framework for analyzing the success of small and medium enterprises

By Dr. Divina M. Edralin, Associate Professor, Business Management

Entrepreneurship is generally referred to as "the ability of individuals to perceive the kind of products or services that others need and to deliver these at the right time, to the right place, to the right people and at the right price" (SERDEF & UPISSI, 1989). The person who takes the risk and puts this ability into action for optimum profit and personal satisfaction is an entrepreneur. It is estimated that 1.2 million people are employed in more than 91,000 small and medium enterprises (SMEs) in the various industries in the country. The Magna Carta for Small Enterprises (R.A. 6977) defines small enterprises as those having total assets of P500,001 - P5,000,000 and medium enterprises as those having total assets of P5,000,001 - P20,000,000 exclusive of the land on which the company office, plant or equipment are situated. The bulk of these SMEs manufacture food, wearing apparel, metal, wood, and cork products. Most are registered as sole proprietorships owned by Filipino families.

The entrepreneur's ultimate goal is to succeed in one's business, which means having optimum profit combined with any of the following indicators:
1. low cost of production with high volume of output/ (high productivity)
2. satisfaction of customer and continued patronage of the product/services
3. continued operation of the business over a long period of time
4. increase market share
5. high liquidity and solvency position over a period of time
6. expansion in terms of physical facilities/manpower/capital
7. diversification of products/services
8. having a niche in the industry
9. personal satisfaction/fulfillment from the business
10. presence of harmonious labor-management relations
11. generating employment
12. contributing income to the government
13. achieving global competitiveness
14. investment of excess cash in other types of income generating activities; and
15. introduction of innovative product/service in the industry which was adopted by others.

In business, any potential/would-be entrepreneurs, new entrepreneurs, and those who failed in their business want to know the key factors that contribute to the success of small & medium enterprises as manifested by a combination of the above success indicators as set by the entrepreneur. From the various literature available here and abroad which delved into the topic of entrepreneurship and small business management, the following conceptual framework has been developed to provide some answers to questions of interested people like business students, prospective entrepreneurs, entrepreneurs who would like to become more successful or those who failed and would like to learn from their mistakes.

This conceptual framework on factors that contribute to the success of small and medium enterprises is divided into three (3) level dimensions, namely: (1) entrepreneur; (2) firm; and (3) environment (refer to the figure 1 on page 2). It is assumed that the enterprise's success is a product of the entrepreneur's traits and skills and integration of the firm's management functions and components, within a context of the local and global environment.

FACTORS OF SUCCESS

LEVEL 1: Entrepreneur Dimension (ED) - refers to the entrepreneur who is the core, seed, and the beginning of the enterprise. It focuses on the entrepreneur's entrepreneurial personal qualities/traits and some technical skills.

1. Personal Qualities/Traits
   1.1. Prefers moderate risks
   1.2. Self-confident
   1.3. Seeks concrete feedback on performance
   1.4. More concerned with tasks than people
   1.5. Achievement-oriented
   1.6. Hardworking
   1.7. Possesses Filipino values such as:
      1.7.1. industriousness
      1.7.2. thrift
      1.7.3. perseverance
      1.7.4. self-control
      1.7.5. sincerity

2. Technical Skills
   2.2.1. Visioning/goal-setting
   2.2.2. Organizing
   2.2.3. Implementation and follow-through
   2.2.4. Evaluation
   2.2.5. Networking
   2.2.6. Opportunity seeking
   2.2.7. Technical knowledge of the service/product to be sold
LEVEL 2: Firm Dimension (FD) - refers to the firm's integration of business functions (marketing, production, finance and HRD) and effective application of the management functions (planning, organizing, leading and controlling).

Business Organization Functions

1. Marketing
   1.1. Product/service (type and demand)
   1.2. Price
   1.3. Place of Distribution
   1.4. Promotion
   1.5. Research

2. Production
   2.1. Product/service development/innovation
   2.2. Plan layout, size and location
   2.3. Raw materials supply and utilization
   2.4. Machineries and equipment
   2.5. Methods used for efficiency and quality control
   2.6. Direct labor (skills competence)

3. Finance
   3.1. Availability and sources of funds
   3.2. Funds allocation
   3.3. Funds supervision
   3.4. Funds utilization

4. Human Resources
   4.1. Recruitment
   4.2. Development
   4.3. Compensation
   4.4. Maintenance
   4.5. Integration

2. Management Functions

2.1. Planning (Long and Short-term plans)
2.2. Organizing (Structure and division of work)
2.3. Leading (Motivate and Communicate)
2.4. Controlling (Monitor and Evaluate)

LEVEL 3: Environment Dimension (ID) - refers to the enterprise's external environment such as the social, technological, economic and political-legal systems vis-à-vis the local and global perspectives.

1. Socio-Cultural and Demographic Factors
   1.1. Society that fosters:
      1.1.1. competition
      1.1.2. future orientation
      1.1.3. encouragement of trading
      1.1.4. enfranchisement of social ranks based on actual achievements
      1.1.5. the view that work is a duty and values honest and productive labor

1.2. Family serves as an early training in:
   1.2.1. independence
   1.2.2. self-reliance
   1.2.3. decision-making
   1.2.4. business
   1.2.5. craft or trade

2. Technological

2.1. Advancements (inventions and discoveries) related to technology, methods, machineries, equipment, process, and system procedures which are important inputs to the operation of the business functions.

3. Economic

3.1. Abundance of resources (man-power, financial, natural)
3.2. Availability of credit facilities
3.3. Low inflation rate
3.4. Low interest rate
3.5. High GNP
3.6. High national productivity
3.7. High employment rate

4. Political-Legal

4.1. Legislation pertinent to the business which provide incentives and support for the industry
4.2. Conducive peace and order situation

It is important to note that this framework emphasizes the need to integrate and balance the factors at the entrepreneur and firm levels based on the current and future situations at the environment level. It simply means that the success of the enterprise is very much dependent on how the entrepreneur will appropriately utilize one's personal and technical skills in the effective and efficient management of the business, considering its environment.

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Sample size determination in research involving the proportion

By Eleanita E. Vasquez, Assistant Professor, Business Management

One of the parameters frequently employed in research studies is the population proportion, which is designated by the Greek symbol \( \pi \). The formula used for the confidence interval, \( C I \), of a true proportion is given by:

\[
CI = p \pm Z_{\alpha/2} \text{Sp},
\]

where:

- \( p \) is the sample proportion of successes,
- \( Z \) is the standard - score of the variable in the normal probability distribution,
- \( \alpha \) is the probability of committing an error as regards the parameter estimation.

\( \text{Sp} \) is the standard error of the proportion, or simply, the standard deviation of the sampling distribution whose random variable is the sample proportion.

The sample proportion of successes, \( p \), can be determined by dividing the frequency of successes, \( x \), in the sample by the sample size \( n \).

Hence, the formula for \( p \) is:

\[
p = \frac{x}{n}.
\]

The standard error of the proportion, \( \text{Sp} \), can be obtained from the formula:

\[
\text{Sp} = \sqrt{\frac{p \cdot q}{n}} = \sqrt{\frac{N - n}{N - 1}},
\]

where \( q \) is the sample proportion of failures and can be computed from the relationship:

\[
q = 1 - p.
\]

since the sum total of the proportions of successes and failures in any sample space is exactly equal to a whole or 1; \( N \) is the population size.

The factor \( \sqrt{\frac{N - n}{N - 1}} \) is called the finite population correction factor. This is used when the sample size, \( n \), is large relative to the number of elements in the population, \( N \), specifically for \( n \geq 5\% \) \( N \). For most survey situations, the convention adopts the correction factor in the form:

\[
\frac{N - n}{N} \quad \text{or} \quad 1 - \frac{n}{N}.
\]

This factor can be safely ignored when \( n \) is less than \( 5\% \) \( N \) because the value \( \frac{N - n}{N} \) will be close to 1.

However, for \( n \geq 5\% \) \( N \) or as \( n \) becomes large with respect to \( N \), the expression below,

\[
\sqrt{\frac{N - n}{N}}
\]

will correct the standard error value of the proportion, \( \text{Sp} \), because it will cover the fraction of the population not sampled. Therefore, this will avoid overestimation of \( \text{Sp} \).

The expression \( Z_{\alpha/2} \text{Sp} \), which is being added to or subtracted from the sample statistic \( p \) in formula (1) is what we call the error of estimate of the true or population proportion or sometimes called the sampling error, \( E \).

Hence, \( E = Z_{\alpha/2} \text{Sp} \) (3)

In fact, the expression at the right member of (3) is the maximum possible error of estimate of \( p \).

Thus, (3) can be more appropriately written as:

\[
E = Z_{\alpha/2} \text{Sp}
\]

The foregoing relationships can be illustrated in the figure below:

The lower limit for \( CI \) for \( p \) is:

\[
p - Z_{\alpha/2} \text{Sp}
\]

(1 - \( \alpha \)) \( C I \) for \( p \)

The upper limit for \( CI \) for \( p \) is:

\[
p + Z_{\alpha/2} \text{Sp}
\]

(1 - \( \alpha \)) \( C I \) for \( p \)

Case I: If \( N \) is not known, then the correction factor below is dropped from the equation in (4):

\[
\sqrt{\frac{N - n}{N - 1}}
\]

Squaring both members of the equation yields:

\[
E = \frac{p \cdot q}{n}
\]

Solving for \( n \) gives us:

\[
E^2 = \frac{Z^2 \cdot p \cdot q}{n}
\]

\[n = \frac{Z^2 \cdot p \cdot q}{E^2}
\]

Example I:

For a confidence level of 95\%, an unknown sample proportion, and an estimate which is within \( \pm 5\% \) of the true value of the proportion, the needed sample size can be obtained as follows:

\[
(1.96)^2 \cdot 0.5 \cdot 0.5
\]

\[n = (1.96)^2 \cdot (0.5) \cdot (0.5)
\]

\[n = 33.58
\]

(Note: We use the value of \( pq \) at its maximum, which is when \( p \) equals 0.5 so that a conservatively large value of \( n \) can be obtained.)

\[n = 33.58
\]

The value is rounded up to the next higher integer, thus the needed sample size is 385.

Case II: If \( N \) is known, then the correction factor in (5) is applied for \( n \geq 5\% \) \( N \).

Thus, (5) becomes:

\[
E = Z_{\alpha/2} \sqrt{\frac{p \cdot q}{n}} \sqrt{\frac{N - n}{N - 1}}
\]

To derive \( n \), we square both members of the equation:

See SAMPLE SIZE page 5
URCO Update

CBE Project Abstracts (1985-1996)

CBE 2 MD (URCO)

The workbook was designed to aid accounting students in learning and understanding computer-based accounting information systems, and to effectively apply concepts, principles, and methods to the Philippine setting.

The material is divided into three parts covering major topics. Part I (Chapters 1-3) deals with Introduction to Computers. It discusses data, information and the various types and categories of information and information systems, the different types of files and file maintenance, some guidelines in the design of forms and coding systems necessary for storage and retrieval, and the components of a computer-based system. Part II (Chapters 4-6) deals with Systems Design Requirements and Development, reviews the General Systems Theory and its implications to systems design, focuses on the feasibility study of the systems requirements of an organization, and compares a computer-based system from a manual system, by presenting their respective advantages and disadvantages. Part III (Chapters 7-10) is on Business Cycles. It presents the revenue cycle, introduces the reader to the expenditure cycle, discusses in detail the purchasing and inventory control subfunctions, discusses detail payroll processing, and the other subfunction of the expenditure cycle. This part also includes other cycles namely, the conversion cycle, treasury cycle and financial reporting cycle. Exercises are included at the end of each chapter.

CBE 29 RP (URCO)

The general purpose of this study was to determine the market and financial feasibility of offering entrepreneurial development services (EDS) at De La Salle University (DLSU). It specifically identified the services that can be offered which will cater to the needs of the target market, and determined the demand for such services. It also suggested possible marketing strategies to make the offering EDS viable. Finally, it determined the financial implications involved. A market survey was conducted among 539 respondents from DLSU Business Management (BM) Alumni (1988-1995), Center for International Trade Expositions and Missions and Entrepreneurs Society of the Philippines members, and small and medium entrepreneurs in the National Capital Region who are listed with the National Census and Statistics Office as of 1993. The market study was analyzed using descriptive statistics such as percentage, mean, and test of proportion (for the gross market acceptability rate). Content analysis was also employed for the open-ended responses.

The results show that there is a large demand for EDS among the target market groups. The most preferred services are training, consultancy, research and certificate programs. The gross market acceptability rate is 96.99%. The author further explains that the market viability of EDS can be enhanced by a combination of these marketing strategies: making the services available year round, making extensive use of brochures, discounts, ads, networking, and information dissemination, and conducting services both within the campus or in the requesting firm's premises.

Tungo sa Patakaran Industriyal ng Pilipinas, 1989-1990, by Tereso Tullao, Jr. (Economics)
CBE 7 RP (RC)

Various studies were undertaken in the past on the industrial policy of the Philippines focusing on trade, exchange rates and other macroeconomic policies that indirectly have affected the direction of the country's industrial development. The purpose of this research project was to identify and analyze key components that may be included in the formulation of an industrial policy for the Philippines. Learning from the successful experience of Japan, Korea and Taiwan at the initial stage of their industrial development, the author selected various programs that these countries utilized in pursuing their successful industrial programs.

The report is divided into eight parts: theories of economic development, basis for industrialization, role of fiscal incentives in industrial development, rationalization of industries and structural adjustments, role of education in human resource development, technology and industrialization, social infrastructure and industrial estates, and a concluding portion on an appropriate industrial development for the Philippines. The argument between balanced and unbalanced growth was inspired by the works of development economists Albert Hirschman and Paul Rosenstein-Rodan. The rationale for industrialization strategies was based on the seminal work of Gustav Papaneck and the professorial lectures of the author. The development model of Japan was also utilized. The works of different Japanese development economists which outlined the consistent role of the government in industrial promotion policies were surveyed and integrated into the report, particularly nationalism.

A Feasibility Study of Setting Up a Credit Cooperative to Cater to the needs of Business Management Majors, 1990-1991, by Leila Calderon (Management of Financial Institutions)
CBE 1 RP (URCO)

This study aimed to determine the feasibility of setting up a credit cooperative to cater to the needs of Business Management majors. It also intended to provide the majors of Management of Financial Institutions a learning laboratory in fund management. The research was specifically conducted to present a technical study on how to become a member, how to apply for a loan, how loans are processed and repaid, staff requirements and other facilities needed. A sample size of 80 out of 100 BM majors and 52 out of 60 MFI majors were given survey forms. The data gathered were subjected to descriptive statistical analysis. A number of administrators were likewise interviewed to determine their viewpoint on having a credit cooperative for students.

The results of the survey show that the students are willing to have a credit cooperative of their own as evidenced by their expressed willingness to attend seminars to know more about credit cooperatives. Interviews with administrators, however, bring forth some crucial questions on management, continuity, and legality of the cooperative. In view of a generally positive response from the students and some administrators, the project is recommended for implementation.
ENTREPRENEURSHIP... continued from page 6
6. Foldables (newspaper)
7. Blouses with matching hair accessories
8. Waterproof portfolios
9. Novelty boxes
10. Bath shirts
11. Pillows with messages
12. Children’s T-shirts with messages
13. Bath robes
14. Glasses and paperweights with etched design

The innovativeness of these products was mainly due to the actual process the students had to undergo. In the same manner, can best prepare our students for life by helping them develop the basic intellectual and interpersonal skills required to make balanced decisions and carrying out effective actions, knowledge, attitudes and skills.

The entrepreneurs that BM students want to be

Teaching the fundamentals of entrepreneurship is not enough to develop entrepreneurs who will be dynamos of economic development. The BM practicum program is the actual learning process that will convert a student of management to a unique entrepreneur who:

* strives to achieve his/her vision, and his/her dream
* scans the environment to look for opportunities to serve the society
* isolates the combination of resources which when applied strategically, can satisfy society’s needs, want and aspirations
* determines his/her objectives, maps out his/her strategy and decides which project of action he/she will undertake
* marshals the human, material, technological, social and political resources that he/she will need
* implements his/her plans, monitors how he/she is doing and corrects mistakes as he/she progresses toward the attainment of his/her objectives, vision and dream

The effectiveness of the practicum program is supported by the following testimony from Leilani Sebastian and Lorenz Tan of Ad Infinitum Corp. and Toalla Inc.:

"This goes to show that the practicum program along with teaching BM students the basics of running a business, also teaches these same students that they have a responsibility to society and that they should return a portion of the blessings that they have received."

Members from the maker of Quality Robes, Bodywraps Inc. believe that “the success of the practicum group lies primarily in the friendship built in every member. One also has to learn how to accept and meet challenges, how to succeed and fail and how to work with others towards the achievement of goals, for indeed practicum is really an experience of a lifetime.”

Similarily Poshfolio members also comment that “Indeed nothing can replace the things that we had learned for they are invaluable to our future concerns as entrepreneurs and the most important of these learnings is that: People make business work!”

Reacting to cues from our students, and learning from them, will enable us to continually renew our programs and our courses, update the materials that we use, and improve the manner in which we conduct our classes. We realize that it is our responsibility to create an environment that will encourage our students to think boldly, to act judiciously, and to talk freely. We should also challenge their reason, provoke their imaginations, prick their pride, give them chances to make mistakes, and ultimately, help them shape their own destiny.

Finally, at the BM department, we must be single-minded, relentless, even ruthless to ourselves, in the pursuit of our ultimate objective: student learning. As manager of the learning process, according to Gabby Mendoza of AIM, “we must not allow the manager of our resources to retard our constant striving for excellence in our craft as teachers nor to slacken our continuous seeking of excellence from our students. The greatest test of and the crown of our success should be the fact that by the time our students graduate, they no longer need us.”

SAMPLE SIZE...
continued from page 3

\[ E^2 = z^2 \alpha / n = \left( \frac{N-n}{N} \right) \]

\[ n \sqrt{N} E^2 = z^2 \alpha / p \sqrt{q} N = z^2 \alpha / p q N \]

Factoring out n from the left member of the equation and rearranging the factors in the right member yields:

\[ n (N E^2 + z^2 \alpha / p q) = N Z^2 \alpha / p q \]

Dividing both members by the coefficient of n leads to:

\[ \frac{N Z^2 \alpha / p q}{N E^2 + z^2 \alpha / p q} \]  

(7)

Example 2:
Using the same data given in Example 1, with additional information on the population size, N, as 3000 respondents, the needed sample size is

\[ n = \frac{N Z^2 \alpha / p q}{N E^2 + Z^2 \alpha / p q} \]

\[ = \frac{(3000)(1.96)^2}{(0.5)(0.5)} \]

\[ = \frac{340.55}{341} \]

Thus, to be 95% confident that the proportion estimate will be 5% "off" from the true value of the proportion, we need to gather a sample of 341 respondents.

The foregoing example's answer can be arrived at without any computation by merely referring to the accompanying table for sample size determination. Just look along N = 3000 under condition ?. See the footnote of this table for further understanding. Hence, for any known value of N which can be found in this table, all one has to do is refer to it for the desired value of n.

The above methods of sample size determination are applicable to a finite population (or to one where sampling is done without replacement, as in simple random sampling) which is binomial or dichotomous in nature.

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SAMPLE SIZE...
continued from page 3

\[ E^2 = Z^2 \alpha_2 \frac{P \cdot q}{n} = \frac{(N - n)}{N} \]

\[ n \cdot N \cdot E^2 = Z^2 \alpha_2 \frac{P \cdot q \cdot N}{N} = Z^2 \alpha_2 \frac{P \cdot q \cdot n}{N} \]

\[ n \cdot N \cdot E^2 + Z^2 \alpha_2 \frac{P \cdot q \cdot n}{N} = Z^2 \alpha_2 \frac{P \cdot q \cdot N}{N} \]

Factoring out \( n \) from the left member of the equation and rearranging the factors in the right member yields:

\[ n \cdot (N \cdot E^2 + Z^2 \alpha_2 \frac{P \cdot q}{N}) = N \cdot Z^2 \alpha_2 \frac{P \cdot q}{N} \]

Dividing both members by the coefficient of \( n \) leads to:

\[ \frac{N \cdot Z^2 \alpha_2 \frac{P \cdot q}{N}}{N \cdot E^2 + Z^2 \alpha_2 \frac{P \cdot q}{N}} \]

(7)

Example 2:
Using the same data given in Example 1, with additional information on the population size, \( N \), as 3000 respondents, the needed sample size is

\[ n = \frac{N \cdot Z^2 \alpha_2 \frac{P \cdot q}{N}}{N \cdot E^2 + Z^2 \alpha_2 \frac{P \cdot q}{N}} \]

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