Critical Success Factors for Winning Entrepreneurs and the Role of an Incubator in Accelerating the Growth of Start-ups and Early Stage Companies

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Abstract—**This paper will focus on successful entrepreneurship and what it takes to win as well as how incubators facilitate the process of growing start-up and early stage companies or ventures. An incubator case study is included.**

Index Terms—**Incubator, Entrepreneur, Accelerator, Intrapreneurs**

I. INTRODUCTION

This paper identifies the challenges, opportunities faced and critical success factor for entrepreneurs in starting a business and the role of an incubator in facilitating the growth of startups, using the University of Bridgeport's CTech Incubator as a case study.

In the United States, restructuring of the work force, corporate downsizing and drastic cuts in defense and public sector spending have caused significant worker displacement. According the Department of Labor, the start-up, small and family business segments are among the fastest growing areas of employment. According to the U.S. Department of Labor, approximately 1 million small businesses start up each year [1]. According to the National Business Incubator Association [2]

- Companies in incubators have high survival rates – 87% of incubator graduates still in business within 5 years.
- 84% of graduates of Incubators are still in the same community as their incubators.
- Small businesses are responsible for 60%-80% of net new jobs annually.
- Small businesses provide an essential role in economic development, job creation and sustainability.

Some definitions are appropriate. An entrepreneur is a person who perceives an opportunity and creates an organization to pursue that opportunity. A business incubator is a facility that assists new ventures in growing a business. There are many types of incubators (e.g. general purpose [any business]; special purpose [technology]; independent; part of an organization like a university) [3] [4].

II. STARTING A NEW BUSINESS VENTURE

The science and art of entrepreneurship continues to evolve and adapt to an ever changing business and economic environment. A recent refinement with entrepreneurship education that is gaining broad acceptance is "business modeling" versus "business planning". Champions of business modeling [5] assert that startups need a process to find a sustainable business model in the first place. Nathan Furr, a contributing writer to Forbes differentiates the two approaches this way, "In a business plan, you are trying to plan inside the building, the optimal solution that you can go execute on. In a business model process, you recognize that everything is a guess that has to be tested, outside the building with the goal of learning what will not work."[6]

According to Thomas Eisenmann of Harvard, "Startups are more likely to succeed when they rapidly and iteratively test assumptions about a new venture's business model based on customer feedback, then quickly refine promising concepts and ruthlessly cull the flops. New ventures that follow this approach are lean startups. Lean startups similarly rely on short product development cycles to eliminate waste and gain rapid market feedback." [6] "Lean startups don't try to scale up the business until they have product marketing fit, a magical event-more easily recognized in retrospect than in the moment-when they finally have a solution that matches the problem." [7]

Traditional business plans and pro-forma financials presume they must be written to support the founder(s) on a full-time permanent basis (a legacy from their roots in large-company planning) and that the business will be an instant success. Long range financial projections are at best works of using the WAG concept (wild ass guess) and thus, are heavily discounted by investors. It is not an efficient use of time and energy to prepare elaborate pro-formas on untested concepts. A new business concept is at best a set of unproven hypotheses. Typically, these include: amount of demand per price point, cost structure, feasible distribution channel,

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customer value proposition, repeat sales rates and customer retention, preferred features and most compelling benefits. The goal of an entrepreneur is to find a repeatable and scalable model, and then execute. Execution does require a traditional business plan, operating plans and financial forecasts to raise capital and scale the business.

New ventures should focus on building and releasing a Minimum Viable Product (MVP), the smallest set of product features and business initiatives needed to secure the next round of validated learning (MVP was developed by Osterwald and Pigneur and expanded by Blank and Dorf). MVPs can be counter-intuitive for those who assume fully-featured products as better. However, building more features than necessary risks wasting time on functionality no one wants. It also compromises experimental designs, because it can be difficult to determine why a customer rejected a new version that incorporates many simultaneous changes. Entrepreneurs should rapidly iterate the MVP based on customer feedback obtained through interviews, focus groups, usability tests, customer interactions, etc. Investors should not risk their money or entrepreneurs their time-on ventures without a proven sales and profit potential. Entrepreneurs should avoid big investments in marketing and infrastructure until business model hypotheses are validated. The time to pitch investors is after a business model is proven. As entrepreneurs work through one aspect of the business model (for example, value proposition), while searching for a sustainable business model, an entrepreneur may have to go back periodically and revise budgets, production plans, distribution channels, the partners or the product itself [8]

One business model gaining in popularity is the business model "Canvas" which consists of nine elements, that need to be iteratively validated in the market to develop a viable business [9] It is useful for thinking through the business model of a new business. The nine elements and select questions are:

- **Value Proposition.** The problem you solve, how to solve it, and what you charge. How you will compete with alternative providers and solutions; your "unfair advantage". What is the minimum viable product? What is unique and a differentiator(s)? What is the "value" your product/service provides?
- **Key Partners.** Critical suppliers or distributors, other key relationships
- **Key Activities.**
  a) What is it your company will do for the customer?
  b) What portions of the manufacturing and marketing will you perform? Which will you outsource?
  c) How will you raise capital? In what form (debt or equity) and from whom?
  d) When will you launch?
- **Key Resources**
  a) Core competencies: Capability and skill that creates a competitive advantage
  b) Strategic assets: Anything rare and valuable that a firm owns, such as plant and equipment, location, brands, patents, processes, customer data, highly qualified staff, or partnerships
- **Customer Relationships**
  a) Market Niche
  b) How will the user become aware of the product?
  c) Distribution channel (Where and how is the product delivered? By whom?)
  d) Customer support plan, loyalty programs
- **Customer Segments.** Who is the ultimate user? Who are the decision makers in the buying process?
- **Channels.** How will product or service, and value be delivered to the customer? Direct/Indirect channels?
- **Cost Structure**
  a) How much it will cost you to provide product/service? How will you make money?
  b) Pricing Models
- **Revenue Streams**
  a) Who will pay you (distributor, wholesaler, end user)?
  b) How will you collect the money?

Most startups end up doing something different than they planned. The way the successful ones find something that works is by trying things that don't work and change quickly. So the worst thing you can do in a startup is to have a rigid, pre-ordained plan and then start spending a lot of money to implement it. Better to operate cheaply and give your ideas time to evolve.

Additional questions should be addressed as part of the new venture creation process and market/product/service validation. Below is a checklist of these questions:

- What market segments and sub-segments should we pursue needs to be validated?
- Who could/ should become our customers?
- What is the vision of the business? Is it Realistic? Inspirational? Doable? Measurable?
- What are our core competencies?
- Who are our competitors/ who could become our competitors?
- What should our governance and organize structure be? What skills do we need?
- How should we grow? Organically? New Products? M & A? JV?
- How should we fund our growth and capitalize? Debt? Equity? Sources? Equity distribution?

Much research has been conducted on the steps involved in launching a new business. The references list many sources of this information. The following steps should typically be followed to start, grow and eventually exit a new venture:

1. Identify and assess the opportunity and validate with market, prospects and customers
2. Develop the concept prototype and re-validate; there are many models such as Business Model "Canvas" to develop the iterative validation process and determine if there is a viable business. To raise funding, ultimately, a business plan must be developed.
3. Determine the required resources, legal structure and governance structure
4. Acquire the necessary financing/partners/management team
5. Implement plan, scale business and manage growth
6. Transition, harvest or exit the venture

The author believes that a combination of a business model technique and a short business plan are necessary to start a new venture. A business model like Canvas is useful to validate in an iterative manner, the business concept, product, market and value proposition. The business plan is useful to attract investors and capital for the new initiative.

III. III. KEY PERSONALITY TRAITS OF SUCCESSFUL ENTREPRENEURS

Based on my own experience and a search of the literature, the most important characteristics of an entrepreneur are having a strong work ethic, being highly motivated, having passion and having a winning attitude. As an entrepreneur one will have to put considerable entrepreneurial drive to work to grow one's business. One should be prepared to work hardest during start-up. One has to be ready to handle long days (12-16 hours) and perform multiple functions, including sales, marketing, purchasing, accounting, human resources, customer service and many others. These functions can be supplemented by a strong management team, Board of Advisors, consultants and other advisors.

The key personality traits of successful entrepreneurs are [10] [11] [12]

- Customer focus
- High risk / gambling mentality
- Persistence/ principled
- Must be able to focus and refocus (limit distractions)
- Willing to guarantee debts (entrepreneur) or sell idea in existing organizations (intrapreneur). If you are unwilling to invest your own capital, why should others?
- Willing to sue/ be sued (entrepreneur)
- 100 + hour work weeks
- Organized, in charge and in control
- Believes " You can be wrong and make mistakes, but never unsure"
- Passion and champion
- Out of the box and innovative thinking
- Pragmatic and realistic
- Change agent and innovator

Major impediments to successful entrepreneurship are:

- No passion or champion
- Poor product/ service idea not validated by prospects and market
- Low risk tolerance
- Inflexible processes & bureaucracy
- Procrastination & uncertainty
- Unclear objectives/ fuzzy scope/ ambiguous responsibilities
- Poor execution and commercialization process
- Under capitalized
- Weak leader and dysfunctional team
- Cannot work well in an unstructured environment
- No product/service differentiation
- Limited or no barriers to entry

IV. PRE-LAUNCH PLANNING FACTORS AND LESSONS LEARNED

There are a number of factors to consider in the pre-launch planning phase of a new venture:

- Understand your market segment (s), micro – segment(s) and customers
- Iterative customer validation
- Construct realistic financial model (s)
  - Cash flow/ EBITDA
  - Sources/ uses of funds
  - Balance sheet/ capitalization
- Develop contingency plans (best, worse and most likely cases)
- Carefully analyze "competitive set"
- Write flexible business plan (discipline) – 3 scenarios – best, worse and most likely case
- Create an internet web site presence
- Focus on core competencies; outsource the rest

Fred Deluca, founder of Subways suggested key lessons to start and run your own successful business. These include the following [13]:

- Start small
- Earn a few pennies (It's not how much you earn at first; it's learning to earn something)
- Begin with an idea

- Think like a visionary
- Keep the faith (It is hard and takes twice as long as you think)
- Ready, fire, aim – Just do it and learn from it
- Believe in your people
- Never run out of money
- Attract new customers everyday
- Build a brand name
- Opportunity waits for no one

V. UB'S CTECH INCUBATOR – AN EXAMPLE

The role of an Incubator can help accelerate the growth of new ventures, provide advice and counsel, help share information between new venture participants and help start-ups minimize start-up issues and constraints. The Ctech Incubator at the University of Bridgeport is provided as an example of such an Incubator.

The CTech IncUBator at the University of Bridgeport is a partnership between Connecticut Innovations, the State of Connecticut's quasi-public authority for technology investing and innovation development, and the University of Bridgeport (UB).

The incubator's purpose is to assist in commercializing new technologies, developed at UB by faculty, students or both as well as external entrepreneurs, create jobs and foster regional economic development. Currently, the Incubator can accommodate up to six start-ups. We intentionally started small.

We did our homework, reviewed the literature on successful and unsuccessful incubators; interviewed at least ten incubator managers and developed a plan and action items before we opened. The key action items included:

- Selecting and appointing a broad based Board of Advisors consisting of Angel investors, venture capitalists, successful entrepreneurs, a lawyer, CPA and CEO's of regional businesses.
- Identified and signed up professional firms (e.g. Law, Accounting, Marketing, Technology etc.) as sponsors to provide pro-bono advice to tenants (up to a defined limit)
- Created a website for the incubator with a simple "tenant application form" to complete (e.g. a mini-business plan/model)
- Completed a "Grand opening with the Governor of Connecticut" giving a speech on the merits of incubators and lending the state's support to the initiative.
- Developed operating policies and rules on how to manage the incubator.

Tenants can tap into the strong business relationships and expertise of the incubator's partners and have access to a host of resources and services on the University of Bridgeport campus, such as the library, recreation center, state-of -the art conference facilities, student interns and world class faculty.

The objectives of the incubator are to:

- Nurture and facilitate growth of new businesses and jobs in high technology and technology ventures
- Foster and stimulate economic development and job creation in the region
- Support and enable the growth and commercialization of UB's applied research
- Build synergy and collaboration among industry, education and government sectors
- Become self-sustaining: generate revenues through rent income, IP royalties, license fees, sponsor contributions, grants, donations, etc.

Resources and services available for tenants include:

- Favorable market rents with fully furnished offices that include utilities
- Shared support services (e.g. conference room, high speed internet connectivity, printer/copier/fax/scanner and a kitchen)
- Pro-bono and discounted professional services assistance (e.g. legal, accounting, intellectual property, technology, product commercialization and SCORE advisors)
- Access to facilities and resources like the library, recreation center, café, and many more located on campus
- Introductions to potential investors and pre-seed and seed funding programs
- Access to resources supporting grant opportunities
- Access to world class faculty members and exceptional student interns
- Monthly "Entrepreneurial Brown Bag Lunch" free seminars and events provided by subject matter experts.

Currently, the tenants in the incubators are in the biotechnology, security and application software fields. Two of the tenants have received both grants and low interest loans because they were part of our incubator. They have also hired UB student interns, and worked with UB faculty. Two companies have graduated from the incubator and are scaling their business successfully.

In summary, the incubator has been a success. The Incubator is part of the Connecticut Business Incubator Network (CBIN). CBIN is comprised of a growing number of incubators that share information.

VI. SUMMARY OF DO'S AND DON'T'S FOR ENTREPRENEURS

Once you have decided to establish your own business, there are a number of do's and don'ts that you should consider. A summary of these include:

Do's

- Do Your Homework - Finding the right venture requires a lot of hard work such as conducting research, interviewing customers, suppliers and other professionals and completing a business model such as canvas to validate and verify that there is a viable business.
- Develop a Pragmatic Business Plan – To raise capital, construct a business plan with pro-forma financials, including cash flow statements. It is probably a good idea to develop three plan scenarios – optimistic, expected and pessimistic.
- Develop an Actionable and Flexible Marketing and Sales Plan - Establish annual and seasonal marketing programs to promote the business and maximize customer awareness and loyalty. Focus on customer acquisition and retention strategies, which include data base marketing, frequent user discount programs and special promotions. Be prepared to install marketing program measurement systems to assess results and change promotion and marketing programs.
- Know Your Costs - Establish and maintain a tight cost control system so that you can track the costs and profitability of all products and services. This will help you manage your business more effectively and profitably with the goal of never running out of capital.
- Provide Outstanding, Customer Relationships and Service - Providing excellent customer service is critical to the success and continued growth of a business. You should resolve all complaints quickly and fairly. You should minimize "wait time" for servicing customer. You should get to know your customers and their businesses, whenever possible.
- Develop a Contingency Plan if Things Do Not Work Out - If for some reason, the venture does not work out, you should develop a contingency plan to minimize your losses by selling or dissolving the business.

Don'ts

- Don't Get in Over Your Head Financially or Operationally - You must be realistic about how much you can afford on start-up and working capital, which should include debt payments. In addition, you should be comfortable in managing the business and not be overwhelmed by it.
- Don't Be Penny-Wise and Pound-Foolish - If you are going to use the professional services of a lawyer, accountant or marketing professional, use the best your money can buy. Their advice can save you a lot of headaches down the road.
- Don't assume it is Easy - Owning and managing your own business is one of the most demanding ways of earning a living. Most new businesses find that there is a substantial learning curve involved (e.g. six months to one year) before they are comfortable. Clearly, this is very much a function of the business and the experience level of the management team. Also, you should be prepared to work harder and longer than you have ever worked. You must consistently be proactive if you want the business to grow and prosper.
- Don't Get Discouraged When Business/Competition Gets Tough - Most businesses tend to be cyclical, with good and bad periods. If you encounter a slowdown and you cannot think of ways to change the downturn, call for help from your board and outside experts. You should carefully and deliberately examine all functions, processes and strategies and, where appropriate, reengineer them.

For more information that may be useful to conduct additional research on Entrepreneurship, Modeling and Incubators, the following references are provided [6, 14-19].

VII. CONCLUSION

Starting a new venture is much harder than you think and it takes much longer than you can imagine. It is critical to validate the business concept in the market place before too much time and money is spent on a bad idea. In general, business incubators facilitate and help accelerate the growth of new ventures.

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