MARKET DRIVEN PEDAGOGY FOR FINANCIAL ECONOMICS DECISIONS – AN EXPLORATORY STUDY

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MARKET DRIVEN PEDAGOGY FOR FINANCIAL ECONOMICS DECISIONS – AN EXPLORATORY STUDY

by

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"Knowledge sharpens knowledge. The ending of a PhD journey is the commencement of another higher order of learning"

– Matthew Goldman Kimher Lim (2013)

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LIST OF ACRONYMS

Acronym	Description
RANOVA	Repeated Measures Analysis Of Variance
CPD	Continuous Professional Development
CRM	CPD Relationship Management
DQC	Deming Quality Circle
DV	Dependent Variable
FE	Financial Economics
FED	Financial Economics Decisions
FFA	Force Field Analysis
FIS	Formal Instructional Support
GZ	Generation Z
HE	Higher Education
HIPO	Hierarchy of Input Process Output
HPCI	Hewlett-Packard Catalyst Initiative
IV	Independent Variable
MDP	Market Driven Pedagogy
PI	Pedagogy Index
PRC	People's Republic of China
PZ	PRC generation Z
RAID	'Reflect, Act, Impact, Declare', RAID' approach
RANOVA	Repeated Measure Analysis of Variance
SOP	Standard Operating Procedure
SSADM	Structured System Analysis & Design Methodology
STEM	Science Technology Engineering Mathematics
SV	Sub Variable
TEP	Tri Educational Program
WHW	What How When
WIDE	Work Integrated Dissertation Effort

PEDAGOGI PACUAN PASARAN UNTUK KEPUTUSAN EKONOMI KEWANGAN – SATU KAJIAN EKSPLORATORI

ABSTRAK

Kajian eksploratori ini cuba mengembangkan resolusi tentang permasalahan separa kebolehpasaran graduan sedia ada melalui pedagogi pacuan pasaran untuk program keputusan ekonomi kewangan (KEK). Kajian ini meninjau keupayaan pedagogi pacuan pasaran untuk keputusan ekonomi pasaran berkaitan aspek motivasi pembelajaran menggunakan sampel bertujuan. Metodologi kajian yang digunakan adalah reka bentuk pengukuran berulang dengan siri pendekatan analitik '*data mining*' ke atas pangkalan data empirikal yang dihasilkan oleh instrumen kajian. Data dianalisis mengunakan teknik Delphi, Ujian T, ANOVA sehala pengukuran berulang dan prosedur transformasi Bayesian untuk menentukan Index Pedagogi (IP). IP hanya mengambilkira pembolehubah-pembolehubah motivasi afektif dan kognitif untuk pembelajaran. Pembolehubah-pembolehubah motivasi konatif dan sosial juga dianalisis yang memberi sokongan sekunder bagi perbincangan dan penakulan dapatan kajian ini seterusnya. Kajian eksploratori ini menyokong kekurangan hipotesis nul yang didebatkan oleh Profesor Kline (2004). Isu-isu berkaitan dengan formulasi pernyataan masalah dan dapatan-dapatan signifikan tentang motivasi pembelajaran juga adalah selaras dengan dapatan kajian-kajian terkini. Tambahan pula, kajian ini mendapati pemetaan konsep dan asas keputusan adalah dalam lingkungan 20% teratas kemahiran-kemahiran kognitif yang diingini pelatih yang juga menerima pembelajaran sosial menggunakan teknologi. Pembelajaran sosial melalui pembangunan profesional berterusan dan kemunculan teknologi pengkomputeran telah disemak sebagai media untuk melibatkan pembelajaran. Walaupun kedua-dua jantina belajar dan motivasi berbeza, kebolehan profesional mereka sama juga diterima oleh industri. Kesimpulan implikasi kajian ialah pedagogi pengajaran yang sesuai telah meningkat motivasi untuk pembelajaran KEK.

Keberkesanan pembelajaran KEK adalah diharapkan dari fasilitasi pedagogi pengajaran berasaskan komputer terhadap pembelajaran sosial. Pada masa yang sama, teknologi pendidikan yang sedia ada untuk Sains, Teknologi, Kejuruteraan dan Matematik (STEM) yang dikenali sebagai Pedagogi 3.0 adalah diharapkan membantu pembelajaran KEK.

MARKET DRIVEN PEDAGOGY FOR FINANCIAL ECONOMICS DECISIONS – AN EXPLORATORY STUDY

ABSTRACT

The exploratory study attempted to expand existing partial resolutions of graduates' employability with the market driven pedagogy of financial economics decision (FED) program. The study related the effectiveness of the market driven pedagogy of FED to the motivational aspects of learning on a purposive sample. The methodology used the Repeated Measure design with a series of analysis of data mining approach onto an empirical data created by the existing research instrument. The analyses used were Delphi, Paired t-Test, one-way Repeated Measures ANOVA and Bayesian transformation procedure to determine a pedagogy index (PI). PI considered only the Affective and Cognitive motivation variables for learning. The Conative and Social motivation variables were also analyzed to provide secondary support for discussion and further reasoning. The exploratory study supported Kline's (2004) argument list of fallacies in null hypothesis. Issues formulating the problem statement and significant findings about motivation for learning also concurred with recent independent studies. Additionally, the study informed that concept mapping and decision tree were within the top 20% cognitive skills desired by interns. Social learning through continuous professional development and advent of computing technology was seen as keen media for learning. Though both genders learned different and were extrinsic motivated; their professional abilities were acceptable by industries. The implicative conclusion of the study was that suitable instructional pedagogy had increased motivation for learning FED. Incremental learning of FED was expected from facilitation by computer based instructional pedagogy towards social learning. At the same time, educational technology catalyst now available for Science, Technology, Engineering and Mathematics known as Pedagogy 3.0 was expected to extend to FED.

CHAPTER 1

FRAMING THE STUDY

1.1 Introduction

This introductory chapter framed the research focus. The concept of market driven pedagogy (MDP) was discussed to set a background of employability by identifying global issues in youth's unemployment and resolutions made. This chapter argued for more effectively interlinked integration between Higher Education (HE) and industry's requirement with a MDP of scalable tri-educational program (TEP). TEP was to consolidate interns' prior knowledge as unison of knowing with doing (Orlich, Harder, Callahan, Trevisan, & Brown, 2009) by developing interns with Financial Economics Decisions (FED) skills that market wants (Mourahed, Farrell, & Barton., 2012, p.18). This study used the case instructional engagement method to incapacitate the MDP of FED by theoretical practices and higher level thinking development with the flow concept and expected value tree knowledge mapping techniques (Derbentseva, Safayeni & Cañas, 2006; Arun, 2006) relevant for practicing FED.

The purpose of both concept and knowledge mapping techniques were for developing specific overarching aim of FED capabilities of 'WHAT' have been identified as market driven opportunity, 'How' have measures and tracking returns on equity performed, and 'WHEN' have money plan realised. Accordingly, interns with analytical skills were demanded by the employment market. Therefore, capability in the three high value proposition dimensions of 'WHAT-HOW-WHEN' of Figure 2.3 in page 69 referred to incapacitating interns' ability to participate in deriving optimum

returns within reliable high value information and risk diversification options. With the aim to incapacitate interns' analytical skills to meet employment market's demand, therefore a MDP for FED as one route by HEs to serve industry.

The term exploratory had two meaning in this study. Firstly, it was explored and confirmed that there was no accountant instructor program. According to Hughes (2012), professional accountancy instructors' training had always been conducted by their associations in the UK and the US. While the PRC has the world's largest certified public accountant body within one country, the ACCA of UK has the largest global spread memberships. Yet there was no accountancy trainer program other than sharing of best practices. One possible rational of HEs not having trainer program might be lack of economies of scale compare to K-12 education to address critical mass. The other possible rational being accountants study accountancy to pass and then practice instead of to teach. Teaching accountancy and finance had to come after years of post-qualifying practice and not by going for HE. The same might be said of other licensable professions. The research objectives and objective questions provided the other meaning for exploratory that is all about for this study.

1.2 Background to the Study

A study by Ng, Abdullah, Nee, Tiew and Choo (2011), suggested that a market-driven education system have produced work-ready graduates who must possess attributes that industries demanded, of which decision-making skills were among companies' top five expectations (Hairi, Ahmad Toee, & Razzaly, 2011). Graduates were taught subjects that required them to reflect how to apply their prior learning to bridge the missing link that might enhance their employability (Johnson, 2012). Hartley (2003) commented that new economy needed new pedagogical response, failing which

youth capital might depreciate. Hartley's response appeared to have met the U.K. government's call in necessitating a revamp of its education policies for the 21st century (King's College London & Warwick Universities, 2010) to address the needs not just in the UK but those who have traditionally looked to the U.K. for advance education. Also, few HEs' bureaucratic process have made things happened on their own just like Warwick University (WU), Hong Kong Polytechnic University (HKPU) and perhaps more in the U.K. and elsewhere including Asia and Arab nations. On the contrary, mismatches between HE graduates and industries demand for appropriate skills continued (Jackson, 2009) as resolutions have remained placid. With collaborative dialogues between industries and HE, transactional differences might narrow the mismatched gap had HEs listen to what industries' required (Park & Kim, 2003) to develop pedagogy that leveraged on advancing youth's best years into functional graduates for industries.

Additionally, a study by Mohamad, Md. Yusof, Napsiah, Muhammad and Rose (2009) Malaysian technical colleges graduates unemployment had faced similar predicaments of mismatched curriculum between what industries wanted from graduates and the training which graduates have received from their HEs besides learning about developing professionalism and communication capability. A gap analysis survey by demonstrated that "Malaysian graduate employees' work skills have wide gaps in 'Decision-making' among others and that these skills were vital in improving employers' outlook on the graduate employees' skills and quality, and ultimately the marketability of the graduates." (Agus, Awang, Yussof, Makhbul, & Zafir, 2011).

For these findings, transactional analysis as in CPD Relationship Management (CRM) required HEs to dialogue with industries for developing effective pedagogy that

might be more efficient to produce functional graduates during youths' best years. The background further explained the importance of findings from a preliminary study in section 1.2.2 because it represented the continuous emphasis by Shanghai industries on two instructional methods; work flow and cause-effect thinking that have seen improvement in interns and reflected what market wanted. As a result, the background had progressed into this study of a MDP for FED.

1.2.1 Pedagogy of Financial Economics Decisions (FED)

Putting into perspective the governance of profit maximization within resources scarcity/demand, this wholesome composite knowledge then needed the effectiveness of transmission and dissemination, through instructional pedagogy strategy to obtain the maximum learning outcomes (Firestone, 1991). While instructional pedagogy strategies were accorded the instructor's own philosophical beliefs, those beliefs were governed by students' background, knowledge and experience, situation and environment (Davies, Lavin & Korte, 2009). In addition to incapacitating the FED program's learning outcome, wholesome pedagogy was needed to deliver the consolidation of prior learning. In the process, practices were related to theories in a manner that co-exist with social functional needs towards enhancing employability (Parsons, 1975).

1.2.2 Findings from the preliminary study

This study stemmed from an interview survey of 205 companies over 27 months made from March 2008 by a Shanghai university's Continuous Professional Development (CPD) department. The survey had restricted discussions with companies to two key questions. The first was how soon companies regarded an intern's understanding of

business finance budgetary planning process because an acumen for money management like cash flow demonstrated a good feel of understanding fundamental risks concepts. The second was how soon an intern had demonstrated understanding of basic business economics as that represented interns' ability to sense micro economy's direction.

Companies were requested to score the importance they place on an intern's reasoning ability in associating cause-effect and work flow, both being key reasons for determining employability. The survey was limited by different initial capability level of interns during each period. Each of the nine assessment periods in Table 1.1 was for three months for 205 different interns. Table 1.1 showed an eventual view of interns' employability that resulted from a progressive enrichment of existing pedagogy by redefining it with instructional strategies that might harmonize with market's expectation of interns' decision-making abilities.

Table 1.1

Summary of Survey Results

Reporting year	2008		2009				2010			
Quarter of the year	3	4	1	2	3	4	1	2	3	4
Number of CPD Companies	12	26	20	35	0	32	35	20	13	12
Average week per quarter for intern to discuss budgetary process fluently	10.92	11.00	10.85	10.03	0	9.44	8.48	8.55	7.54	7.08
Average week per quarter for intern to discuss economics related to company/product	10.67	11.23	10.70	10.14	0	9.59	9.40	8.95	8.08	8.08
Number of companies per week suggesting to improve on work flow teaching	4.33	4.38	4.50	4.43	0	4.56	4.54	4.35	4.62	4.42
Number of companies per week suggesting to improve cause-effect teaching	4.33	4.62	4.55	4.34	0	4.44	4.46	4.35	4.31	4.42

The findings in Table 1.1 showed a progressive time reduction of interns' ability to discuss business budgetary process fluently from 10.92 weeks to 7.08 weeks. Over the observed period from March 2008 to December 2010, intern's fluency to discuss companies' related products have also improved with reduced average duration from 10.67 weeks to 8.08 in their 12 weeks internship. The findings showed that graduates' employability had skewed positively towards a market-driven pedagogy that preferred self-directing employees quick in harnessing causal effect and workflow thinking skills. This market-driven dimension referred to top skills preferred by employers of which being analytical was one (Casserly, 2012).

The shortened time for each progressed batch of interns in CPD performance and positive feedbacks by industries suggested that ongoing enhancement in instructional pedagogy that emphasized FED skills through continuous reminding of cause-effect and workflow in workshops had taken positive effect (Johnson, 2012; Starkey, 2004). This was evidenced in the reduced time in Issue-1 and Issue-2 in Table 1.1 which respectively displayed the average duration (in weeks) that an intern was able to discuss business budgetary process and economics related to the company's products. Atkins (2012) suggested the flow technique as a variation of concept mapping in the teaching of business related modules. The findings in Table 1.1 also implied there that interns learning capacity have reinforced.

By listening to companies' advises to intensify usage of cause-effect and work-flow instructional method, the increased use of concept mapping techniques had reinforced learning capacity in knowledge retention ability and speed in recalling knowledge into practice. The logic for incapacitating development of meaning was interlinked by diagrams, concepts and promptings to develop FED skills as routine because decision-making was ranked among the top five requirements by industries of

higher education (HE) graduates (Casner-Lotto & Benner, 2006; Myatt, 2012, p. 2). The relationship of the survey to the study was that pedagogic development had considered industries' requirement in order for industries to prefer interns who were better equipped. As a result, employers' satisfaction of interns' productivity improved with each later batch of interns. The overall improvement was a result of listening to industries' advices to engage the two delivery methods in producing learning; cause-effect and work flow.

From the survey made in 2008, the link to this study was to continue with pedagogy that was responsive to market's needs as that was the key for enhancing graduates' employability because industries preferred employing those interns. Pedagogy therefore had embraced enhancement through computer assisted learning for full engagement with consecutively linking of five tertiary course modules to make a complete whole. The pedagogic process in that survey was to continue into this study to carry on with regular transactional CRM on consultation with CPD partner companies. The reason was because the survey had advised that trainability as the one single most important key factor which companies considered when deciding to absorb interns into regular employment (Black, 2011). During CRM, the survey had considered companies' advice to enhance employability with improvement in instructional method and enriching course modules to achieve FED fundamentals for responsive decision-making.

1.2.3 MDP of FED

As financing projects became competitively market driven, advance analytical skills were top preference (Vitaro, 2004). This skill had emerged from the fundamentals of FED towards sub-specialization that was specific to the industry for motivating effectiveness in translating opportunities into higher net value. While not everybody

desire to obtain FED skill, those who desired to progress to corporate leadership positions with their existing HEs have business development skills and know their company's products. In totality, this acumen enhanced their self-worth with the FED program. A person with Chief Executive Officer's responsibility or functionality might have to manage all major functions. By that, FED might have been an indispensable skill for fiduciary duties (Financial Reporting Council, 2011).

As a result, FED becomes an imminent program for learning how to make decisions that affects final pricing in enhancing a corporation's future value. Formal financial economics (FE) knowledge might be acquired through postgraduate studies whose curriculum trains postgraduate interns towards making advance FED. However, few might not afford the time for postgraduate studies. Successful C Level (Chief level positions) or D Level (Director level positions) people have other avenues to develop themselves such as on the job training and seminar updates. Appendix A list shows universities in native English speaking countries with programs that were exactly FE or quite close. While an MBA program offers wider selection of business modules, the FE programs offers depths instead.

On this scenario, it was argued that generally ambitious person possessing fundamental skills in accounting, finance or economics might have faster access to acquire FED. The only contention was time efficiency to top up existing knowledge. A person with formal pre-exist accounting, finance or economics skills might be better motivated towards this advancement because their knowledge foundation have served them well in their careers. Given that formal knowledge of FED was desirable to enrich C and D levels, this study established the research problem to formulate the impending shortages of FED addressing the divide of what industry wants that HEs have not produce. From the problem, the objectives were made to address solving the problem

with suitable pedagogy to develop FED. This then was followed by questions of how the objectives were fulfilled within limitations and ethics of the study.

The issues mentioned point to a multi-layer problem of pedagogy relevancy. As governments were accountable for their Gross Domestic Product growth, that growth was to come from human capitals which in turn were produced by HE systems. The imminent relationship for HEs was to stay relevant through continuous action oriented dialogues with industries to close the gap of mismatched pedagogy and program irrelevancy. The reason being that shifts in an economics structure have created lag time for HEs to develop appropriate right human capital to stay competitive in today's fast changing world economy patterns with new pedagogy for the changing of economics and times (Hartley, 2003). Economics deal with resources and their scarcities of which human capital might be a resource to match the functionality of societies (Parsons. 1975). The joint statement by Gomory[1] and Shapiro[2] (2003, p. 3)[3] were in agreement that unless HEs and industries co-exists through consistent understanding of needs, otherwise industries might not have sustained competition due to lack of appropriate human capital for the appropriate time and place. Major media such as Reuters had constantly covered the issue that HE curriculum must be market driven by consultative dialogues between HEs and industry (Willard, 2012, p. 1) in order to avoid skill gaps (Nilsen, 2012, p. 2).

In the Pearl River Delta example, this had required research forecasts (Hong Kong Polytechnic University, 2011) to identify the right human capital to match economic growth of the region that led to requirement for engineers with business knowledge. As a result, HKPU designed a program in anticipation of shortfall in this category of human capital. Had this requirement remained unknown, the shortfall of engineers with business acumen might have repercussion in reduced economics

performance. In addition, there might be human capital imbalance wherein access engineering graduates might not find jobs. The imbalance might have produced a new social problem of access human inventory where the supply of human talent did not meet demand. When skill was seen as a commodity, then salaries demanded by scarcity might rise due to shortages of capabilities. Job hopping and staff pinching might impair productivity in totality. The far reaching thought leaderships of Gomory and Shapiro (2003) were beyond strategic human capital planning and human resources allocation. Their concerns addressed transformation of HE design, career counselling and funds. Macro perspective of frustration for employable education might complement the mismatch pedagogy mentioned in section 1.4 and reflected uncompleted outcries.

1.2.4 Point of entry into MDP of FED

It was usual that the preferred entry requirement to a graduate program in FE as a basic degree in economics. The reason being FED, defined as tradable money resource for increased returns on equity within optimized risks from reliable high value information and diversification options was to be responding by the ‘WHW ‘dimension. Improved employment prospects for finance and economics graduates were necessary to progress them earlier to higher value C and D level positions. Due to enhance corporate governance, henceforth the market-driven pedagogy of FED had operationalized the essential skills from a composite of pre-exist knowledge in finance, economics and quantitative methods that qualify a senior tertiary student into a FED program. With intense job market competition, students might be imminently driven to seek advance skills and FED as a motivation option to demonstrate ability that translates opportunities into higher value decisions (Vitaro, 2004). Therefore, efficient and effective practice of FED was for realization of higher value human capital and

increased of awareness in corporate governance (Financial Reporting Council, 2011). C and D level prospects might have elected to forgo post graduate FE knowledge in lieu of industrial experience.

Table 2.3 in page 89 on 'Command Words and Assessment' had offered an understanding of the comparative ability that represents FED ability. Appendix A showed a list of post-graduate FE programs which consist of economics and finance course modules. A basic degree in economics might be the preferred entry requirement to these programs. From a different dimension, the discussion and argument so far illustrated a case for a scalable tri-educational program (TEP) depicted in Figure 1.1 which was adapted from Germany and Austria dual education systems (Tremblay & Le Bot, 2003). The TEP matrix required interns to work part-time in relevant CPD and perform a Work Integrated Dissertation Effort (WIDE) after Formal Instructional Support (FIS). The design was to inter-link WIDE, CPD and formal classroom learning. The WIDE component connects theories to CPD practice whereas the learning provides the methods and concepts to consolidate pre-exist knowledge. By seamlessly integrating theories to practices, the opportunity of employability might be enhanced. The scalability depicted in Figure 1.1 allowed for adjustment in each of the three components within the program.

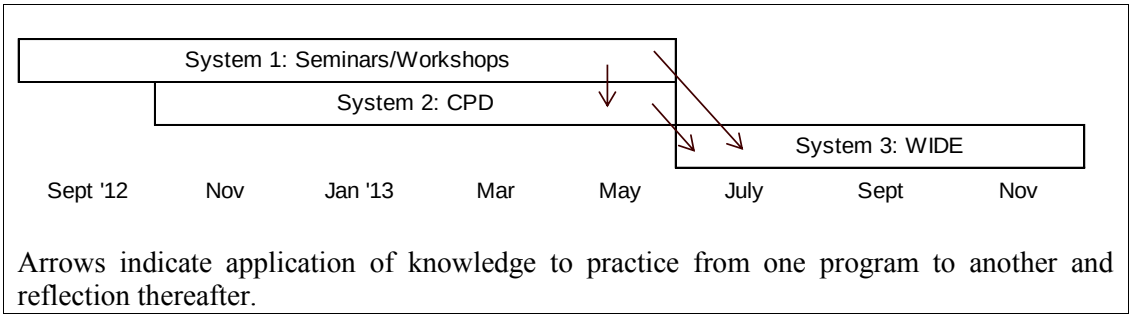

Figure 1.1 The current Tri-Educational Program (TEP) schedule

1.3 Issues Relating to Pedagogy

The issues relating to mismatched pedagogy, curriculum relevancy, impending human capital shortage, demand for MDP, PRC's generation Z's (PZ) view in learning, partial resolutions and pedagogy research gaps. PZ was elaborated in section 1.3.5. Section 1.7 further operationalized it with a caveat. These issues were elaborated as follows:

1.3.1 Mismatched pedagogy

The World Bank's Group (2011) in its report on education strategy had re-emphasized education's role in development economics from a system approach to thrust market driven skill in Egypt for integration of education into economies (Kouesny & Juma, 2003). Implementing different pedagogy strategy by needs and capacity priorities were the World Bank Group's reasons for concerns in different eras and different regions (World Bank Group, 2011). Whether it's reactive or pro-active planning, the mismatched gap between what HEs produced and what industries needed had estimated by time lag to reconcile the gap, thus confirmed the degree of unpreparedness.

Generally secondary school students might be streamed from grade 7 to 12 in two or three basics; science, arts or technology. Thereafter interns choose from among the diversity of majors offered in HE. Diversity by itself countered economies of scale and therefore further challenged training of specific instructors for specific majors e.g. accountancy (and many other disciplines as well) for there might not be enough students to justify the economics of having one set of pedagogy to produce one learning outcome. Curriculum was wholesomely defined to include skills, knowledge, content, sequence, attitude, instructional, evaluation and exchange (Dezure, 2012). These components differentiated the forces that drive changes in graduates seeking employment. Employable graduates require certification to authenticate a base value for

their capability. In addition, the difference between HEs and professional programs was their relevance to practice. HEs teaches engineering or accountancy wherein students enrol to graduate and practice instead of to teach or train because it takes years of professional experience to know how to teach professional practices. Professional program instructors such as accountancy or medicine might be drawn from certified practitioners. Due to diversified knowledge requirement, no single instructor might be unable to instruct all modules in any professional program.

1.3.2 Curriculum relevancy for employment

In the midst of the current political turmoil surrounding Arab nations, a comprehensive report (International Finance Corporation, 2011) from Arab youths' outcry for curriculum relevance to industries' need reinforced Jackson's (2009) study which emphasized similar mismatches. Education relevancy was measurable by their abilities to meet industries' demand; McKinsey's Public Sector Practices (2011) reported that about a third of young adults in the Arab world believed that their education had prepared them adequately for the job market due to program quality and relevancy to industry. Going beyond their oil wealth, Arab youth were pressing to hedge their future through relevant education for their nation's future prosperity depends on its youth. What's more, of nations not endowed with rich natural resources.

PRC had pointed that direction as well (Yeung, 2011). Did conventional process take too long for HEs bureaucracy to effect responsive curriculum changes? Human capital was known to have developed from necessity to survive in a job market. Knowing that companies hire people for their existing capabilities (Smith & Nagle, 1994) had confirmed education for employment was a generic youth desire spanning from PRC to Arab nations. Governments must ensure that youth have the right skills for

the jobs being created. In 'Creating a 21st Century Curriculum' (King's College London & Warwick Universities, 2010) as opposed to 'Are They Ready To Work' (Casner-Lotto & Benner, 2006), the former in the UK seems to be responding to the latter in the US as to redesign outdated curriculum to better address global changing needs. According to OECD employment outlook 2011, where unemployment had risen, youth was among the hardest hit and prolonged unemployment might depreciated their overall value and self-esteem. OECD attributed the problem as structural arising from various factors; one that was crucial was the imminent need for responsive education system to parallel industry's needs through better opportunities for vocational education (John, 2011).

The issue of mismatched curriculum between the tertiary education and industry also appeared in other countries. New national educational issues in People's Republic of China (PRC) have found grounds for greater debate for education reformation to address necessary sociological changes to traditional Chinese learning culture, the latest being to transform from student to teacher centred in the recent dialogue about spirit of higher education (Yang Rui, 2011). Interestingly that dialogue did not discuss industry centric education that led Germany and Japan from the ruins of World War II to become among today's leading advancing industry providers of methods and technologies. Surely a nation's ability to produce more effective graduates make one tertiary education superior over another with graduates as proof that the products of an educational system were human resource capabilities to meet industries' expectation which in turn enrich their nations (Butler-Boudon, 2010)[4].

An important dimension of youths' development was decision-making leadership and a study by Casner-Lotto & Benner (2006) highlighted an overwhelming majority of CEO rated 81.8 per cent for leadership being "very important" for new entrants with a

four-year HE diploma. Curriculum relevancy includes professional development and communication ability as pointed by Mohamad et al. (2009). The gap closing effort from a preliminary study result of Table 1.1.had resulted in relatively successful module redevelopment after a series of iterative analysis and design to achieve FED skills for responsive decision-making. As a result, graduates 'employability skewed positively towards a market-driven pedagogy that prefers self-directing employees' quick in harnessing FED skills of causal effects and workflow logics. The concerns of youth and few responsive governments from Arab nations, PRC, USA and UK were pointing towards structural functionalism pedagogy capable of seamlessly integrating youth into societal structural functionalism.

In their report[5], Symonds, Schwartz and Ferguson (2011) investigated reasons for American education system having failed its youth. In charting multiple pathways for school reform, the team learned from vocational education system of Northern and Central Europe that expanded role by industries into education reform had resulted in increased youth employment and discovery of young talents. This was a startling divergence from the current American education system which registered 55% and 29% college completion rate respectively at four and two year tertiary programs (Symonds et al., 2011, p. 11).

1.3.3 Impending human capital shortage

According to HKPU's survey (Hong Kong Polytechnic University, 2011, p.1), "some 57.1% of interviewees from industry said that the most worrisome aspect was the quality of human resources in the technology and management field" that represented lag time in matching curriculum to imminent human capital constraints. HKPU recognized these emerging needs of industries for new business skills. By

amalgamating two degrees to form an undergraduate degree in engineering and business in response to a study about how the Pearl River Delta panned out into the lower region of Guangdong province due to continuous rise of high technology manufacturing activities. As manufacturing produced products to meet markets' expectation of quality and affordability specification, the pedagogy of FED was therefore imminent for these industries to stay relevant.

Mentioned in section 1.3.2, a degree in economics being the point of entry might not find time for an advance HE; human capital deficiency might become acute. To emphasize the point, in late seventies, Professor Gerald[6] of Lakehead University had mentioned in its business faculty bulletin that a study by Canadian National estimated that some 50,000 management information systems (MIS) graduates were required over the next 10 years. At that time, MIS was offered as a MBA major and the graduating rate of MIS was insufficient to meet forecasted demand, according to Relch (1996). As a result, Lakehead University[7] was successfully experimented with a degree transfer program in MIS. If this Canadian case was to serve as an exemplary foresight, it became a reference for planning before the need for specific human capital became a challenging issue. The Lakehead University experience suggested that the effort by Columbia University have been in time to match industries requirement. City university of London had recently begun a full three years degree curriculum (City, 2012).

1.3.4 Demand for MDP of FED

The Senate of Columbia Univ. (2010) had on January 29, 2010 endorsed a two years MSc program in FE citing demand from career change and knowledge that an MBA in finance had not offered (Appendix A). This decision from the upper tier of an Ivy League university was a significant benchmark, as most if not all HEs already have

their MBA programs. Therefore, unless there was demand for financial economics, Columbia University might not have established one. It might be late to have the program offered at the post graduate level when degree graduates were functional for industries as suggested by the Canadian experience in the next section.

City University (2012) cited increase start-up career opportunities being the main attraction of its three years Bachelor of Science (Hon) program in FE. Prior to 2010, there were lesser opportunities for interns wanting a FE program and many might have opted for economics, accounting, finance and an MBA later. Hence interns might transfer from these related programs instead of starting all over. A one year Top-Up Degree in FED program might benefit interns who alternate to the program with pre-defined previous learning such that interns might graduate with almost similar performing knowledge of a BSc. in FE which was different from FED top up degree. While the intention of FED was wholesome and generic, being a relatively new program to the world, the caveat being that as a degree program and not a professional program. From Part-b of Figure 2.3 the pre-requisite to benefit from mastering FED were business economics, business finance, quantitative methods and accounting studies

With its outbound FDI increasing from 2008, by 2016 the PRC's economy, might overtake the US (Song, 2011); adding challenges for increased off-shore ventures (Williamson & Raman, 2011). That PRC companies were expected to venture abroad (Yang, 2010) have benefited few (Zirpol & Becker, 2011) due to increased domestic consumption, higher production and logistic (Gang, 2010) and being nearer to buyers' markets, since the Yuan had appreciated further. The immediate response was a demand for local graduates with relevant skill. In addition, the Canton Fair statistics (Canton Fair, 2011) demonstrated how the fair's volume had pulled back. By Fibonacci

flush back equation, a possible increase of the fair's business volume might be expected from October 2013. The projected increased was likely to be from increased foreign exhibitors at the fair. The fair statistics was about concluded business volume done, not just PRC companies. Chang's (2011) fundamental analysis that PRC's potential collapse remained to be seen as Chang's had not discussed PRC's Gross National Product growth and domestic consumption prospect. PRC's trade structure had shifted in recent years (Yermolai, 2011). Stepping up its internationalized effort (Kloss & Sagar, 2010) was akin to outbound FDI of US and Japan during their globalization eras. That PRC might soon be a global economics leader makes it imminent for HEs reform to match economic leadership, and the escalation of demand for effective human capital might be met better with industry collaboration. This have been done through the CRM consultation on reckoning that exploring a MDP of FED with a TEP might overcome employment slack in non-CPD based programs.

1.3.5 PRC's post-90 born Generation Z's view in learning

There was no specific time interval to classify generations who have commenced their career or about to do so. These generations ranged from post WWII to present post millennium born: Baby Boomers, Generation X, Generation Y and Generation Z (GZ). The difference in PRC from the rest of the world regarding its GZ was due to several factors. Firstly, PRC one-child policy was mandated for all first born from 1979 (Olesen, 2012). Secondly, it coincided with its 1978 economic reform. With 'fewer men more share', the math for per capital GDP rose gradually, and then escalated to its status of world 2nd largest economy. Thirdly, though the internet was conceptualized in the 60s from packet-switching technology, it was only in the 1982 that the internet

begun its formal operation with standardized Internet Protocol Suite. Due to their tech savvy abilities, GZ learners might strive (Associate Press, 2010)

These three factors began around early eighties. As Generation X became parents for GZ by the new millennium. However, the PRC economy had expanded faster than plan as it was preparing for WTO membership. People born in the 90s did not witness difficulties faced by their predecessors. They were born into the internet revolution that had changed the way businesses were conducted. By the time they reached their teenage, they have coincided with growth of e-Commerce and e-Learning, which later advanced into social e-commerce and social e-learning. Technologies have changed traditional ways of doing things from conducting business, socializing and learning. The impact to PRC which set it apart from the rest of the world were the confluence of these three factors just as first born of post-90s entered HEs in 2008 and were set to graduate earliest by 2012. Therefore the GZ in PRC sense were those born post 90 instead of the new millennium; hence referred in this study as PZ

The purposive samples for this study were PZ. They belonged to those born in the post-90s. They were born completely within the take-off of mass technology, social networking included. This generation had missed the pre-affluent PRC of the late eighties and had enjoyed only the booming PRC. They have been known to begin coming into the work force. Being born into technology, have they been motivated in learning? Pedagogy might have shaped them or perhaps shaped by them. As pedagogy represented a larger picture of almost everything concerning learning, education technology included. The MDP of FED (as well as others) therefore stood to be challenged. Perhaps experiential learning had been redefined by this generation's demographic profile indicated in Figure 1.2 (Askform, 2012).

Jones (2012), recommended a fresh approach in handling the first graduating cohort of 7 million in PRC because they were differently motivated than their predecessors. This might avoid workplace generation gap differences and avoid motivating them to move on as had happened in work places of generation X and Y. Jones (2012) suggested focusing on understanding means of communication with this generation to motivate them from job hoping. Retaining employees from this generation was therefore more important than retaining customers because when employees' workplace social network did not m*e*et their expectation for information exchange, their moving-on might also have risked revenue implying that clients might also move on with them

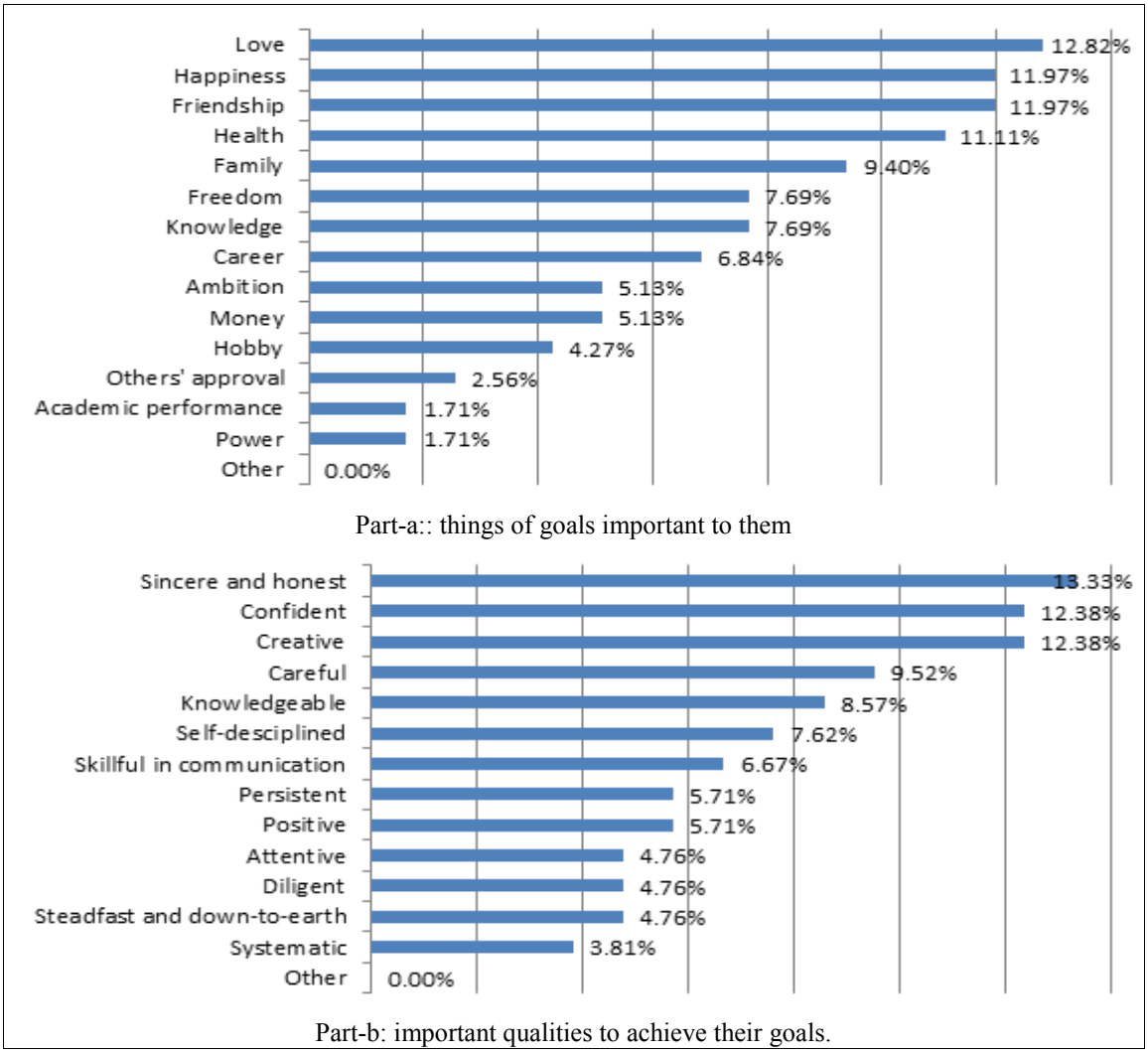

Figure 1.2 Random online surveys of PZ perception

A study by Carosa (2005), suggested GZ had placed greater emphasis on a balance lifestyle in defining work and career. In that same interview on Sydney Morning Herald, McCrindle (2012) commented that GenY was spoilt. What is more then with a GZ and further more with PZ? In his discussion of how GZ might revolutionize education, suggest that the increase of home schooling might create a workforce that had more self-directed at advancing entrepreneurship without getting into a full-fledged business (Trunk, 2011). In between home schooling and entrepreneurship, skipping classes have been expected in their process of reducing schooling to get into on-the-job learning that made social e-Learning possible. Social e-Business therefore had freed time for a more balanced lifestyle (Trunk, 2011). The issue about PZ way of learning seemed to be still in the process of identifying a suitable learning style had agreed with PRC's single-child policy that also might have more values that are liberal. While a FE related career might have more scope in financial cities such as Shanghai, New York and London, the pedagogy challenge for PZ seemed to have just begun compare to other matured financial center as Shanghai became affluent sooner than other financial cities whose human capital have more time to develop their financial industry.

1.3.6 Partial resolutions

The U.K. government revamped its education policies for the 21st century to exemplify initiative in closer linkages with industry (King's College London & Warwick Universities, 2010). Darch (1995) had mentioned co-op programs as an option to sustain youth's employment prospect as a possible alternative to transit youth from class to workplace and in doing, sustain their knowledge's value. Hong Kong Polytechnic University (HKPU, 2011) initiated work-integrated education and new

curriculum development with Warwick University was one that seemed most timely matched to the changes in employment economics to meet market demand with seamless integration of graduates into industries' skill gaps.

Two OECD reports had suggested incorporating vocational education (Field, Hoeckel, Kis, & Kuczera, 2009) to increase youth's employability (Sonnet, Quintini, Manfredi, & Scarpetta, 2010). Additionally to success of Germany/Austria dual-educational system, the continuation of US lecture-based pedagogy at best had produced negligible gains according to a study that advocated a three-point development strategy to rescue America's education system that had failed its youth (Harvard Graduate School of Education, 2011). The three points are: 1) Widened vision of school with increased pathways after high school, 2) Expanded role for employers to partner the new pathways, and 3) New cohesive relationship between society and youth. Attempts relating to pedagogy in various context have offered islands of resolutions that at best have reflected in the dual educational system of Germany/Austria which combined practice to theories (Petrosky, 1996; Tremblay & Le Bot, 2003) as investors were known to highly favour specialized skills that the US talked about (CareerTehcEdFoundation, 2008).

Appendix A showed a list of universities in native English countries that have begun post graduate programs in FE or closely related to FE. According to Columbia Univ. (2011), which offered this program, it was to fill the gap that MBA programs were unable to offer and which was demanded by students to meet industry entry requirements. MDP of FED development by HEs have supersede fundamental programs which focused on macro priorities such as standard tertiary major like business studies, engineering or accountancy. Graduates needed two years of direct work experience before they were considered for career advancement. Tertiary

institutions' obligation therefore might have to train students from base zero. A search for FE undergraduate course in the U.K., (UCAS, 2011) showed at best, joint majors of economics and accountancy.

A reason for public HEs for not responding to the need for new skills might have been their non-autonomous decision process. Their Ministry of Higher Education (MOHE) might have decided which HEs was best accountable to lead new initiative similar to the Lakehead University case in section 1.3.3. The governance of accountability was not to be seen as weakness for low response but a conservative national human capital development approach. Therefore, efforts by professional bodies such as by ICAEW have been more efficient with offering of short programs to overcome skill shortages.

Professional programs have their CPD that operated quite like Germany/Austria dual educational system with varying due diligence in regulating their individual CPD compliance. The practice by ICAEW, known for its renowned 'Reflect, Act, Impact, Declare', RAID' approach had it that members should declare a statement of compliance (ICAEW, 2012) and wrongful declaration might nullify their CPD period. Wecker (2011) in `10 National Universities Producing the Most Interns' found that the current practice of internship was to supplement students' coursework which Black (2011) affirmed that students with internship experience were preferred for employment (KPMG, 2011). To overcome skill shortages, some HEs require some of their non-business graduates to take a short course in entrepreneurship together with internship before they graduate (Ooi, Selvarajah, & Meyer, 2011). However there remained insufficient effort to sustain intensity when tertiary institutions needed to maintain a time consuming CRM with industries to interlink with CPD development.

CRM in one-to-one dialogues, forums and continuous survey of skill requirements keeps industries inform of the demand and supply lag time.

1.3.7 Pedagogy research gaps

Agrawal (2010, p.1) reported that emerging new FE knowledge after each major global economic event, have given rise to new economics and financing opportunities at increasing speed from advances in instructional pedagogy. He mentioned that Alan Blinder[8] (2012, 2013) prospected new risk topics to his curriculum relating to asset bubbles saying that students have limited time in addition to being new to their field of studies. Hartley (2003) also concurred the direction that new economy need new pedagogy. Therefore, updating of curriculum with effective FIS might commensurate with available technology to position students better for the job market. This augmented well for imminent upgrading of pedagogy to reflect relative changes in structural economic that even previous studies by HKPU (2011) had at best managed to offer pockets of focused resolution as discussed in section 1.3.6. As a result, the gaps in mismatching pedagogy to industry had led to impending human shortages and employment imbalance that were shown respectively in previous sections. This gap had continued to widen due to the time lag factor in providing timely resolution and had therefore increased opportunities to narrowing the pedagogy research gap.

Mok[9] and McCartney[10] (2012, p. 13) found that pedagogy for most effective learning and development practices varied by market among six Asian nations: PRC, Hong Kong, Taiwan, Malaysia, Singapore and South Korea. PRC registered 41% response as prime popularity for action learning whereas Hong Kong had 38% as top preference for coaching by external practitioners. Malaysia and Singapore have quite close definitions: 37% as top favorites for in-house development programs and 34% as