Technology Capability Perception & Sustaining Competitive Advantage Challenge for Private Higher Institution: A Review of Literature

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ABSTRACT:
Private Institution of Higher Education Institutions (PvIHEs) in Malaysia is facing stiff competition from local and international institutions that offers various programmes. The sustainability of PvIHEs is highly depending on several factors such as programmes offered, teaching and learning facilities, location, conducive environment, teaching staff and etc. The focus of this paper was to review the literature review of sustaining competitive advantage factors for PvIHEs. Furthermore in order to discover the technology capability perception of people on sustaining competitive advantage, an application of Theory of Planned Behaviour is applied. The Theory of Planned Behaviour was used by various researchers in various setting. The literature review of this study discloses the previous scholar on the related areas in sustaining competitive advantage, Theory of Planned Behavior and the perception of technology capability of a private higher education institution.

Keywords: Literature Review, Technology Capability, Theory of Planned Behaviour

INTRODUCTION

The higher education institution in Malaysia is comprised by the public and private higher education provider. The PvIHEs complements the demand exists in the education industry. This literature review study is focused on the technology capability perception and sustaining competitive advantage challenge for a PvIHEs in Malaysia particularly niched in automotive programmes. This study used the Theory of Planned Behaviour introduced by 1 used to forecast human social behaviour. The challenges for a PvIHEs varied from several factors including the mission and vision, academic staff qualifications, teaching and learning as well as appropriate and reasonably conducive campus. The literature review presented in sequence starting with the importance of technology capability and followed by the overview of higher education system in Malaysia. Then, the comparison of theories used for this study and sustaining competitive advantage. Finally on the factors contributed to the sustaining competitive advantage for an institution.

LITERATURE REVIEW

In some organization, technology capability undertakes a critical part in building up their products and services. It is always embedded to the offering of products and services. When a firm expands its technology capability, it place a significant investment on innovative work (R&D), that includes the finding of new products, the gathering for learning stores, and the preparation for the specialized technical staff. 2discovered that an entrepreneurial undertaking with solid innovative competencies has a
tendency to take part on exploitation alliances that will get entry on integral holdings for example, manufacturing. Furthermore promoting assets in place will popularize its new products. It applies the same to the education industry. By having good technology capability in terms of teaching and learning, it posits competitive advantages of the institution. The essentialness from proper coordination of the organizationprepares the learners for forthcoming professions, maximizing around best guidelines applies, having better activities and captivating learners whose connections with innovation organization need aid progressively native around others\textsuperscript{4}. In line with the Malaysia National Education Blueprint 2013-2025, it described through the use of knowledge, innovation and technology which the Blueprint’s prime goal is to prepare students for the future\textsuperscript{5}. There is no doubt that technology is used more and more widely, particularly to the reason for educating support and taking in. This is in view of current engineering offers large portions devices that might make utilized within classrooms will move forward showing and taking in nature\textsuperscript{6}.

Malaysian industry is also looking for graduates with high knowledge and skill. With the guidelines of the National Education Blueprint 2013-2025, Malaysia would have the capacity to create exceptionally talented and comprehensive human capital that have the capacity to partake globally\textsuperscript{7}. It is a test for country to create proficient, able and internationally aggressive human capital in the period of National Vision Policy (2001 to 2010). Initiatives were taken to deliver quality infrastructure, adding the numbers of education facilities, developing capability as well as the efficiency between officers in education, teachers and leaders. The Education Development Master Plan (2006 to 2010) launched in 2007 to endorse the agenda of education under the Ninth Malaysian Plan (9MP) framing six pillars i.e. building the nation, human capital development, firming up the nation school, linking the education opening, uplifting the profession of teaching and fast-tracking superiority of education institution\textsuperscript{8}.

**HIGHER EDUCATION INSTITUTION IN MALAYSIA**

The public tertiary institution can be categorized into three i.e. university, polytechnic and college/institute. There are 31 public universities, 30 polytechnics and 98 college/institute registered under Malaysia Qualifications Register (MQR)\textsuperscript{9}. The public higher education tuition's fee is subsidized and limited allocations for a student are available. The students would desire to be selected in the government university to advantage from the lesser educational cost charge, in which the individuals who neglect to do as such will search for tertiary education in private college. Since 1970s, private institution existed overwhelmingly as "other opportunity" schools for understudies who neglected to get into the standard open higher education establishments\textsuperscript{9}. Lee et al\textsuperscript{9} further described that the continuous demand for government universities especially from secondary education has placed the government universities into facing the operating constraints such as limited allocation from the government. This then provoked the legislature to urge private institution to assume further dynamic part in the higher education division through different strategy and monitoring revisions in supporting these establishments to build their ability.

With everything taken into account, these activities have fortified and improved the private institutions as part of higher education providers in Malaysia. The foundation of Private Institution of Higher Education ("PvIHE") bolsters the tertiary needs instruction in Malaysia. PvIHE gives an alternative to understudies in Malaysia to assist their studies in different fields and projects. At every level of PvIHE set up, the criteria has been built up by the Department of Higher Education and it served as rules for any foundation to apply or to overhaul the status of their establishment. The foundation of Department of Education
are with the expectation of creating and making an advanced education environment to support the foundation of focuses of information, and the improvement of equipped, creative and moral individual in this manner in satisfying national and worldwide desires.

THEORY OF REASONED ACTION (TRA)

The Theory of Reasoned Action was presented by and far along improved by . TRA has been widely used and successfully applied in various discipline. For example, described that TRA is taking into account the recommendation that a singular's conduct is dictated by the individual's behavioural goal to perform that conduct, which gives the most exact forecast of conduct. Behavioural intention is a function of two factors: a person’s attitude toward the behaviour and subjective norm. Attitude toward behaviour is defined as “a person’s general feeling of favourableness or unfavourableness for that behaviour” . While subjective norm is distinct as a person’s “perception that most people who are important to him think he should or should not perform the behaviour in question” . Attitude toward behaviour is a function of the result of one's striking conviction that performing the conduct will prompt certain outcomes and an assessment of the results. Subjective norm is a purpose of a person’s normative belief which defined as a “person’s belief that the salient referent thinks he should (or should not) perform the behaviour”, and the person’s motivation to fulfil with that referent. Theory of Planned Behaviour (TPB) is then introduced in 1995 to the addition of variable of Perceived Behavioural Control.

THEORY OF PLANNED BEHAVIOUR (TPB)

Theory Planned Behaviour (TPB) has been used to forecast human social behaviour. The attitudes toward behaviour, subjective norms and perceived behavioural has led to the differences in result of actual behaviour and intention control. described that the evidence observed able to facilitate the study. It is found in TPB, the diverse of behaviour aims to conduct behaviours able to be predicted through high accurateness impending from attitudes toward behaviour, subjective norms and perceived behavioural control; and senses the insight of behavioural control, explaining the significant difference in actual conduct. In the appropriate setting of act or behaviour, attitudes, subjective norms and perceived behavioural control are applicable to the behavioural, normative and control beliefs of the conduct. However, the specific nature of these relationships is still indefinite . described that behaviour of a human is directed by three different kinds of thoughts: behavioural belief - beliefs about the conceivable results or different qualities of the conduct, normative belief - beliefs about the regulating desires of other individuals and control beliefs - convictions about the vicinity of variables that may advance or hinder execution of the conduct. Behavioural beliefs create a great or unfavourable mentality toward the conduct; regulating conviction result in apparent social stress or subjective norm; and control beliefs offer ascent to apparent behavioural control, apparently straightforwardness or trouble of performing the conduct. The attitude toward the behaviour, subjective norm, and perception of behavioural control is the formation of a behavioural intention.

The variance in intentions and actions also coming from perceived control on performance of a behaviour. conducted a meta-analysis study on TPB in health related behaviour. In this study, he deliberated on some issues upraised by different writers. Some of the issues addressed on the way of goals and the points of confinement of prescient legitimacy; soundness, influence and feelings, previous conduct and propensity; the model/eagerness model; and the part of such foundation elements for instance the huge five identity attributes and social correlation inclination. In his review, 7
articles being reviewed and found that sufficient observed evidence may perhaps best described in meta-analytic synthesis which clear supports the theory. The role of automatic or spontaneous processes involved in habitual behaviour designed to gain a better understanding in the recent studies. It is also to discover impulsivity and the capacity to compel it when needed for self-regulations. Apart from that, it is also observe the utility of making point by point arrangements as an approach to expand capacity to follow up on target, in especially test the thoughts that including expected influence or the rationale to maintain a strategic distance from vulnerability may enhance desire of expectations. It led a two stages pilot study from the gathering of School of Education students to focus their states of mind towards their engagement with ICT connections. In the quantitative information gathered, the students trusted that by drawing in with ICT can possibly upgrade learning and utilized ICT as a part of their instructing professions. In the subjective information gathered, it demonstrated that students felt overpowered when initiating the action, yet felt more certain as the action advanced. A few understudies proposed enhancements to be carried out to the learning environment. The study also demonstrated that there is solid relationship in deciding student’s disposition and aim of utilizing ICT-based learning.

Furthermore, it also cited that previous studies that utilized the TPB with an end goal to comprehend people groups’ aim to partake in a different number of exercises, for example, weight reduction, engagement with recreation exercises, probability of conferring criminal traffic offenses; readiness to vote and blessing giving. TPB also used by to investigate attitudes and the intentions of pre-service teacher towards comprehensive education environment. A survey was conducted to three universities in South Carolina. Teachers’ attitudes were moderately positive in behavioural beliefs, subjective norms, and perceived behavioural control. It is found that programs of higher education are succeeding in their mission to graduate citizens with sensitivity for the problems of others, committed to betterment of society. The programmes of higher education need to evaluate the ways in which research based practices are taught and pre-service teachers may believe that they have complete volitional control over factor within the inclusive environment.

In summary, TPB is widely used in order to predict human social behaviour. The attitudes towards the aim may outcome different in terms of actual conduct. However, the nature distinguished the overall result or intention towards a certain study.

DECOMPOSED THEORY OF PLANNED BEHAVIOUR (DTPB)

According to, DTPB is not quite the same as TPB yet like Technology Acceptance Model (TAM) where in DTPB, attitude, subjective norm, and perceived behavioural control is disintegrates into it's the basic acceptance structure inside of technology reception setting. recommended that DTPB offers expanded illustrative force and a more precise comprehension of the conduct. Additionally, it encourages a more engaged examination of the relationship among variables that impact the reception and utilization of new innovations. While the TPB clarifies the relationship between association of beliefs and the pre-essential of expectation, which DTPB, offers a far reaching way to deal with comprehend the elements influencing a one's choice to utilize innovation data. This is further explained in the study by on investigating components that anticipate pre-service teachers aims to utilize Web 2.0 advances utilizing DTPB. DTPB gives a far reaching approach to see how a singular's attitudes, subjective norms, and perceived behavioural control can impact his or her goals to utilize Web 2.0 innovations. conducted a study using
expand of the DTPB model to explain users’ intentions and the behaviour intensity of paying subscription in the virtual community. In another study on electronic service by 28 described that DTPB is adjusted from social thinking and coordinated with hypothetical and experiential discoveries from past data frameworks exploration to hypothesize a model of e-administration continuation.

SUSTAINING COMPETITIVE ADVANTAGE

29 described that for a company to achieve competitive success, the company must have a competitive advantage in the context of either lesser costs or distinguished products offering a best price. In order to sustain advantage, the company must be able to gain competitive advantages over the establishment, given that high quality products and services or efficient manufacturing. Thus, productivity growth can be translated directly for the company and the country. This also applies to the PHEI that conscious towards sustaining competitive advantage. Competitive advantage can be gained and sustained by higher education like PHEIs by “creating markets” for themselves. 30, 31 described the aggressive market environment for private higher education institutions (PHEIs) in Malaysia showed to be failure to many institutions. Apart from the achievements stories, the issue appears between the performing and non-performing. In his study, the performing and non-performing PHEIs were evaluated whether is due to the choice of strategy. Whether the institution’s choice of strategy able to influence the organizational distinctive capabilities. The findings showed that the difference in the strategy was definitively connected to the execution having a setting of hierarchical capacities influencing the strategy choice of organization. 32 further emphasize that the higher learning institutions easy access, partnerships with companies, tailored curriculum, flexible deliver and use of technology are the sources of competitive advantage.

Sustaining this competitive advantage is necessary to maintain and improve an organisation’s position in the market. This can only be achieved through continuously building on distinctive capabilities that are unique, difficult to replicate, superior to competition and sustainable over time. 33, 34. The other literature strengthens further many individual factors which could contribute to the choice of destination for international education. 30, 35-37. These studies agree that the important factors which affect choice include institution characteristics (for example, the acknowledgment of the background of academic and the nature of the organization’s staff), information and understanding of the host nation, reference from companions and relatives, air, cost, informal community and geographic territory. Besides that, ranking of the institution is the most important factor which influences the choice of a specific host institute. 30. The institution ranking would facilitate students in assessing other important attributes such as the institution’s reputation and quality, qualifications recognition, quality expertise and faculty staff. 38. 39 explained that the rewarding tertiary education business sector has reinforced the contention among advanced education organizations as they forcefully elevate their establishments to the global understudies.

The deciding important factors were explored to the international students from China on the study destination and higher tertiary training establishment (ITE). In this study, it provides the understanding factors that can be wellspring of economical point of preference for New Zealand and ITE suppliers in Chinese Market. The outcomes demonstrated that New Zealand needs to keep up its position as quality tertiary education and shape its distinguished capabilities; low cost and safe country reputation. It can be done strategically by building collaborations between the Government and ITE to draw the interest overseas students. 40 described successful sustainability lesson can be
achieved through the application of five availabilities namely the exact expertise, resources, amenities, gears and manpower. Education can be access worldwide through the development of online education. Whereas the availability takes students and personnel to the college, security and reliability lead them to stay. Reliability upsurges the students retention which lead to main goal of a university. Institution’s overall marketability can be enhanced by publicizing the financial of the institution, academic, and social accomplishments. An established institution must have an unmistakable, quantifiable objectives and a group that always observed and ad lib laid out objectives. Sustainability of higher education institutions can be enhanced by advancing an establishment's upper hand by means of steady marking. The above literature review described, in order PHEI to sustain its competitive advantage, it requires the collaborations with companies, tailored curriculum, flexible delivery, usage of technology, the academic qualifications recognition, quality of the institution’s faculty quality, as well as the faculty teaching.

ACADEMIC STAFF QUALIFICATION

Conducted a study on the impact of qualification of teacher standards on quality of teacher since there has been emphasis based on the No Child Left Behind Act 2001. This study determines whether or not being qualified teacher as defined by state criteria and having academic degree improves the effectiveness of the teacher in the classroom. A mixed methodology used for this research. The findings showed that there is no imperative relationship between teacher qualification as determined by state standards and student performance on the Florida Comprehensive Assessment Test (“FCAT”) test. Teacher qualification by state standards seems then not to be a determining factor on student outcomes. Based on the interview it is found that constant suggestion emphasis in the qualification process was more on teachers passing the require tests for certification that there was an interest in the quality of training the teachers received. The teachers also believed that student achievement is improved with the use of best practices and strategies in the classroom. Finally, based from the interview, the qualification of a teacher does not impact students’ outcomes or teacher effectiveness. However, in another study conducted by described that the quality of teaching staff was important to the students in selecting or considering the preferred university in Australia. Thus this explained some students preferred an institution with quality academic staff qualifications and some may not.

TEACHING AND LEARNING

A study conducted by on the leaders best practice in community colleges in creating conducive environment for students engagement described the purpose to study on student engagement affects student learning, community college leaders to help foster engagement with students and the Community College Survey of Student Engagement (CCSSE) identified community colleges with the best practices for engaging students. The study found that the institutions endeavour to practice students focused hireling administration by working nearly with students, making them feel significant, doing everything conceivable to draw in the students’ intellectual and emotional. The highly attribute exhibited the vision and planning, student centeredness, teamwork, careful placement of students, data-driven decision making and leadership and engagement training. In another study by investigated the learning in school-based teacher’s attitude towards creating conducive condition. The development of staff was investigated on the principals understanding towards grown-up learning and whether they have the capabilities to make the conditions for learning of staff improvement in school-based. The finding of the study found, in staff development principles lacked
leading by example and seeking opportunities for their own growth and development, leading in staff development by providing activities that focused on improving students’ achievement/instruction/learning throughout the building, leading by being actively involved and participating in school-based staff development activities and leading by embedding staff development in the school life.

Conducted a study on student experiences in transition from college/technical institute to university. It assessed the challenges that students experienced from two years of post-secondary education at a college/technical institute to a university (in this instance the University of Lethbridge). The three constraining factor were identified such as previous learning experience, cultural change and negative self-awareness. A greater emphasis on a lecture based teaching style in the university vs. what was experienced in a college/technical institute was found in the previous learning experience. Based on these it described the emphasis on teaching and learning is significant for an academic institution.

**TECHNOLOGY CAPABILITY**

Technology capability is another territory which prompts the game changer of an institution. The cutting edge facility gives the hands on experience and introduction to the students. Coordinating technology in the tertiary education teaching can’t be disregarded on the grounds that it outfits the students with the most recent innovation information to confront the definite industry. This is supported by where the criticalness of incorporating innovation gives advantages to plan students to future professions, benefiting from best instructional works on, creating higher critical thinking exercises and drawing in students whose associations with innovation are progressively local, among others. The information gathered tended to the institutional strategies, confidence in the learning advantages, adequacy with incorporating innovation with substance, boundaries to innovation utilization, and individual employments of innovation. The discoveries of the study found that reception rate for individual utilization had most grounded association with the genuine and meaningful voices. In the values and students’ perception it is found that the campus architecture must not focus merely on accommodating basic physical needs but should be also concerned with values. It is believed that values can be captured through the campus architecture. Some students responded that some spaces are favoured and others are not favoured by students in the architecture and students’ responses. The students claimed that physical environment affects their study. Campus architecture also needs to be designed in such a way that it is comfortable for the students. Based on the findings, campus architects should also pay attention to the architectural elements that help students in important ways such as study needs. This study demonstrated that students do experience the architects’ intention in the design and that architecture affects their study. In addition students do respond to the built environment.

**APPROPRIATE AND REASONABLY CONDUCTIVE CAMPUS**

Appropriate and reasonably conductive campus is another significant factor for a Private Institution of Higher Education (PvIHE) to attract students to further their study in institution. Conducted a study on the perspectives of college students’ on the relationship between the campus physical environment and their learning. In facilitating students learning, the campus architecture that accommodates diverse student learning needs and styles is important. The interview questions covers architectural values and students’ perceptions, architecture and students’ responses, comfortable physical learning environment and drawing students’
selection rate for expert. This outcome bolsters the significance of innovation ability utilization in the tertiary education. Technology capability in manufacturing engineering and technology education is equally significant to the education industry.

Nowadays, the implementation of technology integration in Higher Education also becomes a major trend in the education industry. In implementing the technology integration in tertiary education, conducted a study at University Dar-es-Salaam, Tanzania. The objective of this study was carried out was to explore and assess the basic implementation of technology at the University of Dar-es-Salaam in Tanzania. Classroom practices were inspected and what encompassed the learning and showing procedures utilization of innovation from the perspective of educators and students. The result found that there were important hard work and optimistic attitude of using computers in learning and teaching. Nevertheless, insufficient computers, lack of computer understanding and skills of educators and students, absence of training and progress on technology and absence of actual technology planning added to the incompetence of the execution. The recommendation has been made such as increasing the importance and stress on teacher training and development of computer skills, creating technology plans at various levels involving teaching staff, establishing technology committee to supervise all angles of usage of technology and formation of partnership with local community to have various sources of capitals for purchase of technology equipment as well as services.

Technology capability for a new venture is significant where it will leverage through the other capability of the organization. conducted a study on technology capability and the internationalization plans of new pursuits. The study explores the effect of new growth strategies used by China new ventures on the technology capability and the blend of mechanical and systems administration ability and also budgetary capital. The results showed that a substantial implication because the variances in domestic and international new ventures are well foretold by the previous studies based on technological capabilities. It is also indicated that technology leverage and the interrelation between technological capability and networking capability help us forecast a new undertaking global strategic direction. High technological capability does empower new undertakings to extend their business to worldwide markets. A study on technological capability, strategic flexibility and product innovation were conducted by. This study examined the technological capability role in innovation of a product. An organization’s technological capability is established through time and gathered over its previous knowledge. The organization in China that has high-technology operation such as electronics, information technology as well as telecommunication was selected. An undeniably beneficial outcome on exploitative development transformed U-Shaped association with explorative advancement coming from the technological capability. In addition, the strategic flexibility can improve positive association among technological capability and examination. In summary, technology capability does prepared students for future careers, maximized the finest instructional practices and able to develop higher thinking activities. It is also significant manufacturing engineering and technology education. Similarly, the implementation of technical integration in Higher Education is significant and had positive attitude towards teaching and learning. Besides that, technology capability also has vital effect for a new ventures organization. The positive effect can be seen in strategic flexibility and product innovation. It can be concluded that technology capability is defined as the perceptions of students on the institution’s teaching and learning infrastructure as well as facilities.

**CONCLUSION**
Globalization has given significant impact to the education industry where the institution has to prepare the students with necessary skills, knowledge and ability. Hence it will prepare the right candidates to be employed by the employers. The application of TPB in various settings would be able to predict human social behaviour towards certain intention. However, the nature will distinguish the overall result or the intention towards the study. It will further discover the objective of this study on the technology capability perception of students and staffs’ intention in sustaining the competitive advantage. In sustaining competitive advantage, most of the scholars were highlighting on these areas namely vision and mission, academic staff qualification, teaching and learning as well as conducive campus. In addition the technology capability is substantial to the development of students. It will prepare the students for future careers, maximizing the best instructional practices and ability to develop their critical thinking. It is equally vital to the new ventures organization where this will ensure the sustainability of the organization in the market. In the following chapter will described the research methodology used to discover the staffs and students technology capability perception towards their intention sustaining competitive advantage the institution.

REFERENCES
S. Elzarka. (2012)
MOHE. Education 27, 1 (2013)
MQR. (2016)
M. Fishbein and I. Ajzen, Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research, (1975)
I. Ajzen. Psychology & Health 26, 9 (2011)
D. Hrubes, I. Ajzen and J. Daigle. 912280237 (2001)
J. Julie. ProQuest LLC. (2009)
G. S. Day. 58, 4 (2013)
D. P. Patterson. ProQuest (2010)
S. P. Castillo. ProQuest Dissertations and Theses (2007)
A. N. Stricker. ProQuest LLC. (2006)
M. Jacob Anne. Proquest LLB. (1999)
L. W. Kajuna. ProQuest LLC. (2009)