

Sustainability Management of the Oldest University in Asia through the Integration of Digital Technologies

Cecilia A. Navarro, Ph.D.

School of Business, Treston International College

Taguig City, Philippines

Abstract— This study sought to determine the sustainability management of the University of Santo Tomas, which is considered the oldest university in the Philippines and in Asia in the advent of the digital age. It analyzed the external adaptation forces through the use of qualitative and quantitative approaches.

The external adaptation forces focused on the general environment, industry environment competitor environment and computer-based technologies. The internal integration forces analyzed the market responses in terms of the clarity of the vision-mission-goals, effectiveness of structures and processes, efficiency of operations, total quality management and innovation. This study highlights the importance of web-based technologies as tools to maintain the sustainability of one of the premiere universities in the Philippines. The research gave the following recommendations:

- **Management commitment towards the complete implementation of the institutional technology plan**
- **Integration of web-based classroom instruction in the faculty development plan**
- **A review therefore of academic thrusts must be made to bring back the glory that once belongs to the University.**
- **Improvement of the faculty profile must be implemented by developing a better teaching-learning process.**
- **A review of the University's mission-vision-goals is needed to re-affirm its**

identity as truly a Catholic, Filipino, Royal, and Pontifical University.

- **Top management style is collaborative, but is perceived weak by the stakeholders.**
- **The curriculum should be reviewed to meet the changing community expectations and keep pace with changes in the digital age.**

Keywords— Higher Education, Information Technology in Education, Modern Education, Sustainability Management

I. INTRODUCTION

This study sought to determine the sustainability management of the University of Santo Tomas, which is considered the oldest university in the Philippines and in Asia in the advent of the digital age. It analyzed the external adaptation forces and the internal integration forces through the use of qualitative and quantitative approaches. The external adaptation forces focused on the general environment, industry environment and competitor environment. The internal integration forces analyzed the market responses in terms of the clarity of the vision-mission-goals, effectiveness of structures and processes, efficiency of operations, total quality management and innovation. This study highlights the importance of web-based technologies as tools to the sustainability management of one of the premiere universities in the Philippines.

The need to study how educational institutions thrive and achieve enviable sustainability becomes relevant considering the many schools are hardly surviving.

One such educational institution that has proven its sustainability from the time it was established is the University of Santo Tomas (UST), the Catholic University in the Philippines and the oldest university in Asia (Villaroel, 1988). The University through the years has always been there as one of the most respected institutions in the country. Its reputation has been its strength and its ability to sustain the indomitable strength has contributed a lot in the pursuit of quality education in the country.

The University of Santo Tomas, for almost four hundred years is able to prosper, survive and sustain its existence in spite of the problems facing the Philippine educational system. At this time when many educational institutions are threatened by economic crisis, UST remains stable and unfazed by the crisis. What has UST done to achieve sustainability? What strategies has she adopted in terms of sustainability management?

The study focused on studying the sustainability management of UST through the use of digital technologies with the view of learning more about management strategies on success, survival and growth of an organization, which may be adopted or utilized by other educational institutions or organizations.

II. LOCALE OF THE STUDY

The University of Santo Tomas, the Catholic University of the Philippines and the oldest university in Asia was founded on April 28, 1611, primarily to help the Church in her mission of evangelization (Villaroel, 1988). The original purpose for its foundation was to train young men for priesthood. The Superiors of the Dominican Province of the Most Holy Rosary, Fr. Baltasar Fort, Provincial, and Fr. Francisco

Minayo, Prior of Sto. Domingo, and Bernardo de Sta. Catalina, Commissary of the Holy Office and Archbishop of Manila Miguel de Benavides' realized the need to establish the University, giving it the name of "Colegio Seminario de Santo Tomas de Nuestra Señora del Rosario," located at Intramuros.

On November 25, 1645, it was raised to the status of a University by Pope Innocent X. Since then, the University has been granted three more titles: Charles III of Spain bestowed upon it the title of "Royal" in 1785; Pope Leo XIII granted it the title of "Pontifical" in 1902; while Pope Pius XII in 1947 gave it the distinct honor of being called "The Catholic University of the Philippines.

UST today and beyond is focus on using its digital technologies on the following:

- The pursuit of academic excellence.
- UST has the most number of Centers of Excellence and Centers of Development.
- The Professional Regulatory Commission's declaration that UST is the first among the leading high performing private schools in ten (10) or more licensure examinations.
- New courses were offered and others became a separate college.
- The task to improve the profile of the faculty members has been a challenged.
- The increased number of partner communities made the University's presence in the greater number of marginalized communities.
- Improvement of digital and physical infrastructures.
- The Central Library with its satellite libraries within the campus is only one showcase of the development for UST.
- It also saw the birth of Vision 2011, a strategic plan for UST to achieve global recognition as it commemorates its four hundred year of foundation.

III. METHODOLOGY

The research design of the study adopted both the quantitative and qualitative approaches wherein case analysis and statistical treatment were done. It focused on an in-depth analysis of the sustainability management of the University of Santo Tomas with the five respondent group categories, namely: students, parents, alumni, faculty and administrators. The research activities resulted in the accumulation of quantitative and qualitative data.

For the qualitative data, the study used interviews of the representative of each group of respondents. Information was taken from brochures, pamphlets, annual report of the different departments and other. Furthermore, the researcher was a full-time faculty member of the University under study for 16 years, which enabled her to observe at closed range the interplay of the variables covered by the study.

For the quantitative data, a Likert-type questionnaire (Runyon, 1996) was constructed to measure aspects of sustainability management using the variables such as external adaptation (with the following dimensions of general environment, industry environment and competitor environment) and internal integration (with dimensions of the mission, vision and goals, effectiveness of structures and processes, efficiency of operations, total quality management and innovation, organizational competence, organizational capabilities, organizational culture and organizational strategies).

IV. EXTERNAL ADAPTATION FORCES AND SUSTAINABILITY MANAGEMENT

• General Environment

These included the economic, technological, and political forces confronting the University.

At present, Filipinos believes that the cost of college education has become prohibitive in the face of escalating tuition and no longer regulated by government. This might be the result of the rising standard of living that force owners of select private schools in Manila, through their administrators, to collect more from enrolling students every semester and make their ventures more profitable (Graphics, 2002)

The continuing threat of terrorism and other political instability cannot simply make UST remain indifferent. The unique disposition exhibited by the Filipinos during these unstable times can be felt. The humor and gaiety with which we faced the nation's crises neutralized the otherwise tense and hostile political atmospheres in a series of events. UST is sensitive to these issues.

The technological environment is perhaps the most dramatic force shaping our destiny (2009). The technological forces influenced many decisions of UST. As early as the Spanish Regime, UST can be considered as very much advanced in the acquisition of the latest technology. The UST Hospital, Printing Press and the Botanical Garden and other facilities were only a few of the advancement of UST at the time.

• Competitor Environment

The competitive edge of UST lies in its ability to provide the latest technology for the improvement in the delivery of excellent education. The Central Library, the heart of the University, acquired video tapes, maps. CD-ROM, phono discs, cassette tapes and diskettes. The Ed-Tech Center supervised the conversion of a least two rooms in every Faculty and College into Ed-tech room even as it intensified its program of training the faculty in the use of media-technology in teaching and learning process facilitated by the acquisition of a multimedia unit – a system that links computers to work on a single complex computer projects (President's Report, 2000).

The renovations and constructions of the physical facilities of UST remain an added attraction for students to enroll in the University. The paradigm of excellence in education, the faculty profile and the community services to help the marginalized place UST in a competitive position.

- **Industry Environment**

Investment in education, especially in basic education has a high rate of return, that is, the value of the benefits to the individual and to society exceeds the cost of investment by a large margin. Experience clearly demonstrate that investment in basic education is a prerequisite for economic development, and that continuing investment in education quality at all levels together with development of appropriate skills for the workplace is a prerequisite for continuing economic development.

V. INTERNAL FORCES AND SUSTAINABILITY MANAGEMENT

- **Effectiveness of Structures and Processes**

The University of Santo Tomas' goal for effectiveness of structures and processes is seeking a paradigm of education which is formative, an educative process that is integrative, and a management style that is collaborative (President's Report, 2002).

The above statement is affirmed by Ostroff and Schmitt (1993) in Hoy and Miskel (1996: 245), structure and process criteria are the quantity, quality, and harmony of the internal processes and structures. System harmony among the internal elements is a key in acquiring external resources and transforming the resources to performance outcomes. Performance results in one or linking events: expectancy, which links efforts to performance, and instrumentality, which links performance to outcomes (Snell and Bateman, 2007).

- **Efficiency of Operations**

UST improves and upgrade the overall physical plant and facilities to meet the creative and innovative demands for the educational technology and information system. Library was constructed. The UST committed to providing its student with state-of-the-art facilities that could promote a more conducive learning environment. Through this facility, the University hopes to encourage better and more productive exchange of ideas among UST professor and students.

- **Organizational Competence**

The curriculum development which resulted to the high school applications for admission are roughly estimated to amount to 40,000 every year when only 9,000 are accepted. The success of its graduates in the government's licensure examination was very significant from 1998 to the present. One of the well-sought programs being offered in the undergraduate levels: B.S. Computer Science, B.S. Information Management, and B.S. Technology. Linkages with international universities were forged.

The faculty members of the University of Santo Tomas also have a share in the organizational competencies of the institution. There is an improved faculty profile with additional MS'/PhD's. The University also produced a faculty force of global standards and recognized as leaders in national and international organizations through: postgraduate training exchange programs, visiting experts, participation in conferences/fora.

- **Organizational Capabilities**

Since UST became a Pontifical University in 1902, the leadership and governance was placed under a more direct supervision and guidance of the Vatican. Since then, all the Statutes and Ordinances of UST have become subject to the approval of the Holy See (Graphic, 2002).

A theory by Razik (2001: 129-130) suggests that to assure effectiveness, the school leader must be fully aware of the intricacy of the school unit or district communication channels on both the formal and informal levels. How the leader facilitates the transmission of give messages can result in a deliberately orchestrated change in staff or student behavior.

- **Organizational Strategy**

Through all the problems and difficulties of the University since 1611 to

present time, UST faces the future with confidence. No problems, however tough they might be, are insoluble. No difficulties are insurmountable. What is necessary is that men have faith in themselves and their capacity to forge, for themselves and those who will come after them, a bright future and a great destiny. The University of Santo Tomas, an institution that has been through almost 400 years of educational labors, sustained by a sense of dedication to God, country and people, possesses such faith in ever-increasing abundance (Lim Pe, 1973).

- **Strategic Plan**

According to Fr. Lana, he articulates the quadricentennial cry of the University,

which is “Onward to 2011, Thomasians!” and the three E-keywords of the onward movement: Excellence in teaching; Expertise in research; eminence in community service. He goes on by saying that the transition from the last to the current century saw the birth of Vision 2011. A need for a strategic plan for UST is on the process to achieve global recognition as it commemorates the 400th year of its foundation. The Father Rector also foresees that the process of change will be difficult for an academic culture so deeply established by four centuries. The change is needed to cope up with the times. The University of Santo Tomas has no option but to be developmental in approach, to match the fast advances in science and technology, especially in information and

communications (UST: 2000-2006 Medium Term Plan).

- **Organization Development**

UST identified nine direction areas for the University, and formulated long term objectives for each of these areas. These objectives are as follows: identity, teaching, research, community/extension services, human resources, physical resources, financial resources and growth/expansion and public presence.

- **Organizational Transformation**

The operational plans, which embody the vision of the University for its fourth centenary, have been completed, and last year was supposed to be the start of the countdown of the implementation of those plans. The plans are under the scrutiny of the Office of the Assistant to the Rector for Planning, which was recently constituted as an independent office. The office monitors the other areas that have already made advancement in the implementation of their plans. Changes are underway to fit in the vision-mission of the University. Major moves are being done to integrate and unify the planning efforts of all the units that comprise it (Rector, 1998-2002).

VI. SUMMARY, CONCLUSIONS AND IMPLICATIONS

Summary

The objective of this study was to determine the sustainability management of the University of Santo Tomas. The research also sought to answer the following specific questions:

1. What external adaptation forces significantly affect sustainability management of UST in terms of the following:
 - a. general environment
 - b. competitor environment
 - c. industry environment
2. What internal integration forces significantly affect sustainability

management of UST in terms of the following:

- a. clarity of the market responses namely: mission-vision, effectiveness of structures and processes, efficiency of operations, total quality management and innovation;
 - b. organizational competence
 - c. organizational capabilities
 - d. organizational culture
 - e. organizational strategies.
3. Was there a significant relationship between the external adaptation forces and the internal integration forces?

The study was conducted using both quantitative and qualitative approaches. The five-(5) respondent groups were the students, parents, alumni, faculty and administrators. There were twenty (20) respondents for each group for a total of 100.

VII. CONCLUSIONS

In the light of the findings, the following conclusions are drawn:

1. Congruence Between the Quantitative Data and Qualitative Data.
 - a. Among the forces under external adaptation, the researcher sees these forces as key factors linked to sustainability management:
 - General environment affects sustainability management. The University continues to wield the very enemy of the society. Among these are corruption, political instability, weak educational system and security problem. UST clearly states that it is committed to the service of the nation and its unwavering dedication are the real transformation of the society.
 - Competitor environment affects sustainability management. The University of Santo Tomas has acquired the edge over its competitors in so many advantage points. The Commission on Higher Education (CHED)'s granted UST

with the most number of Centers of Development, which earned the best ratings. The Professional Regulatory Commission (PRC)'s declaration that UST is the first among the leading high performing private schools in ten (10) or more licensure examinations (second to UP in the overall standing). UST has eighth (8) Centers of Excellence and seven (7) Centers of Development. Identified as Centers of Excellence are: Architecture, A.B. Literature, A.B. Philosophy, Electronics and Communications Engineering, Conservatory of Music, Nursing, Chemistry, Medicine and Surgery. The Centers of Development are: Business Administration, Chemical Engineering, Industrial Engineering, Civil Engineering, Mechanical Engineering, Electrical Engineering, and Biology. The Faculty of Civil Law has regained its position as one of the top Law Schools in the country.

- b. Among the forces under internal integration, the researcher sees as key factors linked to sustainability management:
 - Organizational competence affects sustainability management. UST continued to align the Colleges and curricula. For instance, the Institute of Physical Therapy has already been declared a College and now called the College of Rehabilitation Sciences. The Department of Physical Education is now called The Institute of Physical Education and Athletics. New programs were launched and still other courses are being offered school year. The University in the past four Years witnessed the gradual but steady flourishing of a research culture within the academic community. This is given a boost by the establishment of the new Research Complex, the Thomas Aquinas Research Complex.

- Organizational strategies affect sustainability management. UST continues to flourish despite the economic downturn, decline in enrollment population alarming global changes fast technological changes, change in the social norms of the youth and other conditions. Faced by these challenges, The University made a major move to set out a strategic planning for the period beginning and ending in the year 2011, the 400th years of its foundation.
 - Vision-mission affects sustainability management. By doing a strategic planning would eventually revisit the identity, the mission and the vision of the University for the next ten years. The University of Santo Tomas should reaffirm its role in the formation of men and women to become competent and compassionate professionals committed to the service of the Church, the nation and the global community.
- c. There is a relationship between external adaptation forces and the internal integration forces as perceived by the five-(5) respondent groups. With the end view of contributing to the environment, specifically the development of the marginalized, UST continue to work with the basic sector of society through their Community Development Program. The activities are supplemented to raise the social awareness of the Thomasian community through the advocacy of relevant social, political and moral issued in the University.

Implications

- All the accolades about UST's centuries-old history convinced the researcher that the University simply could not brag about past to claim its superiority or excellence. The continued sensitivity of the University to be up breast with the latest digital technology will always be a deciding factor to enroll at the University of Santo Tomas. Presently, UST developed the My UST eStudent Portal with the following features: on-line enrollment, on-campus enrollment, Account Activator Guide, eBanking to pay tuition fees, eLearning Access Program, on-line Grade Verification and UST-QUADRI as its social network.
- Filipinos like to equate Catholic education to quality education. Improvement of the faculty profile must be implemented by developing a better teaching-learning process. Reports show that the number of the faculty members with Master's degree is now 379, from 201 in 1998. The faculty members with Ph.D. degrees number 73, from 63 in 1998. The increase in not significant because despite the completion of the doctoral courses of a number of the faculty members, there were those who either retired or resigned.
- Despite the voluminous local researches presented and published, UST is yet to witness also similar figure for international papers to be presented and published. A stronger networking should be implemented to produce linkages that would support these researches financially and in the collection of data.
- A review of the University's mission-vision-goals is needed to re-affirm its identity as truly a Catholic, Filipino, Royal, and Pontifical University.
- Though UST's goal for excellence seeks a paradigm of education which is formative and educative process that is integrative, the curriculum should be reviewed to meet the changing community expectations and keep pace with changes in the global world.
- Based on the UST experience, it appears that the five (5) factors consisting of general environment, competitor environment, organizational competence, organizational strategies and mission-vision-goals can sustain the success,

survival and growth of an educational institution.

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