THE PRODUCT PORTFOLIO: REVISITED ASSESSING COMPETITIVE POSITION IN EDUCATIONAL SERVICES SECTOR

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ABSTRACT
The product portfolio concept, firstly introduced by Bruce D. Henderson (1970), the founder of Boston Consulting Group, has been widely known as a milestone in Business Strategy literature. This analytical tool was so appealing and has been attracting a wide discussion since almost 40 years ago for its simplicity in assessing competitive position of company products and formulating strategic programs for future growth and development. Surprisingly, despite of its popularity, there were only a few reports on its application in practice. A widespread confusion and misunderstanding on how to put this analytical tool at work was seemingly the main root hampering any implementation attempt. Literature stuck only at introductory level of the concept, losing words of how to describe further the details for application. This report shares the experience of Widyatama University in using the said Product Portfolio for assessing its competitive posture and shows the advantage of this simple powerful technique. Market share and growth are among industry factors linked directly to profitability, a basic structural model, long time studied and revealed by the discipline of industrial economics, triggering many empirical studies. While quality of educational services remain undoubtedly an ultimate competitive advantage, the recent pressure and growing opinion treating higher education more as private services, places this sector under market competition law and market share becomes a determinant factor affecting sustainability of any higher education institution.

Keywords: Product Portfolio, Market Share, Growth Vector, Product Life Cycle, Higher Education.

INTRODUCTION
Since the first publication of product portfolio concept in 1970, an intensive discussion spread widely among academicians as well as in the practice of strategic management. Almost all of strategic management texts and literatures exposed the topic concerning the concept of product portfolio widely known as BCG growth-share matrix. Its popularity which is lied on its simplicity keeping the principle of parsimony necessary in the development of any best theory, stimulated the development of its similar variants such as General Electric’s Business screen, Attractiveness-Business Strength Matrix and the life cycle matrix (Arthur D little), Product Matrix Evolution (Hofer,1977), Multi Industry Portfolio (Hofer & Schendel, 1978), etc.

The method which is based on the Product Life Cycle theory has triggered wide enthusiasm to explore its significance both in academic terms and conditions and in understanding on balancing the corporate cash flow for maintaining the corporate sustainability in the future. In essence, the BCG matrix views the firm as a portfolio of businesses, each one offering a unique potential growth and profitability (Hax & Majluf,1983) in function of product position along the cycle of its product life.

However, in the first decade of this 21st century, references to BCG matrix have started to disappear from business school textbook and academic journals. The reason of its decreasing was not so clear, but seemingly it was not due to any scientific flaw. Numerous theoretical critiques addressed to the BCG model, such as the use of only two dimensions (growth & share), were apparently misleading since Henderson (1970) himself has never claimed that growth & share were the only two factors affecting the sustainability of the firms. Industry structure, behavioral variables, administrative and organization system, management infrastructure or even conjuncture of economy could exert their influence in one or other way. (MacMillan, 1982)

While many studies have been devoted to answer various academic inquiries, it is interesting to find that none was addressed directly to reveal of whether the method was interpreted consistently in one particular way? In fact, little evidence has been reported about this while significance divergence interpretations were exposed widely in literature.

The primary purpose of this paper is to share the author’s experience in managing the strategic analysis of a higher education institution by using the BCG matrix which is proven very usefull in shaping the future strategic action programs of Widyatama University.
HIGHER EDUCATION SECTOR IN INDONESIA

The history of higher education in Indonesia dated back to early of 20th century where the first university was established in Jakarta under the Dutch administration bearing the name University Indonesia. A number of state owned universities have been established since then reaching actually around 80 state higher learning institutions. The growing demand for higher education after the national independency in 1945 in one side and limited public fund in the other side became the driving forces that led private initiatives to start the establishment of private higher learning institutions. Actually, around 4,2 million students are pursuing their higher study programs in approximately 2800 national higher learning institutions (University, Institute, Academy, Polytechnic, Higher Learning School).

Lack of financial aids from public source and any other independent donating agencies have left the private institutions to rely heavily on student tuition fee as the only financial source to cover operational cost and capital investment necessary for conducting teaching learning processes, and sustainability of the establishment. It can be imagine, the above condition in a country with relatively low income per capita, has provided nothing more than the classical development strategy “low price, low quality for low income people” to be adopted which became the general pattern in most of Indonesian private institutional development since a philanthropic financial sources is still hard to believe.

To maintain survival of the institution, the private sectors has to manage wisely their limited financial sources, permitting accumulation of capital that leads to a long term objective of quality improvement. Up to this point, the concept of mass production applied in industry becomes so relevant and drives the private sectors towards market share strategy in order to increase their student body. Only those who are able to reach the minimum economic number of students can maintain education operational cost and some saving for capital investment.

Despite the fact that national private higher learning Institutions serve actually more than 70 % of Indonesian tertiary students, however for more than 5 decades, public fund is only accessible by the State Universities. Only recently the government budget is available for private institutions through a competitive grant scheme.

With the new decree of national act on education, the higher education sector in Indonesia is presently entering the framework of system to be dominated by the doctrine of private initiative, organized by the rule of competition, regulated by market mechanism and constrained by more and more restricted regulation.

PRODUCT PORTFOLIO: REVISITED

After the peak of its popularity between 1970 – 1990, the product Portfolio concept known widely as BCG growth share matrix is probably facing its decline in this first decade of 21st century. The decline surely caused by disappointment of managers in practice regarding the effectiveness of the concept. Unfortunately there is no report regarding the flaws, obstacles or weaknesses of the said strategic concept hampering its effective use in practice.

The main question is probably not lied on the issue of very limited strategic dimensions (share and growth) under consideration as often raised in many critiques or relative effectiveness of BCG matrix as tool of analysis in comparison to other technique, but maybe on whether there is a consistent interpretation among the practitioners or not.

In fact there is several variation of product portfolio practices and general interpretation is concerned with the measurement of relative market share and growth, where absolute measurement values are often suggested in literature.

The BCG places the business into four quadrant grids as a function of relative market share and market growth rate. Henderson (1970) himself in his original work has never mentioned the level of cut off point for each of the axis. He only pointed out the businesses should be identified and placed in term of their low-high share and low-high growth position.

Subsequent suggestions were varied, vicious or superficial. It is interesting to note that there’s no serious remark neither in depth discussions regarding the followings:

1. While there is a logical dividing line along the relative market share axe, there is no plausible reasoning in dividing the growth axe (Marshall & Tomkins, 1988). Suggestions include division by some arbitrary level of growth considered “par” for the industries, such as 10% (Hedley, 1977) or the growth of industry, the economy or even the corporate target (Hax & Majluf, 1983).
2. More surprisingly, in most of cases, the vertical axis is to be understood as representing the growth rate of the market (particular sector or sub sector to which the product belongs) but there’s no clear prescription, which market should be taken and represented by the vertical axis while the matrix is intended to map multi products offered by the firm and belong to different sectors/markets. In fact, the growth of product sales in most of cases would not be at the same level of growth of its market except probably in the monopolistic market.

Moreover, Henderson's original work has never mentioned about the market/industry growth but instead the product growth and simply divides the vertical axis in term of high and low growth, without any suggestion regarding measurement.

The question should be then focused on criteria defining what is low and high product growth. A growth of 15 – 20% in electronic sector is probably relatively low while 10% of growth in steel industry is absolutely high enough.

Consequently any measure of growth in Product Portfolio Method should not be expressed in absolute value but instead, in relative term.

Analogous to the horizontal axis where the market share position of a product is expressed in term relative to competitor position, the growth of any product should be benchmarked and compared to the growth of the market/industry where it belongs.

Market share strategy is explicitly oriented towards dominant position in term of its market share (largest share) which could only be realized only if the product grows at rate level higher then those of market and competitor product growth.

3. The lower limit of 0% which means maturity period on vertical axis of the matrix is apparently rational enough since the development of market share strategy will be meaningful only during increasing growth phase, before the maturity-declining stages of product life cycle. In contrast to the existing suggestions found in literature, the author suggests of not fixing the upper limit at any maximum possible growth value, since any value, theoretically, is possible for example the personal computer market in the beginning of its life cycle was experiencing a growth rate of more than 100%.

The dividing line separating the relatively low and high growth should be defined by the relative growth of the product in comparison to its market/industry growth. Measurement could be conducted by subtracting the market growth rate to the product growth rate.

This approach will place the dividing line always at 0 (zero) level, where the positive result (upper side) means the growth of the product is higher than its market growth, a necessary conditions leading to a bigger future market share, while the negative position (lower area) indicates the market growth is higher than the product growth which will bring down the product to its smaller future market share.

4. The BCG matrix as presented in literature exposed a static positioning of business in one particular time which has a little value for the development of long term strategic program.

Rather than one shot picture of business position, it is more important to reveal the evolution of product position trajectory which could be identified through what we called growth vector showing the direction of growth experienced by the product under consideration.

To be realistic, empirical observation showed that any market/product has never followed a smooth continuous life cycle function, but rather discontinue, sharp change and fluctuation of growths from year to year. The growth vector relating past position to present observable position will show clearly the result of any strategic effort devoted previously as well as an assessment for the future strategic actions.

METHODOLOGY

The data used in this report were drawn from the data base provided by the Directorate General of Higher Education of Indonesia, updated annually. About 150 higher learning institutions are registered and operating in Bandung region offering more than 1000 study programs.
In this analytical report, each study program could be considered as a distinct product-market unit (more properly perhaps “service” market unit). This report is based on the more recent 2002 - 2008 data for the sector covering higher education institutions operating and competing in Bandung region (municipality and districts).

Any educational institution can be viewed analogous to industry process and system where a set of particular “values” is to be added to the production input through a manufacturing process.

In education process, the input is the students who are also the customers as well. The values are the knowledge, skills, competencies which are to be delivered, transferred, implanted to the students through a teaching – learning processes.

The difference with manufacturing system is only laid on the definition of the customer and beneficiaries of the “value”. In education, the input (students) is also the customer and consequently, the beneficiaries are also the students. Customer is a stakeholder that takes, enjoys, uses the benefit of the product values while in the manufacturing, the process, the product and the customer, are distinct, separate entities. In some sectors providing services, the involvement of customer in value creation processes is absolutely necessary for example, the customers of a fitness center will not receive any benefit of their membership if they do not involve actively in value adding processes provided by the center to improve their physical fitness and health. Similar remarks are well applied in the education sector where the students will not gain anything except wasting their time and money if they are not involved actively in teaching learning process.

**VARIABLES**

Two types of metric variables were distinguished as implied by the product portfolio method: product growth and market share. Both are converted into derivative measure in relative terms: Relative product growth and relative market share.

While the following descriptions are used in the context of the reported education sector case study, the variables used are applicable as well in the other real sectors of businesses. Study programs in higher education sector is analog to the business product offered in open market.

- **Market Share (MS)**: The number of annual student intake divided by total demand for any particular study program
- **Relative Market Share (RMS)**: Widyatama market share compared to its closest competitor for any particular study program
- **Product Growth (PG)**: Annual growth of student application for any particular study program
- **Market Growth (MG)**: Annual growth of total student application for any particular study program
- **Relative Product Growth (RPG)**: Product Growth minus Market Growth for any particular study program

Subtraction instead of division is used in defining the relative Product Growth to avoid indeterminacy due to zero growth of market which may happens time to time in any period of its life cycle.

By using the above modified measure of growth, the static nature contained in BCG matrix exposure could be converted into longitudinal evolution of product positions giving more valuable information regarding the result of previous strategic programs and resources allocation as well as the strategic assessment for the future direction. The successful scenario implied by the Henderson’s original work which was expressed in term of financial cash flow shown by figure 1, should be transformed into the growth vector matrix (figure 2) showing the ultimate position to be achieved by the businesses. From wherever original
position of any product, the final destination should be at the upper left quadrant showing position with superior growth against market and competitor, assuring dominant position in the future.

In contrast to the financial scenario prescribed by the original BCG matrix, the modified matrix shows the growth vector picturing the evolutionary position of a product, year to year, in terms of its relative growth and market share. The modified matrix introduces additional time dimension to the only (two) originally used dimensions.

RESULT AND DISCUSSIONS

In term of its total student body, Widyatama University is actually ranked at 5-6 position among 150 private higher learning institutions operating in Bandung region and its vicinity.

A longitudinal observation on related higher education sector and the adoption of BCG growth-share matrix gives the clear picture on evolution of each study program actually offered by the university. The hereinafter growth vector matrix (figure 3) shows evolutionary position of each Widyatama study program since its establishment. Making reference to the previous prescription of successful scenario in market share strategy, a growth vectors directing to upper left quadrant are in a good track, while the opposite (directing lower right quadrant) will lead into catastrophic market position.

![Figure 3: Growth Vector Matrix](image-url)
In 2002, nine out of eleven study programs offered by Widyatama University were found to be placed below the vertical axe dividing line indicating that their rates of growth were lower than market growth which could lead into smaller and smaller future market share. A number of strategic measures have been taken through Widyatama 2003 Strategic Plan to improve the above position.

In 2008, seven of them are growing faster than the market and three other study programs are reducing their growth gap and approaching the market growth rate.

It is true that while ten out of eleven study programs were able to improve their position relative to their market growth, only six study programs have been improving their positions vis a vis closest competitor. However, at institutional level, in general, widyatama has improved its competitive position.

LIMITATIONS

The issue raised in this paper was not to address a number of critiques found in literature such as the use of only two dimensions, the focus on balancing cash flow, the emphasis on cost leadership etc (Morrison & Wensley, 1991), but apart from rigid prescriptions suggested by the original BCG method (liquidation, invest, harvest, etc) the proposed modified methodology is intended to clarify the confusing interpretation of business growth axis found in literature implying various perceptions in practicing the BCG method as strategic analytical tool. The proposed modified methodology is intended to be used in evaluating company’s past performance in order to provide more appropriate corrective actions for the future in case the growth vector of the product moved along undesirable direction.

In addition to the above mentioned limitations market share strategy is probably more appropriate to be applied in mass production business with relatively long lasting product life cycle, but its success depends on various contextual factors internally as well as externally. Business being oriented towards domestic market faces different economic environment setting compared to those intended to compete globally. Further more, market growth is not the only indicator of attractiveness of a market.

CONCLUSIONS

Despite of criticism addressed to the BCG growth-share matrix and the fact of its declining popularity, in the context of managing a higher education institutions where the number of students is still representing one among a number of key success factors, the author found that the modified version of the said matrix was very helpful in figuring out the position of each study program in terms of relative growth and market share.

Evolutionary position exposed by this simple growth vector matrix gives a lot of information supporting strategic assessment necessary for the development of future strategic programs. Widyatama University which was probably placed at 8-10 rank in 2001, in 5 years actually has improved its competitive position to be ranked at 5-6 in Bandung region where about 150 private higher educations are operating and competing for approximately 40.000 student intake (secondary school graduates).

BIBLIOGRAPHY


