ABSTRACT

Over the last two decades, we have seen an extraordinary growth of startups and startup ecosystems. This phenomenon is much more pronounced in countries like the US, China, and India, with ‘billion-dollar plus valuation‘ unicorns, successful entrepreneur role models, and enormous media buzz. Startups are characterized by immense zeal and enthusiasm about bringing a great new idea to market and making a difference in the world. Such startup's often begin with a single idea or a unique solution to an existing problem and a notional investment. Still, they attract hundreds and thousands of dreamy-eyed employees who, in many cases (if it is a very early stage startup), work for free/almost free with a promise of future wealth. The failure rate of such startups is as high as 90%, yet employees are happy to take the risk. Besides being strongly motivated, startup employees are highly productive and help implement innovative ideas at rapid speeds.

How is it that startups have such passionate, committed employees? What makes startup employees excel in innovation application?

In the life sciences space, we have an equal and perhaps more significant opportunity to make a difference in people's lives. One, we create solutions that enable better medicines. Two, we have an equal or perhaps better opportunity compared to startups to get our employees passionately involved in the work we do by clearly communicating the enormous impact their work has on medicine and eventually society.

In this paper, I cover three categories of leadership lessons from the startup ecosystem to the life sciences industry, namely:

(i) Systemic Innovation Management - following a winning way of qualifying innovative ideas and building them into products/solutions
(ii) People Management Lessons and
(iii) Velocity

INTRODUCTION

A cursory review of the press in any part of the world will provide quick insights into the startup revolution of the 2010s. Countries like US/China/India are churning out a record number of startups in all industries and including in Lifesciences. Reality shows such as “Start-up,” “Silicon Valley,” “Shark Tank” have brought the concept to prime time mass audiences. While entrepreneurship has existed since humans walked this planet, the focus on it has become much more mainstream since the late 1980s. The success of companies such as Intel, Microsoft, and Apple has created a whole wave of entrepreneurship. In the mid-1990s, the Internet created a second wave of entrepreneurship and saw the emergence of companies such as Google and Yahoo. In the mid-2000s, a new concept of the startup ecosystem has emerged. The new startup ecosystems are clusters/ gatherings of entrepreneurs, mentors, investors, supporting state and federal governments and customers including corporate customers. We also have the whole new genre of startup incubators and accelerators, which are precast structures (both physical and virtual) that enable a higher percentage of startups to succeed.

Such young startups are characterized by extraordinarily high levels of enthusiasm and excitement among employees. Early-stage employees often join without any salaries and work much longer hours than they did for their previous employers. The passion and excitement they show often spills over to social media, wherein many cases they passionately espouse their startups brand values.

Besides extraordinary levels of enthusiasm, startup employees showcase intense levels of applied Innovation. Most startups hardly have any financial capacity to take one idea to market, let alone two.
They can precisely target the key innovations behind their startup idea/themes and take them rigorously to market. Through concepts like early-stage customer testing, customer interviews, lean startups, minimum viable products (MVP), they focus on qualifying ideas and building them into products and solutions in the fastest possible ways.

I believe more mature industries with well defined standard operating procedures such as the Lifesciences industry can benefit immensely and improve employee innovation application. I also believe we can learn significantly from the passion and commitment of startup employees. In this paper, I explore three broad categories of leadership lessons we can acquire from the startup revolution, namely:

1. Systemic Innovation Management - following a winning way of qualifying innovative ideas and building them into products/solutions
2. People Management lessons – a culture of passion, high communication, and high-quality hiring
3. Velocity Management - Culture of achievement and results first.

The evidence and experience for the content in this paper is based on public concepts such as Lean Startups/MVP/others and my own personal experience in working for two startups and in working with Global startups through forums including Stanford Ignite and the Metropolia University Finland.

SYSTEMATIC INNOVATION MANAGEMENT

Startups are often based on an idea of Inspiration or an idea of Perspiration. Startup ideas come in two different traits: (i) An Inspiration based on specific external stimuli such as travel, personal lifestyle, personal passions such as art or (ii) An idea acquired while working on a career/problem during which the acquire immense expertise on the entire value chain of the activity. An example of an idea of Inspiration would be starting an AI based music recommendation startup, the Idea for which came from reading a newspaper article covering how users will be presented custom music based on their moods. The reader of the report found the concept inspiring and aligned with their own sense of music listening. An example of a startup of Perspiration includes a practicing Information Tech professional working in a large mainframe maker identifying the need for database software to process a higher amount of data in a faster manner – for example, Larry Ellison founding Oracle in the early 1990s.

Startups and startup ecosystem often have well-established step by step ways of qualifying ideas and taking it to market. Concepts such as Lean Start-ups, MVP are well established and well understood in the startup ecosystem and even taught in formal academic courses and informal means such as YouTube Videos). Most startups use a formalized experimentation method for generating a minimum viable product which is (a) useful to a customer (b) useful to a very particular customer segment and (c) useful enough for the customer, that they are willing to pay for it and hopefully a good price premium.

In most cases, the various steps involved in scanning or validating an idea and building the first minimum viable product often includes the following steps:

1. Build/ refine an idea from the initial phase of raw Inspiration or Perspiration such that it can be communicated to a prospective customer/ employee at least at a high level. The sheer task of building the Idea into a formalized mechanism (such as a PowerPoint or brochure) ensures a minimum validity of the Idea. In my experience in working with Global startups through a variety of forums such as Stanford Ignite, the University of Sydney, at least 30 percent of ideas get dropped at the formalizing level.

2. Validate the feasibility of the Idea through a series of prospective customer interviews. Customer interviews are often conversations where the entrepreneur explains the Idea and asks for feedback. A keen interest or lack of interest gives a clear indication to the entrepreneur on the complexities lying ahead of taking the Idea to market. There is significant online learning material on the best practices for customer interviews. At a minimum, I would suggest to list out all the major assumptions that the entrepreneur is making on customer adoption. Ensure that customer interviews cover at least 80% of the assumptions made. In my experience, a good startup in the Business to Business space would have hundreds of assumptions made and checked.

3. Research the market using tools of both primary and secondary research. Primary research often
Innovation management is not an overnight process and needs continuous grooming and culture building. It involves an entrepreneur seeking out an audience (prospective customers, industry experts) on the potential size of the market, the various segments and categories in the market, customer intricacies, and existing competitive behavior in the market, among others. Secondary research involves online/offline research, search engine tools, and other academic or industry sources.

4. Define the customers based on the segmentation of the market, customer needs, and customer capacity to purchase a product. Most initial versions of a startups product are built based on a razor-thin definition of a paying customer. Using a somewhat humorous analogy, a customer definition such as "Between 5 feet 6 inches and 5 feet 7 inches, prefers to wake up at 6:33 am and prefers to meditate with one foot" would be the kind of granularity needed.

5. Define the Product / Solution (Solution in case of a service or non product startup) roadmap starting with the first functioning prototype version, then the MVP, the first product for a generic customer, and later evolutions of the product.

6. Validate the product with customer trails and rollouts. Real validation of a product/solution is the customer's capacity to pay for the product, use the product and achieve value from the product. In business models such as pay as you Go, Software as a Service (SaaS), the continued relevance of the product to the customer is essential; if they don't use the product, they will cease to renew the license, and the revenue stops.

7. Pre-Sell and sell the product acquiring more and more customer knowledge at each stage of the sales/ pre-sales cycle.

8. Support and further sell the product - while an initial sale is a crucial indicator for product/ solution validation, a continued customer usage of the product is a far more serious validation of product relevance. Once continued usage is established, customer references will play a vital role in product growth.

The advantages of such an amplified and accelerated innovation mechanisms are many: (a) they enable rapid product introduction (b) they allow fast revenue and (c) they allow customers to use the product rapidly.

The Lifesciences industry solves very serious life and death problems, and in many cases, not all elements of a rapid innovation curve can be applied. However, the Lifesciences industry can use a three-step framework, learning from accelerated innovation mechanisms (including from startup innovation mechanisms):

1. Learn the art of amplified/ accelerated innovation management as exhibited by startups. The eight steps described above give a good introduction/ summary of global best practices. Lifesciences companies can consider gaining more advanced knowledge of the eight steps listed above.

2. Look for opportunities in the product/ solution lifecycle to have more customer conversations. Conversations, especially at earlier stages in the product cycle, are precious. As you build trust with your customers based on the maturity of the interviews, they would be willing to have more and more conversations not just on basics such as the Minimum Viable Product concepts, but also the roadmap.

3. Look for opportunities in our product/ solution lifecycle where a customer's problem can be addressed in a fast and prioritized manner. Substantial customer conversations (just like startups have) can enable our industry to prioritize/segment various customer problems and engage in inspired problem solving.

Institutionalizing a culture of Innovation, creativity, thinking out of the box, hearing the customer's voice, and being passionate about solving customer's problems can be lessons from the startup ecosystem. People managers, HR managers, leaders of the organization at all levels need to become innovation managers. Innovation management is inherently multidimensional and requires cross-cultural teams involving people managers, individual contributors, HR leaders, and senior leaders of corporations. Innovation management is not an overnight process and needs continuous grooming and culture building.
PEOPLE MANAGEMENT LESSON

(i) Hiring Right and Quick:

Most startups have relatively differentiated hiring mechanisms compared with larger companies for multiple reasons: (a) Until they reach much more significant levels of funding they cannot afford to pay regular salaries (b) they need employees who deal with ambiguity exceptionally well and (c) they cannot afford long employee ramp up and on-boarding times. Many startups use social recruiting, both formally and informally, as the basics of their hiring. Employees are highly encouraged to share resumes of their friends and past coworkers. Since startups rely on tight social structures among employees to speed up Innovation, employees who work well together or have worked well together are likely to create speeded up Innovation. Startups and young companies incentivize employees to share resumes of friends through formal and informal mechanisms. In some cases, they provide a formal referral bonus, while in many other cases, they provide informal recognition. At Ephicacy Lifesciences analytics, employees are measured annually on three vectors: (a) contribution to the customer (b) contribution to the company and (c) contribution to yourself (such as through learning new skills). Referral of resumes is often one of the easiest ways for employees to score well in contributions to the company.

Several startups enable gamification of recruiting. An Indian startup “RippleHire” makes it easy for startups to hire through their employee social networks. Startups also hire through hackathons. Good examples of hackathons at global levels are Google Code Jam, Google Summer School of coding, among others. Google Code Jam is an international programming competition hosted and administered by Google. The competition began in 2003 as a means to identify top engineering talent for potential employment at Google. The competition consists of a set of algorithmic problems that must be solved in a fixed amount of time. Google Code Jam has been in existence since 2003 and has served as a role model for several startup hiring. Likewise, at junior levels/ student levels, one of the best global coding programs is the GSOC (Google Summer School of coding) program. Google Summer of Code is a global program focused on introducing students to open source software development. Students work on a 3-month programming project with an open source organization during their break from university. Since its inception in 2005, the program has brought together 14,000+ student participants and 24,000+ mentors from over 118 countries worldwide. Google Summer of Code has produced 35,000,000+ lines of code for 651 open source organizations. While the GSOC is not a recruiting program and often involves college students from freshman level onwards, it serves as a good benchmark for talent.

The life sciences industry can definitely learn and benefit immensely from the nontraditional hiring mechanisms pioneered by startups. In the Lifesciences industry, we solve a variety of very complex, humane problems that need non-traditional solutions. We can package such problems and throw them to the open community to solve through hackathons. Such hackathons can be conducted both as a physical or virtual events. Hackathons get more productive and more rewarding if the problems being addressed are more complex. The Lifesciences industry offers very complex problems to solve compared to any other industry; “problems of human health.” Besides, we can nominate our top talent employees to organize/ moderate/mentor such hackathons. By participating in such extranet innovation ecosystems, our employees have a great platform to learn, speed up Innovation and in some cases co-create Innovation beyond the borders of the company.

(ii) A culture of communication and inclusion

The startup formation often follows a pattern of co-founders (or a sole founder) starting with a basic undeveloped idea. In most cases, the co-founders have no product, no salary to offer, and a 90% certainty of failure; yet they manage to attract talent and grow the company. How do such very early startups get started?

I believe most early-stage employees join a startup based on the raw magnetism of the co-founder's communication. Apple is a company that is very famous for the magical charismatic personality of its founder, Steve Jobs. In fact, “reality distortion field” is a term first used by Bud Tribble at Apple Computer in 1981 to describe the company co-founder Steve Jobs’s charisma and its effects on Apple employees and stakeholders. The founder’s charisma, verbal/non-verbal communication skills are the single most reason to attract the first set of nonfounder early-stage employees. When the product/solution
reaches the minimum viable product (MVP) stage, professional employees with a startup mindset join in. When funding levels reach Series A levels, regular employees start fitting in.

Startups have a cadence of extraordinary levels of open and transparent communication across employees, across multiple levels and even communication levels with external stakeholders. Due to a flat organizational structure and less number of people managers, the information flow in a startup is faster. This provides a significant competitive advantage for startups in speeding up innovation creation. Startups employ a variety of communications styles, including:

- Standard Written communication
- Standard Verbal communication
- Passion based communication where the co-founders of the company seek to convert employees into passionate believers in the core reason for the company's founding
- IP/ Ideation based communication including blogs both internal and external
- Social media based communication which is probably the easiest to comprehend and understand
- Hackathons / co-working towards a problem sometimes with external stakeholders and
- Gamified communication where employees get points for contributions to solving coworkers' technical and business issues. Tata Consulting Services (TCS), for example, uses gamification and reward points dashboards for employees that actively participate in using obsolete inventory. Employees are rewarded points and incentives given based on their rate of use of out dated inventory and earn Silver, Gold, or Platinum level positions. This ensures more employee engagement, creates a competitive yet collaborative team environment, and helps the workforce model behavior differently.

The Lifesciences industry has similar reasons, like startups for employees to believe in the company's vision/ mission. While a Startup/ young company like Uber makes transportation easy and available to everyone, the Lifesciences industry accomplishes a far bigger task; "of saving lives and improving quality of life." The Lifesciences industry can achieve a more passionate communication style in three steps:

1. Create a far greater sense of inclusiveness just like startups do
2. Communicate regularly on the nature of the problem the industry/ company is solving and its importance
3. The relevance of every employee and their activity and how their activity cascades into a more significant problem solving

**VELOCITY MANAGEMENT – A CULTURE OF ACHIEVEMENT**

Startups have a culture of "achievement first / hierarchy or pedigree next." Start-up employees are known for their creativity and capacity to achieve more with less. According to Bill Gross, the founder of Idea Labs, "Putting people together in a startup is the best way to change the world. Startups provide the best way to unlock the human potential". In the process of getting together, aligning passionately behind a problem, solving it faster/ better, and in some cases, cheaper than anyone else; startups become inherently creative. In the early stage of a startup, the focus is on getting a single solution/ product with the best possible features while profoundly understanding the customer needs far better than anyone else. With such a razor-sharp focus, the meritocracy of the company becomes extremely strong. The meritocracy culture of startups lasts much longer than its early stages; companies such as Microsoft/ Apple, which grew very fast from being a startup to Fortune 500 companies, retained their razor-sharp focus, meritocracy and startup mentality for much longer.

Flipkart is an Indian e-commerce giant recently acquired by Walmart. Flipkart was founded in 2007 by two alumni of the prestigious Indian Institute of Technology Delhi and ex-employees of Amazon. Flipkart is well known in India for its enormously productive culture. In many cases, the culture of achievement/creativity and entrepreneurship stays as a permanent skill set of the startup employee. "PayPal Mafia" is a term used to denote a group of former PayPal employees who have after leaving PayPal created several very successful companies such as Tesla Motors, LinkedIn, Palanatir, SpaceX,
YouTube, Yelp, Hammer and several others. Likewise, in India, the term "Flipkart mafia" is a term used to denote the over 207 startups founded by ex-employees of Flipkart. Flipkart has powered the entrepreneurial ambitions of an entire nation in two ways: (a) By becoming a role model unicorn (Startups with valuations higher than $1 Billion) and (ii) source of talent and (iii) becoming a disruptor to the Indian business culture.

The Lifesciences industry can learn several lessons from the startup culture of achievement:

- Create a sense of accomplishment while overlooking hierarchies. Provide employees a sense of end to end ownership, making them part of the overall decision-making process.
- Focus on productivity and not the number of hours.
- Build a strong sense of positivism, continually focusing on results and achievement. According to a Harvard Business review article, a positive work climate results in a positive workplace culture, which in turn boosts commitment, engagement, and performance.
- Avoid a sense of negativism. In a large scale study of 3000 employees conducted by Anna Nyberg at the Karolinska Institute, there was a direct correlation between leadership behavior and heart disease in employees. Communicate negative news openly and directly and as quickly as possible.

CONCLUSION

In the Lifesciences industries, employees, especially those involved in the core drug research such as statistical programmers, statisticians, data managers, and researchers create an enormous impact on the lives of people. Our work has a direct role in enabling medicines to be made available to people who need them. Hence it is extremely critical for us to bring about the most innovative practices into our work. A capacity to recognize innovative ideas among our employees, qualify the ideas, fine-tune the ideas, make changes in the ideas, assign teams to work on the ideas are all essential for building innovative teams. Besides being able to recognize and implement Innovation, we also need to bring in more of a communicative and hyper passion culture into our organizations. These are essential traits for energizing a young workforce, especially a workforce of millennials and Gen Z. I believe startups and startup cultures are great places to learn about implementing Innovation and ways to build communicative/hyper passionate cultures.

By bringing the best of our mature process orientation and fast-paced approaches of startups, we can make more rapid contributions. By identifying the best talent, especially among a young workforce through new and innovative ways, we can speed up innovation creation. Startups, in short, have been the most disruptive workforce change in the last decade. We in the Lifesciences industry have an enormous opportunity to learn strong "Leadership Lessons from Start-ups" and make a more significant impact in the world.

REFERENCES

The Lean Startup – Eric Ries: Portfolio Penguin
Poor leadership poses a health risk at work. 2019 https://news.ki.se/poor-leadership-poses-a-health-risk-at-work.
How Pandoras Founders convinced 50 Early Employees to Work 2 Years without Pay June 2018
https://thehustle.co/how-pandoras-founder-convinced-50-early-employees-to-work-2-years-without-pay

IBM Institute for Business Value study 2016 – As many as 90% of Indian Startups fail

RECOMMENDED READING

- The Lean Startup – Eric Ries
- Lean Product Playbook – Dan Olsen

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