THE INTERNATIONAL JOURNAL OF
BUSINESS & MANAGEMENT

Open Innovation as a Mechanism for Managing Small Firms Transition to Growth: a Firm Level Perspective

Saidu Nasiru Sulaiman
Research Scholar/Adjunct Faculty, School of Business Studies, Sharda University, Greater Noida, India
Dr. Shradha Malhotra Banga
Assistant Professor, School of Business Studies, Sharda University, Greater Noida, India
Daleep Parimoo
Professor, School of Business Studies, Sharda University, Greater Noida, India

Abstract:
The purpose of the study is to investigate how small firms could use open innovation as mechanism for managing their transition to growth from firm level perspective. This is premised that growth is one of the major objectives of entrepreneurship, but managing its transition is becoming complex to entrepreneurs due to certain internal shortcomings. This can be evident from many entrepreneurship researches that most small firms fail at transition to growth only few make it. The study focuses to find how small firms could overcome their internal shortcomings at transition to growth using open innovation framework. The results from the case study BBY Aluminum Investment Limited indicated that the firm overcomes its internal shortcomings using open innovation framework when it was at transition to be converted from importer to manufacturer of aluminum roofing sheets in 2012. The results further revealed that the firm conducted feasibility study and found the only way to overcome its internal shortcomings and succeed in its transition is through partnership. The firm eventually developed partnership with its major foreign supplier and successfully transitioned the company by accessing constant raw materials supplies, technical know-how and accessing 50% equity funding.

Keywords: *Open innovation, small firms, managing transition, growth*

1. Introduction/Theoretical Foundations

The main purpose of the paper is to contribute to the theory and practice of managing small firm transition to growth through open innovation model by using empirical evidence from a case study of BBY Aluminum Investment Limited open innovation model from Kano, Nigeria. Small firms' stages of development and transitions to grow thare well researched in the firm's lifecycle literature (Hodgetts and Kuratko, 2007 & 2008; Barringer and Ireland 2008; Hanks, et al, 1993). Solow (1956) argued that business growth and development necessitated that entrepreneurs should not be frightened to make decisions and must have desire to assume certain risks, work under pressures and should recognize that the possibility of failure is always present. Churchill and Lewis (1983), suggests that small firms vary widely in size and capacity for growth because they are characterized by different organizational structures, independence of action and varied management styles. This can also be evident from Greiner, (1998) who postulated that failure of management to understand its development problems can result in a firm becoming "frozen" in its present stage of evolution or revolution process with ultimately failure, regardless of market opportunities. Greiner (1979), identified firm's transition period as a time of revolution, which is a period of major turmoil in organizational life, which requires management restructuring and adaptation to different management strategies for firm to survive. Kuratko and Hodgetts (2009) states that managing growth transition is a formidable challenge in the successful development of any firm as changes are required in the management of the firm which depends on the current development. Mitra (2012) suggests that transition process and its impact depends on different types and forms of growth. This is because firm develops via a demanding and stimulating state with a lot of challenges that warrant modification of management and organizational structures. Bridge, et al, (2003) suggests that management of firm must plan for growth because managing transition to growth is unprecedented change that is the most difficult in the tasks of an entrepreneurial leader.

More so, Covin and Slevin in their research emphasized the importance of growth transitions as a field of study and suggested that environments have become more complex, in which managing transitions are fundamental to high growth potentials in firms (Covin and Slevin, 1997). But how do small firms manage transitions in contemporary dynamic environment? Finding the answer is the focus of this paper. Most of the works in the existing literature indicated that small firm at transition to growth should change and adapt new management process and practice (Churchill and Lewis, 1983; Greiner, 1998; Hodgetts and Kuratko, 2007 & 2008). Changing management process and practice is an action within the firm management process that does not take into cognizance the external environment. Delmar *et al.* (2003) have come to a conclusion that high-growth firms do not grow in the same way and that firm growth is not uni-dimensional but multidimensional fact and clearly expressed the complexity inbuilt in effectively undertaking

growth studies and further suggests that complexity raises a series of challenges for future researchers who want to make a contribution to the field (Delmar *et al.* 2003).
This paper has therefore had a clear focus to develop a model of small firm's transition to growth through open innovation mechanism which has never been done before. Because, most of the works in existing literature have been framed in line with the role of changes in management process and practice in firms, with little on the role of external environment in firm growth and more particularly, role of open innovation in small firm's transition to growth is scarce in the existing literature. Our study takes up this gap to investigate and come up with model of how integrating external players could be a mechanism to solve firm's challenges at transition to growth with empirical evidence from a developing economy. This came from background that firms transition to growth is a complex process that requires multi-level perspectives not only management process within a particular firm. Researchers of open innovation concepts suggest that firms should transcend their boundaries to utilize open source platforms (Chesbrough, 2003 and 2006; Laursen et al., 2006). This means that firms should interact with their environment and external stakeholders in more open ways so as to gains from open sources. This generates important insights that can improve our understanding of the potentials of adopting open innovation as a mechanism of small firm transition to growth.

2. Literature Review

2.1. What is Firm Growth?
Growth can be referred to as the change in volume or scale from one period to another. For a firm, it is typically considered as aboost in certain attributes such as turnover, profit, employment etc. between different points in time. Growth has been defined by Bridge, O'Nell and Cromie, (2003) as "the movement of the business into bigger place, taking on more staff, significant increase in turnover, taking on a new product line or lines, buying another business, and so on "Most entrepreneurial ventures start small and then grow in size. For instance, some entrepreneurial ventures were started in a balcony, in a garage, under a tree shade, in a classroom, as a hobby, in a ghetto, under the sun or in the rain and later grow to become highly established business with regional, national and global expansions. Dell Inc. started in a garage but nowadays becomes globally re-known computer company. Facebook start in the classroom as a project, but nowadays becomes one of the global hi-tech companies.

2.2. Stages of Firm Growth
Just like human being born and grows, entrepreneurial venture is also born by the entrepreneur(s) and grow by the entrepreneur (s) overtime. As such, all things being equal, it is difficult for a firm to remain exactly the same size for long period of time. Many entrepreneurial firms start small and with time grow big (Greiner, 1972; Churchill and Lewis, 1983; Barringer and Ireland, 2008). There are numerous stages and implications that entrepreneurial ventures follow in their growth process, which have been analysed by different scholars at different time. The following is a framework of firm life cycle:

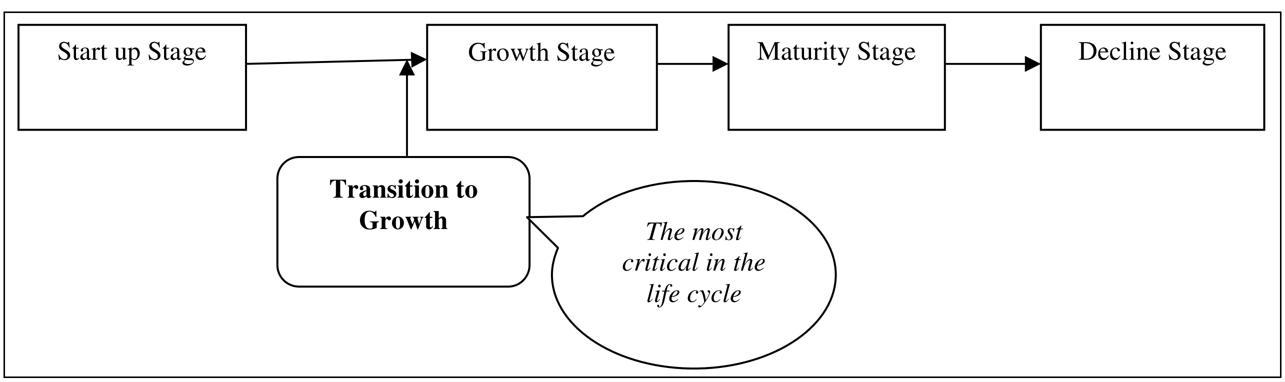

Figure 1: Framework of firm life cycles

The above framework illustrates firm life cycle from startup stage to decline stages which are discussed in more details below:

2.2.1. Startup Stage
This is a creative stage when the firm is newly created and is small in nature. Entrepreneur(s) bear the entire responsibility of managing all aspects of the firm be it leadership, funding, marketing, technical knowhow etc. Entrepreneur's role here is to come up with leadership vision, plans and organize people to achieve goals for growth and survival (Barringer and Ireland, 2008; Kantabutra, 2006; Kuratko, and Hodgetts, 2007, 2004, 2003). This is because transition to growth as we can see from above figure is the most critical in the entire life cycle of any firm.

2.2.2. Growth Stage
After successfully transitioned from startup stage the firm will start experiencing growth, expansion and development (Bridge, O'Nell and Cromie, 2003; Dodge and Robbins, 1992). Thefirm grows up in terms of increase in turnover, employees, profit and structure (Baghai et al. 2000; Kuratko, and Hodgetts, 2007).

2.2.3 Maturity Stage

After firm successfully reached growth stage, things being equal, the firm would continue growing to maturity stage. This is a period in which firm has acquired more expanded operation which is characterized with stable growth in sales because the product has achieved acceptance of majority potential buyers, profits is stabilized and tends to start declining because sales growth will slow down due to the dropping of sales, profits, and cash flows, more especially at end of this stage (Barringer and Ireland, 2008). This period normally lasts longer than the growth stage (Kuratko, and Hodgetts, 2004).

2.2.4 Decline Stage

When the firm is fully matured in its maturity stage it requires various strategic actions to maintain its growth prospects. But firm's growth will decline if doesn't adapt to the new realities in business environment (Kuratko, and Hodgetts, 2004). Firm enters a decline stage when it experiences continuous reduction in resources and revenue and profit due to reduction in sales over a substantial period of time (Hanks et al. 1993).

2.3. What Small Firm Requires at Transition to Growth?

Therefore, each and every stage of firm life cycle requires different attitude and management strategies for firm to survive. But our discussions would be limited to firm's transition to growth which is the focus of the paper. The following figure shade light on that aspect:

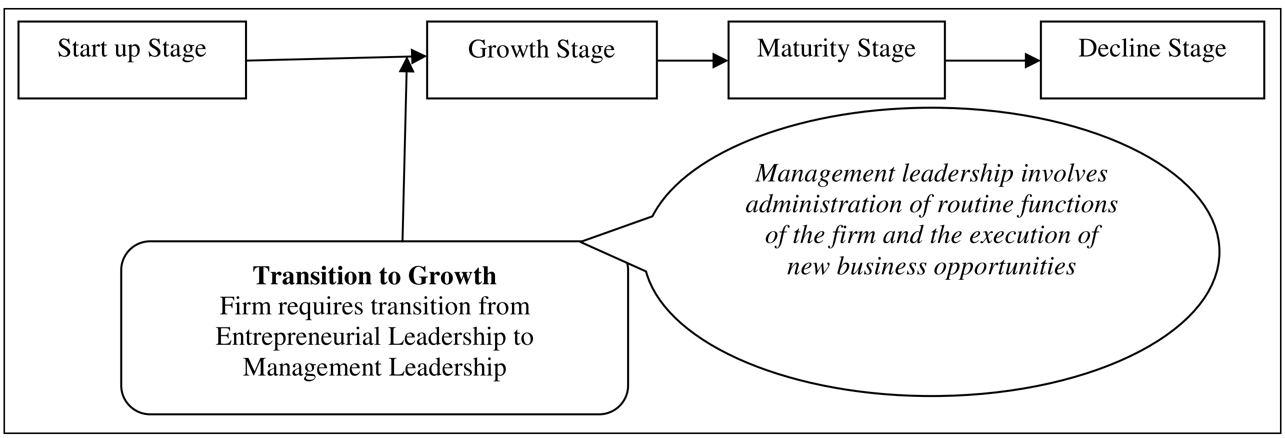

Figure 2: What small firms require at transition to growth?
Authors' formulation with literature from Barringer and Ireland, (2008)

The above framework indicates that transition of small firms from startup stage to growth stage requires transition from entrepreneurial leadership to management leadership (Barringer and Ireland, 2008). This is because entrepreneurial leadership is linked with founding of the firm which could not be enough to sustain the growth stage, because entrepreneur(s) who is the owner-manager will find it very difficult to manage the venture effectively because the venture has change in size, task, and structure and equally in sales, profit and employees (Barringer and Ireland, 2008). Under this situation entrepreneur(s) needs to make transition from entrepreneurial style to managerial style leadership to achieve and sustain growth. This means that entrepreneur(s) has to change the leadership through "*transition process*" to make growth achievable and sustainable and to manage venture efficiently and effectively. It can by employing professional managers or entrepreneur should undertake professional management courses to update himself in management functions and strategies (Barringer and Ireland, 2008). It also involves restructuring the firm from single or few people decision format to various decision layers and well established functional areas (Barringer and Ireland, 2008; Goffee, and Scase, 1995).

This transition process means that entrepreneur(s) has to change his/her highly centralized decision making system which solely depends on him/her and change to adopt new and well established management systems to maintain growth platform efficiently and effectively(Barringer and Ireland, 2008; Kuratko, and Hodgetts, 2004). Even-though this transition is difficult for most entrepreneurs because they may think that their ownership power and authority would be compromised by employing professional managers into the venture, some entrepreneurs may even feel that they can be check out of the firm (Barringer and Ireland, 2008; Khan, 2010). But this transition is necessary for the maintenance of the firm's growth potentials and its overall survival (Scarborough, et al. 2009). At this stage entrepreneur(s) must plan and implement this transition using some strategic steps. Hodgetts and Kuratko, (2008) suggested the following actions to follow:

- ✓ Entrepreneur(s) must modify his/her behavior to co-opt managerial-style.
- ✓ Decision-making procedures should be modified from single individual centralized-decision to formal decision techniques that involve many people.
- ✓ Key operating tasks that are primarily responsible for the organization's success must be institutionalized by employing more skillful and expert employees.

- ✓ Build middle-level-management with specialist expertise as functional managers.
- ✓ The organization's strategies should be analyzed and changed to fit with the firm's current growth strategy.

2.4. Open Innovation Paradigm

Open innovation concept was first introduced by Chesbrough who defined it as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the markets for external use of innovation, respectively" (Chesbrough, 2006). Open innovation is a new innovation approach of the 21st century by which companies go beyond their internal boundaries to obtain resources and achieve better operations and innovation capabilities. The concept of open innovation implies an extensive use of collaborations and relationships to integrate external resources to fill the gaps in the internal operations. Prior to the works of Chesbrough on open innovation, closed innovation was paramount system of innovation. Closed innovation is a situation where the firm generates its own ideas and resources for production, marketing, distribution, servicing, financing, and supporting internally without seeking collaborative support from external players. According to Chesbrough et al (2006) several factors have outdated the closed innovation paradigm such as the increasing availability and mobility of skilled workers, the increasing capability of external suppliers, the growth of the venture capital market, external options for ideas sitting on the shelf. Therefore, open innovation theory affirms that firms nowadays should not isolate themselves, but rather open to share ideas, knowledge and resources with a number of collaborating stakeholders such as consumers, dealers, employees, other firms, government agencies, technology centers, research institutions, universities etc. Chesbrough (2003) indicates that firms that are 'too focused internally' are viable to lose a number of opportunities because many opportunities fall outside the organization's current business potentials and capability. Based on this background, this paper ought to generate important insights that can improve our understanding of the potentials of adopting open innovation as a mechanism of small firm managing its transition to growth.

3. Research Methodology

The research design of this paper is exploratory case study with BBY Aluminum Investment Limited as the target for investigation. The data collected is qualitative through in-depth interviews conducted with owner and general manager of the firm to explore diverse and fascinating insights of how this small firm successfully transitioned to growth stage through open innovation model. The first interviews were conducted with the owner and later with the general manager. 15 questions were designed and administered during the interview. However, to strengthening the validity and reliability of the data, the researchers used documents from the firm's archival documents. The entire interview questions were open ended that required explanation from the interviewee as well as their personal judgment about each question. Then, the interviews results were adopted as analysis technique of case study method content analysis. This can be evident from the way the researchers adopted the recommendations of Yin (1993 & 2009) in adopting case study method analysis which he suggests four stages: (1) design the case study, (2) conduct the case study, (3) analyze the case study evidence, (4) and develop the conclusions.

4. Data from the Case Study: BBY Aluminum Investment Limited

BBY Aluminum Investment Limited is a private limited company located in Kano, Nigeria and was established in 2012. It is a small firm which transaction in aluminum roofing sheets. The company has mission and vision statements as "*looking at the future to create international brand*". The firm has 12 employees. Prior to 2012, the firm transact only in importation of aluminum roofing sheets from China and in 2012 as a growth strategy, the company decided to go into manufacturing of aluminum roofing sheets in Kano, Nigeria rather than importation. To achieve this, the firm conducted feasibility studies and found out that the only way to go into manufacturing of aluminum roofing sheets is to get partners who can support the firm with more funding, supply aluminum raw materials and technical know-how. This is because their feasibility studies indicate that adequate funding, aluminum raw materials supply, and technical know-how are the major problems for the firm to go into manufacturing. The firm finally decided to search for partners and the firm eventually entered into collaboration agreement with its major foreign supplier which is a Chinese company by name Shandoo Jinning Yifeng Co. Ltd which is diagrammatically presented below:

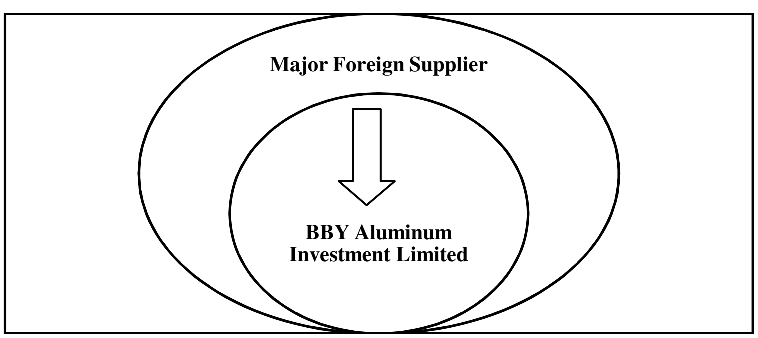

Figure 3: BBY Aluminum Investment Limited Open Innovation Model
Source: Formulated by the authors from the Empirical data collected

Having seen the open innovation models adopted by the firm (which they called firm to foreign major supplier collaboration) in the above figure, let's discuss it in details below:

The above figure reveals that BBY Aluminum Investment Limited has successfully entered into partnership with its major supplier which is by name Shandoo Jinning Yifeng Co. Ltd, a Chinese company in 2012 on some conditions. That the firm's name will be maintain as BBY Aluminum Investment Limited, that the two firms will have 50:50 equity ratio of the firm, profit sharing ratio 50:50, they will use money provided by both parties as equity to buy machines, Shandoo Jinning Yifeng Co. Ltd from its own side would send technicians to support the technical operations of the firm and supply raw materials to the firm, BBY Aluminum from its own part will employ other staffs and provide premises for the operations and equally manage the operations. The cost of raw material supplied by Shandoo Jinning Yifeng Co. Ltd will only be paid for the entire financial year at the end of the year. As such, BBY Aluminum Investment Limited was successfully improved and grows from importing firm to manufacturing firm as it enjoyed collaborative support from its partner in form of equity funding, technical know-how and supply raw materials. And the firm eventually co-developed four products with this partner as "ordinary aluminum roofing sheet", "stone coated steel roofing sheet", "BBY tiles" and "step-tiles long span".

5. Results, Discussions and Analysis

Case Study	Form of Business	Year of Founding	No of Staff	Area of Business	Mission/Vision
BBY Aluminum Investment Limited	Private Limited Company	2012	12	Manufacturing of aluminum roofing sheet	Looking at the future to create international brand

Table 1: Profile Insights of the Case Study
Source: Formulated by authors from the data collected

Looking at the above table, the firm is private limited companies which founded in 2012. It has 12 employees which made it to be small firm. The main area of business of the firm is manufacturing of aluminum roofing sheet with mission/vision oflooking at the future to create international brand.

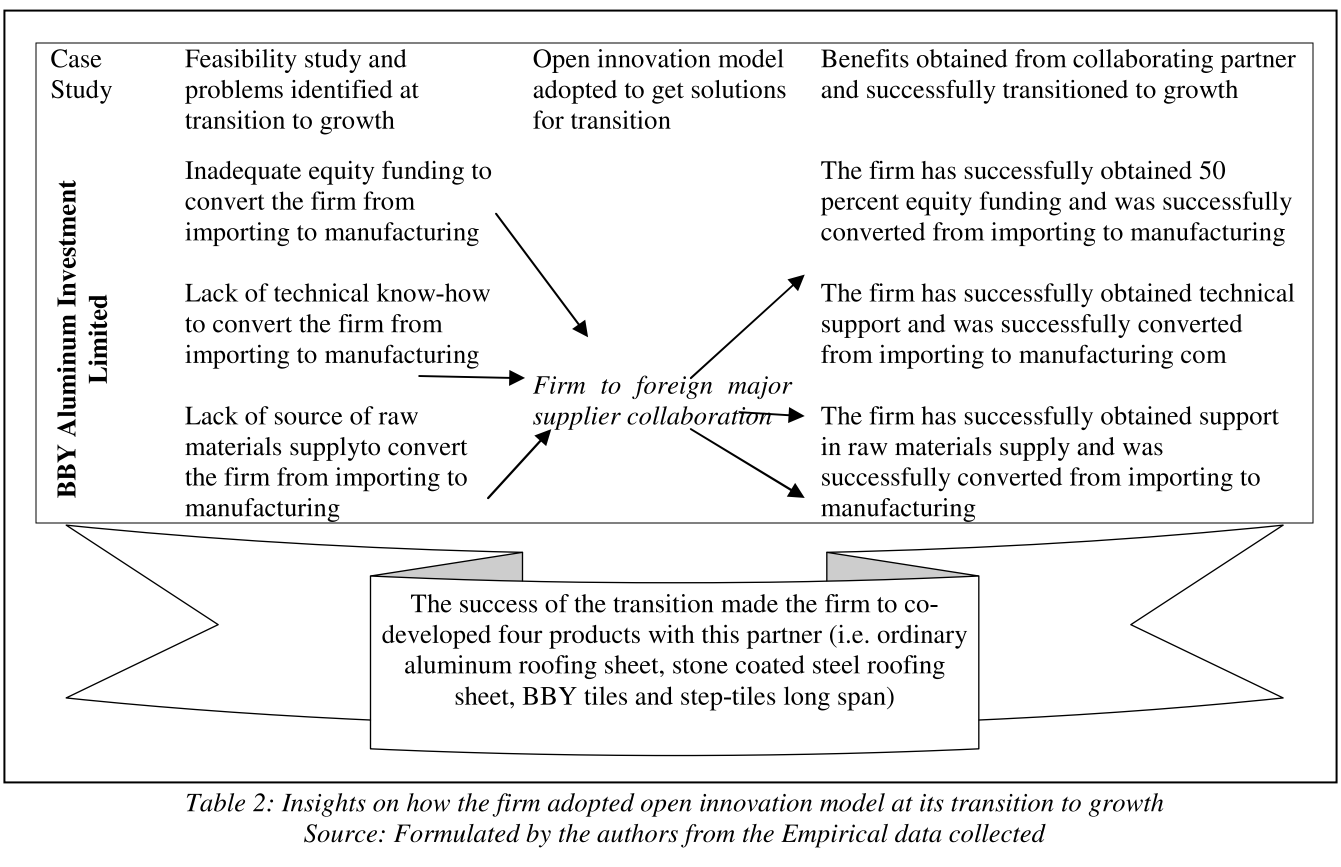

Table 2: Insights on how the firm adopted open innovation model at its transition to growth
Source: Formulated by the authors from the Empirical data collected

The above table indicates that BBY Aluminum Investment limited adopt only one open innovation model which is partnership with its major foreign suppliers to overcome its problems of transition to growth. The firm has successful been converted from importing to manufacturing firm through open innovation model it adopted. Therefore, the benefit the firm obtained includes 50 percent equity funding, technical support and support in raw materials supply from its collaborating major foreign supplier and successfully transitioned to growth. The success of the transition made the firm co-developed four products with this partner (i.e. ordinary aluminum roofing sheet, stone coated steel roofing sheet, BBY tiles and step-tiles long span).

6. Conclusion and Implications

6.1. Conclusion

The main objective is therefore, to contribute to the theory and practice of managing small firm transition to growth through open innovation framework by using empirical evidence from a case study of BBY Aluminum Investment Limited open innovation model on the basis of theoretical foundations of small firms' stages of development and transitions to growth from the existing literature. From the case study, it comes to conclusion that the firm investigated adopted open innovation at transition to its growth. For instance, BBY Aluminum Investment Limited has adopted open innovation as a mechanism to be converted from aluminum importing firm to aluminum manufacturing firm. This is because through feasibility studies the firm identified that its lacks some major resources such as adequate funding, aluminum raw materials supply and technical know-how. Then, it gone ahead and identified partner who is its major foreign supplier of aluminum roofing sheet from China when the firm engaged only on importation. This Chinese company offers solutions by providing support of 50 percent funding, raw materials supply and technical know-how which made the firm to successfully being converted to manufacturing firm. These findings clearly justified the overall notion of the paper that small firms can use open innovation framework as a mechanism to achieve successful transition to growth. And therefore, improve and shift our understanding from the previous models in the existing literature that small firm could only achieved transition to growth is through change in management process (shifting from entrepreneurial leadership to management) (Bridge, O'Nell and Cromie, 2003; Dodge and Robbins, 1992; Greiner, 1972).

Eventually, the paper contributes by finding positive role of open innovation in managing small firm transition to growth which we believed is a complementary contribution to existing literature rather than competitive with existing model as growth is multidimensional rather than uni-dimensional (Delmar *et al.* 2003). First, paper contributes that the basic rules for small firm to prepare for transition to growth is to conduct feasibility study so as to identify its problems which could restrain its transition to growth and then adopt appropriate open innovation model by identifying partner(s) from external environment who could not only solve the problems, but for whom the solution is simple. This can be evident from the way the firm has conducted feasibility analysis and found out its problem which made the firm to enter into partnership with its major foreign supplier to solve its problems. Thus, based on the empirical findings the following model is developed to showcase how small firms could achieve successful transition to growth through open innovation mechanism:

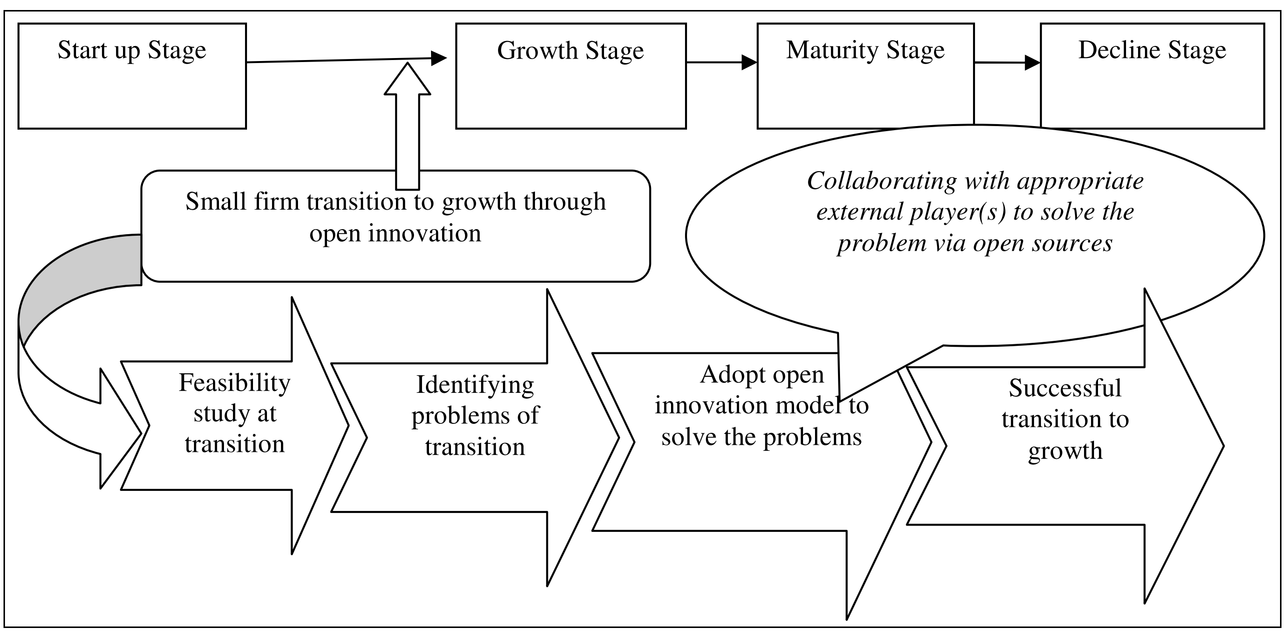

Figure 4: Model of small firm's transition to growth via open innovation mechanism

6.2. Implications

Therefore, result of this study will help owners of small firms to identify the use of open innovation as a mechanism of firm transition to growth. And also will open up platforms for more researches on how and why small firms should adopt open innovation as a mechanism for their growth since this paper is just an opener. There is generally wider scope for future researchers to consider for the fact that this paper is based on exploratory case study method, which indicate that more profound empirical quantitative base and multiple case study researches are required. Therefore, the area has a broader prospect in conducting further research based on multiple case studies and broader quantitative research methods in order to test various hypotheses and propositions. Policy makers will also find the research useful in that they become well informed in putting sound policies and instruments that encourage open innovation for the fact that small firms represent the engine room for economic growth and job creation more especially in developing countries. For instance, in the OECD countries, small firms and microenterprises account for well over 95% of firms, 60-70% of employment, 55% of GDP and they generate the lion share of new jobs (WBCSD, 2007).

7. References

i. Baghai, M., Coley, S. and White, D. (2000), The Alchemy of Growth: kick starting and sustaining growth in your company, London: Texere.
ii. Bridge, S., O'Nell, K. and Cromie, S. (2003) Understanding, Enterprise, Entrepreneurship and Small Business; Second Edition, Palgrave Macmillan U.K.
iii. Barringer, B. and Ireland, D. (2008), Entrepreneurship: Successfully Launching New Ventures, International Edition: 2nd Ed., New York: Pearson Higher Education.
iv. Barringer, R. and Ireland, R. (2010) Entrepreneurship: Successfully Launching New Venture, Third Edition, U.S.A. Pearson.
v. Chesbrough, H., Vanhaverbeke, W. and West, J., eds. (2006), Open Innovation: Researching a New Paradigm, Oxford University Press.
vi. Chesbrough, H. (2003), Open Innovation: The New Imperative for Creating and Profiting from Technology, Harvard Business School Press.
vii. Churchill, N. C. and Lewis, V. L. (1983). "The five stages of small business growth". Harvard Business Review 61 (May–June), 30–50.
viii. Covin, J. G., and D. P. Slevin. (1997). "High Growth Transitions: Theoretical Perspectives and Suggested Directions". In
ix. D. L. Sexton, & R. W. Smilor (Eds.), Entrepreneurship 2000: 99-126. Chicago: Upstart Publishing Company.
x. Delmar, F., P. Davidsson, and W. B. Gartner. (2003). "Arriving at the High Growth Firm". Journal of Business Venturing, 18: 189-216.
xi. Goffee, R. and Scase, R. (1995), Corporate Realities: the Dynamics of Large and Small Organizations, London: Routledge.
xii. Greiner, L. E. (1972) "Evolution and Revolution as Organizations Grow: A company's Past Has Clues for Management That Are Critical to Future Success", Family Business Review, vol. 10, No.4.
xiii. Greiner, L. (1998), "Evolution and Revolution as Organisations Grow", Harvard Business Review, Vol. 76.
xiv. Hanks, S. H., C. J. Watson, E. Jansen, and G. N. Chandler. (1993). "Tightening the Life-Cycle Construct: A Taxonomic Study of Growth Stage Configurations in High-Technology Organizations". Entrepreneurship Theory and Practice, 18(2): 5-29.
xv. Hodgetts, M. R. and Kuratko, F. D. (2008) Small Business Management: Essential tools and skills for entrepreneurial success, United State of America, Wiley pathway.
xvi. Kantabutra, S. (2006) "Relating Vision-based Leadership to Sustainable Business Performance: A Thai Perspective," Leadership Review, Vol. 6, pp.37-53.
xvii. Khan, A. (2010) "The Dilemma of Leadership Styles and Performance Appraisal: Counter Strategies", Journal of Managerial Sciences, Volume IV, Number 1.
xviii. Kuratko, D. F. and Hodgetts, R. M. (2007) Entrepreneurship: Theory, Process and Practice, 7th ed, Thompson.
xix. Kuratko, D. F. and Welsch, H. P. (2003), Strategic Entrepreneurial Growth, 2nd Ed., South Western: Thomson Learning.
xx. Kuratko, D. F. and Welsch, H. P. (2004), Strategic Entrepreneurial Growth, 2nd ed. Mason: South-Western Thomson.
xxi. Scarborough, N. M., Wilson, D. L. and Zimmerer, T. W. (2009), Effective Small Business Management, 9th ed. New Jersey: Pearson Prentice Hall.
xxii. WBCSD (2007): 'Promoting SMEs for sustainable development Shell Foundation http://www.shellfoundation.org/pages/core_lines.php?p=corelines_inside_content&page=aspire&newsID=309 and WBCSD: www.wbcsd.org
xxiii. Yin, R. (1993), Applications of case study research, Sage Publishing, Newbury Park, 1993.
xxiv. Yin, R.K. (2009), Case Study Research, 4th ed., Sage Publications, Beverly Hills, CA.