

CHAPTER TWO: LITERATURE REVIEW

2.1. INTRODUCTION

This chapter presents a review of the literatures relevant to this study. As there is no previous study on private higher education pricing using hedonic approach, this chapter discusses literatures on the development of private higher education in general and hedonic pricing model.

2.2. THE DEVELOPMENT OF PRIVATE HIGHER EDUCATION

The following sections discuss some literatures concerning the development of private higher education in general and also with special reference to Malaysia.

2.2.1. MASS PRIVATE HIGHER EDUCATION

According to Geiger (1989), there are three types of private sectors in higher education outside the United States. Where public higher education is restricted in size and somewhat selective in intake, private sectors become the agency for meeting the general social demand for higher education. The result is “mass private sector” that usually contains the majority of a country’s enrollments. Where public and private institutions have equivalent status and functions, the two sectors may be said to be “parallel”. Where government chooses to have the public sector dominate the principal task of higher education, private institutions are left with only “peripheral” roles to fulfill.

Tan (2002) in her study on the private higher education in Malaysia concluded that the sector is rapidly growing towards the direction of mass private higher education as has taken place in Japan

and the Philippines. According to her, as a result of the government's policy to privatize higher education, Malaysia private higher education institution numbers have now superseded public higher education numbers in universities.

Both Japan and the Philippines are the examples provided by Geiger (1989) in his writing about the development of private higher education. According to him, mass private sector essentially fulfill the role of accommodating the bulk of popular demand for higher education. The Japanese private sector enrolling 78% of the country's university students and that of the Philippines accounting for about 85%. The hallmark of mass private sector is the capacity for extremely rapid enrollment growth. They supplied educational opportunity for the masses in developing countries that have experience a rather abrupt growth in the demand for post secondary studies.

One of the basic features of mass private sector is an extreme reliance upon tuition revenues. For the majority of PHEIs getting better means getting bigger. New divisions, capital improvement, additional faculty ultimately must be financed by increased tuition revenues and in the long run, this can only be brought about through enrollment growth. Based on the study on private higher education in Japan and the Philippines, Geiger conclude that there is a trade-off between quality and quantity in the private higher education. Not only education is provided with large volume instruction with low average standards, the access to the programs is also easy. Easy and too much access to the programs tends to cause the inflation of educational credentials that can threaten the value of all college degrees.

According to Geiger, there is little diversity and innovation in the private higher education. The independent creation of new institutions has the initial effect of producing diversity, but as the system matures the dominant trend is towards greater uniformity. One of the reasons is the constraints produced by the government regulations as ministries of education attempt to standardize degree programs. Other reasons include internal forces such as emulation of more prestigious institutions lack of discretionary resources and provision of market driven programs.

2.2.2. EMERGENCE OF MARKETS IN PRIVATE HIGHER EDUCATION

According to Marginson (1997), the emergence of mass higher education and budget cut in public universities had resulted in the creation of market in higher education. Budget cut in the public universities led to competition among the universities for funding from both government and corporate and for students both local and foreign. Budget cut, deregulation of government and also privatization of public universities has created education markets where the customers are the students and parents. The unmet demand for higher education by the public universities were met by the private higher education markets.

According to Dill and Sporn (1995), the proportion of new entrant as a percentage of their age group has increased dramatically. The ability of the traditional universities to absorb such growth is limited and therefore new enrollment has been absorbed by non-university sectors or by creation of new institutions of higher education.

It is believed that by making higher education a private good there will be closer match between supply and demand for trained labor and allocation of skilled labor. According to Porter (1997),

when education is a private good, it involves a cost, people are more likely to make investment decisions which will realize an economic return that is to follow courses and engage in training that meet market demand, thus overcome the problem of labor shortage.

According to Marginson (1997) the markets in education are governed by economic rationalism and relation of power. The dynamics of the market give rise to exchange value and credentialism. Exchange value refers to the mutual value received by those engaged in the educational transaction. It is an immediate benefit gained against whatever advantages can be realized in the long term.

The growth of information technology has helped in one way or another the new PHEIs to compete with the traditional ones. Both the improvement of processing information and the speed in international communication have had substantial impact on academic libraries and scholarly communication. For example, permitting libraries to substitute telecommunication and “just in time” information for conventional collection. This means that large, comprehensive and costly to maintain collections are longer the comparative advantage to scholarship, research and teaching that they once were (Dill and Sporn 1995). Institutes with smaller capital assets, with appropriate information technology can compete with established universities in selected academic field.

2.2.3. CURRENT ISSUES IN MALAYSIAN PRIVATE HIGHER EDUCATION

In a case study of changes and reforms in Malaysian private higher education over a period of two decades (1980 – 2000), Tan (2002) has identified five major themes which have emerged from the restructuring of Malaysian private higher education.

The first theme is the isomorphic behaviors towards a marketplace across a plurality of players. According to her, the convergence of higher education reforms has been identified by academicians as a manifestation of economic rationalism which is a reflection of market ideology. For the policy makers, she discovered the use of isomorphic policy which converges with the trends in the higher education reforms in countries like Australia, United Kingdom and New Zealand. These policy options include privatization, the introduction of user-pays concept and doing more with less. Among the PHEIs, the isomorphic behavior discovered are having multiple affiliation and linkages, setting up new branches or campuses to expand market share and the use of scholarship and loan arrangement to improve recruitment.

The second theme is the dependency on the bigger and more powerful player and the significant influence of MAPCO. MAPCO had proclaimed itself to be the driving force behind Malaysia private higher education. This elite group of PHEIs is mostly owned by the corporations but administered by the academics and has goal of expanding business not only locally but also overseas. During the current currency crisis, Malaysian government had depended on this group of PHEIs to provide higher education to many students forced to stay back. The government also depended on them to make higher education an export commodity.

The third theme identified by Tan (2002) is the competition, price sensitivity and exchange value of higher education. In the markets of private higher education in Malaysia, demand is most sensitive to pricing, market is highly competitive and colleges emphasize exchange value to attract students. Colleges tend to offer “fast, cheap and marketable programs”. It is discovered that programs of “higher end” information technology such as software engineering, which are really needed for development of home based technology industry, are not popular due to market forces. Students, on the other hand, prefer shorter courses that are more intensive to the longer ones.

The fourth theme is the growth cycle and entrepreneurship of the PHEIs. The maturity of a college depends on the stage of growth it is in and the entrepreneurship of its CEO. It takes time for new colleges to organize and establish sound system in its organization. At the same time the growth of a college depends on the capacity of its CEO to find capital to expand, allocation resources for growth and to identify and fulfill market needs.

The last theme identified by Tan is that quality is the major concern in markets in education. As government liberalize the private higher education, LAN (National Accreditation Board) was set up to ensure the PHEIs' compliance with minimum standard. However the fees charged by LAN for each program run by a college is substantial enough to reduce the number of programs offered by the colleges. The colleges on the other hand regard quality as benchmarking. There is a concern over the quality perspective. The colleges associate quality with various quality titles that had been awarded such as Multimedia Super Corridor (MSC) status and the ISO awards.

2.3. THE HEDONIC MODEL

The following sections present some literatures using hedonic model. It is used to analyze price-quality relationship at a given time and over time.

2.3.1. ANALYZING THE PRICE-QUALITY RELATIONSHIP AT A GIVEN POINT IN TIME

It is believed that the first empirical study relating price and quality was that of Frederick Waugh, an agricultural economist (Berndt, 1991). Waugh's research was to investigate the important quality factors that change the prices of vegetable. He used multiple correlation analysis to analyze the effects of physical characteristics such as size, shape, color, maturity and uniformity on the prices of asparagus, tomatoes and hothouse cucumbers. He reported the regression results in terms of coefficient of determination. Even though his analysis was somewhat flawed with the misuse of coefficient of determination, his research was particularly valuable as a pioneering work using statistical method for assessing the relationship between price and quality at a given time.

One of the common uses of hedonic pricing model is to estimate economic value for ecosystem or environmental services that directly affect market pricing of land. It is also commonly used to investigate variation in housing prices that are affected by local environmental attributes. C.T.Bastian et al employed geographic information system (GIS) data, with a hedonic approach, estimated the impact of amenity and agricultural production land characteristics on prices per acre for a sample of Wyoming agricultural parcels. The GIS data are used to measure recreational and scenic amenities associated with rural land. The results indicate that remote agricultural lands, which include wildlife habitat, angling opportunity and scenic vista command higher prices per acre than those which primarily possess agricultural production capacity.

Even though there is no literature on private higher education hedonic pricing, Ronald G. Ehrenberg and Peter J. Hurst had used hedonic model to analyze how certain factors influence the subjective rating of doctoral programs in 35 academic fields. Using data collected by the National Research Council and a multivariate regression model, they analyze how measures of program size, faculty seniority, faculty research productivity, and faculty productivity in producing doctoral degrees influence the ranking of the programs. Using data for one of the fields, economics, they illustrated how the model can be used to compute the impact of changing the number of faculty positions on the ranking of their programs. Ehrenberg and Hurst also showed how the differences between a department's ranking and the rating of a group of higher ranked departments in the field into differences due to faculty size, faculty seniority, faculty research productivity, and faculty productivity in producing doctoral students.

2.3.2. MEASURING PRICE QUALITY RELATION OVER TIME

Due to technological changes, quality changes occur over time. Hedonic price analysis can be used to deal with quality adjustment of price indexes over time. The first hedonic model used in this area was believed to be in the late 1930s, in a study funded by General Motors and undertaken by Andrew T. Court. The study aimed to prove the rise of prices of cars produced by General Motors is not due to the monopoly power of the company but the improvement of various attributes of the new cars that gave a greater level of satisfaction to the customers. The prices of cars are regressed against variables that measure the attributes or characteristics of the car and dummy variables representing the different years. Surprisingly enough, Court's proposed quality-adjusted new car price index decreased approximately by 55% while the US Bureau of Labor Statistics official new car price index rose 45%.

The computers are the other goods besides automobiles that received the most attention in the hedonic pricing analysis. Computers are interesting to study because of the rapid quality improvement in the industry:

Ernst R. Berndt, Zvi Griliches and Neal J. Rappaport constructed a number of quality-adjusted price indexes for personal computers in the US marketplace over the 1989-1992 period. The mean nominal prices of personal computer model changed at an overall average annual growth rate (AAGR) of -10.97% . Even though the mean prices dropped, there was dramatic quality improvement in the performance and characteristics of personal computers. The measurement of price indexes in the presence of such rapid technological changes is not easy. A measurement procedure often used by government statistical agencies is the construction of a "matched model" index. With this model prices of products are compared only for model which survive unchanged from one year to the next. Since the quality of the product is constrained to be unchanged, any price variability represents a "pure" or "quality-constant" price change. The matched model index recorded an AAGR of about -19% . However the matched model procedure may understates true price declines because the number of matches is very limited and new models are ignored entirely.

Ernst R. Berndt, Zvi Griliches and Neal J. Rappaport used hedonic price model as an alternative to the match-model procedure. When data on new models, as well as surviving vintages, are employed in the estimation of hedonic price equations, a variety of quality-adjusted price indexes can be calculated. Although there are some differences, on the average these quality-adjusted price indexes based on econometrically estimated hedonic price equation decline at about 30% per year. The average decline in the mobile market was about 24% , while that in the desktop market was

larger at 32% per year. These results imply that taking quality changes properly into account has a very substantial impact on the time pattern of price indexes.