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THE JOURNAL OF BUSINESS RESEARCH AND DEVELOPMENT

Research Articles

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for the Common Good**
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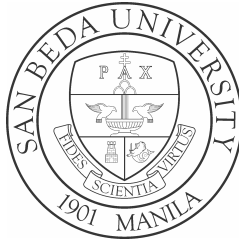
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FOREWORD

Academic research studies contribute to the intellectual environment of an institution, help in the development of the curricula and course programs, and promote the reputation of schools. For the authors, writing research studies provide the opportunity to have an in-depth understanding of the advanced theories as applied in the real business setting and boosts their reputation in the business community as well.

Business studies in particular deal with various streams of business models that are deemed to provide new insights to business enterprises and other organizations on managerial and business processes, structures and outcomes.

In line with this, the Journal of Business Research and Development of the San Beda University Graduate School of Business aids the executives, professionals, and students in the application of empirical research to practical situations and theoretical findings to the reality of the business world. This is the School's response to more opportunities and venues for scholars and practitioners to further advance new knowledge in the field of business, and enable the development of new policies, processes, services, and products.

This fifth edition of the journal brings together four articles. First is a study on the patterns of workaholism of EntrePinoy's and its spillover effects on their workers, firm, family, and the individual. Based on its survey of 90 sample EntrePinoy's, the degree of their workaholic behavior is moderately high regardless of age, civil status, and gender and has more negative outcomes than positive on workers rather than on the firm.

The second research study deals with the result of managerial flexibility and information asymmetry in loan portfolio values through a Real Options Valuation Model of the ten largest, actively traded Philippine Universal Banks. This study encourages the Philippine Universal Banks to create microlending and risk mitigation facilities for a more inclusive banking system.

The third is a case study on the training management innovation process in Jaro Development Corporation. It examines the result of institutional and individual factors in the management innovation process and determines how these individual factors influence institutional factors on theorization and labeling.

And the fourth article is proposing for a model for sustainability reporting of Higher Education Institutions (HEIs) in the Philippines integrating their central core functions, sustainability initiatives vis-à-vis models of sustainable development. The author suggests that universities can use this model as the guide in detailing their sustainability report indicating their initiatives and practices.

It is our hope that this collection of articles will be valuable resources for our readers to further stimulate more scholarly research studies into the vibrant area of business.



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*Notes on
Management*

Sustaining a Culture of Excellence in the Academe for the Common Good

Ramon Ricardo A. Roque

ABSTRACT

Economic growth and social development significantly improved the living conditions of people around the world as several job opportunities were generated brought about by the rapid growth of industries and businesses. To fill the labor demand needed for the production and delivery of goods and services, investments in education consequently increased to provide individuals with the necessary skills and knowledge required for the jobs. Graduate schools likewise proliferated to equip leaders and managers with the advanced knowledge and specialized training required for positions of responsibility.

As societies undergo the transformation, education changes as well to foster the competencies needed by the growing economy and the society. Significant reforms and innovations are put in place towards the achievement of excellence, focusing not only to literacy and numeracy but also to learning environments and new strategies for the common good based on respect, dignity and human development.

Just like in any other industry, the post-graduate education market has reached its saturation point. Many universities have already established their own graduate schools to grab a large percentage of the enrollees. All have presented similar propositions using prevailing standards, business models and best practices from the industry. While those measures may be considered as practical solutions, are they relevant and competitive?

To lead the path to sustain global competitiveness, this paper describes how the leadership of a graduate school builds up the school community and promote excellence, in and off campus. It details strategies undertaken by the leadership to encourage the community to be proactive in a shared learning process and engage in lifelong learning through various channels while providing students with an experience of community, deepened by curricular and co-curricular programs. This paper's purpose is to draw lessons on programs implemented by a graduate school, focusing on the development of the community -- faculty development, alignment of infrastructure needs, alumni involvement, the establishment of innovative practices and fortification of extension programs. This paper will cover a substantial review of related literature on common good, leadership and best practices from the industry. It will present measures, strategies and concepts to be undertaken towards the sustenance of academic excellence with the end in goal of providing for the common good.

INTRODUCTION

Economic growth and social development during the Industrial Revolution in the 18th-19th centuries significantly improved the living condition of people around the world. Several job opportunities were generated from rapid growth of industries and businesses. However, despite the creation of new jobs, many remained poor and unemployed as the newly-created jobs required higher skills that the people know little of and are not work-ready.

The growing mismatch between the quality of workforce and the new skills required of the newly-created jobs remained a reality even to this date as many graduates are either unemployed or underemployed. Notwithstanding that many also had no education or did not finish school especially in underdeveloped countries due to poverty or lack of educational facilities in far-flung areas. Many other social and economic factors may have influenced the labor-education mismatch, but the most prominent factor is the lack of qualifications for the even most basic jobs.

To fill the labor demand for the growing economy, investments in education consequently increased to provide individuals with the necessary skills and knowledge required for the jobs. Meanwhile, leaders and managers are equipped with advanced knowledge and specialized training by graduate schools required for positions of responsibility.

EDUCATION - THE DRIVING FORCE TOWARDS COMPETENCE

Education in developed countries particularly Europe and the United States of America has proven to be successful in meeting the demands of their fast-changing economies. The global economic recession of the 1980's which slowly recovered towards the end of the century stimulated the call for reforms not only in economic, political, and social systems but also in education. Competitiveness and strong excellence were the rallying cries of various economic and educational reform movements in order to fully recover from the recession.

Thomas Toch, a policy education expert, emphasized that "educational reforms are tied to the nation's quest for greater competitiveness." As the world undergoes transformation, education changes as well to foster the competencies needed by the growing economy and the society. Significant reforms and innovations are put in place academic excellence, focusing not only to literacy and numeracy but also to learning environments and new strategies with the integration of a strong commitment to the common good based on respect, dignity, and human development.

THE PATH TOWARDS EXCELLENCE

Measurement of excellence today goes beyond the traditional assessment of good reputation and resources, high admission rates and enrolment retention, increase productivity, high profitability, distinguished outcomes and high rankings.

In the book *Achieving Education Excellence*, author Alexander Astin measures excellence as the institution's ability to affect the students' and faculties' intellectual and scholarly development to make a positive difference in their lives. "Impact on student's knowledge and personal development and on the faculty members' scholarly and pedagogical ability and productivity are deemed important characters of educational excellence" (Astin, 1980).

The World Bank affirms that education contributes to the economic and social development of a nation and has the responsibility to equip individuals with the advance knowledge and skills, advanced quality research and teaching, in order for education to be responsive to the labor market demands of government, business, and the profession. Ben-David, the pioneer of modern sociology of science, adds that these specialized knowledge and skills have to be “cultivated and transmitted at its highest level to be utilized in the professional activity.” Essential in building academic excellence is the engagement of highly competent and motivated teaching staff and a supportive professional culture and the ability of institutions to continuously evaluate, monitor and innovate quality training and research outputs.

In the book *Managing Education Excellence*, a shared set of attitudes, values, and beliefs to develop common expectations are characters of a robust organizational culture. This is a shift of focus of institutions from policy to aspiration and from allocation to quality of education.

Education develops critical thinking, independent judgment, problem-solving, and information and media literacy that contributes to changing people’s mindset and perspectives expanding their opportunities to choose meaningful lives with equal dignity. Improvements in the quality of education, and in the provision of economically and socially relevant learning as determined by individuals and communities, are intrinsic to making these shifts.

Over time, development of the potential of individuals became the central concern of education and management. In *Rethinking Education*, ‘an empowering education is one that builds the human resources we need to be productive, to continue to learn, to solve problems, to be creative, and to live together with nature in peace and harmony. When nations ensure that such an education is accessible to all throughout their lives, a quiet revolution is set in motion: education becomes the engine of sustainable development and the key to a better world’.

EXCELLENCE FOR THE COMMON GOOD

Education is a process of creation, control, acquisition, validation, and use of knowledge. It must be made commonly available to the people, especially to the profession. Education, therefore, is not limited to acquiring and validation of knowledge, but also to the development and transmission of knowledge for common use. As such, knowledge and education are considered as common good.

Perceived to be a common good, education must be equitably shared and be made available to all the people, regardless of culture, economic status, nationality, age, and religious belief because education is a basic human right. As such, “it is the right and duty of the State to protect, according to the rules of right reason and faith, the moral and religious education of youth, by removing public impediments that stand in the way” (Catholic Social Teaching, 1989).

The fundamental purpose of education has evolved to sustain and enhance the dignity, capacity, and welfare of the human being, in relation to their community and the society. This new approach can best be realized if enhanced with the concept of common good that leaders are committed to implementing at all levels of decision making and inspire others to do the same. Therefore, it would be the best interest of organizations “to support the building of healthy communities on the basis that what is good for the community is good for the company” (Alexander and Buckingham, 2011).

This theory of common good emphasizes that an organization is a community of persons who need each other to satisfy one's own needs and subsist, but above all to develop as a person and be happy as life with others is part of the very idea of happiness' (Argandoña, 2009). Meanwhile, the Catholic church social teaching focuses on the dignity of the human person as each individual is made in the image and likeness of God. As such, each individual has value and must be respected by the society.

The common good approach, therefore, is not exclusively identified with the provision of material goods and services and creating infrastructure for the benefit of the organization and the society but must also include the support of human and cultural value such as self-discipline, integrity, trust, and solidarity to sustain human capital that would involve the businesses, government, and the civil society.

Hindu statesman and philosopher Kautilya describes common good as a shared good between corporate and the society at large. He maintains that the strength of a successful business lies in its ability to incorporate the system of values and norms embedded in the respective societies and culture. A skilled and talented workforce, a robust market for goods and services, and above all, a healthy local and international community that is based on the principle of what is good for the community is good for the company to make a business successfully efficient.

In the case of Japan, Kautilya cites that its economic and business success is not much on profit but generally on Japanese ethos and business ethics embodied in non-profit motivations including honor, trust, entrepreneurship, devotion to the enterprise, selfless work and so on.

LESSONS LEARNED FROM SAN BEDA UNIVERSITY'S GRADUATE SCHOOL OF BUSINESS

San Beda University is a Benedictine Catholic educational school in the Philippines committed to the Christian formation of the Beda community as its service to the Church, the Philippine society, and the world. It aims to form its members in faith (*fides*), knowledge (*scientia*), and virtue (*virtus*).

Being a Benedictine Catholic school, it follows the Ten Hallmarks of Benedictine Education, to wit: 1) love of Christ and neighbor; 2) Prayer: a life marked by lectio, liturgy and mindfulness; 3) Stability: commitment to the daily life of a Benedictine monastery; 4) Conversatio: the way of formation and transformation; 5) Obedience: a commitment of listening and consequent action; 6) Discipline: a way toward learning and freedom; 7) Humility: acceptance of the demand for realism and accountability; 8) Stewardship: respect for the beauty and goodness of creation as a sacrament of God; 9) Hospitality: call to openness; and 10) Community: call for service to the common good and respect for the individual.

The Ten Hallmarks of Benedictine Education became an encompassing centerpiece of all factors leading to the sustenance of excellence in the academe for the common good. It has been the guiding post of San Beda University that enabled its Graduate School of Business to offer a world-class education inspired by the tenets of leadership and governance. Below is the Sustainability Framework used by the Graduate School of Business that illustrates the process of actualizing developments and achieving organizational goals.

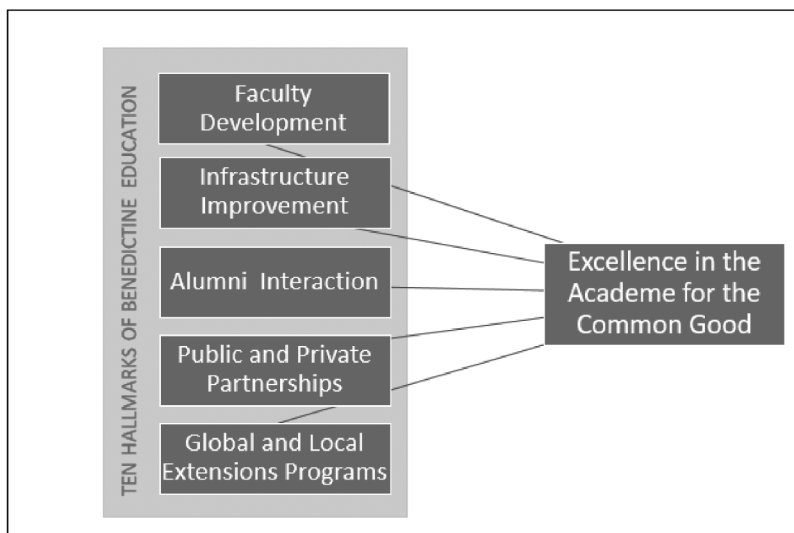


Figure 1.
Sustainability Framework of the San Beda University Graduate School of Business

Using this framework, the Graduate School of Business envisions to produce professionally competent as corporate and business individuals, fully aware of their significant role in society, and responsibly committed as agents of change for the good of society and for the greater glory of God. It seeks to train knowledgeable, principled and skilled leaders that have a “global mindset” and skills in navigating organizational realities with emphasis on leadership development, critical, creative and integrative thinking and learning.

It also provides a serious agenda that seeks to develop universal principles of leadership and promote good governance in both the private and public sectors with accountability and responsibility at its very core.

UNDERSTANDING THE SITUATION

It is a given that educational system should be leading the path towards global competitiveness. But the question remains on how an institution can lead the students if the foundation for progress is insufficient and lacking in necessary infrastructures and programs.

The list may go on and on in identifying the internal challenges that any graduate school may encounter. There may be many things achieved in the past that may have been proven to bear significant value to a graduate school. However, the fundamental question arises - given scarce organizational resources: on which of these things that matter most to students should be the main focus?

In Malcolm Gladwell’s book, *The Tipping Point*, the author recommended the application of the power of context. He explained in the book that the inner states are the results of the outer circumstances (Gladwell, 2002). Research, therefore, is a crucial first step towards an improved understanding of the current situation.

As practiced in the business industry, the benefit derived from “situation analysis”, from a two-tiered vista: externally and internally, cannot be overemphasized. External factors affect organizations without any recourse or influence. Internal factors, on the other hand, contribute to the enhancement or limitation of the strategic alternatives. Knowing what you have reveals the extent of what you can utilize to be able to attain what you want to achieve.

Best practices yield unique insights into proven and practicable paradigms. Prominent academic institutions and professional associations, both locally and internationally, have embarked on specific programs in their drive for excellence. However, there is no one-size-fits-all formula that may be uniformly applied across organizations - across corporate cultures. Various nuances abound and they need to be properly considered.

LEADERSHIP IN ACTION

Internalizing the challenges presented, the advancement of quality management in the graduate school must be anchored on the concept of leadership (Prager and Surch, 2010). Facing the abovementioned challenges requires an accurate appreciation of leadership in its truest essence. Essentially, one must believe that leadership is not a noun - leadership is a verb. Leadership connotes action, leadership requires action, and leadership in action.

The San Graduate School's transformation to excellence rests on the initiation and guidance of the leadership. It is directly clear to the leader the values and purpose of the Graduate School in particular and the University in general and most of all, the fundamental aim of developing talents of students and the faculty to their fullest. The leader communicates across to the rest of the academic community the school's goals, programs and innovations to the students and the faculty through various forms including speeches, conference, training and symposia.

With this framework, ideas and actions enumerated in this article were all tested and implemented by the author in a graduate school that has resulted in its continuous development.

BUILD FROM WITHIN

Leadership is not just about getting the best people in your organization. Leadership is about influencing people in your organization to become better persons and helping them achieve their full potential. Developing people you lead is a leader's first order of business. Without their self-esteem and cooperation, you can never inspire, energize and empower them to be better than what they already are; and if you cannot inspire, energize and empower them, you cannot lead them. John Maxwell, another international author on leadership and one who has mentored great people in leadership positions, aptly capsulizes this concept into a single sentence: "People do not care how much you know until they know how much you care" (Maxwell, 2012).

This aspect of leadership, focusing on people, should be the first priority in fully integrating the faculty towards the main goals of a graduate school. The key resolve is to glue together all the bright minds and provide them with the right mindset pursuing the institution's focus on research and development (BizEd, 2008).

As a first step, conducting a Research Agenda seminar will allow the faculty members to revisit and improve the research direction of the institution. Through careful deliberation, the faculty will identify the technical aspect, administrative and structural support of the institution as important drivers in a successful research program.

On the aspect of curriculum enhancement, the Curriculum Mapping seminar will enhance the alignment of subjects offered both in the Doctor's and Master's programs. More than a compliance to the government's rulings, this effort must be conducted annually to consolidate innovative ideas from the faculty members that will further improve and provide value-adding changes in the curriculum.

The Research Writing Seminar should be a staple event in the graduate school with attendance from both the students and faculty members. This will ensure the quality of thesis and dissertation produced tantamount to the high standards of Ivy League schools in the US.

CAPACITY BUILDING

Indeed, leaders derive strength from the people in the organization. But how could these people perform and produce results if the capacity is limited? Simultaneous to the efforts given in investing in faculty development, capacity building through infrastructure development is yet another piston that powers the engine for change. The school's infrastructure must go hand in hand with the education service to support the growing needs of the graduate school. As discussed in the book *Tipping Point*, human beings are a lot more sensitive to their environment than they may seem to be (Gladwell, 2002). This only shows that structural improvement translates to increase in effectiveness and advancement of the organization.

In a graduate school, the immediate effect of structural change must be initially felt inside the classroom. With this, renovation of classrooms must be put on top of the list. Of course, the school may have been burdened financially. Thus, financial support from the alumni can be sought to fund the construction on a per room basis. In return for their generosity, the renovated rooms can be labeled based on the name of the sponsoring alumni.

Complementing the newly renovated rooms are the purchase of state-of-the-art equipment that must be simultaneously installed and fixed as part of the classroom interiors. These important acquisitions will no longer require students to borrow equipment from the central equipment office just to have a classroom slide presentation.

Another innovative addition to the existing infrastructure is the establishment of a conference room and research center solely devoted to the graduate school. This unique section in the institution's premises will provide students and faculty members with a research haven where they could focus on their thesis and dissertation writing and consultation. The conference room can accommodate at least 20 people where pocket meetings may be held comfortably at the disposal of a coordinator. On top of the main college library, an exclusive library-student lounge incorporated in the said room would be value adding by offering the latest books in the business industry.

Constructing research hubs in the Graduate School addresses the needs of the students and faculty for a conducive venue in holding strategy paper, thesis and dissertation defenses. It is the facility that will help elevate the quality and quantity of student and faculty researchers and possibly catapult the school's standing as one of the most productive academic research institutions.

Connectivity and access to information around the world is important in the developing the research capability of the graduate school. The Graduate School of Business is keen on upgrading the information and communication technology (ICT) infrastructure to enhance the academic and research collaboration, community outreach program, and education and support services of the institution. With an enhanced ICT, the Graduate School will be able to provide learners easy access to knowledge anytime and anywhere. ICT will support the university's search for knowledge and navigate through the vast amounts of data and information worldwide. Through ICT, the university will have new ways of teaching and learning. ICT does not only improve learning quality, innovation and creativity, but also simplifies administrative and management processes and services. The establishment of the Center for Information and Communication Technology will provide a reliable, accessible, secure, resilient, and sustainable integrated digital ecosystem in the University.

ALUMNI INVOLVEMENT

As previously narrated, running a graduate school entails managing of people on one hand while ensuring quality educational services, on the other hand, leaving the Dean's hands full. Despite the heavy loads, the Dean keeps his doors open for communication with students. The Deans are expected to be a model for the people in

their organization. They cannot give what they do not have. They cannot influence and inspire the people they lead to be successful if they do not know and have not experienced success themselves. For, as they say, leaders can never take their people farther than they have traveled (Maxwell, 2011).

To fill this communication gap, someone has to play the role of a master of success. Postgraduate education should make use of master-apprenticeship relationship in the learning process so as to guide them to an effective ongoing development process. More importantly, the real challenge to our desired dynamic postgraduate education is the creation of a mentor-protégé relationship to facilitate continuous learning beyond the formal education process (Hahn, 2014).

Who else could fill this role but the alumni of the school who are now trailblazers, pioneers, chief executive officers, presidents and chairmen in various multinational, conglomerate and local companies. Through various recognitions, the Graduate School can capture the interest of alumni to become role models and masters of success to the students. It has pioneered the Icon of Entrepreneurship Award to outstanding Bedan alumni. These awards can be specifically introduced that will highlight the success, contributions, and achievements of the alumni in the business industry. More than the awards, these management gurus may all share their wisdom and valuable messages as baccalaureate guest speakers during the school's commencement exercises or in specially-organized seminars.

INNOVATIVE PARTNERSHIP

Only through continuous development that a graduate school may have better chances of surviving the ever-changing business, economic and organizational world (University Business, smallcaps2016). One cannot be contented with what is, nor should one relax and sit on his laurels elated by his accomplishments of improving on what was. A leader concerns oneself not only with what is new but more importantly on what should be new. In the current pace of competition in the graduate school market, keeping the lead is already a tall order. But in being several steps forward, one can only hope for survival, not just leadership and success. Success belongs to those who dare to innovate, those who always thirst for something new and something better.

In order to scale up the competitiveness of the Graduate School, implementation of an innovative and strategic partnership with private companies is a big step forward. With a tailored-fit MBA program, the graduate school opens its doors to private companies and caters to the needs of its senior and junior executive employees. With this unique off-campus program, the quality of postgraduate education reaches out to more professionals and in the process, permeate the business industry.

Closed linkages with several successful private companies and other education institutions through advanced training course, competitive research progress, consultancies, and continuing education programs enable the students and faculty to learn best practices and challenges in the industry.

Given that classes are held from Monday to Friday or just every Saturday in some graduate schools, the classes under the off-campus program can be held on Sundays at the company's venue in coordination with the industry-practitioner professors of the graduate school.

On top of the tailored-fit MBA program for private companies, a graduate school may also develop an executive learning program targeting the professionals and companies who share the same passion for continuous professional development. The concept is about investing in people-based strategy as a tool in gaining a strong leverage from today's highly competitive market. Similar to the off-campus MBA program, the modules are tailored-fit to the needs of the company and its employees.

Top industry practitioners who are leaders in their respective fields will serve as professors and discuss comprehensively the modules under the executive learning program which will be delivered in two sessions for four hours each at the preferred training venue of the company. The said program can be complemented by a range of other development programs which focus on specific aspects of leadership and management.

HELPING HANDS

In an educational institution, it is not only about the quality curriculum and outstanding facilities. The true worth of a school is also measured by its contributions to society. Remember that leaders do not live for themselves alone; leaders live for the organization and the society (Milana, Rasmussen, and Holford, 2016). One must think big in the context of assuming a scope beyond what is good not only to one but also as a leader. The idea of applying that learned knowledge in business must manifest in the outputs that are beneficial for the common good.

The offspring of this mission is the establishment of global extension and linkages program in the Graduate School. It aims to extend the helping hands of the members of the Graduate School in the local and global community.

In the local setup, the Graduate School actively promotes entrepreneurship among the non-teaching employees of the institution. Every year, the participants learn new skills directly from the experts in the field with programs such as flower arrangement, perfume making, deli making and Santa Claus figure making. These pieces of training are conceptualized to inculcate the “herd behavior” in the whole community, seeking to harmonize actions toward a common goal.

Off campus, the Graduate School has forged an alliance with St. Teresa Jornet Home, a facility for the elderly located in Tagaytay City, ran by the Little Sisters of the Abandoned Elderly. This alliance is one of the school's project as part of the components of its outreach program and commitment to social responsibility. As one of the benefactors of the facility, the school helps the Congregation in providing clients with the needed amenities, medical attention, and entertainment services.

FINE TUNING THE DETAILS

Summarizing the key areas in managing a graduate school, a Dean invests in faculty development, aligns the infrastructure needs, involves the alumni, establishes innovative practices, and fortifies the extension program. Focusing on the big areas will sufficiently create a big impact on the students and in attracting applicants to the Graduate School. However, there are times that even the smallest details matter and require careful attention and consideration.

Awards and Recognitions

One of the measures that gives instant impact is the awarding of special recognition to students who qualify in the Dean's List. Through this simple recognition on a trimestral basis, students immediately feel the fruits of their labor in studies. They appreciate the efforts of the Graduate School management in recognizing them which will continuously inspire them to excel in their academics. Aside from the certificates, the students' names are also posted both in the campus and in the official publication.

Even the faculty members' performance is hyped-up with such recognition activity from the graduate school management. Faculty members are acknowledged for their outstanding performance based on the faculty evaluation report. Moreover, the professor who garnered the highest evaluation result is awarded a Plaque of

Recognition for being the Most Outstanding Faculty for a specific trimester. With this effort, the faculty members are being challenged that outstanding performances merit such recognition from the Graduate School management. Also, professors with perfect attendance are given with tokens of appreciation for completing the required full attendance in their respective classes.

Faculty Evaluation

The Graduate School implemented the mid-trimester evaluation of professor. This faculty evaluation maintains the high quality of education provided. In order to receive accurate and timely feedback from the evaluation, this evaluation is rendered in the middle of the trimester instead of its usual accomplishment every end of the trimester. In this way, professors may immediately adjust their teaching process, address the concern, and refocus the subject matter if needed.

Student Magazine

Establishment of the student publication encourages free speech inside the institution. Students are given free hand to publish their own magazine funded by the graduate school. The magazine can be fully institutionalized as the official publication of the Graduate School complete with editorial and article contributions from the students and the faculty. Through this service, it captures the dynamics of the Graduate School community in varying stages of change in the students' lives and professions. It also serves as the avenue of communication where students and faculty could freely publish their thoughts and ideas regarding the industry and their perspective on various issues.

Research Journal

As result of the Research Agenda seminar, the Graduate School actively commits itself in producing a research journal at least twice a year. Being a research-focused institution, the research journal is the School's response to more opportunities and venues for scholars and practitioners to further advance new knowledge in the field of business, and enable the development of new policies, processes, services, and products. The research journal is a double-blind refereed journal that highlights thesis and dissertation with relevant scope addressing the prevailing or emerging issues that affect the ever-changing global business landscape.

Research Digest

To address the limited capacity of the Research Journal, the Graduate School publishes a management digest to provide a definitive standard for a comprehensive reference learning tools for students. It serves as another platform for professors to share their insights on effective practices in business and management through this bi-annual publication. It is a supplementary reading material for students with direct inputs from their professors on top of the regular classes.

GSB Night

Organizing a cultural night can be a much-awaited event in the Graduate School. Spearheaded by the student council, the cultural night will showcase an event full of serenade and performances from talented students. It is also a gathering of all the clusters of the Graduate School from MBA to DBA and even those from its off-campus programs. It can be normally held in a posh venue outside the school where students and professors alike come in their best tuxedos for men and elegant gowns for the ladies. To cap the night of celebration, the Graduate School management uses this event to award various recognitions to all deserving students who have merited outstanding performance and career in school and in the workplace.

Stricter policies

School policies are drafted and implemented based on the existing condition affecting the community. To better serve the interest of all members of the community, stricter implementation is a must with immediate effect to the primary beneficiaries - the students. In the Philippines, one of the prevailing conditions in the graduate school is the influx of foreign students whose general purpose of studying is just for their visa extension in the country. Placing a total ban or increasing the standards of qualification for these foreign students will benefit the genuine students in the graduate school. Because of the language barrier problems, these foreign students normally experience difficulties in comprehension, thus affecting the total class environment.

Another policy is the high standard set in hiring professors. The professor must be an industry practitioner with years of experiences in the managerial and executive position, and holds a Doctorate degree in the related field. With this policy, the students will benefit the most as they will learn from the actual gurus in the field of business management.

In terms of the school facility, special parking rate is offered to the Graduate School students who wish to park their cars securely inside the school. Since classes are only held on Saturdays, the Dean negotiated this special rate of half the price lower than that paid by students from other colleges.

THE IMPACT OF CHANGE

With all these programs, the San Beda University Graduate School of Business is one that is marked with an overwhelming passion and dedication of the members of the community. All these mentioned programs and developments are geared towards the making of a world-class graduate institution. With clear objectives of equipping the relatively young student professionals to acquire new knowledge and competencies in their fields; having a greater sense of educational values, and unwavering commitment to serving both the local and global communities, the Graduate School will achieve newer heights of success that will enable it to withstand all the present external factors and competitions initially experienced.

Predictably, the Graduate School will see a double-digit rise in enrolment at 20% average growth annually. With this, increase in student population will require more classes to be opened and classrooms to be made available. Correspondingly, increased enrolment means additional income for the school which will also result to increase in budget allocation for the improvement of the Graduate School. Also, more student applicants will enroll primarily because of word of mouth and the active recruitment campaign implemented by the graduate school management team.

The growing population of the Graduate School proves the captured the interest of the best and the brightest leaders in the field of business. Several high-ranking executives join the faculty bolstering the already competitive roster of the graduate school.

Because of the consistency in granting recognition to top performers per trimester, the students and faculty members alike develop a stronger aspiration to maintain their high-level performances in the graduate school. Proving the effectiveness of the Perfect Attendance recognition, faculty attendance will reach as high as 95% attendance as compared to previous records. Faculty evaluation is given serious considerations since students perceive it as their contribution to further improving the quality of educational standards through the resulting immediate response of the assigned faculty.

In the research aspect, the Graduate School doubles its thesis outputs primarily due to the increased student population, faculty contributions and mini-thesis production in every subject. Corresponding with the quantity,

the quality of thesis outputs significantly improves after investing in several research enhancement seminars conducted by credible research experts.

The expected inflow of positive results encourages the Graduate School community to remain and continuously embark on improving further their program offerings. These potential accomplishments give leverage for the Graduate School to face new challenges in the areas of identity, mission and culture; administration and governance; curriculum and program offerings; classroom instructions; assurance of learning; instructional resources; quality and relevant research and intellectual contributions; community involvement; value-adding linkages; and, recognition and accreditation.

SYNERGY

The potential of individuals and organizations are best realized when the best efforts are exerted, and when the best of everything is hoped, dreamt, and worked for - nothing less. A true leader inspires and encourages the people he leads to give their best as he himself gives his best. Anything short negates the real essence of leadership.

A successful graduate school is not built as a one-day nor a one-man wonder. A center where passionate people come together to collaborate and elevate the successes and achievements higher than yesterday's is the proof of the bolts and joints that will come together over the years.

My hope is that the ideas, insights, and recommendations presented will help other academic institutions and not just the Graduate School in crafting a developmental roadmap following the well-proven strategies and tactics. All of the measures that were laid down in this may influence all other educational institutions to rigorously apply the concepts. In the academe, we are all united with an aim to produce quality graduates who are well-equipped with research tools, advanced knowledge, and analytical skills to better prepare them for the challenges of the highly competitive and dynamic twenty-first-century business environment.

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Thinking of work 24/7: Are EntrePinoys really workaholic?

Divina M. Edralin

ABSTRACT

Workaholism is conceptualized as “an addiction characterized by an intense work drive that leads to neglect of other interests and negative consequences.” Anchored on the spillover-crossover theory, I examined the EntrePinoys’ patterns of workaholism and its spillover effects on their workers, firm, family, and oneself. Based on my survey results, among the 90 sample EntrePinoys, the degree of their workaholic behavior is moderately high regardless of age, civil status, and gender. Moreover, their degree of workaholism is not related to their age, civil status, and gender as well. Workaholic EntrePinoys can best be described as those thinking about their business constantly, having a need for control over their business, feeling bored or restless when not working, and frequently checking over work many times before it is finished. The EntrePinoys believed that their workaholic behavior has both negative and positive spillover effects on their workers, firm, family, and oneself. But many of them experienced far more negative than positive outcomes, except for their firm. The top most frequently negative spillover effects that they encountered are: workers are too tired/exhausted from work, long hours of company operation, no/less time to be with family, and no/less time for personal wellness. Meanwhile, the top most frequently positive spillover effects that they encountered are: workers have additional income from working overtime, good income/profit for the firm, able to support the needs of my family, and feel successful/sense of achievement for oneself.

Keywords: Workaholism, entrepreneurship, work-life balance, spillover effect, overwork

INTRODUCTION

Work is an important aspect of people's life. Normally, people work because it gives meaning and purpose in their life lives; and provides them opportunities to earn a living, meet other people, and help others and the community. Work is a process that connects the individual with the spiritual, social, psychological, and physiological dimensions of a person with one's family, workplace, community, and the society at large. But why do people work hard? People work hard for a lot of reasons. These include economic necessity (to maintain a particular standard of living and be able to afford to buy what they want); organizational demands (greater competitive pressures, more workload, and fewer workers as a result of downsizing, outsourcing, off-shoring, restructuring, and precariousness of work); occupational and professional norms; greater consumption and consumerism; and taking advantage of present opportunities (career growth, financial incentives, power attached to status, recognition). Another reason people claim for working hard is to provide a better life for their children (Burke, 2006) and support their family to have decent life for a long time. Working hard can also be attributed to the social, economic, legislative, and technological changes and challenges that occurred overtime in the world of work, where work structures and work design requirements, in terms of quality, volume, complexity, engagement, method, and time, have been very demanding to workers and owners of the business. The shift to prolonged working (like 60-70 hours workweek) among a large number of workers and entrepreneurs may be due to workers' preferences, workplace incentives or employers' constraints (Golden, 2009), prompting them to work hard. The employers' constraints can be related to the limited number of workers who can perform the job, lack of adequate machineries and equipment necessary to facilitate the completion of the job in a shorter time, customer demands to provide the product or service immediately, and the limited financial resources to acquire appropriate technology that can enable the work structure in the firm to be more efficient in terms of time and effort. According to Golden (2009, p.217), "work become overwork or workaholism – an unforced addiction to incessant work activity which risk harm to workers, families or even economies." Golden (2009) further stated that "individuals' desired work hours will stem from the weighted contribution of five sources: (1) current real wage rates; (2) forward-looking, wage trajectories; (3) relative status associated with hours of labor; (4) intrinsic rewards, process benefits or amenities acquired through work; (5) hours demanded by the employer and other structural constraints, to which workers may adapt" (p.217), which factors can also lead people to work hard. Lastly, from a psychological perspective, people may also work hard to be able to confirm self-worth as work outcomes can serve as a basis for self-judgment. As pointed out by Reich (2000), work has become such an integral part of personal identity that loss of work is believed to be a failure in an individual's personal identity. Most workers at present have internalized these perceptions and fears; therefore little prompting is needed for them to feel pressured to work hard (Porter, 2004).

Workaholism is a buzzword utilized in the popular press, on websites, and in the research literature to illustrate people who are obsessed with or addicted to work. The term workaholism was coined by minister and psychologist Wayne Oates in 1971 that depicted workaholism as "the compulsion or the uncontrollable need to work incessantly" (Oates, 1971, p.11). The interest to study workaholism can be traced back to the 1980s. From then on, research on workaholism has been beset by conflicting views on how to define and measure the construct. There are several different perspectives on

workaholism given its increasing importance among individual workers, managers, and organizations who value their people and their family as well. From one perspective, this phenomenon of prolonged work hours and other related factors have led to more negative results or outcomes that affect both the work and personal life of the individual. Unlike mere hard workers, workaholics are characterized by a combination of long work hours, intrinsic work motivation, and “emotional rushes” from working hard (Bonebright, Clay, & Ankenmann, 2000), implying workaholics have an intense internal work drive. Satisfaction is derived only from work, while other areas of life (e.g., health, leisure activities, relationship) are neglected (Robinson, 1996; Snir & Harpaz, 2009). Excessive working is derived from an addiction, including obsessive-compulsive tendencies, whereby the enhanced necessity to work impedes multiple life functions (McMillan, O’Driscoll, Michael, Marsh, & Brady, 2001). Moreover, Lajom (2016, p.44) in her doctoral dissertation asserted that workaholism is the “practice of excessive engagement at work beyond what is necessary. It is more predominant with obsessive passion, given the urge to continue doing work and the ruminative thoughts about work”. Therefore, researchers increasingly agree on qualifying workaholism as a work addiction (Griffiths, 2005). However, researchers have failed to arrive at a consensus on the common definition of workaholism (Buelens & Poelmans, 2004; Harpaz & Snir, 2003; Scott, Moore, & Miceli, 1997), except on its core element: of a substantial investment in work (Harpaz & Snir, 2003), or an irrational commitment to excessive work (Cherrington, 1980); and the existing measures are often criticized for lack of validity and reliability (Ersoy-Kart, 2005; McMillan, Brady, O’Driscoll, & Marsh, 2002). According to Clark (2016), in a serious attempt to reconcile these differing lenses, key commonalities were identified across these definitions, and these were used to develop a comprehensive definition that includes the following components (Clark, Michel, Zhdanova, Pui & Baltes, 2016): (1) feeling compelled to work because of internal pressures; (2) having persistent thoughts about work when not working; and (3) working beyond what is reasonably expected of the worker (as established by the requirements of the job or basic economic needs) despite the potential for negative consequences (e.g., marital issues). Spence and Robbins (1992) found that workaholics scored higher than work enthusiasts on perfectionism, non-delegation of responsibility, job stress, and health complaints. Similarly, Porter (1996) revealed that in the context of work addiction, these people have five common behaviors, namely: work long hours, high performance standards, job involvement, control, and identification with job.

Workaholism has many consequences. According to Piotrowski, and Vodanovich (2006), it has an onerous influence on work-family conflict which can be related to job satisfaction, work flexibility vis-à-vis happiness at home and vice-versa. They showed recent empirical findings from the literature on the nexus of work-family conflict and workaholism. In a sense, workaholism can favourably or unfavorably affect work performance and well-being outcomes. Based on the study of Lajom (2016), employees with harmonious passion will have higher levels of work-life balance, allowing them to have favourable performance and well-being outcomes; while employees with obsessive passion will experience less work-life balance, hindering them from attaining optimum work outcomes. Schaufeli (2013), posited that engaged workers experience pleasant activated emotions (e.g., excited, happy, enthusiastic), while workaholics experience unpleasant activated emotions (e.g., irritated, hostile, tense). Moreover, Clark, Michel, Stevens, Howell, & Scruggs (2013) have found workaholism to be positively related to work-family conflict through the

experience of the negative emotions, while work engagement was positively related to work-family enrichment through the experience of positive emotions.

RESEARCH PROBLEM AND OBJECTIVES

The goal of my current study is to enrich the attempts of other scholars to understand and differentiate the nuances and dynamics of workaholism as a construct more effectively. Based on the trends of longer working hours spent by people in their work and the need to balance work-life concerns as experienced by working professionals like psychologists, doctors, nurses, and teachers, both men and women of different age groups working for various firms in different countries; it is interesting to investigate workaholism as experienced by people who own and manage the business. In this research, I chose the Filipino entrepreneurs who own micro, small, or medium enterprises (MSMEs).

Therefore, I ask the questions: (1) what are the patterns of workaholism among EntrePinoys?; and (2) what are the spillover effects of their workaholic behavior?

Specifically, I investigated the following dynamics of the construct of workaholism as experienced by the selected Entre Pinoys:

1. Determine the degree of workaholism among the Filipino entrepreneurs.
2. Examine the patterns of workaholic behavior of EntrePinoys based on their gender, age, civil status, and their number of years operating the business.
3. Analyze the spillover over effects of the EntrePinoys' workaholic behavior on their workers, firm, family, and oneself.

Theoretical Framework

Conceptual Framework

According to Aziz, Uhrich, Wuensch, & Swords (2013, p.71), workaholism is conceptualized as “an addiction characterized by an intense work drive that leads to neglect of other interests and negative consequences”, like significant disruption to one’s personal life and relationships. In agreement with this definition, work drive and work-life balance serve as the foundation of a new measure of workaholism. In the term work-life imbalance, “imbalance” is an occupational stressor based on lost resources of time, energy, and feelings toward work and personal life (Fisher, Bulger, & Smith, 2009). Kirchmeyer (2000) viewed work-life balance as the even distribution of time, energy, and commitment across all life domains. The disruption workaholism causes in one’s personal life is the key link between this construct and negative consequences (Porter, 1996). Therefore, the inclusion of items that measure the degree to which work disrupts one’s life beyond work (i.e., work-life imbalance) is vital in the measure of workaholism and work drive is the key facet of workaholism because it is most closely related to poor physical and psychological health (Aziz, Uhrich, Wuensch, & Swords, 2013).

The incremental research data corroborates the view that workaholism has negative consequences. As presented in Figure 1, meta-analytic findings overwhelmingly reveal that workaholism is associated with negative outcomes for the individual, for the workaholic's family, and even for the organization (Clark et al., 2016). They found that job stress, work-life conflict and burnout have strongest negative relationships with workaholism. Their meta-analysis also revealed that workaholism was not significantly related to performance, which shows that even though workaholics may spend greater time thinking about and physically engaging in work than the average worker, this may not be of any advantage to their employer.

The aftermath of workaholism from the various literatures can possibly be analyzed using the spillover-crossover theory. Generally, the **spillover theory** posits that the conditions under which the overflow effect between the work and family microsystem is positive or negative. As cited by Bakker, Westman, and Emmerik (2009), spillover is a within-person across-domains transmission of tension from one area of life to another. For example, an entrepreneur may encounter a time-based conflict between work and personal life when work overload results in overwork and takes away the leisure time. But such time-based conflict between work and personal life ushers to good company profit that makes family life economically comfortable and stable. Indeed, many studies have now found evidence for such negative, but also for positive spillover effects.

On the other hand, **crossover theory** involves transmission across individuals, whereby demands and their consequent tension cross over between closely related persons (Westman, 2001). Therefore, in crossover, stress encountered in the workplace by an individual (e.g. entrepreneur or worker) may lead to stress being experienced by the individual's spouse/partner or other family members living at home. Whereas "spillover is an intra-individual transmission of stressors or strain, crossover is a dyadic, inter-individual transmission of stressors or strain" (Bakker, et al, 2009, p.207). They also have argued that job stress or engagement first spills over from work to home, and then crosses over to the spouse/partner. Their spillover-crossover model hypothesizes that job demands lead to work-family conflict, which, in turn, leads to negative interactions with the spouse/partner (social deterioration). This negative interaction sequence consequently increases one's spouse/partner's home demands, and undermines spouse/partner's well-being (e.g. intensified exhaustion, reduced marital satisfaction).

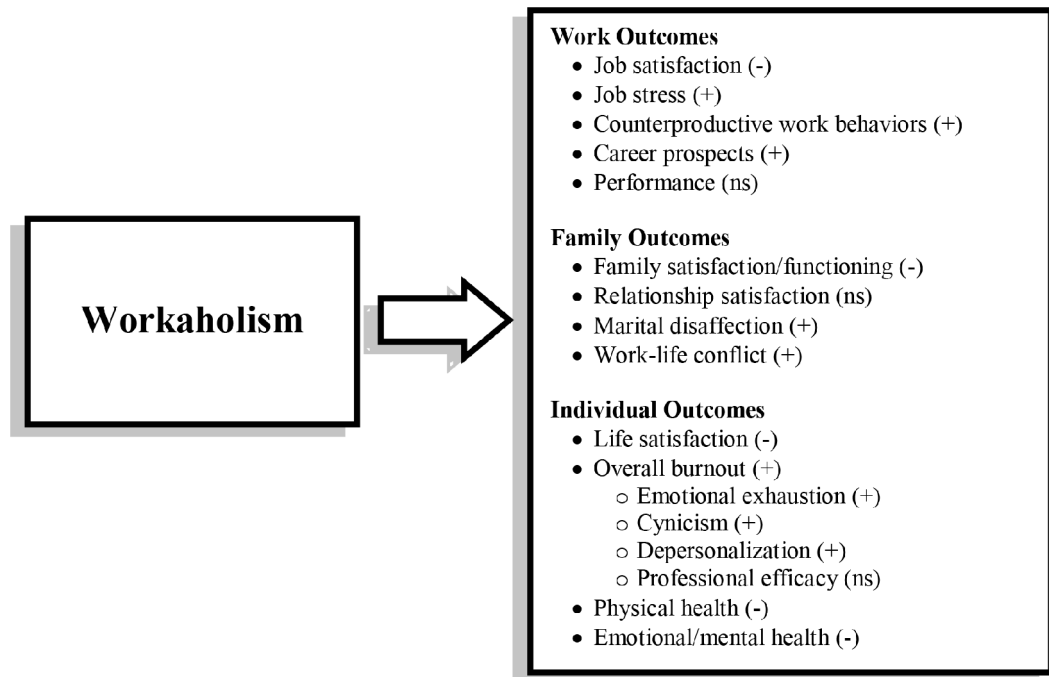


Figure 1.

Summary of significant outcomes of workaholism. A positive sign (+) indicates a significant positive relationship with workaholism, a negative sign (-) indicates a significant negative relationship, and ns indicates a non-significant relationship. Adapted from Clark, Michel, Zhdanova, Pui & Baltes (2016).

Operational Framework

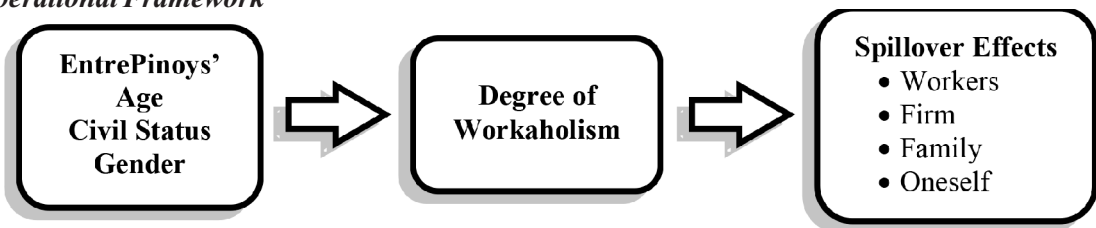


Figure 2.

Operational framework

Figure 2 portrays how I view the degree of workaholism in relation to the EntrePinoys' age, civil status, and gender as well as to its spillover effects on their workers, firm, family, and oneself. In this model, I assumed that the degree of workaholism varies among the EntrePinoys and its impact/effects can be both positive and negative (Clark et al., 2016) on their workers, firm, family, and oneself. I also assumed that when the EntrePinoys are grouped according to their age, civil status, and gender, a pattern of workaholism can be deduced using the workaholic behavioral indicators developed by Aziz, Uhrich, Wuensch, & Swords (2013).

Moreover, based on this operational framework, I tested the following null hypotheses:

1. Age, civil status, and gender are not related to the degree of workaholism among the entrepreneurs;
2. Older entrepreneurs (aged above 40 years) are more workaholic than the younger (aged 40 and below);
3. Married entrepreneurs are more workaholic than single entrepreneurs; and
4. Male entrepreneurs are more workaholic than female entrepreneurs.

METHODOLOGY

Research Design and Instrument

In this study, I utilized a descriptive research design and a survey approach using selected Filipino entrepreneurs as my primary source of data. I adopted the new measure of workaholism, the Workaholism Analysis Questionnaire (WAQ), that was created and validated in a heterogeneous sample of working professionals by Aziz, Uhrich, Wuensch, & Swords (2013). The WAQ demonstrated strong internal reliability with a Cronbach alpha of .934. The WAQ is a 29-item self-report measure of workaholism scored on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating higher levels of workaholism. Sample items include, "I enjoy spending evenings and weekends working" and "I often obsessed about goals or achievements at work." (Aziz, Uhrich, Wuensch, & Swords, 2013, p.76).

Participants

Table 1.

Profile of Sample EntrePinoy

Characteristics	Frequency (n=90)	Percentage	Characteristics	Frequency (n=90)
Age			Years of Business Operation	
• 40 and below	31	34.4	• Mean	11.6
• 41 and above	56	62.2	• Lowest	1
• No Answer	3	3.3	• Highest	54
Gender			Number of Workers	
• Female	58	64.4	• Mean	6
• Male	32	35.6	• Lowest	0
Civil Status			• Highest	100
• Single	19	21.1		
• Married	71	78.9		

I actually covered 90 research participants in the study. These respondents are MSMEs Filipino entrepreneurs who own and manage different types of businesses (such as agribusiness, trading, business services, transportation rental, health/wellness services, retailing, real estate, canteen, construction, logistics, and manufacturing of food/loofah/personal care products/fertilizer/garments), which are located in Metro Manila, Cavite, and Naga City. They

employ an average of 6 workers. Their business has been in existence from 1 year to 54 years with an average of 12 years. In terms of age, there are 31 of them who are aged 40 and below (34.4%), while 56 are in the 41 and above age bracket (62.2%). Grouped by gender, the sample included 58 (64.4%) women and 32 (35.6%) men, of which 19 (21.1%) are single and 71 (78.8%) are married.

Sampling and data collection procedures

My personal contacts and their referrals of other entrepreneurs enabled me to use snowball sampling technique. A sample is included if he/she is self-employed or entrepreneur, business is at least one year in operation, and based in the Philippines. Their verbal consent was taken at the onset and participants had to confirm that they agree and understood it before the survey form is given to them. It was explained to them that their participation was completely voluntary and they would not be monetarily compensated. Participants were also assured of their right to confidentiality, anonymity, and to withdraw from the survey at any point without penalty.

Method of data analysis

I analyzed the data from the survey using both quantitative and qualitative methods. To test my six hypotheses, Pearson Correlation, T-Test for Independent Samples, and Biserial Correlation were used with the aid of the SPSS software. For the descriptive objective, percentage, mean, and standard deviation were employed. I also did a content analysis of the common themes that appeared in the spillover effects on their workers, firm, family, and oneself that the EntrePinoys actually experienced due to their workaholic behavior.

RESULTS AND DISCUSSION

1. The degree of workaholism among the EntrePinoys

Table 2.

Mean Scores of the Behavioral Manifestations of Workaholism

Items	Mean score based on 5-point scale	Standard Deviation
1. I think about work/business constantly.	3.52	0.99
2. I have a need for control over my work/business.	3.50	1.10
3. I feel bored or restless when I am not working.	3.43	1.09
4. I frequently check over my work many times before I finish it.	3.41	1.05
5. I am often obsessed about goals or achievements at work.	3.31	0.93
6. I feel anxious when I am not working.	3.30	1.03
7. I feel guilty when I am not working.	3.29	1.05
8. I consider myself to be a very aggressive person.	3.21	1.03
9. I feel stressed out when dealing with work/business issues.	3.07	1.11
10. I often put issues in my personal life "on hold" because of work demands.	3.05	1.02
11. I constantly feel too tired after work to engage in non-work activities.	3.01	1.01

Items	Mean score based on 5-point scale	Standard Deviation
12. It takes me a long time to finish my work because it must be perfect.	2.98	0.99
13. I find it difficult to schedule vacation time for myself.	2.89	1.15
14. I am unable to relax at home due to preoccupation at work/business.	2.88	0.99
15. I have a need for control over others.	2.87	1.13
16. I often miss out on important personal activities because of work/business demands.	2.87	1.06
17. I enjoy spending evenings and weekends working.	2.83	1.11
18. I prefer to work excessive hours, preferably 60 hours or more per week.	2.82	1.16
19. I ask others to check my work often.	2.80	0.95
20. People would describe me as being impatient and always in a hurry.	2.70	0.89
21. I feel very addicted to my work.	2.64	0.92
22. My work often seems to interfere with my personal life.	2.59	0.98
23. I get irritated often with others.	2.57	0.97
24. I experience conflict with my significant other or with close friends.	2.56	1.08
25. I frequently have work-related insomnia.	2.50	1.00
26. I have difficulty maintaining intimate relationships.	2.44	1.06
27. I find myself unable to enjoy other activities because of my thoughts of work/business.	2.40	0.93
28. I frequently feel anxious or nervous about my work.	2.38	0.99
29. I have difficulty maintaining friendships.	2.24	1.03
Average:	2.90	0.364

Source: Adapted from: Aziz ,Ulrich, Wuensch, & Swords (2003). The Workaholism Analysis Questionnaire: Emphasizing Work-Life Imbalance and Addiction in the Measurement of Workaholism, Institute of Behavioral and Applied Management, pp.71-86.

Table 2 shows the mean score of the 90 EntrePinoyos on each of the 29 items to measure their workaholic behavior based on a 5-point Likert scale. The conversion table below presents the verbal interpretation of the mean score range of the degree of workaholism:

Table 3.

Verbal Interpretation of the Mean Score Range of the Degree of Workaholism

Score Range	Verbal Interpretation	Frequency	Percentage
1.00 - 1.79	Very Low	2	2.20
1.80 - 2.59	Low	18	20.00
2.60 - 3.39	Moderately High	55	61.10
3.40 - 4.19	High	13	14.40
4.20 - 5.00	Very High	2	2.20

The overall mean score of the degree of workaholism of EntrePinoyos is 2.90, which is **moderately high**. Their mean score percentage distribution on the degree of workaholism reveals that 2.20% rated very low; 20.00% scored low; 61.10% reached the moderately high level; 14.40% were on the high side; and 2.20% garnered a very high degree.

The behavioral manifestations where the EntrePinoys rated themselves high are on: *I think about work/business constantly*(3.52); *I have a need for control over my work/business* (3.50); *I feel bored or restless when I am not working*(3.43), and I frequently check over my work many times before I finish it (3.41). On the other hand, they scored themselves low on: *I have difficulty maintaining friendships* (2.24); *I frequently feel anxious or nervous about my work* (2.38); and *I find myself unable to enjoy other activities because of my thoughts of work/business* (2.40).

2. The patterns of workaholism of EntrePinoys based on age, civil status, and gender

Table 4.

Pearson Correlation of Age and Degree of Workaholism

VAR	Correlations	Age	Workaholism
Age	Pearson Correlation	1	-.127
	Sig. (2-tailed)		.232
	N	90	90
Workaholism	Pearson Correlation	-.127	1
	Sig. (2-tailed)	.232	
	N	90	90

Table 5.

T-Test of Age Group with Degree of Workaholism

Group Statistics					
	Age	N	Mean	Std. Deviation	Std. Error Mean
Workaholism	0	32	2.9981	.55514	.09814
	1	58	2.8414	.56117	.07368

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Workaholism	Equal variances assumed	.035	.853	1.273	88	.206	.15675	.12311	-.08790	.40139
	Equal variances not assumed			1.277	64.634	.206	.15675	.12272	-.08837	.40186

Table 4 contains the Pearson Correlation test result that the null hypothesis that age and degree of workaholism are not related is accepted. Moreover, Table 5 presents the T-Test finding that the null hypothesis that older (greater than 40 years old) EntrePinoys are more workaholic than the younger

(40 and below) ones is rejected. These results reveal that regardless of age (e.g. baby boomer or millennial age group) people can be workaholic. Among the 90 respondents, an EntrePinay aged 28, single, who owns a big grocery store and has been managing it for 10 years, recounted: *"I feel bored and restless when I am not working and I think about my business constantly. I get so addicted to my work so that I find myself unable to enjoy other activities because of my thoughts of my business. I have not time for my family and even myself."*

Another EntrePinay aged 57, married, who owns a beauty parlor and canteen, and has been managing both for 20 years, candidly said that: *"I feel anxious when I am not working so that I am not able to relax at home due to my preoccupation about my business. I frequently have work-related insomnia because I am often obsessed about goals of having more profit and expanding my business. Although my family is able to enjoy many comforts in life like a big house, cars, and travel abroad, I have conflicts with my husband on how to handle our workers because I want to be always in control."*

Table 6.

Biserial Correlation of Civil Status and Degree of Workaholism

r_{pb}	t	df
-0.05	-0.5	88
<hr/>		
P	one-tailed	0.3091615
	two-tailed	0.618323

Table 7.

T-Test of Civil Status with Degree of Workaholism

		Group Statistics								
		CStatus	N	Mean	Std. Deviation	Std. Error Mean				
Workaholism	0	18	2.9617	.68082	.16047					
	1	70	2.8859	.53767	.06426					
Independent Samples Test										
		Levene's Test for Equality of Variances			t-test for Equality of Means					
		<u>F</u>	<u>Sig.</u>	<u>t</u>	<u>df</u>	<u>Sig. (2-tailed)</u>	<u>Mean Difference</u>	<u>Std. Error Difference</u>	<u>95% Confidence Interval of the Difference</u>	
									Lower	Upper
Workaholism	Equal variances assumed	1.732	.192	.504	86	.615	.07581	.15033	-.22303	.37465
	Equal variances not assumed			.439	22.746	.665	.07581	.17286	-.28200	.43362

Table 6 shows the Biserial Correlation test result that the null hypothesis that civil status and degree of workaholism are not related is accepted. Moreover, Table 7 indicates that the T-Test finding that the null hypothesis that married EntrePinoyos are more workaholic than those who are single is rejected. This is contrary to the findings of previous research conducted among professionals that those who were married are more workaholic than those who are not. The results of my present study clearly pinpoint that EntrePinoyos, regardless of civil status, exhibit workaholic behavior that is moderately high. Among the respondents, an EntrePinay aged 38, married, who owns a water refilling station and has been managing it for 10 years, recounted: *"I feel stressed out when dealing with my business issues. I have a need for control over my business and others. I constantly feel too tired after work to engage in non-work activities so I have less time for my family."*

Another EntrePinoy aged 26, single, who owns a videotape and computer accessories shop and has been managing this for a year, assertively said that: *"I feel guilty and anxious when I am not working. I also feel bored or restless when I am not working so I open my shop for 14 hours a day and seven days a week with my six workers shifting their time."*

Table 8.

Biserial Correlation of Gender and Degree of Workaholism

r_{pb}	t	df
-0.07	-0.65	88
<hr/>		
P	one-tailed	0.2586925
	two-tailed	0.517385

Table 9.

T-Test of Gender with Degree of Workaholism

Group Statistics										
		Gender	N	Mean	Std. Deviation	Std. Error Mean				
Workaholism	0		58	2.9257	.62905	.08260				
	1		32	2.8453	.41432	.07324				
Independent Samples Test										
		Levene's Test for Equality of Variances			t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Workaholism	Equal variances assumed	3.615	.061	.649	88	.518	.08038	.12394	-.16593	.32668
	Equal variances not assumed			.728	85.118	.469	.08038	.11039	-.13911	.29987

Table 8 illustrates the Biserial Correlation test result that the null hypothesis that gender and degree of workaholism are not related is accepted. Moreover, Table 9 indicates that the T-Test finding that the null hypothesis that men are more workaholic than women is rejected. This is similar from the findings of previous research that men do not consistently differ from women in their levels of workaholism (Burke, 1999; Doerfler & Kammer, 1986). My data suggest that women are not frightened of the pressure or responsibility of managing a business for long hours, maybe because both men and women entrepreneurs have the support of immediate family members (e.g. parents or siblings living with them), kasambahay, or an at-home spouse or partner. But I surmise, women, especially true of mothers in particular, stand to lose from working long hours since they are also dealing with an increasingly extreme parenting model (Hewlett & Luce, 2006) aside from the other domestic chores that they are expected to doing as a mother and wife in the context of a Filipino family.

This EntrePinoy, aged 65, married, who is into agribusiness and real estate, and has been managing them for 48 years, recalled: *"I definitely think about my business constantly anywhere I go. I prefer to work excessive hours, preferably 60 hours or more per week because of the nature and the number of businesses that I manage. I enjoy spending evenings and weekends working and this makes me experience conflict with my significant other (wife and children) or with close friends that makes me feel alienated and often misunderstood of my actions."*

Another EntrePinay aged 66, married, who manufactures loofah and other related personal care products, and has been managing the business for 25 years, clearly expressed that: *"I frequently have work-related insomnia. I feel very addicted to my work and spend long hours of work in the company so that I have lesser time spent with members of my family and for my personal activities. Very often, people would describe me as being impatient and always in a hurry."*

3. The spillover over effects of workaholism of EntrePinoy on their workers, firm, family, and oneself.

Table 10

Spillover Effects of EntrePinoy Workaholism on their Workers

Spillover Effects (n = 72)	Frequency	Percentage
Negative		
• Too tired/exhausted from work	20	27.8
• Work long hours/overtime	10	13.9
• Less/no time for themselves and their families	8	11.1
• Feel pressured/tensed	7	9.7
• Feel stressed	6	8.3
• Feel restless & irritable	5	6.9
• No motivation to do their job well	4	5.6
• Less productive/make mistakes/errors in work	3	4.2
• No fixed working hours/on-call 24/7	1	1.4
• Get bored	1	1.4

Spillover Effects (n = 72)	Frequency	Percentage
<ul style="list-style-type: none"> Lack of sleep Hurt relationship with co-workers Burned out 	1 1 1	1.4 1.4 1.4
Positive		
<ul style="list-style-type: none"> Additional income Motivated to do their job well Work closely and harmoniously with their co-workers Satisfied/happy with work Work hard to do a good job Income to pay for family expenses 	7 6 5 5 3 1	9.7 8.3 6.9 6.9 4.2 1.4

According to the EntrePinoy, their workaholic behavior has both negative and positive spillover effects on their workers. As portrayed in Table 10, the negative effects far outweigh the positive outcomes. Specifically, on the negative side, many workers (27.8%) are too tired/exhausted from work. There are those who work long hours/overtime (13.9%) and have less/no time for themselves and their families (11.1%). My survey data suggest that workaholic EntrePinoy can be highly demanding and critical of their less dedicated, unmotivated, and incompetent workers.

These outcomes are affirmed by one EntrePinoy who observed that “sobrang pagod nila kasi umpisa sila ng 4:00 ng madaling araw hanggang 7:00 ng gabi.” Another EntrePinoy said: “They get stressed when given more tasks, look tired, or even see in their faces that they are not motivated but cannot complain.”

On the other hand, the concrete positive spillover effects of EntrePinoy workaholicism on their workers, among others, are additional income (9.7%), motivated to do their job well (8.3%), and work closely and harmoniously with their co-workers (6.3%). These positive results are reiterated by an EntrePinoy’s comment that “mainam sa kanila dahil may bayad ang mga extrang oras na trinabaho nila. Mayroon silang pambayad ng mga pang araw-araw nilang gastusin.”

Table 11.
Spillover Effects of EntrePinoy Workaholicism on their Firm

Spillover Effects (n = 55)	Frequency	Percentage
Negative		
<ul style="list-style-type: none"> Long hours of company operation Set strict and high standards Customers have not increased Still not able to finish production 	4 2 1 1	7.3 3.6 1.8 1.8
Positive		
<ul style="list-style-type: none"> Good income/profit Achieve goals/targets Able to monitor closely company operations 	16 15 8	29.1 27.3 14.5

Spillover Effects (n = 55)	Frequency	Percentage
• Fast company growth	5	9.1
• Able to pay for company expenses	4	7.3
• Produce more on time	4	7.3
• Workers are properly monitored	2	3.6
• Save on labor costs since I do the work	1	1.8
• Able to respond to customer needs immediately	1	1.8
• Firm is always open	1	1.8
• Meet buyer/customers personally	1	1.8
• Work done faster	1	1.8
• More efficient and innovative	1	1.8
• Get to know my workers more & get immediate feedback	1	1.8

From the above table, the EntrePinoyos claimed, their workaholic behavior have both negative and positive spillover effects on their firm. But this time, the data show that the positive effects are much more, than the negative outcomes. In fact, only four EntrePinoyos responded that the negative effect to their company is operating for long company hours(7.3%),as well as two of them cited setting strict high standards (3.6%). The top two positive outcomes of their workaholic behavior are good income/profit (29.1%), and achieve goals/targets (27.3%) for their business. These results are attested by this EntrePinoy experience: “Our firm was able to achieve its target and deliverables. Backlogs are decreased or eliminated.” Another EntrePinoy averred that “To the company, it is good, because it doubles the income kahit minsan ay nakakapagod sa haba ng oras ng trabaho.”

Table 12.

Spillover Effects of Entrepinoy Workaholism on their Family

Spillover Effects (n = 72)	Frequency	Percentage
Negative		
• No/less time to be with family	44	61.1
• Less time to enjoy recreation/leisure with children	10	13.9
• Not able to perform domestic chores/responsibilities	4	5.6
• Frequently away from home	4	5.6
• Not able to attend family gatherings	3	4.2
• Alienation	2	2.8
• Misunderstood mood and action	1	1.4
• Conflict with husband on how to handle workers	1	1.4
Positive		
• Able to support the needs of my family	12	16.7
• Able to enjoy comforts in life	5	6.9
• Able to send my children to school	2	2.8
• Able to travel abroad	1	1.4

As shared by the EntrePinoy, their workaholic behavior has both negative and positive spillover effects on their family. As displayed in Table 12, the negative effects are more than double compared to the positive outcomes. Specifically, on the negative side, the big bulk of the EntrePinoy have “no/less time to be with their family” (61.1%). My survey data clearly reveal that workaholic behavior ruins family and social life of the entrepreneur. This EntrePinoy’s comments that *“Nababawasan ang oras na gugugulin sa pamilya para magbonding sa aking mga anak at asawa, lalo na kapag peak season ang mga order ng customer,”* capture this negative effect.

While, on the positive side, the most frequently given reply is that they are “able to support the needs of my family” (16.7%). This is affirmed by the experience of an EntrePinay when she said that: *“My family has all the comforts in life like a big house, cars, good school for my children, we can travel abroad, and we can buy what we like.”*

Table 13.
Spillover Effects of EntrePinoy Workaholism on Oneself

Spillover Effects (n = 80)	Frequency	Percentage
Negative		
• Too tired/exhausted from work	21	26.3
• Physical health problems	9	11.3
• Stressed	9	11.3
• Lack time to rest/relax	8	10.0
• Lack time to do other social activities	7	8.8
• Lack sleep/insomnia	4	5.0
• Always feel occupied/busy	4	5.0
• Work is always first priority so sacrifice other activities	4	5.0
• Less/no time for personal wellness	3	3.8
• Work long hours	2	2.5
• Restless and impatient	2	2.5
Positive		
• Feel successful/sense of achievement	8	10.0
• Broaden/learn more about my business	3	3.8
• Increase income	2	2.5
• Learn to budget my finances	1	1.3
• Always plan ahead	1	1.3
• Able to deliver needed services to clients	1	1.3

The EntrePinoy believed, again, that their workaholic behavior have both negative and positive spillover effects on them personally. As presented in Table 13, 80 out of 90 EntrePinoy actually experienced more negative than positive outcomes. Specifically, on the negative side, many too tired/exhausted from work (26.3%), Physical health problems (11.3%), and stressed (11.3%) My data show that workaholism is creating havoc on private lives and taking a toll on health and well-being; as well as housework and home care seem to be among the first things to go. This is similar to the findings in 2004 by the Center for Work-Life Policy (as cited in Hewlett & Luce, 2006).

This EntrePinoy shared: *“Madalas napapabayaan ang sarili, over fatigue, walang ehersisyo, at ang pagkain ko ay mga fast food, naming san nakakasama sa kalusugan.”* Another EntrePinoy wrote: *“Wala akong oras sa aking sarili gaya ng manood ng sine o lumabas. Hindi rin ako makapunta sa mga okasyon kaugnay ng mga dating kaibigan at ka-klase dahil hindi ko basta basta maiwan ang aking negosyo.”*

On the positive outcome, among the EntrePinoyos who responded to this question, eight of them feel successful/sense of achievement (10.0%); three of them broadened/learned more about the business (3.8%), and two of them increased their personal income (2.5%). These EntrePinoyos' answers attest to these outcomes: “Fulfilling and satisfying for being recognized for the service well done and able to deliver the needed service to clients.”

CONCLUSION

Workaholism is conceptualized as “an addiction characterized by an intense work drive that leads to neglect of other interests and negative consequences.” These negative consequences like stress, exhaustibility, lack of sleep, sickness, less time for family, and less time for other social activities cause significant disruption to one's personal life and relationships.

The prevalence of workaholic behavior may vary from individual to individual. Among the sample EntrePinoyos, the degree of their workaholic behavior is moderately high regardless of age, civil status, and gender. Moreover, their degree of workaholism is not related to their age, civil status, and gender as well. Unlike professional employees/workers, it seems that for entrepreneurs, who own and manage the business, there can be other factors like organizational factors, such as a climate for overwork and the contextual factors, like, organizational expectations and leader behavior (Clark, 2016) that are related to fostering and reinforcing workaholic behaviors.

Workaholic EntrePinoyos can best be described as those *thinking about their business constantly, having a need for control over their business, feeling bored or restless when not working, and frequently checking over work many times before it is finished.*

The EntrePinoyos believed that their workaholic behavior has both negative and positive spillover effects on their workers, firm, family, and oneself. But many of them experienced far more negative than positive outcomes, except for their firm. The top most frequently negative spillover effects that they encountered are: workers are too tired/exhausted from work, long hours of company operation, no/less time to be with family, and no/less time for personal wellness. Meanwhile, the top most frequently positive spillover effects that they encountered are: workers have additional income from working overtime, good income/profit for the firm, able to support the needs of my family, and feel successful/sense of achievement for oneself.

RECOMMENDATIONS

Our findings suggest that the workaholic entrepreneurs are more likely to experience work-family and other personal socio- psychological distress. Therefore, minimizing workaholism is a possible initial step toward improving one's family functioning and psychological health. I propose that the following practical courses of action be considered by the entrepreneurs:

1. **Build and nurture teamwork in your firm.** Try working with your team (you and your workers) supporting each other to make it possible to achieve the firm deliverables within the legal working hours without going overtime. Your team will have to completely disengage from work after eight hours each day and after six days a week.
2. **Create a company culture that set the pace of work for you and your workers.** Make your company a workplace which is rewarding, encouraging, meaningful, and productive but without making unreasonable targets and requiring them to work long hours even with overtime pay, which puts too much pressure to both of you. This means you foster a culture that values working smart over working hard, maintaining a healthy work-life balance (Shimazu, Demerouti, Bakker, Shimada, & Kawakami, 2011).
3. **Plan well in advance and learn time management.** These will enable you to schedule and your employees and your vacations which are linked to lower stress. This means that you and your employees will be more likely to return feeling refreshed and ready to get back to work. Work/business concerns should not always be the number one in your bucket list. Reaping good profit and feeling successful are always alluring but at the expense of working to death. You will not enjoy the fruits of your hard work.
4. **Optimize your social support.** Always seek the assistance of your spouse/partner, family members (like parents and siblings) and kasambahay. Involve them in your workplans so they know how to be of help to you. This will also give them a better picture of what you are doing and the workload that needs to be lightened with their help.

Lastly, in the recent years, there have been some promising advances in the study of workaholism, but there is still a lot to be learned about it. Future research is needed to understand the role of organizational factors, such as a climate for overwork, in fostering and reinforcing employee workaholic behaviors; also to examine the contextual factors (e.g., organizational expectations, leader behavior) that may foster momentary workaholic tendencies; and to undertake longitudinal research on the outcomes of workaholism as well as the differences between workaholism and work engagement (Clark, 2016). Further research is also imperative to clarify the process of how the individual's workaholism has effects on his /her work-family balance and psychological health as well as that of his/ her partner (Shimazu, Demerouti, Bakker, Shimada, & Kawakami, 2011).

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Estimating Loan Portfolios from a Real Options Perspective: A View of Philippine Universal Banks

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ABSTRACT

In this study, a model that valued the strategies to lend or to idle a loan portfolio in a chaotic system was developed and forwarded. Two objectives of this study were: 1) the determination of managerial flexibility and information asymmetry in asset valuation; 2) the comparison of two groups of values to determine the reliability of estimates generated by a Real Options Valuation Model. Loan portfolio values from annual reports (Control Group) were compared to values estimated by a Real Options Valuation Model (Experimental Group). From an eight-year window of observation, from 2008 to 2015, a t-test found that the value of future opportunities was not factored into the book values. Pearson r values from 0.7544 (2013) to 0.9257 (2009), and Intraclass Correlation Coefficients from 0.52 (2013) to 0.92 (2008) indicated that the model provided very reliable predictions of loan portfolio asset values. Coefficients of Determination for each year in the study ranged from 0.5692 (2013) to 0.857 (2009), indicated that the model significantly accounted for variation in book values. This study expressed that actively traded Philippine Universal Banks should create more micro lending and risk mitigation facilities to encourage a more inclusive banking system.

Keywords: ASEAN; Banking; Information Asymmetry; Loan Portfolio; Real Options Theory

JEL Classification Codes: G12, G13, G17, G31, G32

INTRODUCTION

In the Philippine setting, Entrepreneurs hold exclusive information not readily available to banks, and this data appeared to have affected bank loan portfolio values. The primary argument presented in this discussion was that due to managerial flexibility (managerial choice) and information asymmetry, banks did not lend enough in the country during the window of observation from 2008 to 2015. Managerial flexibility, the notion of choices managers make in the selection of worthy borrowers, or even the choice of a discount rate, modified the value of an opportunity. Information asymmetry, or imperfect information, diminished the amount of loans made in a particular period.

The Central Bank of the country provided a special classification for banks it authorized for specific activities. Commercial Banks engaged in activities of deposit acceptance; issuance letters of credit; provision for discounting facilities; generation or acceptance of demand deposits; currency exchange, along with gold and silver bullion; debt securities acquisition; and the provision of credit (An Act Providing for the Regulation of the Organization and Operations of Banks, Quasi-Banks, Trust Entities and for Other Purposes, 2000). Universal Banks in the Philippines are a special class of financial institution as these firms not only authorized to operate as a Commercial Bank, they are also engaged in investment house activities, investments in non-allied enterprises; and absolute equity ownership of other financial institutions, and non-related ventures (*Bangko Sentral ng Pilipinas*, Manual of Regulations for Banks, 2008). As a result of these expanded abilities, Universal Banks are deemed in this paper as the most qualified institutions for the reinforcement of the BSP directive to provide price and monetary consistency, exchangeability of the peso, as well as manageably propagate and balance the domestic economy (The New Central Bank Act, 1993). From Universal Banks, the creation of more facilities and institutions to support growth and balance in the economy could emanate.

Assessment of opportunities, such as loan applications, conventionally followed deterministic techniques of valuation as the Net Present Value, or the more rudimentary Payback Period. Real Options Theory afforded for valuation and decision-making in the presence of asset value volatility. In terms of the Resource-Based View regarding firms, Real Options Valuation Models and decision cadres offered enterprises the tools by which physical, human, and organizational capital resources are assessed toward the identification of bases for a sustainable competitive advantage. Similar to the function for an option premium, sustainable competitive advantage in the theory was viewed as a condition of equilibrium, such that the benefits from a value creating strategy equaled or surpassed its costs. Also, resource strategies, existed as options to a firm, served as cradles of sustained competitive advantage (Barney, 1991). The three distinct types of options were investment or growth options, deferment or learning options, and divestment or abandonment options (Mauboussin, 1999). Resource acquisitions could be exercised, deferred, or abandoned based on their optimal value. Thus, Real Options models and judgment frameworks that addressed the differences between firms in terms of resources and competitive advantages (both short-term and sustained) provided insight as to the impetus of one strategy over another.

The objectives of this study were to determine the presence of managerial flexibility and information asymmetry, along with an assessment of the fidelity of values generated by a Real Options Valuation

Model as compared to publicly available data. From Real Options Theory, the presence of volatility augmented the value of an opportunity. In the theory, volatility resulted from manager decisions (in terms of business terms or even choice of a discount rate) that affected resultant project returns. Environments where full information was not known, or costless to access, introduced information asymmetries into the value of an opportunity, which resulted in the diminution of option values for strategies and resources. As the influence of information asymmetry and managerial flexibility affected option values, this study sought to examine the reliability of a Real Options Valuation Model in relation to financial statement disclosures through the use of statistical tools.

As sequenced, this paper discussed the theoretical bases of the model, the Real Options Valuation Model itself, empirical evidence and implications from the data, along with a conclusion and definition of terms. The second section offered a discussion of Real Options Theory in terms of the types of real options, as well as the various forms of information that affect asset value. In the third section an elucidation of the Real Options Valuation Model that provided values for the Experimental Group was presented. The fourth section presented the methodology of the study. Results and implications were discussed in the fifth section. The final section offered conclusion with the salient points of this study.

THEORY

Black and Scholes (1972, and 1973) forwarded the valuation of opportunities in volatile systems with their discussions of derivative contract valuation based on an underlying asset value, or revenue process. The tenets of the financial asset application of the Black-Scholes Options Pricing Model (BSOPM), namely that the value of an option relied on the value of its revenue process (how the opportunity appreciated or depreciated in value), allowed for extensions into real asset applications. From the seminal work of Myers (1977), firm value did not merely consist of already declared assets, but also the value of future opportunities. These future opportunities were what the paper, and subsequent studies in this field of research designated as real options. Delayed investment mitigated uncertainty (Mauboussin, 1999). Option exercise was induced when the opportunity cost from waiting was greater than or equal to the discounted value of the initial investment (McDonald and Siegel, 1986). The Value of Waiting served as a risk adjustment factor to the present value of cash flows. Conceptually, the Optimal Trigger captured the downside risks, which postponed entry, or investment, to a level consummate to the option value for a project. Additionally, upside risks of the Optimal Trigger adjusted the option value of an opportunity, which resulted in a delay of an exit from a project (Dixit, 1992). As the Value of Waiting and Optimal Trigger adjusted investment levels for the presence of volatility, these variables enhanced as well as mitigated the effects on the value of a firm-specific strategy or resource (Dixit, 1992; and McDonald and Siegel, 1986).

A Real Option assessed a prospective resource or stratagem restricted to a particular venture that bestowed a business with exclusive advantages or augmented its present condition. Two important elements existed in a real option: its inimitability for the going concern, and the possibility of successive prospects (McGrath et. al., 2004). The business itself, or its peripheral environment, served as sources for Real Options (Bowman and Hurry, 1993). As a result of the influence from the external environment, Real Options explicitly considered the influence of volatility on asset or

resource values (Muñoz et. al., 2011). External sources from the business landscape embodied aspects of industrial organization, political, socio-cultural, and economic influences (Tan, 2018). It is of note that an active market by which an asset or strategy is traded may not exist for a Real Option. Examples of Real Options were investments in capital assets or patents (Myers, 1977).

A crucial assumption of the BSOPM was that markets were fully efficient; all investors had, or had access to, complete information of firms and the processes surrounding an underlying asset. With the BSOPM, option values reflected the knowledge of all investors in the market and were optimally priced in an environment of fully informed securities holders (Black and Scholes, 1972). With the presence of strategic and opportunistic behaviour, along with limitations in knowledge (as bounded rationality and limited access to knowledge itself), the assumption of fully informed investors did not hold for all cases in real option valuation. The presence of information, from complete to selective disclosure, affected various aspects of option valuation. From the need for more information with regard to aspects of an option and its underlying asset, the costs of information acquisition were additive to the discount rate (Bellalah, 2001). Information that resulted from asymmetries (Tsai, 2008), or from external assessments (Fan and Zhu, 2010), along with beliefs in the nature and intensity of events (Grenadier and Malenko, 2010) adjusted (either positively or negatively) the value of an option. In much of the literature, the aspect of uncertainty that Real Options Valuation Models dealt directly with were expressed by the variance element in a derived function, or the state-steps in a multinomial assessment operation. Generally, as an option nears its terminal horizon, uncertainty (volatility) declines; this followed that as information about the option was factored into its value, the opportunity was brought closer to its true value (Tan, 2018).

From the extant literature, option values of loan portfolios reflected the effects of volatility and information asymmetries (measures of managerial flexibility), yet these factors were not declared in the annual reports for subjects of this study. Since annual reports did not subsume the value of future opportunities, in the Real Options perspective, undervaluation of book values for the loan portfolios was expected. In the presence of uncertainty, and the proprietary options (such as strategies, or resources) of firms, the first set of research hypotheses sought to examine the differences in loan portfolio valuation. Thus, the first set of hypotheses addressed the initial objective of this study, namely, to ascertainment of the presence of managerial flexibility and information asymmetry in the value of an asset. Option values that were higher than loan portfolio book values indicated that opportunities that emanated from managerial flexibility and imperfect information were not included in disclosures from publicly available data.

Null Hypothesis (1H₀): *Actively traded Philippine Universal Bank Loan Portfolio values from annual reports were not different from values determined by the Real Options Valuation Model.*

Research Hypothesis (1H₁): *Actively traded Philippine Universal Bank Loan Portfolio values from annual reports were less than the values from a Real Options Valuation model.*

As the Value of Waiting and Optimal Trigger adjusted investment levels for the presence of volatility, these variables carried enhancing as well as mitigating effects on the value of a firm-specific strategy or resource (Dixit, 1992; McDonald and Siegel, 1986). These variables also established the value of put and call options on the loan portfolio. As the first research hypothesis implied an undervaluation of asset values in annual reports, the reliability of values from a Real Options model required assessment. From the properties of these variables, the second set of research hypotheses for the study addressed the reliability of estimates from the model.

Null Hypothesis (2H₀): *Values from the Real Options Model were not differently distributed from Loan Portfolio values reported in the annual reports.*

Research Hypothesis (2H₁): *From the first research hypothesis then, loan portfolio values from the Real Options Model were reliable estimates of asset values, as these were of the same distribution.*

THE MODEL

A primary assumption of the model forwarded in this discussion was that future operating profits, and the amount of lending that occurred followed a Geometric Brownian Motion (GBM), since their prices may assume any random value in the progression of time. As banks operated in an environment of information asymmetry, and inefficient markets, an adjustment for these uncertainties was applied to the Operating Income from the loan portfolio. The expression for this relationship between the discount rate, δ , Operating Income, v , and information asymmetry, α , in the value of a portfolio, ξ , establishes the underlying revenue process.

$$\xi = \delta \alpha v_P \quad \text{Eq. (1)}$$

Utilization of Ito's Lemma allowed for the determination of the rate of return on an option in the presence of volatility. The resultant expression was an equilibrium condition where the expected value of the underlying asset compensated for the value of uncertainty from a new loan. Volatility, σ^2 , in the expression described the possibility that the loan portfolio may assume a random value greater, or less than that expected by the loan portfolio. The growth rate of the inflows from the loan portfolio, μ , was adjusted for volatility and information asymmetry by the initial return of the revenue process. This was the optimal relationship between uncertainty and expectation.

$$\frac{1}{2} \sigma^2 \eta^2 \frac{\partial^2 v_L}{\partial^2 \eta} + \mu \varpi \frac{\partial v_L}{\partial \eta} - \delta \alpha v_P = 0 \quad \text{Eq. (2)}$$

In order to establish cumulative distribution functions that adjusted for inflows from volatility and asymmetric information, the same assumption as Dixit (1989; 1992) and Bellalah (2001), that a continuous discounting of inflows occurs through a natural log process, ϑ , must be made. A correlating factor, ϕ , modified inflows for the presence of volatility and imperfect information. From this assumption an arrival to the initial rate of return, as well as the maximum and minimum rates of

return for the revenue process, was achieved. Equation (3) described the revenue process of an incremental loan. The expression for the return on an incremental loan was the first derivative of its revenue process as Equation (4) described. The minimum and maximum rates of return from the incremental loan were the second order derivatives of the revenue process as Equation (5) described.

$$v_p = \phi \eta^\psi \quad \text{Eq. (3)}$$

$$\frac{\partial v_p}{\partial \eta} = \phi \psi \eta^{\psi-1} \quad \text{Eq. (4)}$$

$$\frac{\partial^2 v_p}{\partial^2 \eta} = \phi \psi (\psi - 1) \eta^{\psi-2} \quad \text{Eq. (5)}$$

Substitution of the initial and higher order functions above into the equilibrium condition from Ito's Lemma provided the optimal return in a volatile system.

$$\frac{1}{2} \sigma^2 \psi^2 - \left(\frac{1}{2} \sigma^2 - \mu \right) \psi - \delta \alpha = 0 \quad \text{Eq. (6)}$$

Usage of the Quadratic Equation produced the positive and negative roots to the polynomial expression, Equation (6). Essentially, the roots of Equation (6), were the values for the natural log process that described the present value of inflows, which brought the expected value of the strategy to lend to the value of the portfolio in an idle or contracted state. Equation (7) described these roots, the Value of Waiting.

$$\psi_{P,N} = \beta_{+,-} = \varphi \pm \frac{1}{\sigma} \sqrt{\left(\frac{\lambda^2}{\sigma^2} + 2\delta\alpha \right)} \quad \text{Eq. (7)}$$

Determination of the correlating factor, ϕ , required that the instantaneous rate of return from the revenue process be set to that of the maximum rate of return (the second order derivative). Equation (8) provided the correlating expression. This followed the technique from Bellalah (2001), which assumed the higher order condition to be in unity.

$$\phi = \psi^{-1} \eta^{1-\psi} \quad \text{Eq. (8)}$$

To lend, Operating Income was modified by the downside risks from investment (Dixit, 1989: 627). With regard to Philippine Universal Banks, η , denoted Operating Income; and the discount rate was the real rate of return. In this model the hurdle rate, δ , net inflation, μ , provided the discount rate. Equation (9) generated the loan portfolio values for the Experimental Group.

$$L_1(\eta) = \eta^{\psi_N} \left[\frac{1}{2} \sigma^2 \phi \psi (\psi - 1) \right] + \left[\frac{\eta}{\delta - \mu} \right] \quad \text{Eq. (9)}$$

METHODOLOGY

This paper focused on an eight-year period of observation from 2008 to 2015. Information for the study came from publicly available secondary data as reported by the Central Bank, and Universal Bank Financial Statements. The reasoning for this span of time was that in 2007, the BSP installed Basel III requirements to protect the financial system from exogenous shocks that resulted from the onset of the Global Financial and Economic Crises during 2007 to 2009. Prior to 2007, reporting standards varied widely between Universal Banks in the country. The frequency by which sample member stocks traded in the Philippine Stock Exchange, and the value of their loan portfolios in Philippine Pesos served as the criteria for subject selection. To determine the randomness of cohort selection, a runs test was conducted on values for the Control Group. Findings from the runs test did indicate that the processes that generated the control group values were random. This study interpreted the runs statistic as an implication that the selection of cohorts substantiated a random sampling of Philippine Universal Banks.

By treatment of a Real Options Valuation Model, this study determined the loan portfolio values of actively traded Philippine Universal Banks. Inputs to the model were the inflows from the loan portfolio, η ; uncertainty, σ ; a growth rate, μ ; the level of information asymmetry, α ; the discounting rate, δ ; and outlays for the loan portfolio, ε or κ . Inflows from the loan portfolio, η , were the underlying asset of an option. Accounts in the financial statements that accord with the definition of inflows were Interest Income, Service Charges, Fees and Commissions. These inflows were seen as the capital gain from the loan portfolio, less any payments on deposits (Choi and Smith, 2002; and Färe, Grosskopf and Weber, 2004). Outlays, ε or κ , for the loan portfolio were the Control Group values. These amounts constituted the disbursements to borrowers in order to gain access to income streams in the form of loan amortizations. Financial statement accounts that represented these outlays were Loans and Receivables (net of Gross Loan Loss Provisions), Unquoted Debt Securities Classified as Loans (UDSCL), and Other Resources. The exercise price was the amount in outstanding loans that were generators of interest income (Choi and Smith, 2002; and BSP Financial Reporting Package for Banks, 2013).

From the Real Options Valuation Model, Experimental Group values were found. Variance, σ^2 , in log normal returns on the Loan Portfolio Value was the measure for uncertainty. In the extant literature uncertainty measured the volatility in prices for loans, stocks and exercise prices. In the BSOPM, variance based on the rate of return from an equity security served as a measure of volatility, while other models used the variance from the log normal value of the revenue (Dixit, 1989a; Choi and Smith, 2002; Brigham and Houston, 2009). Growth rate, μ , was the percentage change in the log normal Operating Profit, net inflation. Conceptually, a growth rate measured the rate of change in inflows from an underlying asset (McDonald and Siegel, 1986; Pindyck, 1988; Dixit, 1989a,b and 1992; McGrath, 1997; Bellalah, 2001, Färe, Grosskopf and Weber, 2004; Tsai, 2008; Grenadier and Malenko, 2010; and Mandelman, 2011). Information asymmetry, α , was the standard deviation in log normal values in Non-Performing Loans (NPLs). The use of NPLs as a measure of information asymmetry resulted from their definition as a loan whose principal and interest payments were thirty days or more past due (*Bangko Sentral ng Pilipinas*, Manual of Regulations for Banks, 2008). As banks did not know which loans they underwrote would default, the Non-Performing Loans account

provided the magnitude by which banks were unable to properly assess borrowers. In this study, the discounting rate, δ , serves as the Discount Rate for Retirement Plans of cohorts in the sample. This rate was seen as the minimum level of return by which a project must meet in order for the bank to provide continued support for employee retirement benefits. As managers determined the discounting rate, its influence on the loan portfolio value reflected another form of managerial flexibility.

Values from both Control and Experimental Groups were statistically tested to address the presence of managerial flexibility and information asymmetry, as well as there liability of values generated by a Real Options Valuation Model. Determination of randomness in cohort selection was conducted with a runs test. This study executed Shapiro-Wilk's Tests on both groups to determine the presence of normality in values. As both groups were determined to not possess normal distributions, values were subsequently log transformed, which brought both groups to normality. From these normally distributed values, a paired t-test sought to determine the presence of managerial flexibility and information asymmetry. To censure the findings from the paired t-test, such that the influence of outliers in the data was neutralized, a one-tailed Mann-Whitney Test statistic was found. The Intraclass Correlation (ICC) sought to address the second objective of this study, the reliability of values the model generated. The Pearson Product-Moment Correlation Coefficient (r) for each year in the window of observation reproved the findings from the ICC. A discernment of the monotonic relationship between both groups was found with the Spearman Rank Correlation (ρ). A further address of the second objective in terms of processes of value generation (with regard to distribution and variance), this study found the Cramer-von Mises (to discern equality of distribution), and two-sided Mann-Whitney statistics (to discern equality of variance). Lastly, the explanatory power of the model was determined for each year of observation through the Coefficient of Determination (r^2). Figure 1, described the conceptual framework that addressed the objectives of this paper.

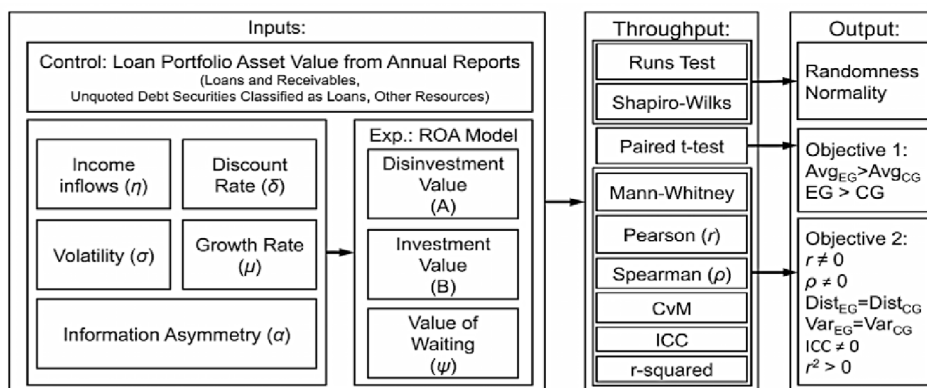


Figure 1.

Conceptual Framework for the Presence of Information Asymmetry and Managerial Flexibility

RESULTS AND IMPLICATIONS

From descriptive statistics, supported by the Shapiro-Wilk's Test, the data was not normally distributed, with p-values found at 2.65×10^{-10} , and 1.23×10^{-10} . At a 0.05 level of significance, the p-values from the test for normality were statistically significant. The average loan portfolio value of the Control Group was Php272.6 billion, while that of the Experimental Group was Php368.3 billion. Median values for the Control and Experimental Groups were Php150.9 billion, and Php211.1 billion. The lowest loan portfolio values for the Control and Experimental Groups were Php23.1 billion, and Php18.5 billion, respectively. Maximum loan portfolio values were Php1.38 trillion for the Control Group, and Php2.19 trillion for the Experimental Group.

As data for both Control and Experimental groups were found to have non-normal distributions, all values were subsequently log transformed. Log transformation of the values for each year resulted in the normalization of data. Shapiro-Wilk's statistics for every year of both groups were conducted at a 0.05 level of significance. For all years of Control and Experimental Group values, the p-value was greater than a 0.05 level of significance. Hence, the null hypothesis that the log-transformed values are not normally distributed could not be rejected. It was interpreted that the log-transformed data could be analysed by parametric statistical tools as the Pearson Product-Moment Correlation Coefficient (r), the Intraclass Correlation (ICC), and the Coefficient of Determination (r^2). Non-Parametric statistics were found to censure the data from the influence of outliers. All of these statistics were used to address the second objective of this study, the reliability of estimates generated by the model. Table 1 described the normalized data results for both groups in every year of the observation window.

Table 1.
Shapiro-Wilk's Test for Normalized Data

Year	CG	EG
2008	0.96083 (0.7953)	0.93511 (0.5)
2009	0.96805 (0.8722)	0.96812 (0.8729)
2010	0.97606 (0.9407)	0.94396 (0.5978)
2011	0.97298 (0.917)	0.94069 (0.5607)
2012	0.9522 (0.6945)	0.96883 (0.8798)
2013	0.96046 (0.7911)	0.97457 (0.9297)
2014	0.96268 (0.816)	0.9587 (0.771)
2015	0.95531 (0.7314)	0.97163 (0.9055)
All	0.98119 (0.2879)	0.98385 (0.4109)

EG: Experimental Group; CG: Control Group
Note: Figures in parentheses indicate p-value.
Shapiro-Wilk's Test values were statistically significant at a 0.05 level of significance.

The first objective of this study sought to ascertain the presence of managerial flexibility, and information asymmetry through an investigation of the loan portfolio values generated by the Real Options Model. From the paired t-test, the Calculated Probability (p-value) of 7.967×10^{-5} was less than a 0.05 level of significance. This indicated that there was a statistical difference between the means of both sets. The confidence interval at a 95 percent Confidence Level exhibited both positive values, which further supported the interpretation that the means of both groups differ. As such, the Experimental Group values were statistically greater than the Control Group values. To overcome the effects of any outliers in the data, a one-tailed Mann-Whitney Test was conducted. The one-tailed Mann-Whitney statistic showed a p-value of 0.04982, which was less than the 95 percent level of confidence. This indicated that values from the Real Options Valuation Model (Experimental Group) were greater than those of the loan portfolio book values (Control Group). From the non-parametric test statistic, the paired t-test findings were further reproved. Box plots of data for each group visually supported the paired t-test, and one-tailed Mann-Whitney statistics. Figure 2 described the box plots for both Control and Experimental Groups. It was of notice that outlier values existed for both groups that further prompted the use of non-parametric tests. As the Experimental Group values resulted from an expression that considered managerial flexibility (choice) and information asymmetry, this analysis indicated that the loan portfolio book values of sample members did not include the value of future opportunities from managerial choice and the dissipative effects of information asymmetry. Thus, findings from the Student's t test, and the one-tailed Mann-Whitney statistic support the first research hypothesis (H_1) that loan portfolio book values were lower than those from a Real Options Valuation Model.

Statistical support for the first research hypothesis implied that more entrepreneurial activity might have received further bank financing given that cohorts in the sample carried a hedging portfolio to counter the downside risks from lending. As the Real Options Valuation Model exhibited loan portfolio value estimates greater than the book values for cohorts in the sample, this finding indicated these banks were not lending at an optimal level, given the discount rate. In the economic environment of the Philippines from 2011 to 2015, Experimental Group values exhibited substantial increases above those of the Control Group (Figure 3). This observation indicated that banks in the sample lent far less than what the model estimated for the same period. Interestingly, this finding supported qualitative research by the Global Entrepreneurship Monitor (GEM) that stated access to loans in the country impeded entrepreneurial activity. Effectively, many micro and small-scale ventures in the country could not get loans (Velasco et. al., 2016). An implication of estimates generated by the model for the eight-year window of observation was a general under investment in the country. As the value of the hedging portfolio was not greater than one percent of the loan portfolio book values for any of the banks, the reductive effects of information asymmetry in the Philippine banking system was diminutive. As such, information asymmetry in the Philippine banking system could be treated as a form of unsystematic risk that could be diversified away. An argument forwarded by this paper was that a hedging portfolio to address information asymmetry was possible according to the Real Options Theory.

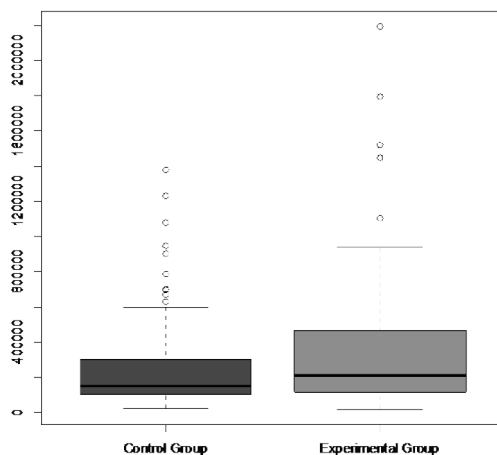


Figure 2.
Boxplots for Both Control and Experimental Groups

From Figure 3, a comparison of the group values indicated that option values of the loan portfolios between cohorts in the study exhibited higher values than the loan portfolio book values. Amid the Global Financial Crisis of 2007 and 2008, which developed into a Global Recession in 2009, whose effects continued to emerge into, arguably, 2011, option values of the loan portfolio inflows, were very close to the values reported in the annual reports. As the world arose from the Global Recession, option values began a general increase in value above that of the book values. In data on the growth rate for Operating Profits from the loan portfolios, during 2012 to 2015, cohort banks in the study experienced a general growth in these inflows. Growth in the Operating Profits from the loan portfolios were curtailed in 2013, when the inflation rate rose to 4.10 percent, as compared to the 3.00 percent inflation rate in 2012. Furthermore, the standard deviation in the return on loan portfolio values from 2012 to 2015, notably increased over values during the Great Recession. For the sample, the standard deviation in loan portfolio returns ranged from 0.1295 (2010) to 0.1945 (2009), between 2008 and 2011. In 2012, the standard deviation in returns declined to 0.1071, and subsequently rose in the following years to as high as 0.3593 (2013). As of 2015, the standard deviation in loan portfolio returns for the cohorts in the study was 0.2168. Here, the markedly greater standard deviations in returns reflected increased Operating Profit growth rates. This may echo that managers accessed profitable markets to lend to after the four years of austerity brought about by the Great Recession, which resulted in increased inflows. Yet, the higher option values from 2012 to 2015 did not match the loan portfolio asset values reported in the annual reports. An implication of the higher option values from 2012 to 2015, in relation to loan portfolio book values, was that along with an increase in both the Nominal and Real 1-year Philippine Treasury Bill Rate, banks held substantial spreads on loans that limited the loan portfolio. From 2012 to 2015 the nominal rate on a Philippine Treasury Bill increased 1.4 percent from 1 percent to 2.4 percent, respectively. In real terms, the T-Bill rate rose about 2.9 percent from negative 2 percent in 2009 to 0.09 percent in 2015 (*Bangko Sentral ng Pilipinas*, 2007 to 2015). Thus, hurdle rates for cohorts in the study were such that a very limited number of smaller ventures were allowed access to credit.

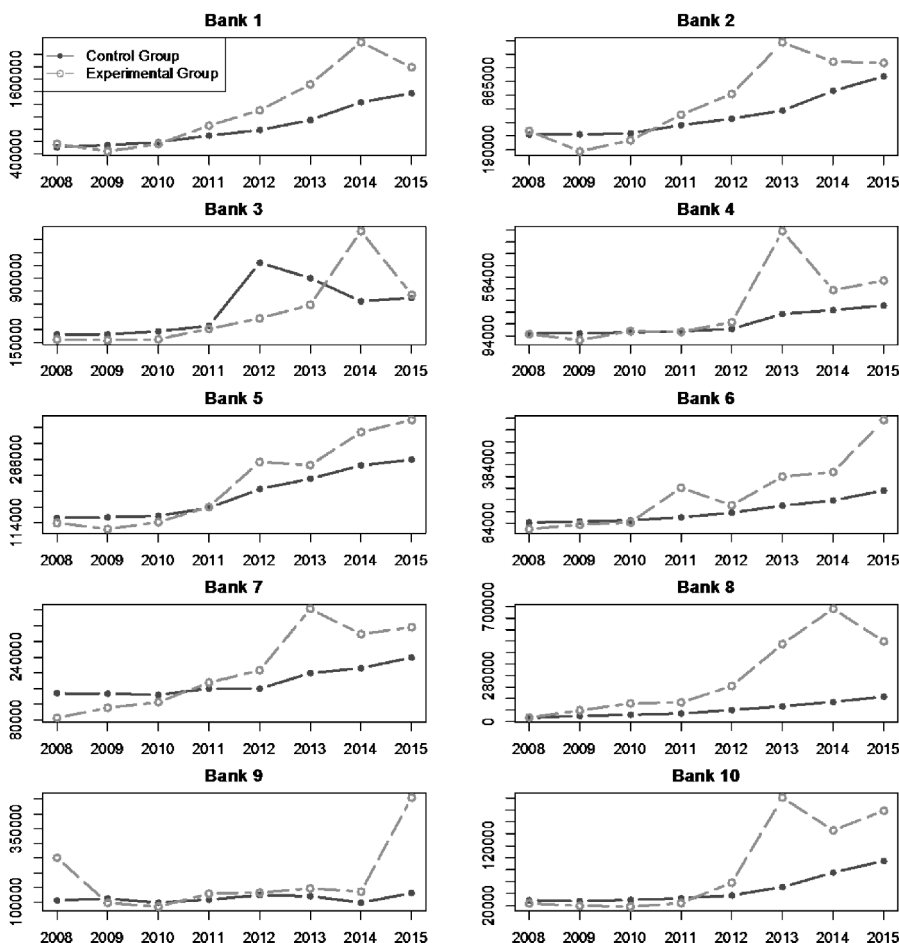


Figure 3.
Comparison of Control and Experimental Group Values from 2008 to 2015

In the comparison between both Control and Experimental Groups, support was found for the first objective of this study, namely, the detection of managerial flexibility, and information asymmetry in loan portfolio values from the model. This finding implied loan portfolio values in the annual reports did not include the value of future investment opportunities exclusive to members in the sample. The statistical closeness in values between the Control and Experimental Groups suggested that the involvement of information asymmetry reduced the value of future investment opportunities. This relationship was evident in the connection between the Value of Waiting and the level of Information Asymmetry as Figure 4, described. For the negative root, as Information Asymmetry increased, banks chose to idle. Figure 5, portrayed the value of risk adjusted Operating Incomes to the negative root for the Value of Waiting. In the case of very low values of the negative root, uncertainty was rather high and unresolved banks forewent investment. As the Value of Waiting for disinvestment (the negative root) approached zero, the loan portfolio value increased. From calculations based on

empirical data, the range of the negative root spanned between negative 2.32 and positive 0.33, while the positive root varied between 1.16 and 7.05. Given the low real interest rate environment, and significantly higher inflation rate of the country (Table 2), the correlating factor for the positive root approached very small values, on the order of 10^{-42} . This resulted in greatly diminished B factors that approached values on the order of 10^{-27} . Thus, for an actively traded Philippine Universal Bank that assumed the strategy to idle or even contract the loan portfolio, a destruction of value would have resulted. Hence, the more influential factor that determined asset value for actively traded Philippine Universal Banks was the negative root, which produced the downside risks for the strategy of lending. As an explanation with regard to how banks valued an option on the loan portfolio in the presence of volatility and information asymmetry lay beyond the scope of this discourse, Tan and Trinidad (2018) offered a complete discussion as to the investment behaviour of banks in volatile systems from a Real Options lens. Furthermore, the paper discussed how each function in the model was derived.

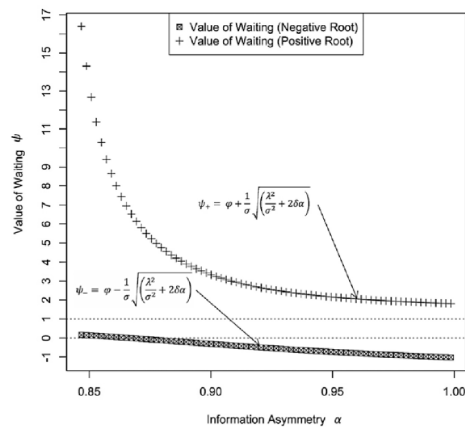


Figure 4.
Value of Waiting to Information Asymmetry (Tan and Trinidad, 2018)

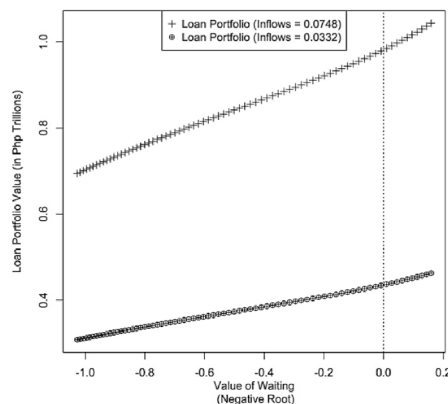


Figure 5.
Loan Portfolio Value to the Value of Waiting (Tan and Trinidad, 2018)

Table 2.

Philippine 1-year Treasury Bill and Inflation Rates from 2007 to 2015

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Nominal	0.0589	0.0621	0.0481	0.0252	0.0197	0.0099	0.0093	0.0270	0.0237
Real	0.0229	-0.0343	0.0184	0.0043	-0.0223	-0.0201	-0.0317	0.0000	0.0087
Inflation	0.0360	0.0965	0.0297	0.0209	0.0420	0.0300	0.0410	0.0270	0.0150

Bangko Sentral ng Pilipinas. (2007 to 2015). Table 6: Selected Domestic Interest Rates.

Table 4: Consumer Price Index in the Philippines (2006=100) Year-on-Year Change.

In Bangko Sentral ng Pilipinas, *Report on Economic and Financial Developments* (2007 to 2015), Fourth Quarters. Retrieved from <http://www.bsp.gov.ph/downloads/Publications/>

As a discussion of the second objective in this study, the determination of model reliability in loan portfolio value estimation, a series of statistical tools were used. The Pearson Product-Moment Correlation Coefficient (r) for each year in the window of observation indicated strong positive relationships that ranged from 0.7544 (2013) to 0.9257 (2009), between the Control and Experimental Group values. All p-values for the Pearson statistics were less than a 0.05 level of significance, which implied the relationships between both groups were statistically significant. To further reprove the Pearson statistics, and ascertain the monotonic relationships between both groups, Spearman Rank Correlation statistics were found for each year. The Spearman statistic indicated moderate (0.7818 in 2013) to strong (0.9273 in 2013) positive relationships between values in both groups. Intraclass Correlations (ICC) for each year supported the Pearson r analysis. ICC statistics ranged from moderate (0.52 in 2013) to strong (0.92 in 2008) that indicated values from the model very closely paralleled those from the annual reports. Cramer-von Mises statistics for each year of the observation window exhibited p-values of statistical significance, which supported the findings from the ICC. The Cramer-von Mises statistics effectively showed that values from both groups were from the same distribution. Two-tailed Mann-Whitney statistics for each year of observation reaffirmed the findings of the Cramer-von Mises statistics. The findings from the two-tailed Mann-Whitney statistic showed that both groups shared the same standard error. To further discuss the reliability of the model, the Coefficient of Determination indicated that the Experimental Group values accounted for 56.92 percent (2013) to 85.70 percent (2009) of the variation in the Control Group. These findings were significant as Graham and Humphrey (1978) concluded that homogeneity between samples indicated processes that generated values were the same, and generation of estimates with such a model was useful. Evidence from the test statistics support the second research hypothesis of this study, namely, values from the Real Options Model were reliable in the estimation of asset values. In light of the statistics, the model was seen as a reliable method of loan portfolio asset value estimation, due to the positive and strong relationships, as well as substantial explanatory power that the model provided in relation to the book values. Table 3, described the results from the Pearson Product-Moment Correlation Coefficient, the Spearman Rank Correlation, the Coefficient of Determination, the Intraclass Correlation, the Cramer-von Mises, and Mann Whitney (2-sided) statistics.

From the statistical tools, it became evident that the model provided a reliable methodology by which to estimate loan portfolio values for actively traded Philippine Universal Banks. This implied that regulators, and other banks could utilize the model to estimate loan portfolio values in the presence of

changes in economic states, as well as various hurdle rates. A sectorial application of the model has the possibility of providing insight as to the economic sectors that could receive more funding allocations or policy focus.

Table 3.

Pearson r , Spearman ρ , the Coefficient of Determination, r^2 , the Intraclass Correlation (ICC), Cramer-von Mises (CvM), and Mann-Whitney (2-sided) Statistics

Year	Pearson r	Spearman ρ	r^2	ICC	CvM	MW
2008	0.9206	0.8303	0.8475	0.92	10,164	51
	1.58E-04*	4.99E-03*		1.40E-05*	9.87E-01*	9.71E-01*
2009	0.9257	0.9273	0.857	0.9	35,270	62
	1.22E-04*	2.20E-16*		4.00E-05*	7.31E-01*	3.93E-01*
2010	0.9031	0.9273	0.8157	0.91	15,211	53
	3.42E-04*	2.20E-16*		2.20E-05*	9.43E-01*	8.53E-01*
2011	0.9048	0.8667	0.8187	0.89	33,468	42
	3.20E-04*	2.32E-03*		5.90E-05*	8.81E-01*	5.79E-01*
2012	0.8848	0.8303	0.7829	0.84	57,609	35
	6.69E-04*	4.99E-03*		3.60E-04*	8.04E-01*	2.80E-01*
2013	0.7544	0.7818	0.5692	0.52	241,672	28
	1.17E-02*	1.07E-02*		4.20E-02*	3.00E-01*	1.05E-01*
2014	0.8795	0.8303	0.7735	0.7	295,000	29
	7.96E-04*	4.99E-03*		6.44E-03*	3.19E-01*	1.23E-01*
2015	0.8656	0.8424	0.7493	0.61	291,917	28
	1.21E-03*	3.97E-03*		1.80E-02*	2.32E-01*	1.05E-01*

* Values are statistically significant at a 95 percent Confidence Level.

CONCLUSION

The first objective of the paper was to discern the presence of managerial flexibility, and information asymmetry in loan portfolio values through a Real Options Valuation Model. Analysis of loan portfolios for the ten largest, actively traded Philippine Universal Banks through a Real Options Valuation Model showed that figures from annual reports did not factor the value of future opportunities that managerial flexibility may allow access to. A paired t-test and one-tailed Mann-Whitney statistic, found that values from the Real Options model in this paper provided loan portfolio values that were higher than figures in annual reports. With the involvement of information asymmetry, the Value of Waiting for disinvestment experienced diminishing values, as this form of uncertainty swelled (Figure 4). Loan portfolio values increased as the Value of Waiting for disinvestment became less negative (Figure 5).

The second objective of this study was to determine the reliability of the model. Findings from the Pearson Product-Moment Correlation Coefficient (r), Spearman Rank Correlation, Intraclass Correlation, Cramer-von Mises, the two-sided Mann-Whitney, and Coefficient of Determination statistics showed that the model was reliable for a series of reasons. The Pearson Product-Moment Correlation Coefficient, and Spearman Rank Correlation indicated moderate to strong, positive relationships between the Control and Experimental Groups. Evidently, movements in one group would also be reflected the other group. The Intraclass Correlation exhibited that the model rated loan portfolios with a moderate to strong parallel with book values. The Cramer-von Mises and two-sided Mann-Whitney statistics verified that both groups shared the same distribution and standard errors, which indicated that the processes that generate both values were the same. These findings indicated that the model was useful as an estimator of loan portfolio values, since the processes that generated values for the Control Group were also present in the Experimental Group. The Coefficient of Determination indicated that the model accounted for 56.92 percent to 85.70 percent of variation in the Control Group. From Graham and Humphrey (1978), homogeneity between vectors was of significance as the processes from which values were generated are the same. As such, the model was seen as a reliable estimator of loan portfolio values.

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Figure Title and Legend.

Figure 1. Conceptual Framework for the Presence of Information Asymmetry and Managerial Flexibility

Figure 2. Boxplots for Both Control and Experimental Groups

Figure 3. Comparison of Control and Experimental Group Values from 2008 to 2015

Figure 4. Value of Waiting to Information Asymmetry (Tan and Trinidad, 2018)

Figure 5. Loan Portfolio Value to the Value of Waiting (Tan and Trinidad, 2018)

List of Abbreviations.

BSP: Bangko Sentral ng Pilipinas

BSOPM: Black-Scholes Options Pricing Model

CG: Control Group

CvM: Cramer von Mises Statistic

EG: Experimental Group

GBM: Geometric Brownian Motion

GEM: Global Entrepreneurship Monitor

ICC: Intraclass Correlation

MW: Mann-Whitney Statistic

NPL: Non-Performing Loan

Declarations:

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Development of Training Management Innovation: Theorization and Labeling in Jaro Development Corporation

Michael B. Pasco

ABSTRACT

Management innovations need to be institutionalized because they are more relevant to current management scenarios. Through a case study research on the training management innovation process in Jaro Development Corporation, I investigated a training management innovation process to explain the slow developments of management innovations into legitimate management practices. The slow development of training management innovation was affected by the theorization and labeling based on literature review. This led me to study the institutional factors and the individual factors in the management innovation process, and to determine how the individual factors mediated the influences of institutional factors on theorization and labeling. I utilized a case study research design, and qualitative research methods. I concluded, through analytic generalization, using outcome pattern matching of verified data, that individual factors, such as areas of attention of managers and employees' response, as well as the institutional factors, explained the uncommon occurrence of theorization and labeling. The managers' understanding of the objectives of the training management innovation, managers' attitude, and employees' response exhibited leadership in the promotion, acceptance and retention of the training programs although characterized with undocumented processes. Governance and enforcement required compliance, while goal alignment, social legitimacy, efficiency, organizational grounding, and trust motivated managers and employees to institutionalize training management innovations. The lack of social legitimacy and enforcement to extend the training programs to outside firms limited the theorized practice out of immediate context. It took leadership, process, and efforts to legitimize a management innovation.

Keywords: Management innovation process, Institutional factors, Individual factors, Theorization and labeling

INTRODUCTION

Current and well-known management practices underwent a slow or “gradual period of development as a management innovation before reaching legitimacy in the different organizations” (Birkinshaw & Mol, 2006, p. 82).

As I studied the management innovation process model of Birkinshaw, Hamel and Mol (2008), I also reviewed related literature and synthesized a conceptual framework and sets of hypotheses (Pasco, 2018). I found specific research gaps where there is lack of empirical data and lack of investigation of factors to understand the phenomena of theorization and labeling stage that affect the fast or slow completion of the management innovation process (Birkinshaw & Mol, 2006; Birkinshaw et al., 2008).

In my review of journal articles, theorization and labeling is the least investigated and understood phase of the management innovation process. I focused on the investigation of theorization and labeling because the discipline is also uncommon.

Theorization is the promotion of benefits of the management innovation from the leadership of managers and employees to stakeholders, while labeling is the naming of the management innovation based on its value (Birkinshaw et al., 2008). Management innovations take a gradual period to be established because of the limitations in the awareness and understanding of theorization and labeling (Birkinshaw & Mol, 2006; Hamel, 2006).

OPERATIONAL FRAMEWORK

There are individual factors or organizational context that influence the development of management innovation (Birkinshaw et al., 2008). Birkinshaw et al. (2008) also identified environmental context or institutional factors that can hasten the management innovation process.

Theorization and labeling.

Theorized new practice (in context) is an element that involves acceptance of benefits of management innovation by firm, familiarity on use and name of management innovation within the firm, and activities of internal change leaders (Birkinshaw et al., 2008) as well as retention or regular use of management innovation (Gebauer, 2011; Birkinshaw et al., 2008).

In contrast, theorized practice (out of immediate context) is an element characterized by accepted benefits of management innovation, familiarity on use and name of management innovation by outside firms, fashion-setter influence of the innovating firm, and imitation by other firms (Croidieu, Ruling, & Boutinot, 2012; Birkinshaw et al., 2008; Abrahamson, 2006).

Weiss, Aier and Winter (2013) identify the institutional factors like governance, goal alignment, and enforcement that directly affect institutionalization. The factors: social legitimacy, efficiency, organizational grounding, and trust affect the actors and processes of institutionalization (Weiss et

al., 2013). There are individual factors that are related to the behavioral factors among managers, and organizational factors among employees (Waal, 2003). These factors also affect institutionalization or the theorization and labeling element, particularly the managers' understanding of the benefits of the management innovation (Waal, 2003), positive attitudes (Moynihan & Pandey, 2010, Weiss et al., 2013), and employees' response (Cheruiyot, Jagongo, & Owino, 2012).

I also synthesized an operational framework of the factors affecting the theorization and labeling phase as shown in Figure 1.

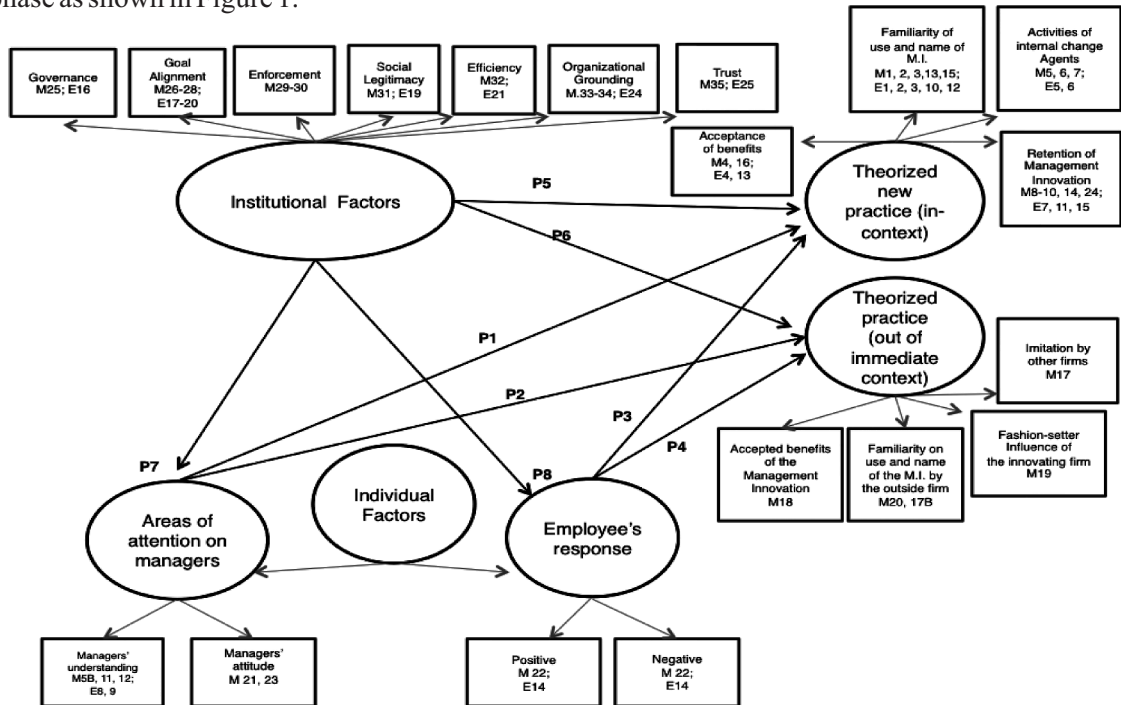


Figure 1.

Operational framework: Factors affecting the theorization and labeling phase of management innovation process (Pasco, 2018)

RESEARCH METHODOLOGY

I designed a qualitative case study research and validated my operational framework based on analytic generalization and outcome pattern matching (Trochim, 1989; Nicholson & Kiel, 2007; Yin, 2009).

Theoretical Foundations

I adhered to critical realism as a research philosophy (Yeung, 1997). Two of the theoretical foundations of my study were the social systems theory and the rational perspectives as the bases of

the descriptions and explanations about the contexts, categories, and factors associated with the theorization and labeling of the management innovation process according to Birkinshaw et al. (2008).

Social systems theory. Luhmann (1995; as cited in Hendry & Seidl, 2003) and Newstrom (2015) explained that the basic element of all social systems, in the social systems theory, was communication. Communication was the synthesis of utterances that included physical movements, speech, writing, information, understanding, and required interaction between individuals (Luhmann, 1995; as cited in Hendry & Seidl, 2003). Communication system led to changes in society, organization, and communication itself (Newstrom, 2015).

Rational perspectives. The rational perspectives included actions of individuals driving the management innovation process (Birkinshaw et al., 2008), such as the accumulation of knowledge (Wandersman, 2012), structural networks, (Battilana & Casciaro, 2012), performance management (Walker, et al., 2011), the cognitive or thinking skills of change leaders (Hamel, 2006, Hackman & O'Connor, 2004), as well as the goals and problems of the individuals in the firm (Burgelman, 1983; Birkinshaw et al., 2008).

The rational perspectives explained that management innovations were introduced by individuals whose goals were making their organizations work more effectively (Birkinshaw et al., 2008). The purpose, roles of change agents, and institutionalization process of management and technological innovation might co-evolve (Birkinshaw et al., 2008).

Pattern Matching of Modal Responses

Trochim (1989, p. 360) asserted that outcome pattern matching for analytic generalization “required a theoretical pattern of expected outcomes, an observed pattern of effects, and the attempt to match the two.”

Positive relationship (High level of Independent Variable and High level of Dependent Variable; or Low level of Independent Variable and Low level of Dependent Variable) meant “complete match” or literal replication of the propositions in my research conceptual framework (Trochim, 1989; Nicholson & Kiel, 2007; Yin, 2009).

Inverse relationship meant “partial match” or partial replication of a proposition in this research as this showed impact to the speed of management innovation process with theorization and labeling measures (Trochim, 1989; Nicholson & Kiel, 2007; Yin, 2009, Jaccard & Jacoby, 2010). Zero association meant “no match” or no replication of a particular proposition (Trochim, 1989; Nicholson & Kiel, 2007; Yin, 2009; Jaccard & Jacoby, 2010).

Case Descriptions

I name interchangeably Jaro Development Corporation, a.k.a. JDC, as Company B. It is located in Cavite. It is also one of the largest family-owned swine farms in the Philippines and a diversified firm

and semi-integrated operation which produces and sells quality finishers, lean pork cuts, and processed pork (Jaro Development Corporation, 2015). This company grows its swine business. It continues to measure and improve its animal performance. While managing change to improve the performance of a swine business is not easy, “seeing before believing” best describes how the managers and employees of Jaro Development Corporation evaluate the use of new products and management practices for continuous improvement of its swine production business. Company B had interesting facts about the establishment of Step By Step (SBS) training program that it gradually used to gain acceptance of new management practices by the managers and employees, to deploy this training management innovation, and to attain world-class swine production performance.

Respondents

There were thirty-one (31) actual respondents from Company B, as shown in Table 1, and more than the fifteen (15) target number of respondents. The respondents were personally involved in the SBS training program.

Table 1

Frequency and percentage distribution of respondents from Company B

Job Position	f	%
Total Employees (n)	20	65%
Total Managers (n)	11	35%
-Top Managers/ Change Agents	6	19%
-Middle Managers	5	16%
Total Respondents (N)	31	100%

Improvement of Efficiency with World-class Benchmarks

Benjamin “Ben” Jaro, the President of Jaro Development Corporation, established a business with currently more than PhP1 billion pesos annual revenue through achievement of swine performance at par with the Philippines standards.

Company background. According to Jaro Development Corporation (2015), Company B is a diversified firm, semi-integrated, and a family-run corporation. Some of the milestones in the history of the company were:

- Established by 3 siblings sometime in 1976 at its first base of operations in Imus, Cavite, Company B was started as a family-run corporation of the Jaro brothers, namely: Roberto, Oscar, and Benjamin in Brgy. Tanzang Luma, Imus, Cavite.
- The farm was diversified with related businesses in the pork and poultry supply chain, as Company B also owned a meat (end-product) brand.

- Today, Company B operates meat-shop outlet concessions in different branches of supermarket giants such as Robinson's, Big R, Waltermart, Citimart, and SM Supermarkets.
- Company B premium meats extended its reach to various institutions and to the tables of Filipino families.
- The continued success of Company B was mainly attributed to the high quality of service that the company tried to maintain consistently with the help of its reliable and knowledgeable teams of employees. (Jaro Development Corporation, 2015).

Aspirations. Company B aspires to establish itself as a market force and secure a major share of the market in the areas of fresh pork, beef products, and processed meats. Company B envisions its products to be the preferred choice by the end-users, while branding them healthy, nutritious, tasty, and of the highest quality. Its mission is to serve fresh and safe meat products while maximizing profit. Company B intends to provide quality products at affordable prices to its customers - "always on quality and savings" (Jaro Development Corporation, 2015).

Values. Company B promotes among its employees the culture and values of a Christian home characterized by honesty and excellence. Attaining mutual respect from employer and employees by giving equal opportunity to each employee in the ratification of their talent in their own field of expertise. Employees are highly appreciated as the core value of importance in making the necessary step towards success and beholder of the future of the company (Jaro Development Corporation, 2015).

Products. Company B locally produces and sells, high-performance boars and gilts, 90 to 100 kilograms live weight hogs, and fresh pork and beef. Company B sells processed meats: "sweet ham, longanisa hamonado, longanisa Cavitena, pork sisig, and tocino." According Aida Vibar, one the Farm Managers, "We are working to make our hog products and processed meat products more consistent in terms of sensory qualities such as color and taste."

Capabilities. In 1989, Company B also engineered swine genetics of their own unique breeder lines in 2004, with a volume requirement of pork carcasses that made manual slaughtering impractical and inefficient, Ben decided to set up a multi-million, fully mechanized hog processing facility, and owned feedmills with European machines. Company B today has a slaughterhouse, meat processing plant, and sales distribution network of JDC Meats branded pork and egg products.

Key strategies. Ben is a leader and a "hands-on" manager. He works for continuous improvements by solving specific problems and priorities each business year. He also aspires to grow the business along with its people to ensure long-term success built on years of experience and reputation in the industry. The sustainable success of Company B is mainly attributable to the high service level that it maintains daily with the help of its dependable and knowledgeable team of employees. The industry admires the service level to the trade that Company B has developed into a level of excellence admired by all. Ben and his company truly welcome foreign and Filipino suppliers and consultants

based in the country in the development of its own genetic lines, natural and mechanical ventilation, and feeding systems; and maximizes employment of more people to grow the scale and national competitiveness.

Ben focuses on technologies that can help improve its productivity. He also prioritizes assessment of technologies that will further improve the quality and consistency of its meat products. Enough land spaces, lagoons, and waste and bio-gas facilities equip Jaro Development Corporation to prevent and manage potential air, water, and land pollution. Ben believes in the importance of planting more trees and vegetables within its farm locations.

Jaro Development Corporation is one of the companies that contribute to the nation-wide thrust towards agro-industrial development. Ben also safeguards their compliance with government policies, requirements, and transparency in its corporate information.

Promotion of the Benefits and Use of Step by Step

As Ben anticipates resistance from his managers and employees in decision-making, he prefers to convince them with the benefits of training programs that are most relevant in current operation needs, and have the most expected impact, so that are more easily accepted by his managers and employees. Ben and his people prioritized continuous improvement for more farm productivity in increasing the number of hogs produced by the least possible number of sows or matured female pigs for breeding. Because Step By Step was designed to train personnel and deploy modern technologies, Ben was attracted by the potential value and supported its use in Company B.

Step by Step as new training program. According to the selected managers and employees of Company B, Step By Step is unique because it is most relevant, addresses high potential benefits as persuasively explained by the President and its Supplier, and convinced managers and employees to support the program. The training program is also replicable in attaining other specific performance objectives. Ben and Dr. Cielo conduct “step-by-step” discussion with managers, employees, and suppliers on key farm problems to be resolved, and Step By Step training management practice is geared towards task synchronization and efficiency by solving the most alarming problem of the farm related to farm performance, sales quantity, and costs. Trainers in Step By Step (SBS) enumerate and discuss simple and understandable steps and tasks of farm personnel to solve identified and key farm concerns.

The processes of SBS are exciting because those can encourage active participation from the managers and employees of Company B. As Dr. Cielo describes, “SBS has very exciting seminars that discuss and help innovation of swine farm. SBS is also one direct training program for supervisors and non-supervisors and gives easy to remember tips, interactive and focused follow-up, and identifies specific problems of the farm operation.”

Implementation of Step By Step. Company B started to test techniques learned from Step By Step in 1/3 sow population and underwent experimentation and trial observations. Advantages and disadvantages in the first three months showed new considerations in the implementation, based on

farm records. Ben, Dr. Cielo, and managers of Company B performed action plans that gave favorable results and encouraged implementation on one farm site and then to the other farm sites.

Company B continued to conduct activities, monitor, and assess the results and feedback for managers and employees as shown in Photographs 1 and 2. Company B, under the direct supervision of Noel and Aida, also made operation changes based on the outputs of SBS, such as the reduction of breeding schedules from three days to two days a week, the assignment of team leaders selected from the supervisors who monitored progress of timing and daily batch breeding, supervision approach by managers and veterinarians, and set-up of park and cull criteria and actions” to prevent prolonged stay of non-productive sows.

I also observed the great confidence gained by each participant of SBS. Noel, the Farm Manager, also mentioned confidently that, “The owners fully supported the conduct of the training program on a regular basis. The performance results measured were positive and encouraging.”

Benefits from the training program. According to the managers and employees of Company B, the techniques, processes, changes, and instructions conveyed by Step By Step are simple and easy to understand as illustrated in Figure 2.

Both managers and employees have active engagement and superior achievements under the training program. With conspicuous collaboration, Company B achieved understanding of its primary concerns and appropriate solutions, people gained confidence with knowledge and skill improvement, and the managers and employees achieved clarity and better communication to address the identified farm priority to increase efficiently the number of animals produced. The farm also gained monetary savings and extra revenues that improved the profitability of the farm.

Slow development of Step By Step (SBS). Dr. Cielo observed that although Step By Step deployed modern techniques and technologies, the development of Step By Step as a training management innovation was relatively slow. The retention in Company B was not guaranteed because of the incomplete evidence of success. The legitimacy of SBS in outside firms was not clearly described by the respondents.

STEP BY STEP

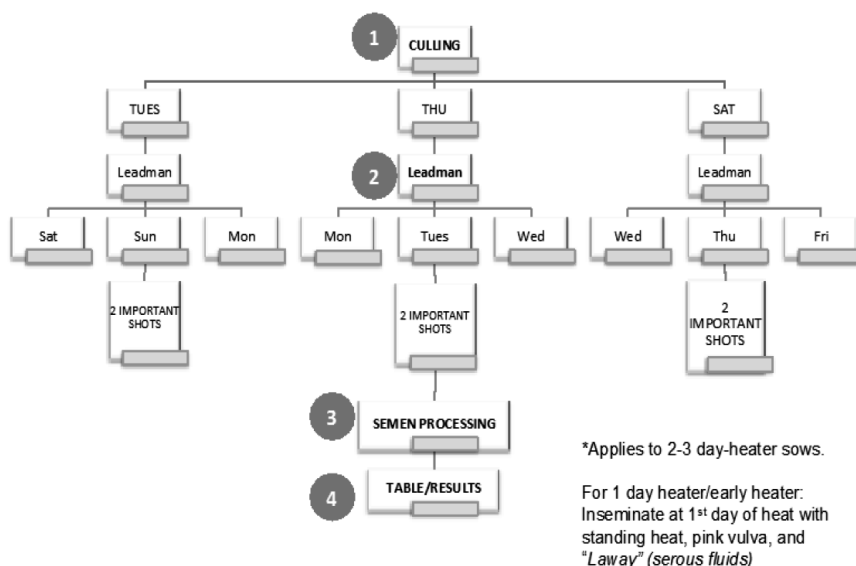


Figure 2.

Simplified one-page Step By Step (customized training process for Company B- reinforced as solution to primary farm production concern).

RESULTS AND DISCUSSION

In less than a year of introduction of the Step By Step (SBS), majority of the managers and employees were impressed with this training program, and took a year to assess its retention in Company B. I observed conscious, competent, and intensified efforts in the brainstorming and motivation, invention, and implementation of the SBS training program. Conscious efforts were evident in the promotion of the name and use of SBS. The Supplier worked to overcome the resistance to SBS of some of the managers and employees of Company B. But the theorization and labeling of SBS lacked rigorous plans, calendar, and creative activities to increase the persuasiveness on the stakeholders.

Analytic Generalization

I answered the research questions and tested the propositions by describing and evaluating the convergence of the results of pattern marching of modal responses, narrating the results of my survey and personal interviews, and my participant observations.

What individual factors affect theorization and labeling? There is a complete match on the association of individual factors (IDF) and theorized new practice in context (TNP) in the SBS of Company B. The individual factors are the employees' responses, and the areas of attention of managers (AAN) - that include managers' understanding of the objectives and components of the training program, and the managers' attitude toward the training program.

Overall, individual factors have indications of association with theorized new practice in context and theorized practice out of immediate context, and are similar to the findings of Waal (2003), Birkinshaw et al. (2008) and Weiss et al. (2013).

P1: Areas of attention on managers (managers' understanding and managers' attitude) influence the theorized new practice in context.

The areas of attention on managers (AAN) are associated with the theorized new practice based on corroboration of pattern matching of modal responses in survey and personal interview, and my participant observations, as shown in Table 2.

With the Supplier and President spearheading SBS in Company B, the respondents from Company B committed to the training program because of the attractiveness of the benefits of SBS. In the orientation of the production department about the SBS training program, the managers' primary goal was to discuss and improve farm performance. This goal also reflected some of their personal motivations and leadership required to institutionalize Step By Step, as also viewed by Vaccaro, Jansen, Van Den Bosch, & Volberda, (2012).

Table 2
Pattern matching with Proposition 1 in Company B

Variables	Pattern Matching	Description	Participant Observation/ Documents
AAN (Areas of Attention on managers) <--> TNP (Theorized new practice in context)	Complete match	High- Areas of attention on managers. High-Theorized new practice in context. Very beneficial for managers and employees. Respondents were familiar with the objectives and components of SBS. The respondents identified the roles of the leaders of the training program. Monthly routine in the conduct of the training program.	In the orientation of the production department about the SBS training program, the managers' primary goal was to discuss and improve farm performance and this also reflected some of their personal motivations. The President and Supplier of Company B announced in every meeting that they fully supported the institutionalization of SBS in their business operations.
MAU (Managers' understanding) <--> TNP (Theorized new practice in context)	Complete match	High- Managers' understanding. Majority of managers had mastery of the objectives of the training program at great extent. High-Theorized new practice in context.	I observed that the managers who truly understood the name, objectives, techniques, and approach of the training programs led very well the facilitation of activities, teaching, and pressures on environment in the SBS training sessions that I attended through active participation, asking high value questions, mentoring, and enjoying every training activities.

Variables	Pattern Matching	Description	Participant Observation/ Documents
MAA (Managers' attitude) <--> TNP (Theorized new practice in context)	Complete match	High-Managers' attitude. Managers spoke of positive things about the training program to a great extent. In my personal interview with the President, he insisted that the evidence of success of the training program would justify its use in Company B. High-Theorized new practice in context.	I also observed in a lecture that I attended that the managers of Company B spoke positive things about the training of program because of the benefits of SBS to their farm and to themselves. The President and Supplier of Company B announced in every meeting that they fully supported the institutionalization of SBS in their business operations.

I also observed in a lecture in SBS that the managers of Company B spoke of positive things about the training program because of its benefits to their farm and to themselves. The effects of areas of attention on managers to Company B were similar to the argument of Waal (2003), that the understanding of the meaning of the measures and of the relationship between business processes influenced managers' positive attitude. In my personal interview with the President, he insisted that the evidence of success of the training program would justify its use in Company B. The arguments of Moynihan and Pandey (2010) are relevant in saying that the managers' freedom to experiment with the process is an incentive and that influenced the engagement of the managers in the experimentations of a new practice.

From the pattern matching using modal responses, the institutional factors and individual factors have relative high occurrence, while theorized practice in context are also relatively high. The results indicate direct association.

P2: Areas of attention on managers (managers' understanding and managers' attitude) influence the theorized practice out of immediate context.

The results from the pattern matching of modal responses from survey and personal interview, and participant observations, converged to validate this second proposition in the case of Company B. There is a partial match between the theoretical and observed patterns of the areas of attention on managers and theorized practice out of immediate context. Although the managers have high level of understanding of the objectives and components of the SBS training program, this factor has weak association with the promotion and regular use of SBS outside Company B, because managers do not have a common goal to extend SBS to other firms, as also explained by Ryan (1970), by the social systems theory (Luhmann, 1995; as cited by Hendry & Seidl, 2003) and by Parmar, Freeman, Harrison, Wicks, Colle S., & Purnell (2010).

It is possible to realize a more successful theorized practice out of immediate context if there are managers or external consultants who act to pursue the promotion of the name, benefits, and regular use of the training programs, as also described by Siemens (2005), and Birkinshaw et al. (2008).

The understanding of managers on theorized practice out of immediate context had lots of opportunities. The managers needed to understand and act to champion theorized practice out of immediate context (TPO) efforts, such as the promotion of name, benefits and regular use of the training management innovation. Company B also lacked structured process and strategy to deploy their training programs to other firms.

Table 3
Pattern matching of variables in Proposition 2 in Company B

Variables	Pattern Matching	Description	Participant Observation/ Documents
AAN (Areas of Attention on managers) <--> TPO (Theorized practice out of immediate context)	Partial match	High- Areas of attention on managers. Low- Theorized practice out of immediate context. Few managers were aware of the people affiliated with the company who promoted SBS training program. Few managers gave the reasons why other farms imitate SBS training program. Few managers identified the names of the training program used by other companies. Few managers were aware of the imitation by other firms and failed to identify farms imitating the SBS training program.	Company B also lacked structured process and strategy to deploy their training programs to other firms.
MAU (Managers' understanding) <--> TPO (Theorized practice out of immediate context)	Partial match	High- Managers' understanding. Majority of managers had mastery of the objectives of the training program at great extent. Low- Theorized practice out of immediate context.	Managers' goals were focused on improvements of internal operation.
MAA (Managers' attitude) <--> TPO (Theorized practice out of immediate context)	Partial match	High- Managers' attitude. Managers spoke of positive things about the training program to a great extent. Low- Theorized practice out of immediate context.	Managers of Company B failed to identify the names, objectives, use, process and reasons why other firms imitate Step By Step.

P3: Employees' response (positive or negative) influences the theorized practice new practice in context.

The results from the pattern matching of modal responses and participant observations also corroborated to validate the 3rd research proposition with Company B, as shown in Table 4. There is a complete match between the expected levels of employees' response (EMR) and theorized new practice in context (TNP). The employees of Company B fully supported the Step By Step training program because of its alignment with the mentioned common internal firm goal that was related to improvement of identified farm performance (farrowing rate %) set by the President.

The changes in routines, structure, and roles of managers and employees to reinforce monitoring of results are also explained by Mol, & Birkinshaw, (2009), that structural changes influence levels of

new management practices. I also observed in one of the training assessments that the employees in Company B could give feedback but had no direct authority to influence procedures or policy based on their job roles and responsibility. The acceptance and attitude of the employees on SBS were relatively high because some employees described the SBS as having brought about a “big change” in the operation through effective information and approach, as also appreciated by Siemens (2005).

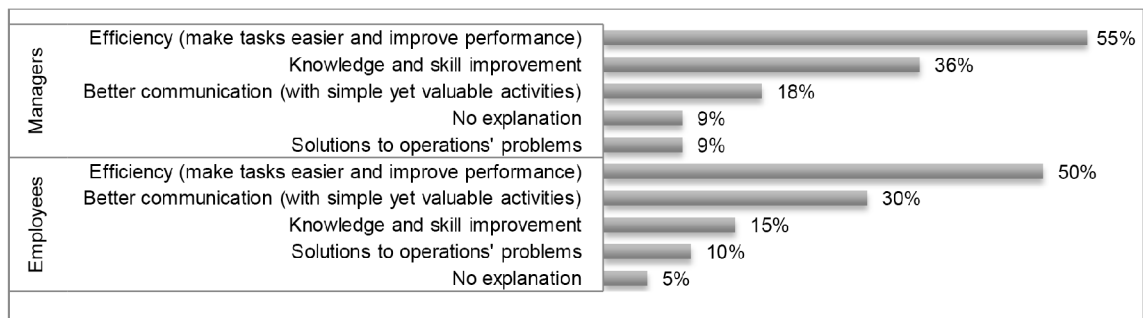


Figure 3.

Explanations on why Company B employees speak of positive things about SBS (multi-responses)

The situation was aligned with the premises of Cheruiyot et al. (2012), that receptiveness of employees to the institutionalization of a management innovation could be met with clearly stated employee expectations and benefits. According to the diffusion theory, adopters of an innovation look at the attributes of relative advantage before they commit to its retention (Dearing, 2008).

Table 4

Pattern matching of variables in Proposition 3

Variables	Pattern Matching	Description	Participant Observation/ Documents
EMR (Employees' response) <--> TNP (Theorized new practice in context)	Complete match	<p>High- Employees' response. Employees spoke of positive things at moderate to a great extent.</p> <p>High- Theorized new practice in context.</p> <p>SBS was very beneficial for managers. All of the managers identified with the objectives of SBS.</p> <p>Respondents had good knowledge of the components of SBS.</p> <p>The respondents identified with the roles of the leaders of SBS training program.</p> <p>There were monthly routines in the conduct of SBS training program.</p>	<p>The employees of Company B fully support Step By Step (SBS) training program because of its alignment with improvement of farrowing rate.</p> <p>I observed in one of the audit sessions for the SBS training program that the testing of SBS training program to deploy new sow breeding technique as a technology required changes in routines, structure, and roles to reinforce monitoring of results. The managers and employees shared more feedbacks about the results.</p>

The organizational process of problem-solving resulted in the accommodation of the employees of Company B of the Step By Step as a new training management practice, as also viewed by Crossan & Apaydin (2010). As I observed in several meetings, there were visible respect between managers and

supplier on the existing best practices of the farm. The change agents took lecture as the first step, and it took several meetings before the suppliers proposed more sensitive activities like farm audit. The employees, who were observed to be very attentive, asked many questions and gave positive feedback initially on the new techniques learned. The newness of the ideas presented to them and the persuasiveness of the communication intensified the acceptance by the employees of Company B, as also described by (Dearing, 2008; Weiss et al., 2013).

P4. Employees' response (positive or negative) influences the theorized practice out of immediate context.

There is a partial match between the research proposition and the levels of employees' response (EMR) with theorized practice out of immediate context (TPO) based on the surveyed rankings of awareness and perception by respondents from Company B, as presented in Table 5.

Table 5
Pattern matching with Proposition 4 in Company B

Variables	Pattern Matching	Description	Participant Observations
EMR (Employees' response) <--> TPO (Theorized practice out of immediate context)	Partial match	High- Employees' response, Employees spoke of positive things at moderate to a great extent. Low- theorized practice out of immediate context. Few managers were aware of the people affiliated with the company who promoted SBS training program. Few managers gave the reasons why other farms imitate SBS training program. Few managers identified the names of the training programs used by other companies.	The President described in the personal interview that, "Our employees were also responsible for the confidentiality of firm information and their roles did not involve servicing outside firms."

As the employees kept confidentiality of information, their goals were internally-focused, while the directions and efforts to help other firms were weak, as also noted by Luhmann (1995; as cited by Hendry & Seidl, 2003).

Nieves and Cipres (2015) revealed that both the internal resources and the relations with external change agents determined the introduction of management innovations to external settings by employees. Klein and Knight (2005) are right in saying that an innovation process fails when the firm misses to gain desired employee's plans, skills, consistency, and commitment to deploy the new innovation that is still establishing credibility. From the triangulation method I made, it was evident that Company B lacked such skills, consistency, and commitment in the promotion of SBS to outside firms.

What institutional factors affect theorization and labeling? I addressed the second research question by confirmation of the replication of the 5th research proposition in Company B. Governance, goal alignment, social legitimacy, efficiency, enforcement, organizational grounding, and trust are the institutional factors that have associations on theorization and labeling elements. Modal responses of respondents related to concepts, computed rank correlation coefficients between measurement items, and my participant observations had common descriptions of the presence of associations between the investigated factors and theorization and labeling elements.

P5: Institutional factors (governance, goal alignment, enforcement, social legitimacy, efficiency, organizational grounding, and trust) affect theorized new practice in context.

With the analysis of pattern matching of modal responses and my participant observations, I validated a complete match that there was association between institutional factors (INF) and theorized new practice (TNP). Enforcement of laws or policies and the organizational grounding of each manager or employee had moderate impact on the promotion of benefits and use of SBS in Company B, in terms of commanding obedience and compliance from managers and employees. Governance, goal alignment, social legitimacy, efficiency, and trust affected different aspects of the swine business operation, and were not particular to theorized new practice in context (TNP) in SBS. From the survey, there were company policies related to SBS training program in Company B and these were related to attendance, implementation of action steps, and incentives and promotion. There is a complete match between this research proposition and the levels and influence of institutional factors (INF) and TNP, as shown in Table 6.

Table 6

Pattern matching with Proposition 5 in Company B

Variables	Pattern Matching	Description	Participant Observation/ Documents
INF (Institutional Factors) <--> TNP (Theorized new practice in context)	Complete match	High- Institutional factors. High-Theorized new practice in context. Very beneficial for managers and employees. Respondents were familiar with the objectives and components of SBS. The roles of the leaders of the training program were identified by the respondents. Monthly routine in the conduct of the training program. High- Theorized new practice in context.	I observed that the deliberations of decisions in operations meetings to pursue SBS in Company B were driven by the acceptance of prompt yet effective decisions based on current trends and information.
GOV (Governance) <- >-> TNP (Theorized new practice in context)	Complete match	High- Governance. Majority of managers and employees identified company guidelines related to attendance. High- Theorized new practice in context.	Company policies were strictly implemented. Warning letters were used to remind delinquent employees.

Variables	Pattern Matching	Description	Participant Observation/ Documents
ENF (Enforcement) <--> TNP (Theorized new practice in context)	Partial match	Low-Enforcement. Few managers-respondents were aware of the laws that compel company to support the promotion and regular use of SBS training program. High- Theorized new practice in context.	Majority of the respondents failed to provide examples of the specific laws.
SLE (Social Legitimacy) <--> TNP (Theorized new practice in context)	Partial match	Low- Social Legitimacy. Few of the top managers valued affiliation, while middle managers believed that the training program could change their job position.	The large operation and numerous manpower allow promotions to farm supervisor. The newly promoted supervisors support the Supplier to implement SBS.
EFF (Efficiency) <--> TNP (Theorized new practice in context)	Complete match	High- Efficiency. All managers and employees perceived that the company had become more efficient because of SBS training program especially with efficient techniques (save time, inputs, animal performance). High- Theorized new practice in context.	Objectives of the training program are written on the boards during the lecture part of SBS. Adjustments in tasks are made after discussion and evaluation in SBS.
OGR (Organizational grounding) <--> TNP (Theorized new practice in context)	Complete match	High- Organizational grounding. All managers and majority of employees perceived that SBS training program was grounded on values of honesty and excellence. High- Theorized new practice in context.	The managers recognized that termination of employment was the consequence of dishonesty in Company B, as part of company policy.
TRU (Trust) <--> TNP (Theorized new practice in context)	Complete match	High- Trust. There was high level of trust and good relationship between managers and employees. High- Theorized new practice in context.	Managers and employees maintained respect when mistakes or errors were committed along the implementation of the SBS. Trusted employees by the President were given promotions.

The institutional factors in this research are similar to the factors pointed out by Cheruiyot et al. (2012) as critical in the institutionalization of knowledge management as a management innovation that include governance with effective procedures. I observed that the deliberation of decisions in operations meetings to pursue SBS in Company B was driven by the acceptance of the need for prompt yet effective decisions based on current trends and the information, which was also given importance by connectivism in learning (Siemens, 2005) as synergized by the conduct of efficiency in operation, valuing honesty, and excellence. All of the managers and employees-respondents also perceived that these beliefs and values of Christian families were foundations of the SBS training

program in Company B, and were important to improve farm performance and income. Evident from my observations on how managers and employees talk to each other, the employees and managers have a high level of trust and openness in addressing issues, as the survey respondents also noted.

How do the institutional and individual factors influence theorization and labeling?

I observed in SBS activities that managers' interventions were influential in the retention of Step By Step in Company B. The large scale of the business also drove Company B managers to lead and manage knowing that no matter how strict company policies would be implemented, the voluntary efforts from the employees could not be dictated, as part of human nature, but could be gained through persuasion and leadership in the organization (Burgelman, 1983; Birkinshaw et al., 2008; Dearing, 2008; Vacarro et al., 2012). With the results from Company B, I summarized a model as shown in Figure 4.

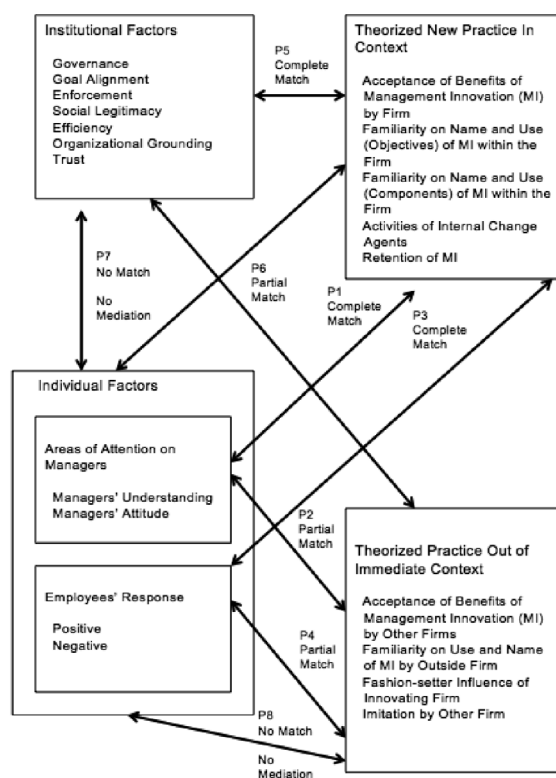


Figure 4.

Association between conceptual variables and theorization and labeling of Step By Step

CONCLUSION AND RECOMMENDATIONS

Step By Step is one of the beneficial management practices of Jaro Development Corporation as a type of training practice innovation. The slow development of Step By Step as a legitimate management innovation was due to the criteria and period to gather evidence of success.

Conclusion

Through analytic generalization, I confirmed in Company B, based on case descriptions, survey, personal interview and outcome pattern matching and participant observations, the associations between factors on theorization and labeling, as illustrated in Figure 4.

What individual factors affect theorization and labeling? Managers' understanding, managers' attitude, and employees' response affect theorization and labeling of Step By Step as a training management innovation.

1. Areas of attention on managers (managers' understanding and managers' attitude) influence the theorized new practice in context. Theorized new practice in context is not an easy activity. It takes competencies, leadership, and strong will from the President and managers to theorize and label a training management innovation.
2. Areas of attention on managers (managers' understanding and managers' attitude) influence the theorized practice out of immediate context. The goals of leaders and managers of a firm to extend a management innovation influence the whole organization.
3. Employees' response (positive or negative) influences the theorized new practice in context. Through reporting updates and feedback, the employees influence the acceptance, rejection, or improvements of the promotion of benefits, and the learning of connected information sets, name, and use of the training programs.
4. Employees' response (positive or negative) affects the theorized practice out of immediate context, but the observed association from my case is inversed. Low levels of employees' goal orientation for outside firms affect the low level of occurrence of theorized practice out of immediate context.

What institutional factors affect theorization and labeling? Governance, goal alignment, enforcement, social legitimacy, efficiency, organizational grounding, and trust impact theorization and labeling.

5. Institutional factors (governance, goal alignment, enforcement, social legitimacy, efficiency, organizational grounding, and trust) affect theorized new practice in context. There is also a direct association between institutional factors with theorized new practice in context in my case. Organizational grounding on beliefs and values, goal alignment, social legitimacy, and firm efficiency are motivational triggers in both cases, while enforcement and governance require compliance from managers and employees. There is a lack of company policy that is particular to theorization and labeling activities.

Recommendations

Implications for practice. I encourage Jaro Development Corporation and the Philippine swine industry to review relevant best management practices from the Step By Step (SBS) and leverage the advantages to improve cooperation, update skills, achieve performance goals, and enhance communication among production teams.

1. I encourage the managers in different industries to document and include in their management meetings, and in management conferences, their emerging best management practices in theorization and labeling of management innovations that are important for their firms' success. I expect the unselfish leadership to further review and refine the promotion of the use and benefits of management innovation for individual company and different organizations. Theorization and labeling and management innovation need conscious efforts and leadership to establish reliable process that can be applied in management.
2. I encourage different members of the Hog Raisers' Associations in the Philippines to participate actively and include in their annual agenda and conferences the presentation of success stories related to the training management innovations of different swine farms and their institutionalization process. Swine production in the Philippines is run by people and less by machines.
3. I encourage managers and scholars to present valuable teaching cases in the academia with the success stories about gaining full acceptance and commitment from the managers and employees through the theorization and labeling of the training management innovations in each company.

Implications for future research. I also recommend scholars to conduct more case studies to test the replication of the management innovation process of Birkinshaw et al. (2008), and to test the impact between different phases. I also recommend further quantitative study for future research to develop my conceptual framework into a model. It is also worthwhile confirming in the future if high-impact management innovations, that are well-known as highly beneficial by management scholars and practitioners, can be developed only through long period of time and natural occurrence without urgent and deliberate leadership interventions in the management innovation process.

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A Proposed Model for Sustainability Reporting for Higher Education Institutions (HEIs)

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*“Sustainability is permanent adaptation
to changing conditions”*

ABSTRACT

Sustainable development refers to “development which meets the needs of the present without compromising the ability of future generations to meet their own needs.” Based on this concept, paper aim to propose a model for sustainability reporting for Higher Education Institutions (HEIs) in the Philippine context. Specifically, our proposed model attempted to integrate HEI’s central core functions, sustainability initiatives vis-à-vis models of sustainable development. Moreover, the proposed model is rooted on the following assumptions: First, that there has generally been an acknowledgement of three aspects of sustainable development, namely: economic, environmental and social. Second, that the tools, standards, and guidelines developed by the Commission on Higher Education (CHED), which is the Institutional Sustainability Assessment (ISA), Baldrige Excellence Framework for Education, ISO 14000 Environmental Management System (EMS), and Global Reporting Initiatives (GRI) can be used as assessment tools in sustainability reporting. Third, that there is a need for the alignment and integration of the HEI’s functions, Model of Sustainability, and the tools for assessment in sustainability reporting, that should be combined with the analysis of financial and non-financial performance. Our analysis of the existing literature led us to develop a Sustainability Reporting Model for HEIs in the Philippines that the universities can use as guide in detailing their Sustainability Report indicating their initiatives and practices. We also pointed out that is using the model, it is important to consider that transparency and trust in the reporting be observed. Lastly, we believed that the reporting system must be done on a regular annual basis with a semesterly interim report based on the academic year of the institution to make it a beneficial document of sustainability.

BACKGROUND OF THE STUDY

Prior to the second half of the twentieth century, the idea of development as we know it today barely existed. The structures of imperial and colonial powers which dominated the world in the nineteenth and early twentieth centuries made little provision for economic and social advance in what we now call the developing world. Colonial regions functioned primarily to supply the imperial powers with raw materials and cheap labor – including slave labor until as late as the mid-nineteenth century. Within the richer countries of Europe, North America, and Japan, economic growth was central to the generally accepted goals of “progress” and “modernization”, but there was relatively little concern for issues of equity and social justice. The desperate poverty, and weak or non-existent social safety nets in Europe and the United States during the Great Depression, showed how even in these countries, policy was not driven by the needs of most of the people. (Harris, 2000)

By the end of the Second World War, perceptions and policy had changed drastically. Economic and social improvement for the majority had become a major preoccupation of governments, and with the crumbling of colonial power relations, this goal was extended to the poorer nations of the world. Economic development, with its social and institutional correlates, came to occupy an essential place in theory and policy, as well as in the Cold War competition between capitalism and communism.

Thus, economists, other social scientists, and policymakers adopted a framework of thought which was much more ambitious in its scope than previous formulations of political economy. The clear goal of economic development policy was to raise living standards throughout the world, providing steadily more goods and services to an expanding population. The international institutional structures set up after the Second World War, including the International Monetary Fund, the World Bank, and the United Nations, were specifically designed with this goal in mind (Harris, 2000).

The concept of sustainable development is an important milestone in the environmental theory, because it posits how society itself should be organized, and not simply why certain environmental protections should be adopted, or how they can be best implemented. This ambitious interpretation is widely shared by business leaders, policy activists, and academics alike. (Taylor, 2002).

Sustainable development, as a concept, emerged in the 1970's simultaneously with the increasing industrialization. Especially with publication of the report called “Collective Future” by the World Environment and Development Commission in 1987, the concept of sustainable development, which has the principle of increasing development in consideration with the environment, attracted a lot of attention (Ercoşkun, 2005)

Education at all levels can shape the world of tomorrow, equipping individuals and societies with the skills, perspectives, knowledge, and values to live and work in a sustainable manner (UNESCO, 2003). The concept of life-long learning has been raised as a key thrust to achieve sustainability. But changes in education and training are necessary to meet the demands of the 21st Century.

Learners will require a greater understanding of the interdependence of the economy, environment, and social issues; understanding of interrelationships and systems by thinking, consensus building,

and decision-making; and the ability to identify both sustainable and unsustainable practices. People will be challenged to envision a sustainable future, so that they will know what to aim for, and can think through the consequences of their behavior and actions (Council of Ministers of Canada, 1999). The publication also in 1987 of 'Our Common Future' (also known as the Brundtland Report) provided the most commonly used definition of sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." This formula has enormous human appeal and has stood the test of time (World Commission on Environment and Development, WCED, 1987).

For such a high-level concept to be more than just words, however, signatories to the 1992 Rio Declaration appreciated that they had to be able to measure progress towards the objective of sustainability. Thus, in *Agenda 21*, they urged countries to "develop the concept of indicators of sustainable development" in a way that would "contribute to a self-regulating sustainability of integrated environment and development systems." Ten years later, there is still no internationally agreed method of measuring sustainability, and at the World Summit on Sustainable Development (WSSD), countries again committed themselves, through the *Plan of Implementation*, to further work on the subject. It is anyone's guess, however, as to whether more progress will be made in the coming decade than has been achieved since Rio (Vitalis, 2003).

For the past thirty years, sustainability has been a hot topic in the official agenda of private sectors, governments and academic institutions. Although many of the goals set have been met so far, there is still a long way to go. Historically, universities have played an active role in society by shaping the future leaders and citizens (Mendoza & Terpou, 2014). They should serve as core agents in promoting sustainability. For these reasons, it is a must that sustainability is adapted to the field of education, particularly among universities worldwide.

STATEMENT OF OBJECTIVES

Based on the existing literature on sustainability reporting, we aim to propose a model for sustainability reporting for Higher Education Institutions (HEIs) in the Philippine context.

Specifically, the proposed model will attempt to integrate HEI's central core functions, sustainability initiatives vis-à-vis models of sustainable development.

REVIEW OF RELATED LITERATURE

Sustainable Development

The concept of sustainable development formed the basis of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The summit marked the first international attempt to draw up action plans and strategies for moving towards a more sustainable pattern of development. It was attended by over 100 Heads of State and representatives from 178 national governments. The Summit was also attended by representatives from a range of other

organizations representing civil society. Sustainable development was the solution to the problems of environmental degradation discussed by the Brundtland Commission in the 1987 report *Our Common Future*.

The remit of the Brundtland Report was to investigate the numerous concerns that had been raised in previous decades, namely, that human activity was having severe and negative impacts on the planet, and that patterns of growth and development would be unsustainable if they continued unchecked. Key works that highlighted this thinking included Rachel Carson's *Silent Spring* (1962), Garret Hardin's *Tragedy of the Commons* (1968), the *Blueprint for Survival* by the *Ecologist* magazine (1972) and the Club of Rome's *Limits to Growth* report (1972).

The concept of sustainable development received its first major international recognition in 1972 at the UN Conference on the Human Environment held in Stockholm. The term was not referred to explicitly, but nevertheless the international community agreed to the notion - now fundamental to sustainable development - that both development and the environment, hitherto addressed as separate issues, could be managed in a mutually beneficial way.

The term was popularized 15 years later, in “*Our Common Future*”, the report of the World Commission on Environment and Development, which included what is deemed the 'classic' definition of sustainable development: “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987).

It was not until the Rio Summit, however, that major world leaders recognized sustainable development as the major challenge it remains today. More recently, the World Summit on Sustainable Development was held in Johannesburg in 2002, attended by 191 national governments, UN agencies, multilateral financial institutions, and other major groups, to assess progress since Rio. The Johannesburg Summit delivered three key outcomes: a political declaration, the Johannesburg Plan of Implementation, and a range of partnership initiatives. Key commitments included those on sustainable consumption and production, water and sanitation, and energy.

The Brundtland Commission's brief definition of sustainable development, as the “ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs,” is surely the standard definition when judged by its widespread use and frequency of citation (Kolukisa, 2016). The use of this definition has led many to see sustainable development as having a major focus on intergenerational equity. Although the brief definition does not explicitly mention the environment or development, the subsequent paragraphs, while rarely quoted, are clear. On development, the report states that human needs are basic and essential; that not only economic growth—but also equity to share resources with the poor—is required to sustain them; and that equity is encouraged by effective citizen participation (Kates, 2005).

Sustainability Reporting

A sustainability report is a report published by a company or organization about the economic, environmental, and social impacts caused by its everyday activities. A sustainability report also presents the organization's values and governance model and demonstrates the link between its strategy and its commitment to a sustainable global economy. Sustainability reporting can help organizations to measure, understand, and communicate their economic, environmental, social, and governance performance, and then set goals, and manage change more effectively. A sustainability report is the key platform for communicating sustainability performance and impacts – whether positive or negative. Sustainability reporting can be considered as synonymous with other terms for non-financial reporting; triple bottom line reporting; corporate social responsibility (CSR) reporting; and more. It is also an intrinsic element of integrated reporting; a more recent development that combines the analysis of financial and non-financial performance (<https://www.globalreporting.org/information/sustainability-reporting/Pages/default.aspx>).

The recognition that universities should act as core agents in promoting sustainability has led to the formation and application of several tools for assessing, reporting, auditing, and ranking sustainability practices. Several universities have utilized tools like the Global Reporting Initiative (GRI), while there are those that have employed tools that have been made especially for universities like the Graphical Assessment for Sustainability in Higher Education (GASU), and the Sustainability Tracking Assessing and Rating System (STARS), among others. Other universities have given emphasis on becoming certified according to the ISO4001 Standard on Environmental Management, and the Eco-Management and Audit Scheme (EMAS) (Mendoza and Rerpou, 2014).

University Activities: Central Roles and Core Functions

Historically, universities have played an active role in society by shaping the future leaders and citizens. The central roles for universities have been to i) educate, ii) provide human resources for innovation and research, and, iii) provide other services. The role of universities is changing and shifting to address the current societal challenges (Mendoza and Terpou, 2014).

The realization that universities should serve as core agents in promoting sustainability has led to the creation and application of several tools and guidelines that focus on sustainability in universities. The available tools and guidelines consider the impacts-positive or negative-of the university's most relevant activities; these being education, research, community outreach, campus operation, and management (Global Reporting Initiative (GRI), 2013a).

CHED's ISA Framework of Core functions of Higher Educational Institutions

In the Philippines, the Commission on Higher Education (CHED), pursuant to the goal of the government to align its quality framework with international standards, and specifically with ASEAN, released in 2012 Policies, its Standards and Guidelines (PSG), through CM 46 Series 2012. This shifted Philippine higher education toward an “Outcomes-Based Education (OBE) and Typology-Based Quality Management System in Higher Education Institutions.” Thereafter, it

issued an ISA Handbook promoting Institutional Sustainability Assessment (ISA), which can serve as a learning process for the HEI and contribute to its continuing quality cycle. The ISA is developmental in nature and entails a more reflective review of the institution's vision-mission, goals (VMG) and desired outcomes. The ISA Framework has five key result areas within which judgments are made about the performance of institutions: 1) Governance and Management (including Management of Resources); 2) Quality of Teaching and Learning (competency, programs, faculty); 3) Quality of Professional Exposure, Research, and Creative Work (including linkages); 4) Support for Students (learning resources and support structures); and 5) Relations with the Community (extra-curricular linkages, service learning, outreach) (CMO 46, Series 2012).

Within each key result area, there are several indicators. Some of these are core indicators that apply to all institutions. The other indicators apply to institutions to the extent that is appropriate in relation to the mission and stage of development of the institution. There are fourteen indicators, eight of which are core indicators. One of these indicators may be on sustainability or sustainable development programs, which could be the basis of the institution's "outcomes." These are summarized as the Sustainability Report for each academic calendar year, either as part of or separate from the Annual Year-End Performance Report.

Sustainability Development Reporting Tools, Standards and Guidelines

There are many available tools and guidelines for measuring, assessing, tracking, documenting, managing, and reporting sustainability practices in universities. Some tools and guidelines used by universities are specially designed for Higher Education Institutes (HEI), while others are designed for corporations, regions, or countries. The tools and guidelines differ significantly from each other; however, some patterns can be identified when studying the characteristics of each tool and the context in which it was developed.

In the 90's, four sustainability declarations took place which targeted the higher education sector. The first one was the Talloires Declaration in 1990. The declarations claimed that responsibility and obligation from part of the universities' goal to address sustainability mainly through *leadership and sustainable physical operations*. Subsequently, tools and guidelines started being developed for or adapted to universities (COPERNICUS Alliance, n.d.). From 1992 to 1996, three auditing and management tools were developed, which focused on *environmental systems management*: British Standard 7750, ISO 14000, and EMAS. On the years that followed, more tools that focused on environmental system management were developed: Environmental Management System Self-Assessment Checklist (1996); and Environmental performance survey (1996), HEPS RT (2000). In 2000, the GRI guideline was developed, undertaking a broader view of sustainability; it focused on the economic, social, and environmental impacts of an organization (Mendoza and Terpou, 2014).

Conceptual Framework

Various descriptions of the four concepts of sustainable development can be found in the literature. But the most specific focusing on higher education is that of the "Sustainability Report on Universities" by Mendoza & Terpou (2014). Their work presents a study on how universities report

on sustainability, in relation to four concepts: *knowledge triangle*, *quadruple helix*, *utilization*, and *resilience*. We use these four Models (concepts and principles) as our Sustainability Conceptual Frameworks.

The Four Concepts: Models of Sustainable Development

Knowledge Triangle Model

The *knowledge triangle* is the interaction between education, research, and innovation, which are the drivers for a knowledge-based society. The *knowledge triangle* concept was introduced by the Lisbon Agenda at the dawn of the 21st century (Commission of the European Communities, 2006). It is within this concept that a more systemic approach is taken, that not only acknowledges the importance of each of the three pillars, but the interaction between them to create knowledge and other positive externalities to society (Schruumans, 2009). Within the academic debate, it is undisputable that knowledge is the means to finding solutions to complex challenges such as climate change (Carayannis et al., 2012). Knowledge is linked to social and economic development, and it is even said that knowledge is replacing physical resources as the key driver of economic growth (Commission of the European Communities, 2006; Sörin, 2009).

In more practical terms, the *knowledge triangle* "aims at fostering a faster transfer of knowledge into concrete and useful innovations, – be it academic, industrial, or societal – by implementing specific platforms and processes between the three corners of the triangle and carefully orchestrating their working" (Commission of the European Communities, 2006).

The *knowledge triangle* enables 'knowledge-based innovations.' Innovation has been placed at the heart of the European 2020 strategy, as it is the best means for addressing complex and increasingly urgent challenges, such as climate change, resource scarcity, energy supply, among others (The commission to the European Parliament et al., 2010). Innovation is not only about finding technical solutions to existing problems, but also social solutions, therefore, it is also a matter of changing mind-set and culture (Blessing, 2009).

Universities are key players in fostering the *knowledge triangle*, because they are one of the most stable actors in society, and they are the only actor in which the three activities take place (Holmberg, 2014). "The global challenges facing the international community cannot be successfully addressed without the contribution of knowledge-based innovations drawing on all areas of education and research, including humanities, social sciences, and the arts.", this according to Anders Flodström (Flodström, 2009), University Chancellor of Sweden and Peter Honeth, Political Secretary at Ministry of Education. Martin Schruumans, chairman of European Institute of Innovation and Technology, stated that there was an urgent need of increasing the amount and quality of innovation in universities (2009). "Several policy statements stress that higher education institutions have a central role in building a Europe where the impact of knowledge building can be measured in terms of economic, social, and ecological progress" (European Society for Engineering Education (SEFI); Aalto University, & Universitat Politècnica de Valencia, 2013).

Quadruple Helix Model

The complex issues involved require for institutions to overcome its fragmentation and to collaborate with other stakeholders, such as industry, public authorities, NGO, and society in general. *Triple helix*, *quadruple helix* and *quintuple helix* are innovation models. These models describe how different actors collaborate and exchange information to create innovation and knowledge. Knowledge, as a resource, is created through these creative processes: 'knowledge models' or 'innovation models.' Knowledge circulates between social subsystems and changes to innovation and know-how, which is useful for the economy and society (Carayannis et al., 2012; Thorsten, 2011). When addressing complex societal challenges, the perception is that no individual or institution can face them alone, thus, there is need for more and tighter collaborations with other institutions and society in general (Carayannis et al., 2012).

Universities have historically collaborated with industry and government, although in varying degrees; some more than others (Carayannis et al., 2012). The *Triple helix* model proposed by Etzkowitz and Leydesdorff in 2000, is understood as the collaboration between university (i.e. education system), government (i.e. political system) and industry (i.e. economic system) (pp. 5; Carayannis et al., 2012). It "encourages interdisciplinary thinking and trans disciplinary application of interdisciplinary knowledge" according to Carayannis and Cambell (pp. 3; Carayannis et al., 2012).

The *quadruple helix*, developed by Carayannis and Cambell (Carayannis & Campbell, 2009), is an extension of the *triple helix* to incorporate the public; more specifically, 'media-based' public, 'culture-based' public and the 'civil society'. The *quadruple helix* focuses on the 'knowledge society' as it opens the framework for society to participate and be represented in alternative ways, other than by the government. In recent years, other collaborative entities, such as users, the community and NGO's has been recognized as important partners, especially when it comes to sustainable development. The *quintuple helix*, developed shortly after, is an extension to incorporate the 'natural environment'. While the first four helix are represented by social groups, the fifth helix is represented by 'the environment'; which denotes how the quintuple helix follows a socio-ecological approach. The 'natural environment' is important for knowledge creation and innovation as it serves for the preservation and survival of humanity. The intention behind the quintuple helix is to focus on problem-solving and sustainable development (Carayannis et al., 2012).

Research Utilization Model

Universities have been founded principally on two sets of activities: teaching and research. However, they have always made contributions, both directly and indirectly, to decision-making in the wider society. Therefore, a third set of activities is concerned with the generation, use, application, and exploitation of knowledge, and other university capabilities outside academic environments (Gallart, 2002).

The concept of *research utilization* refers to any form or use that scientific research is put to, i.e. economic, commercial, social, or political utility (Bailey & Mouton, 2005). According to Carol H.

Weiss (1979), it follows a specific chain of events which involves a) basic research, b) applied research, c) development and d) application. Following are several reasons why it is considered important to find a way to measure and report this concept in universities. For some, it is the perception that taxpayers are not getting an adequate return for their investments (Landry, Amara, & Lamari, 2001) or that the academic sector does not generate enough value to society (Perez Vico & Jacobsson, 2012). For others, it is to create greater visibility and more focus on *utilization* and what is required to increase capacity and quality (Aspgren, Holmberg, & Vasell, 2013). Overall, the importance of measuring *research utilization* has attracted an increasing amount of interest over the years, where questions concerning whether it is feasible or effective are still under debate.

Resilience Model

Resilience, as defined by the Stockholm *Resilience* Centre, is the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop (Moberg et al., 2014). It has gained a lot of supporters through the years, but not without a fair share of controversy.

Crawford Holling first introduced resilience of ecosystems to changes in the environment in the 1960s. After studying the interactions between populations and how they respond to the stability of the ecosystem, Holling concluded that “resilience determines the persistence of relationships within a system and is a measure of the ability of these systems to absorb changes of state variables, driving variables, and parameters, and still persist” (as cited by Folke, 2006). The concept has since evolved and adopted by other domains, such as the social and the financial one, e.g. when “stress testing” banks to determine their capacity to survive a crisis.

By applying resilience thinking for addressing a problem, one tries to investigate how interacting systems can best be managed to ensure a sustainable and resilient supply of the services on which humans depend. According to *Simonsen* et al., it consists of seven principles: 1) Maintain diversity and redundancy, 2) Manage connectivity, 3) Manage slow variables and feedbacks, 4) Foster complex adaptive systems, 5) Encourage learning, 6) Broaden participation, and 7) Promote polycentric governance systems.

Although these principles are mainly referring to socio-ecological systems, they can be adopted and adjusted according to the system that is under research. Resilience can also be used to describe the state of an institution or organization. When speaking of resilient institutions, it means that they can adapt to changes, while consciously holding on to core values and purposes. In this context, *resilience* can also be an ability to act as conditions change; i.e. by being prepared for changes by having the ability to notice and identify such changes that will need strategic choices.

External changes, that could lead an institution in a resilient state, can be of different natures, for example, access, financing, management, etc. (El-khawas, 2001). For an academic institution, this could be changes in government funding due to new political priorities, changes in what kind of industrial collaboration is viewed positively by the public, or new values among students. Another example is how a university can act before, during, or after a natural disaster. It should have a plan prepared to deal with the effects of the disaster, it should have available critical staff to help during the

disaster, to be able to relocate valuable equipment, conduct on the spot data collection, and have enough funds to bounce back to its initial state, or adapt to the changes a disaster has caused.

Proposed Sustainability Reporting Model for HEIs in the Philippine Context

Based on the existing literature, our proposed model is rooted on the following assumptions:

1. Sustainable development means that "development which meets the needs of the present without compromising the ability of future generations to meet their own needs." (World Commission on Environment and Development, 1987).
2. There has generally been an acknowledgement of three aspects of sustainable development, namely: economic (produce goods and services on a continuing services), environmental (biodiversity, atmospheric stability, and other ecosystem functions); and social (distributional equity; adequate provision of social services including health and education; gender equity; and political accountability and participation).
3. Aside from the traditional triple functions of an HEI: instruction, research and community relations, university functions should also include governance and management, as well as support for students.
4. That the four sustainability models: Knowledge Triangle, Quadruple Helix, Research Utilization, and Resilience.
5. That there are tools, standards and guidelines developed by the Commission on Higher Education (CHED), which are the Institutional Sustainability Assessment (ISA), Baldrige Excellence Framework for Education, ISO 14000 Environmental Management System (EMS), and Global Reporting Initiatives (GRI), will be used as assessment tools in sustainability reporting.
6. That there is a need for the alignment and integration of the HEI's functions, Model of Sustainability, and the tools for assessment in sustainability reporting, that should be combined with the analysis of financial and non-financial performance.

Our analysis of literature founded on the above assumptions led us to propose a Sustainability Reporting Model for HEIs in the Philippines, as shown in Figure 1. The universities can now be guided in detailing their Sustainability Report, indicating their initiatives and practices. It is important to consider that transparency and trust in the reporting must be observed. Lastly, the reporting system must be done on a regular annual basis, with a semesterly interim report based on the academic year of the institution make it a beneficial document of sustainability.

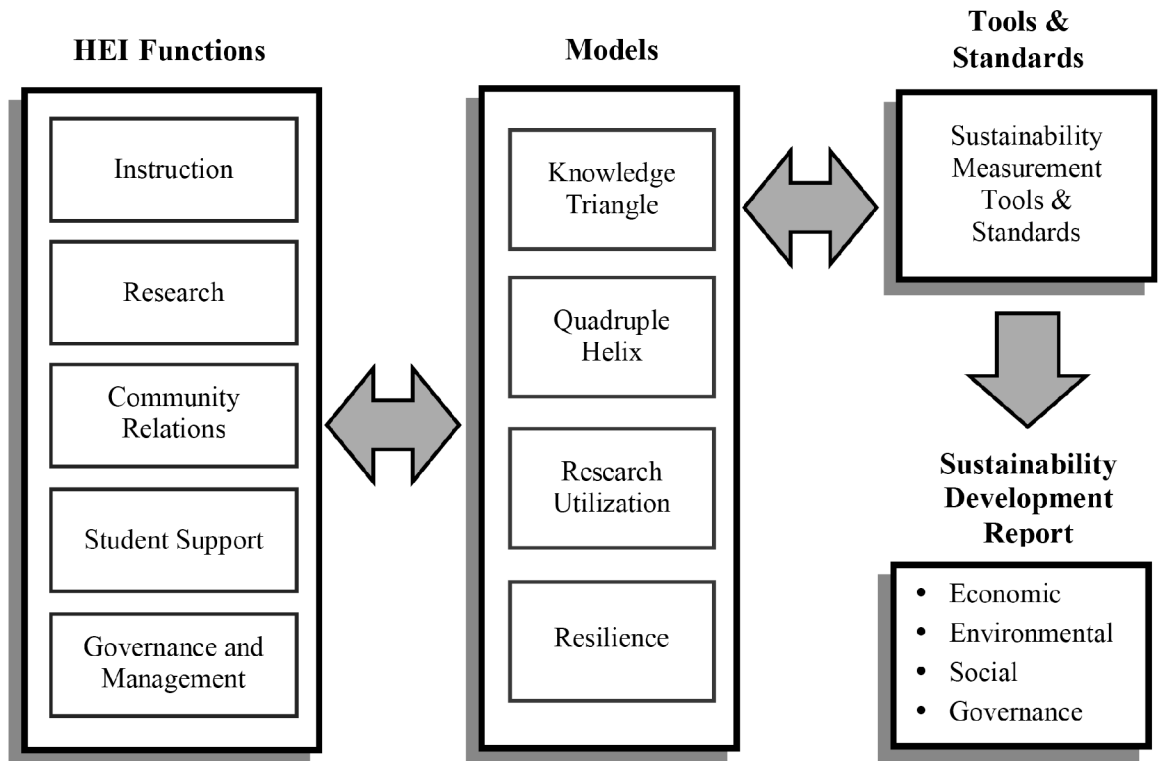


Figure 1.
Proposed Sustainability Reporting Model for HEIs in the Philippine Context

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Acceptable papers for JBRD publication include: research articles and notes, special issues, special sections, discussion papers on relevant topical issues and book reviews.

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- 3) Research manuscripts sent to peer referees for blind review should not have the names of the researchers. Further, the identities of the referees are withheld from the researcher for an objective review.
- 4) A manuscript should follow guidelines given in the Publication Manual of the American Psychological Association, 5th edition (APA style). It should be between 7,000 and 10,000 words, inclusive of text, tables, figures, references, and appendices. The manuscript should be typed with Arial or Times New Roman 12 pt. font, double-spaced, on 8½ x 11-inch page size, with a margin of one inch on all sides. The right-hand margin should have justified alignment. Footnotes should not be used for reference purposes and should be avoided when possible. All references and/or content notes must be placed at the end of the text. Abstracts should be no longer than 500 words.

- 5) The author should also submit a short profile (50 words or less) for inclusion in the section “The Contributors”. It should include the complete name of the author, academic and/or professional affiliations, and educational background.
- 6) An Evaluation Form shall be provided to each peer reviewer.
- 7) The peer reviewer is given 20 days to review the research manuscripts. The research manuscripts together with the Evaluation Form should be returned back to the Editorial Board.
- 8) The Editorial Board will then send the reviewed research manuscripts to the research author for consideration of suggestions, corrections, comments and other instructions.
- 9) The research manuscript is deemed approved for publications upon recommendation of the peer referee.
- 10) The final authority to determine the worthiness of publication of the research is vested on the JBRD Editorial Board.



“That in all things, God may be glorified”