of teaching and research (EPU, 2010a). The government has emphasised that the financial reforms are crucial to achieve the desired transformation in HEIs as envisioned in the National Higher Education Plan beyond 2020. As pointed out above, the review of HEIs by a host of authorities from the Board of Directors (BOD), Vice Chancellors to the Senate have provided greater level of autonomy and accountability to public universities by reforms such as the amendments of Universities and University Colleges Act (UCCA) in 2008.

### 3. Methodology

In analysing the survey data, the *Predictive Analytic Software* (PASW) Version 18 for windows (previously known as *Statistical Package for Social Science* or SPSS) was used. The one sample Wilcoxon signed rank test is a nonparametric alternative method of testing a similar hypothesis to the one sample t-test. They are used in this study to determine whether the population measure of central tendency/median for one sample Wilcoxon signed rank test and mean for the one sample t-test of a measurement is greater than or equal to a specified value (a one-tailed test). For each measurement the test was whether the true population measure of central tendency could be accepted as being greater than four since this corresponds to agreement with the proposition in the measurement. A statistical significant result would show agreement of government funding changes in Malaysian public universities' approaches to achieving the government objectives as stated in the strategic plans.

Next, the multi-sample Wilcoxon signed rank is a nonparametric test used in this study to investigate the impact of changes in the government funding system in accordance with the National Higher Education Strategic Plan beyond 2020 according to the direction of changes. In this study it is used to compare changes over time by comparing: (1) 2010 and 2006; (2) 2015 and 2010; and (3) 2015 and 2006. The goal of this test is to evaluate the median difference in paired scores (paired across time) for each questions that are based on seven points Likert scale ranging from 1=well below 2009 national average to 7=well above 2009 national average. The survey questions were designed to access opinions on the changes over the period from 2006 to 2015 (expected outcome). This is done by making comparisons with the 2009 national averages based on their perception. The 2009 national averages were used to create a common reference point across respondents. The ranking of respondents' opinions and knowledge were analysed using this statistical test. These types of questions were developed to access the changes occurred according to the whole public universities sectors in Malaysia.

Following this, the researcher conducted the focus group interviews in four different batches at participant universities. Four public universities of different categories – two with Research University (RU) status, one of which was the Apex University and two others of a Comprehensive University (CU) and Focused University (FU) status – were chosen to create a diverse and representative sample of universities in Malaysia. The findings reported are based on the four focus group interviews conducted at University A, B, C and D. The main objective of the focus group interviews was to acquire relevant information and opinions from subjects in the field that could supplement the objective quantitative data to better address the research problem. The information from the focus group interviews could be used to confirm and improve the information from the quantitative study. The similarities and differences between the respondents' perceptions of this qualitative study and objective data from the quantitative results could be compared to better examine the impact of changes in government funding. With these focus group interviews, the researcher would also acquire in-depth understanding of the issue through personal contact with the people and institutions concerned and gain access to a wide range of opinions from respondents with differing levels of knowledge and experience.

#### 4. Results

##### 4.1. Quantitative analysis

In total 335 questionnaires were distributed to all respondents in twenty Malaysian public universities. The respondents in this study includes Vice Chancellors, Deputy Vice Chancellors, Dean, Heads of Bursar Offices or equivalent and Heads of Strategic Planning Office or equivalent at all twenty Malaysian public universities. Out of the total, 120 or 35.8 per cent respondents were returned the survey questionnaire.

**Table 1: Results of one sample Wilcoxon signed rank test and one sample t-test**

Descriptions	One sample Wilcoxon signed rank test		One sample t-test				
	Sig	Median	Mean	<i>t</i>	Sd	df	Sig
Expanding the objective to widening access and enhancing quality	.000	6	5.39	13.55	1.13	119	.000
Improving the objectives on quality of teaching and learning	.000	6	5.41	14.93	1.03	119	.000
Improving the objective to enhancing research and innovation	.000	6	5.68	18.21	1.01	119	.000
Improving the objective of strengthening institutions of higher education	.000	6	5.58	17.19	1.01	119	.000
Expanding the objective of intensifying internationalisation	.000	6	5.42	14.90	1.04	119	.000
Expanding the objective of enculturation of lifelong learning	.000	6	5.58	18.11	0.96	119	.000

The table above summarises results of the six items indicating that the median/mean of the data differs significantly from the stipulated value of four, as shown by a very low p-value (Sig.=0.000). As the median and mean values in the two tests shown in Table 1 above all exceed four, respondents have agreed that changes in the government funding systems of Malaysian public universities have improved towards a better alignment with the approaches in achieving the Malaysian government objectives as stated on the strategic plans. Since in all cases the medians/means are above four, there are statistically significant differences, and the results obtained support the research objective of the study

**Table 2: Results of Multi-sample Wilcoxon Signed Rank Test**

Descriptions	2010 Compared to 2006		2015 compared to 2010		2015 compared to 2006	
	z <sup>a</sup>	Asymp. Sig.	z <sup>a</sup>	Asymp. Sig.	z <sup>a</sup>	Asymp. Sig.
Expanding the objective for widening access and enhancing quality	-8.900	.000	-8.751	.000	-8.942	.000
Improving the objective for quality of teaching and learning	-9.295	.000	-9.182	.000	-9.206	.000
Improving the objective for enhancing research and innovation	-8.963	.000	-8.788	.000	-9.090	.000
Improving the objective for strengthening HEIs	-9.341	.000	-8.864	.000	-9.349	.000
Improving the objective for enculturation the lifelong learning	-9.404	.000	-8.919	.000	-9.313	.000
Improving the objective for intensifying internationalisation	-9.549	.000	-9.326	.000	-9.443	.000

a. Based on negative ranks

The multi-sample Wilcoxon signed rank test in Table 2 was conducted to evaluate the changes in participants' response on the program plan imposed by the government. The results indicate a significant difference at  $p < 0.0005$  (Sig.=0.000) for all six items. Here, changes in the government funding system have positively impacted on the approaches to the program plan imposed by the government in Malaysian public universities, as indicate by the negative ranks.

#### 4.2. Qualitative analysis

In relation to the effects of funding on R&D, participants confirmed that the government had recently increased its support and involvement. The Federal Government has put greater focus on increasing the level of funding available to support R&D activities at public universities in Malaysia. For example, evidence from the qualitative study indicate that Research Universities are getting an additional funding of RM50 million for research while the Apex university is getting RM80 million. Although the government has increased research funding, evidence from the qualitative data shows that the funding changes have also paradoxically had a negative impact on the number of research grants available to public universities. For example, participants in this study reported that their researchers were now running short of research grants and they were forced to search for grants from both local or international agencies because the additional funding promised to Research Universities are not only used for research but others activities related to it.

Evidence indicates that participants from University A, B, C and D have the same impressions about government efforts towards maximum utilisation of available funding. They all felt that apart from research the government is trying to put greater focus on increasing the quality of T&L according to university strengths. However, due to funding constraints, public universities are required to be more creative to ensure that the T&L quality remains their main priority.

Next, results indicated that universities are working towards achieving the goals of widening access and enhancing quality. In the focus group interviews, participants pointed out that universities have directly or indirectly provided special funding for equity groups that require extra support. In addition, the student affairs department provides services and supports to students to assist them in short or long-term financial matters. Participants in this study stated that the universities are working to encourage individuals and communities to enhance new knowledge and skills at the higher education institutions. Universities have begun to show greater concern to ensure that it is consistent with the government objective to build skills and knowledge of the nation. Although there was no direct funding provided by the university to support this program, evidence indicates that universities provided support indirectly in the form of reduced tuition fees to mature or continuing students.

In addition, nearly all participants were agreed with the government intention to implement the PBF mechanism. This was then further supported by a participant at University B. Participants at University B pointed out that while the RUs were allocated funds on the bases of their performances; they suggested that the government should look into the categorisation of public universities before implementing the PBF mechanism. A clear policy and accompanying documentation is needed to ensure that it can actually yield the best approach of funding needed at public universities. Participants at University C believed that government intention to implement the PBF mechanism is to improve the performance of public universities and manage funding in a transparent and accountable manner. Apart from these issues, a participant at University C noted that the success of PBF mechanism depended on the university and its staff. Furthermore, respondent from University B also stated that another mechanism currently in use called Modified Budgeting System (MBS) is also based on performance. But the government is moving to Outcome Based Budgeting (OBB) which puts more emphasis on the impact of the effectiveness of government projects and programs.

In this study, participants were also asked about any difficulties that the universities faced in implementing the National Higher Education Strategic Plan beyond 2020. Participants at University A and C felt that the difficulties accompanying the government strategic plan must be seen as a challenge rather than an obstacle. Although they were generally optimistic about the plan, participants at University A did face some difficulties in getting the real meaning of what the government wanted in the early stages of the plan. But they managed to resolve this issue through dialogue with the government and now spoke quite positively of the difficulties they faced as an obstacle overcome by their diligence. In contrast, participants at University B pointed out that the key difficulty faced by the university in implementing the government strategic plan was funding. The proportion of funds limited for the plan has created imbalance in the resources available for the university in implementing the plan. They argued that despite these difficulties in funding the university did not use it as a reason for not performing. In fact, the university key performance indicators were on the right track and the university management was working hard to ensure that the targets are achieved.

The focus groups then further discussed similarities and dissimilarities in the difficulties or challenges that they faced in implementing the strategic plan. University C and D felt that their status as a new university and their location away from the national hub of Klang Valley contributed to some problems. Evidence shows that both these universities were struggling to meet government expectations due to limited internal expertise and inadequate research funding. One of the key difficulties they pointed out was competing with other established universities to get research funding. They also did not have much success in commercialising their research output. Participants from University D also added that the main difficulty for them was getting the required funding to implement programs for internationalisation, mobilisation and recruitment of experts at the university.

## **5. Discussion**

The research aim of the study intent to explore the impact of government funding reforms in achieving the government objectives as stated in the blue prints. The results from both methods were unexpected. This research has established that the public universities in Malaysia are working to achieve the government objectives as stated in the strategic plans even though during the government funding cuts. The blue prints introduced strongly indicated the Federal Government intention to transform the higher education system in Malaysia with greater focused to increase the quality of T&L, and R&D (Hussin, et al., 2008; Singh & Schapper, 2009; World Bank/EPU, 2007) and promoting better alignment between university goals and government objectives (Kivistö, 2008; Liefner, 2003). Although the funding reforms cause some difficulties and challenges to the public universities, the results show consistent improvement on the institutions behaviour towards achieving the government objectives. Interestingly, the implication of this results have provided explanation of Malaysian public universities direction to become a centre of excellence for education (Muniapan, 2008; Salleh, 2006). Therefore, a good university strategic plans should able to adopt with the changing environment in order to achieve the desired outcomes (Kettunen, 2008; Taylor, Machado, & Peterson, 2008). The systematic and continuous efforts in formulate and implement effective policies should be viewed positively in order to meet the challenges in response to the government objectives.

The qualitative interviews revealed that the Federal Government in the process of introducing the new budgeting system. The previous study from Neilson and Mucciarone (2007) found that the MBS is not an effective system to be implemented.

Therefore, the government steps to introduce new budgeting approach is the right move to improve the weaknesses in the existing budgeting approached. In reviewing the literature, OBB is looking more on the impact and the effectiveness of government program implemented. However, further work is required to establish this findings as the OBB not yet been implemented at all government agencies. Therefore, the government's move to introduce the new budgeting system that based on performance should be supported by the public universities. With the new system the monitoring system will be effective and efficient in managing public funds and assuring system are used to track universities performance (Auranen & Nieminen, 2010; Bayenet, Feola, & Tavemier, 2000). Based on the above argument, this study suggested that in order to ensure the smooth implementation of OBB system, the communication process between the government and public universities should be improved, focused on the implementation and monitoring, provided greater accountability, incentives and autonomy. Performance based mechanism could be used as a strong motivator by the Federal Government (Liefner, 2003; Verhoest, 2005). There are possible explanations for this argument. Under the PBF, the government want to ensure that the university is more accountable of using public funds provided for the benefits of stakeholders according to the key performance areas. Indeed, this funding system ensures that the reporting system would clarify the Malaysian public universities objectives align with the government desired outcomes. For that, this study further supports the government initiative to implement PBF in the public universities.

As stated in the Tenth Malaysian Plan, the system that is planning to be implemented comprises of two components. Fixed components include salary and cost of utilities and variable components include development of R&D and student co-curricular activities (EPU, 2010a). However, several issues need to be clearly address before the government rely want to implement this funding mechanism. These include the indicators used to measure the universities performances. Furthermore, the government need to evaluate the performance indicators used in FUs and CUs where these university core functions are more to T&L. In this way, the teaching university can improved their performances to meet the government goals. In addition, the amendment of UCCA is necessitated to provide more flexibility of managing the public universities especially in the financial aspects. In fact, the government should learn from the experience developed countries that have been implemented this system. This is because based on the previous study, this system have its own weakness (Burke, 1999, 2002; Dougherty, 2009). Therefore, based on the above arguments, the Malaysian Government should consider some suggestion listed in Table 3 before implemented the PBF mechanism in Malaysian public universities.

**Table 3: Suggestion for the Implementation of Performance Based Funding in Malaysian Public Universities**

<b>Authors</b>	<b>Suggestions</b>
Layzell (1998)	<ul style="list-style-type: none"> <li>• Keep it simple</li> <li>• Communicate with stakeholders</li> <li>• Leave space for error</li> <li>• Learn from those that have already have implemented the system</li> <li>• Design your own methods</li> </ul>
Burke and Lessard (2002)	<ul style="list-style-type: none"> <li>• The effectiveness and efficiencies of this system depends on the institutions' reactions</li> </ul>
Ashworth (1994)	<ul style="list-style-type: none"> <li>• System should be flexible, simplified, and provide data availability to measure performance.</li> </ul>
Salmi and Hauptman (2006)	PBF design system should have: <ul style="list-style-type: none"> <li>• Good indicators to evaluate good and weak institutions</li> <li>• Reward programs.</li> </ul>

In addition, this study recommends that the Malaysian Government might consider studying the executing of PBF mechanisms in developed countries such as Australia, New Zealand, UK and U.S. The comparisons of the findings from this study can be altered according to the culture, political and economic condition in Malaysia. According to data from focus group interviews, some of the respondents have mention about several challenges and difficulties faced by the participants' universities in order to implement the government strategic plans. Nonetheless, most importantly here is that in what way should public universities in Malaysia transform the challenges and difficulties they experience to opportunities in order to improve the universities overall performance. Therefore, this study suggested that the universities should be more innovative and creative.

They cannot rely in government anymore and to be innovative and effective the universities required thinking in different approaches. As stated before the universities have been required to transform themselves in order to meet the challenges and align themselves with the objectives set by the government to achieve new goals. Effective management according to Casteen (2011) is the best approach in order to adopt with any difficulties and challenges faced by the institution in this difficult time.

## 6. Conclusion

The conclusion of this study is concerned with the role of the funding reforms in contributing to achievement of the government objectives stated in the National Higher Education Strategic Plan 2020. This research has found that the funding reforms have enabled the public universities to be more proactive in implementing government programs. The government has made use of a number of instruments to assess the congruence between the stipulated government objectives and the activities in the university environment. Therefore, results in this study reveal that Malaysian public universities have interpreted the plans with focused on improving the quality of T&L and R&D to achieve institutional and national priorities.

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