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Demography of Startup Software-Based Company

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Abstract:- Startup means a field that is newly emerged and first growing in nature. Software Startups are created companies that has no operating history. It has been making innovative technologies for the customer. Startup Companies are basically a venture is likely to produce a complex system within a very short period with fewer resources. They maintain four primary keys those are product, service, process and platform resulting in a viable business work frame. Startup people faces challenging situation because they work with, out of the box ideas and which has never been used before. Reviewing empirical research, we learn that the startup term is not given much importance by the researchers. Our intention to write this thesis to motivate and guide startup people to get a clear concept of startup terms, characteristics and usual software development methods. We firmly believe that our work will help tech and also business people to get knowledge about software processes and practiced software development which ultimately helps them to secure success in the long run of business.

Keyword:- *Startup, Software Startup, Software Development, Strategy, Software Company, Software Startup Company, Mapping, Investor, Management.*

I. INTRODUCTION

The startup means the movement or work process of setting something in locomotion. It is a recently emerged occupation; it has first grown in nature. The word "Startup" was first used in an article published in 1976 Forbes Magazine [53] and from late 90's it gradually became more popular. Back then, a software startup company was identified as a recent or infancy company with outstanding extension possible due to technology it was developing. Nowadays organizations are highly dependent on software. So, they are adapting better apps for their organization to increase their productivity and efficiency using available technology. Due to this reason, software startup companies are expanding rapidly without adopting any proper method or business plan to survive in long run. As a result, most of them are having trouble in their startup stage [48]. Testing on Software Startup Companies have increased momentum over the decade as startup companies are the reason that the tech industry is expanding rapidly [88]. Instance of such testing adding gathering experiences, raising new conjecture of software startup domain [82]. To keep path of the latest, investigate findings in the district of Software Startup Companies, there is a need for full-scale composition studies that condense and constitution the existing body of apprehension. We adjacent a study for structured choice, delineation and organizing letters that covers the demography of software startup companies. Our impartial, and this subscription is to manufacture a structured describing of what account for the key offerings, the main study gaps, and latent future regulation in the ground. Alarming to execute the work, we have taken on a systematic literature review (SLR) detain [10] for the organized choice and delineation of subsist literature. SLR is a advocate procedure for aggregating comprehension about a particular software engineering subject or experimentation question [11] [12], through the methodical survey of pertinent observed studies [10]. For instance, SLRs were widely use to acquire, conceive and formation knowledge in different fields of software engineering as well as dynamic analysis [49], fault prophecy [83], worldwide software engineering [14], and business procedure espousal [15]. To conduct this analysis, we acquired an evaluation entente following the instruction proposed in [16]. Keeping research motivation, it derived four analysis questions in two classifications, e.g., select and address. Select mention to the various surface and extent of Startup business traverse; address mention to the procedure and touchstone used for the study. We also talk about the suggestion of the discovery and give counsel for additionally analysis. The facts bring out from the objects are record under the ascribe set evolved for replying the exploration questions. The thesis organized as follows: chapter two, we talk about the analysis concord and the exploration questions. In chapter three, we focus on methods. Replying to the exploration questions in the field of startup and development process are presented in chapter four. Chapter five is completely about discussion. In the end, declare are hand over in chapter six.

II. BACKGROUND

The point of this chapter is to analysis and familiarize the readers with the terms, thoughts, and procedures used in this thesis. This part will provide a basis to proceed further in assuming the work.

A. Startup Software Company

The phrase "start-up" explanation arriviste dates back to 1550 [53]. Now, in the sensation of prospective agency, it was initial worn by Forbes Magazine in 1976. The Oxford English Dictionary discovers the starts of the phrase, second-hand in its current perception, back to a 1976 Forbes article, which utilize the term as accompanies [53], "The unfashionable business of investing in startups in the electronic data processing field." An article in a 1977 Business Week compromises the bar [53], "An incubator for startup companies, especially in the fast-growth, high-technology fields."– also describes startup. The term startup became famous in the late 1990's as part of the technology and internet hype and bubble that eventually launch in the year 2000 [3]. Regardless of revolution and speculator being older phraseology and yet still also being often mixed or misunderstood with terms like creation and small speculators, those are still already much established. A Startup Company also known as an upstart, has emerged to describe and define a new or early-stage company with higher than usual extension potential due to the technology it was developing. This meant that for that extension

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potential to be possible, it was dependent on new technology and since the 90's also to the internet has been a high-extension enabling factor. These startups were known as internet startups or more broadly technology startups, and as such the term "startup" is still mainly mentioned as "technology startup" [3]. The term was needed and as such produced by the venture fund industry, which used the term to separate these specific types of new extension potential companies from traditional entrepreneurship, generally new companies and small businesses, where the main factor for this detachment was the "scalable fast extension potential", at the time mainly associated or enabled by technology and in the late 90's by the spread of internet [3]. Due to where the term originated from, the term is also the reason why it is still so strongly tied with investors and risk capitalize and also tied with the technology mindset. Once there was this new definition for a "category of new businesses" created, like with any such definition, many other features started to be considered and validated over time by VC's about "what makes a good startup", where one pivotal factor was the setup team and the formation outlook [3]. This meant that in addition to a business idea and extension possible with technology as an enabler, a key separator for identifying potential investable startups, a founding team setup with harmonized skills has become to be considered one of the (if not "the one") key invest capacity factors [3]. Although there are startups generated in all kinds of businesses, and all over the world, some locations and business sectors are especially related to startup companies. The internet bubble of the late 1990s was related to huge numbers of internet startup companies, some selling the technology to supply internet access, others using the internet to supply services. Most of the startup activity was discovered in the most well-known startup ecosystem - Silicon Valley [88][89], an area of northern California famed for the high level of startup company activity, where major computer and internet firms and top universities such as Stanford University create a stimulating startup habitat. Boston and Berlin, home of WISTA Science and Technology Park, have many artistic industries, leading entrepreneurs, and startup firms [48]. The spark that set off the volatile boom of "Silicon startups" in Stanford Industrial Park was a personal debate in 1957 [89] connecting employees of Shockley Semiconductor and the company's namesake and founder, Nobel laureate and co-inventor of the transistor William Shockley (His employees) formed Fairchild Semiconductor instantly following they're going. After several years, Fairchild obtained its footing, becoming an intimidating existence in this sector. Its founders began to pull out to start companies based on their own latest plans and were followed on this path by their own one-time leading employees. The process obtained momentum and what had once started in Stanford's research park became a genuine startup snowslide. Thus, over the course of just 20 years, a mere eight of Shockley's one-time employees gave forth 65 new undertakings, which then went on to do the same [90][88]. In 1994, Carmel first initiates the term software startup, or, to be more exact, software package startup, in SE literature [48]. If a company's worth is based on its technology, it is often equally main for the business owners to acquire a rational property shield for their idea. The news magazine The Economist approximates that up to 75% of the value of US public companies is now based on their cognitive things (up from 40% in 1980) [4]. Often, 100% of a small startup company's worth is based on its cognitive things. As such, it is principal for technology-oriented startup companies to evolve a sound master plan for preserving their cognitive funds as early as possible [5]. Startup companies, particularly those associated with new technology, sometimes built huge returns for their creators and investors a recent example of such is Google, whose creators became billionaires through their stock ownership and options. However, the failure rate of startup companies is very high [5]. On 2014, an article in Fortune estimated that 90 percent of startups ultimately fail. In a sample of 101 abortive start-ups, the top five factors in non-success were lack of purchaser interest in the result or assistance (42% of failures) finance or cash problems (29%) personnel or staffing problems (23%) competition from competitor companies (19%) and problems with the pricing of the result or assistance (18%) [85]. In the case of financial problems, it can leave employees without paychecks. Sometimes these companies are acquired by other companies if they are deemed to be viable, but oftentimes they leave employees with very little recourse to regain lost income for worker time. Although there are startups created in all types of businesses, and all over the world, some places and business sectors are particularly associated with startup companies. The internet bubble of the late 1990s was associated with huge numbers of internet startup companies, some selling the technology to regain internet access, others using the internet to regain services [89]. Startup promoters are also trying to make a community of tech startups in New York City with organizations like NY Tech Meet Up [86] and Built-in NYC [90]. In the early 2000s, the license assets of failed startup companies are being bought by what is slandering known as license trolls, who then take the license from the companies and assert those licenses against companies that might violate the technology covered by the license [86]. Startups have several choices for capitalizing. Venture capital firms and angel investors may help startup companies begin operations, switching seed money for an equity stake in the firm. Venture capitalists and angel investors provide financing to a range of startups (a portfolio), with the supposition that a very small number of the startups will become feasible and make money [3]. In practice though, many startups are initially capitalized by the founders themselves using "bootstrapping", in which loans or monetary gifts from friends and family are merged with savings and credit card debt to finance the venture [48]. Factoring is another option, though it is not unique to startups. Other funding opportunities include various forms of crowdfunding. For example, equity crowdfunding, in which the startup seeks funding from a huge number of individuals, typically by pitching their idea on the Internet [3].

B. Motivation

Our interest to conduct this thesis, to help the research people as well as the startup enthusiast to get a better understanding of the startup concept and in-depth knowledge regarding the term. We firmly believe that if a startup emerges to a fully scaled business model it will create more employment for the general which might also quickly reduce the rate of unemployed people in the current society. Reviewing our thesis, the audience may find a proper way to basic knowledge of the startup company. This thesis is targeted upon software startup domain so knowledge seekers will get the most benefit by reading it.

C. Analysis Questions

In analysis questions, we have expounded the terms of startup policies, strategies, work process, development and success-failure issues and stories. We have formulated a total of four questions for our research and which is attending in Table 1. These questions are suggested on startup policies. This is mainly focused on study, data sources, methodology, validation mechanisms, and projects.

Research Title	Category	Research Questions	Main Motivation
Demography of Startup Software Company	Target	What is a startup company?	To define the startup policies, terms and conditions also introduce startup.
		Who are the startup people and kind of characteristics do they represent?	To introduce startup, to define their characteristics and their terms and conditions, to identify who works here.
	Approach	Describe the different development phase used for startup companies?	To define their development phase and how startups use it.
		Describe the software development process in startups software companies?	To identify their software development on project and terms.

Table 1: Research Questions

III. PROCEDURE

A. Brief on SLR

A review methodology is recommended for the studies which are related to Systematic Literature Review (SLR) [10]. SLR is performed on several tasks which define and describes the process or terms of work activities [16].

B. Benefits

In order to conduct our valuable research, we have taken on a SLR talk for limited area and representation of currently available literature [1]. SLR overcomes the single empirical studies with addressing many expansive queries. That is the reason it is an advocate procedure for merging knowledge about an exact software engineering topic or analysis question [18]. SLR helps to identify things in a transparent view to the reader. Also, according to Baumeister [2] in order to achieve the best result, one must adopt the mentality of an alcalde and jury, rather than a lawyer. Because an alcalde and jury will assess the evidence in order to render the fairest judgment possible but the lawyer will always approach the other way to make the best case for one side of the disagreement with given evidence. From the literature review, we can actually learn about some facts. Set up to what size draw breath research has proceeded towards defining a certain problem/formulate general declaration or a formidable conceptuality. To search the exclusion and inclusion criteria SLR can impact most via showing a result with unbiased information. For example, SLRs were mostly used to demonstrate concrete comprehension in the different pasture of software engineering including energetic inspection fault assumption, global software engineering, and the tech industry and business process adoption [18].

C. Method

Systematic Literature Review recommends preset an analysis entente to reduce the possibility of researcher bias. Along those recommendations and the following term, the procedure is defined in figure 1 which explains the tasks involved in the review protocol of this study term [49]. The tasks have been talked about in different parts.

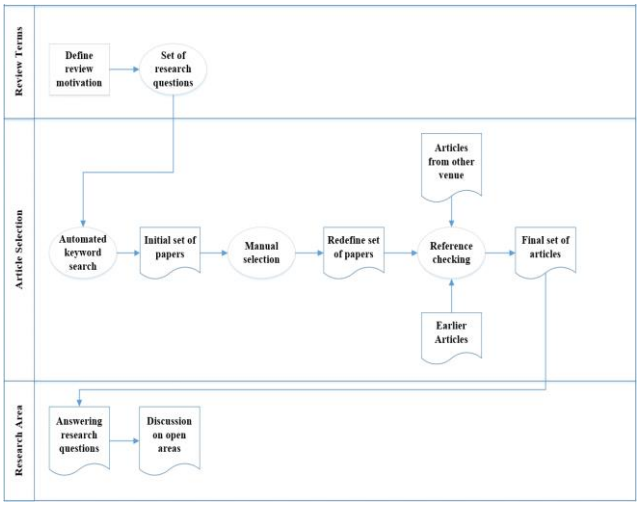

Fig. 1: Overview of SLR

a) Review Terms

In research terms, we have defined the terms of startup policies, strategies, work process, development and success-failure issues. We have formulated a total of five questions for our research. These questions are proposed on startup domain also policies. This is mainly focused on study, data sources, methodology, validation mechanisms, and projects [34].

b) Object Selection

This part which explains the object selection process in (phase (b) Figure 1). We mainly focused on three parts of article selection which are automated search, manual search and reference checking methods. The mechanized keyword search process to find digital libraries, manual search step from the selection of the initial set of articles, and reference checking of the listed objects [18].

a. Incretion Criteria
Along the exploration questions which is defined in Table-1. We have explained the following criteria of selection in advance that should be pleased by review objects: Our research place is mainly focused on startup term or policies. Authors must be on target in study term (e.g., startup, characteristic, development, process, forecast) and supply details of methodological analysis, data sources and qualitative details of the dossier [18]. Objects used in a case study of startup policies which define the term of following chart (e.g., process, methodology). Articles are taken that case study if they please the upper criterion. For review objects mainly focused on journals and conference papers which are published. Similar to Systematic Literature Riview, books are not considered for the analysis policies [18]. Articles were set on against the upper-mentioned selection basis through a manual analysis (discussed later in this part). The manual selection is focused on the title, keywords, abstract [50].

b. Automated Keyword Search
For a literature survey, automated keyword search is widely used [51][52]. We used this term to get the beginning set of papers. Six computerized libraries were searched: IEEE, Springer, Google Scholar, ACM Digital Library, MDPI, and OCED. These libraries are so much more popular for searching articles and papers. So, we used this digital library. All our searches are mainly focused on keywords, title and abstract [18]. The time frame for the search area was from the year 1984 to 2017. We made a graph from our selected papers which represent year wise effort or amount dedicated to the software startup related domain.

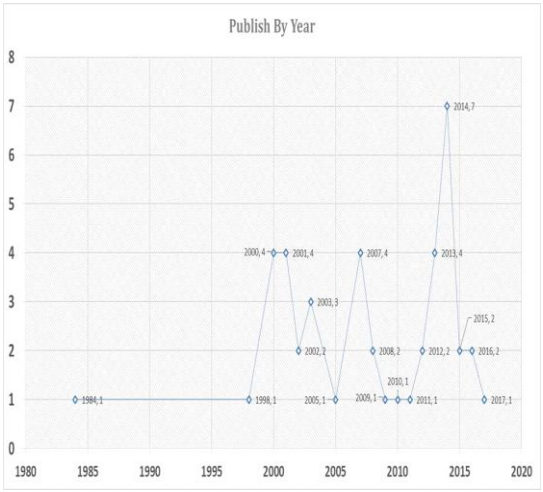

Fig. 2: Startup Articles Published Graph by Year

We also tried to gather and match as much reference as we could so that our work will be authenticated and trustworthy to audiences who will read it.

Serial	Core Concepts	Index Terms
1	Startup	newly emerged, fast-growing business, innovative product, service, process, platform, effective
2	Software Startup	software startup, software start-up, early-stage firm, early-stage company, startup company, lean startup, softwarestartup
3	Software Development	develop, engineering, engineer, model, construct, implement, code, create, build
4	Strategy	product, service, process, methodology, tool, method, practice, artifact, artefact, quality, software, move, action, management
5	Software Company	software, technology, distribution, software product development
6	Mapping	data mapping, overview, upscale, connection
7	Investor	angel, angel-investor, venture capital, funding, business-angel, venture companies
8	Management	managing, administration, organization, business, corporation, strategy, coordinate

Table 2: Core Concepts and Index Terms

Our thesis search is based on three parts, which are used for our research topic software startup companies. By following this thesis, we mainly research startup policies (e.g., develop, process, strategies, work, success-failure issues, mapping, characteristics) [18]. Mechanized keyword search finishing with 43 papers containing of 7 papers from IEEE, 12 papers from Springer, 16 papers from Google Scholar, 5 papers from ACM, 2 papers from MDPI and only 1 paper from OCED.

ID	Paper Database Name	Papers
A	IEEE	7
B	Springer	12
C	Google Scholar	16
D	ACM	5
E	MDPI	2
F	OCED	1
	Total	**43**

Table 3: Source Names of the Published Articles

c. Manual Selection
By automated keyword search, we have found 43 papers for our research topic. We found these papers in three terms of conditions [49][50]. One is the keyword, second is the title and third is abstract [18].

Recent studies indicate that these recent digital libraries on startup do not provide well support for mechanized keyword search due to an absence of a compatible set of keywords, titles, and summarizes which is performed by the first author to search this area [50].

To reduce this research, bias our second writer examined the chosen objects or papers against the choosing criterion. Any dispute was resolved through discussion [50]. These steps ended up with 24, objects consisting of 18. Some journal objects and some are conference objects.

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d. Reference Checking
By automated keyword search, we found 43 papers for our topic and by manual search, we found 18 papers. But to make sure the inclusion of other relevant but lost reference, first writer performed to find out the finite-impulse-response search through the references of the 16 selected objects. This process recognizes 2 additional conference objects.

e. Finishing of Papers
Paper choosing process finally finish up with 18 papers (Including both journals and conference papers). This paper is listed by source, author, publication year and type of papers which can be found in our validation area [50].

IV. RESULT

- **Research Results**
Given the article choice and ascribe task, the next step is to present and explain the study findings. We start by experimenting with answers to the experimentation questions based on the study outcome. Experimentation questions are discussed below.

A. RQ1: What is a startup company?

A startup is begun by particular founders or entrepreneurs to look for a repeatable and factotum business model. Generally, startup means a business which is newly come out and first growing in nature [55]. A company committed upon the industry to devote their innovation with four primary neuter those are product, service, process or platform resulting in a viable business model [57]. Founders plan startups to successfully grow and authenticate a factotum business model [55]. But what does model mean? Generally, business model defines the relation of how an organization makes delivers and capture values in economic, social, culture and others [56]. Construction and modification are also included in a business model. So, the procedure of business model assemblage and variation is also called business model Changeset and business strategy [56]. The business model has some core aspects. Those things introduced business to the strategy. To create a startup company strategy is most essential. These strategies are the business purpose, business procedure, target customers, offerings, foundation, organizational structures, sourcing, trading practices, and operational procedure and policies including culture [56]. An entrepreneur is a single who, rather than working as an employee, founds and runs a small business, presuming all the risks and rewards of the venture [55]. The entrepreneur is commonly seen as an innovator, a source of new thoughts, goods, services, and business or processes [55]. So, we can say that the presumed of startups and entrepreneurship are quite anticipate. The difference between startups and entrepreneurship startups mentions new businesses that planned to expand beyond the solo founder, have employees, and planned to expand large, startups face high unpredictability and do have high rates of non-success, but the marginalized that go on to be successful companies have the likely to become large and effective [55]. While entrepreneurship refers to all new businesses, including self-employment and businesses that never planned to expand largely or become registered. Founders or Co-founders are people complicated in the first launch of startup companies [55]. The right to call oneself a co-founder can be accepted through an agreement with one's fellow co-founders or with the authorization of the board of directors, investors, or shareholders of a startup company [55]. The founder or chief of the founder (co) is very important in starting a startup company because on the basis of its idea, a new company is emerging in the industry. Now come to the actions part. What actually founders or (Co) founders do for making a business model? Startups typically begin by a founder or cofounders. The founder(s) of a startup will start market authentication by problem interview, solving interview, and then building a minimum durable result [55]. Problem interview which is defined to start a company, there are a huge number of problems will come and startups have to ability to solve this problem [55]. Solution interview defines that startup must have the ability to face any kind of problems and given a solution [55]. Building a viable product which actually defines the service of Startup Company [55]. Normally the startup procedure can take an ancient period of time, by one guess, three years or longer, and hence encourage effort is required. Encouraging effort over the long term is especially challenging because of the high unsuccessful rates and uncertain outcomes. In actions of startups, there is another part of the design principle. Design science is an outcome-based information technology experimentation framework, which offers particular guidelines for estimation and approximation within experimentation projects [55]. Design Principles are fundamental points of guidance for making easy-to-use, pleasurable designs as we select, create and organize elements and features in our work. Design propositions represent the collective wisdom of researchers and practitioners in plan and connected fields [55]. Startups are concerning the likelihood of starting ventures and therefore design science. Design science uses design propositions which are an harmonious set of canonical ideas and propositions to design and erect startups. One of the first or crucial designs can get a successful startup. Founders or (Co) founders are people who complicated to make design science [55]. In actions, the third part is heuristics and biases in a startup. It is often seen in the startup company that deficiency information startups ache high unpredictability, they try to make a verdict quickly, founders of startups use lots of firsthand and reveal biases in their startup actions [55]. For this reason, their decision-making process is not going well. And they help us to take a verdict as soon as possible under unpredictability but sometimes become failing. In actions of startup, the last thing is mentoring. To create a startup company sometimes startup people, go to the consultant. Startups are going to them just because of getting the best idea to start a startup company or create a startup company [55]. A proposition is a concept or value that is a guide for behavior or evaluation. In a startup, we can see specific types of propositions. These are a lean startup, market validation, design thinking, decision making under unpredictability, working, entrepreneurial learning, and Business Model Design.

ISSN No:-2456-2165

- **Incline Startup:** To make and plan startups under restricted resources and huge unpredictability to make their ventures more elastic and at a lower cost. It is based on the idea that entrepreneurs can make their inherent predictions about how they proceed to work definitely and empirically test them [55]. The empirical tests are to validate these predictions and to get an engaged understanding of the business model of the recent ventures [55]. Lean startup is a set of propositions for entrepreneurial learning and business model design [55]. More precisely, it is a set of design propositions goal at iteratively experiential learning under unpredictability in an engaged empirical manner [55]. The main work process of a lean startup is that find a problem worth solving and define a solution, market validation, build a function, measure customer response, and verify the plan [55].
- **Market Authenticate:**
  A key proposition of a startup is to authenticate the market need before making a solution. Because startups are undetermined, founders don't want to misuse their time and money to create a startup company which has weak demand in the industry. The main aim to create a startup company is innovation [67]. When the idea will be validated then founders become interested to take their time and give their money in a startup company. Market validation is like validated the innovation.
- **Decision-making Under Uncertainty:**
  Startup Company comes with a new idea which is actually called innovation [55]. Startup Company always faces uncertainty. Uncertainty in a startup company which defines problems [67]. Various types of problem will come in their work time but startups must have the ability to take a good decision for reducing the loses [67][55]. Otherwise, a startup company will see that it will go down from the industry.
- **Partnering:** Startups may form cooperation with other firms to authorize their business model to operate [67]. To become alluring to other businesses, startups need to line their internal features, such as management style and products with the market situation [67]. The recipient profile calls for a management style that is not too entrepreneurial and the startup should have an incremental creation. This profile is set out to be more victorious in a market that has a principal design. The originator has a management style that is highly entrepreneurial and in which a fancier creation or a troublesome Changeset is being developed. This profile is set out to be more successful in a market that does not have a principal design. New startups should align themselves to one of the profiles when money-oriented creation to be able to find and be alluring to a business partner [55]. By finding a business partner, a startup has greater chances of becoming successful.

- **Effects of Business Partner in a Startup:**

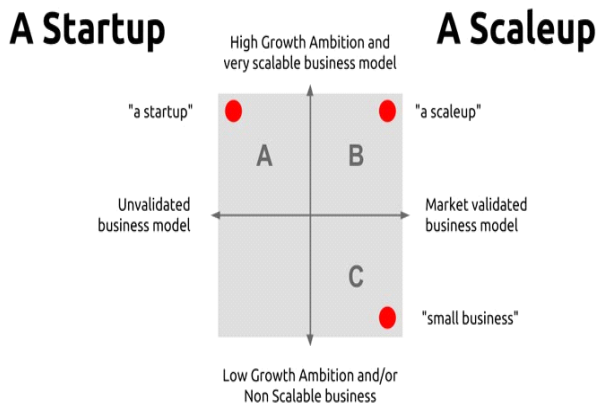

Fig. 3: A Basic Startup Business Model

A startup can be initiated alone or along with single or multiple business partners. Having a business partner helps to utilize more experience in it and it's a fact that two heads (or more) are better than one, but it has some drawbacks as well [55]. We find some advantages and disadvantages of having business partners in a startup company. Business partners make work procedure easier; they understand the economy rate and market value so they can help to reduce time and cost [55]. Most of all they fulfil the experience requirements. But everything comes with pros and cons, having a partner create dependency but also might cause drawbacks in certain aspects. Causes delay in decision making. Depending on partner relations, the risk of disagreements increases and profit on the hand decreases. The most fragile aspect of a partnership is that they might depart the company at an inopportune moment causing more harm than good in a startup [55].

- **Entrepreneurial Learning:** Before starting a startup, company startup must need to learn about the starting process of startup and gather some knowledge on it [55].
- **Business Model Plan:** With the key learning from market authenticate, plan thinking, and incline startup, founders can plan a business model. However, it is main to dive into business models too early before there is enough learning on market authenticate [55]. We know that to start a startup company, startups need Changeset which is actually defined by the business model plan [55]. A startup biosphere is formed by people, startups in their different stages, and organizations in a location, interchange as a system to generate and scale new startup companies [55]. The size and adulthood of the startup biosphere are where a startup is launched and where it grows to have an effect on the volume and success of the startups [22]. In the biosphere, a Startup Company consists of features such as entrepreneurs, venture capitalists, angel investors, mentors, and advisors [22]. There is another process for institutions and organizations. In this ecosystem, the startup company consists of top research universities and institutes, business schools and innovation programs and centers handled by universities and colleges, non-profit innovation support organizations, government innovation programs, and services, Chambers of commerce, business apparatus and business accelerators and top-performing entrepreneurial firms and startups. A region with all of

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these components is considered to be a "strong" startup ecosystem [55].

We know that the startup biosphere is formed by people, startups in their different stages, and various types of organizations in a place, interchange as a system to make and scale new startup companies [22][55]. There are basic points of the startup ecosystem is those big companies, universities, funding organization, service providers, research organizations, and support organizations [22]. The basic roles are quite similar to each other. In the startup ecosystem, these basic roles are,

- **Ideas, Inventions, and Research:** To make a startup company, the main aim is that startups need innovation [55]. Without innovation, startups cannot come to the industry. Now, come to another point is the idea [55]. The idea is defined actually to create a good project. First startups need initiative ideas. And the last one is research [55]. Research which is basically is similar to the ideas.
- **Startups at Various Stages:** Various stages which are defined actually startup people, work process, development, culture, and others.
- **Entrepreneurs:** An entrepreneur is a single who, rather than working as an employee, establishes and runs a small business, presuming all the risks and distinctions of the proceed [55]. The entrepreneur is commonly seen as a developer, a source of new plans, goods, services, and business or instances.
- **Startup Team Members:** A startup or start-up is begun by particular founders or entrepreneurs to find for a repeatable and scalable business model [55]. Generally, startup means a business which is newly emerged and first growing in nature. Founders or (Co) founders are people who are complicated in the first launch of startup companies [55]. The right to call oneself a co-founder can be habitual through an accord with one's fellow co-founders or with authorization of the board of directors, investors, or shareholders of a startup company [55]. Founders and (Co) founders are the main members of the startup company. There are also members of a startup company. The main focus of team members is to work together. Because victory or non-success matters are dependent on startup people. The focus of the first founder(s) is to establish a committed co-founder team with the necessary commitment, skills, and capacity to be able to authenticate the first problem-solution fit and product market fit, before scaling it to a notable self-sufficing business [55]. So in addition to the changeset process itself, from idea to value-generating outcome and business model, startups also need to have a powerful and carry out the founding team and develop both of these together into a real affeered business and organization that praise the worth producing as a great company. From looking at the figure below we can acquire the basic differences between an actual startup and a scale up business model [3].
- **Investors:** An investor is a person that assigns capital with the assumption of a future economic return. Types of speculation include equity, debt securities, real estate, currency, commodity, token, derivatives such as put and call options, futures, and forwards [3][55]. In Startup Company, their responsibilities are to help the startups by given capital to open a startup company.
- **Mentor:** Mentorship is a connection in which a more experienced or more well-informed person helps to guide a less experienced or less well-informed person. The mentor may be elderly or more youthful than the person being the preceptor., but he or she must have an assured area of estimation. Startup people sometimes need essential suggestion which is actually an initiative for the company [3].
- **Advisor:** An advisor is normally a person with more and deeper knowledge in a specific area and usually also includes persons with cross-functional and multidisciplinary expertise [3]. An adviser's role is that of a mentor or guide and differs categorically from that of a task-specific consultant.
- **History of the Startup Phraseology:**
Nevertheless, innovation and entrepreneur being older phraseology and yet still also being often mixed or misunderstood with terms like origination and small business owners, those are still already much-established terms than "a startup" - a term that arise from US. in late 70’s and became famous in the late 1990’s as part of the technology and internet hype and bubble by and by fragment around the year 2000 [55]. Startup Companies was sometimes also known as Upstart. The term appears to explain and recognize a new or early-stage company with higher than usual extension likely due to the technology it was growing [55]. This meant that for that extension potential to be possible, it was relaying to new technology and since 90’s also to the internet as the high extension enabling factor [55]. These startups were known as internet startups or more broadly technology startups, and as such the term “startup” is still mainly referred to as “technology startup” [55]. The term was needed and as such created by the proceeding capital industry, which used the term to separate these specific types of new extension potential companies from traditional entrepreneurship, generally recent companies and small businesses, where the main factor for these separations was the “scalable fast extension potential” [55], at the time mainly associated or enabled by technology and in the late 90's by the spread of the internet. Due to where the term has originated from, the term is also the cause why the term is still so strongly tied with investors and risk funding and also tied with the technology mindset. Once there was this new explanation for a "category of new businesses" generated [55], like with any such explanation, many other spectacles started to be thought about and authenticate over time by VC’s about “what makes a good startup”, where one crucial factor was the founding team and the constitution of the founding team, specifically from the attitude and skills perspective. This meant that in addition to a business idea and well potential with technology as an enabler, a key separator for finding potential investable startups, a founding team setup with harmonious skills has become to be considered one of the key investments’ capacity factors [55].
- **Success Factors of a StartupVenture:** The demand for startup companies is increasing day by day. The reason behind is that they understand the needs of the people and

ISSN No:-2456-2165

bring them to the industry. As a result, there are many startup companies coming to industry every year. But a small number can survive in this industry. We know that the main principle of the startup company is innovation. But why a small number of Startup Company can survive in this industry? Because of some factors is work behind success. These factors are a market opportunity, market timing, team commitment, growth ambition, team structure, scalability [55].

- **Market Opportunity:** While bringing the startup company to the industry, it must be on the mind of the founder that he or she will have the ability to meet the needs of the people who are coming to the industry of innovation because the founder gives both money and time behind it [55]. Moreover, it is important to have accurate ideas about startup before it comes to industry.
- **Market Timing:** It is important that the founder must have an idea about bringing the startup company to the industry. Because they are going to make products here and if the product does not sell, then there will be no movement except to fail them [55]. So, they must have the ability to know about the timing of the market.
- **Team Commitment:** In a startup company, it needs a team member. They are very essential in startup companies because they are working here. They must have the ability to know their responsibilities. Because of commitment is essential for the working sector. It is very useful to know about time management.
- **Growth Ambition:** Startups must need to set their aim and go through it. It will help to see the success of startup people. It is important to set goals at the workplace.
- **Scalability:** A factotum startup takes an innovative plan and finds a scalable and repeatable business design that will turn it into a high-growth, fructuous company. Not just big but huge. It does that by launching into a large market and taking share away from occupants or by making a new market and fattening it rapidly [55].

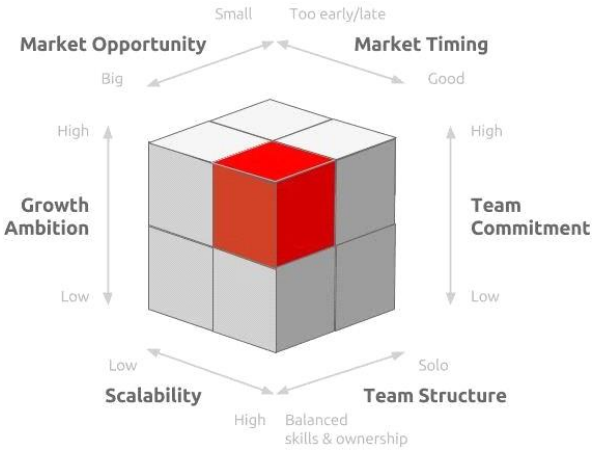

Fig. 4: Visualize Success Story of Startup Chart

- From this figure, it shows us that the success story of startup chart. By following this method there are increasing the chances to succeed in the startup. We discern Startup Company after startup descends into indistinguishable patterns surrounding an absence of product or market fit, the incorrect team, the absence of a business design, or a host of other factors that designate the startup's eventual non-successful [55]. Every year a numerous number of startup company come to the industry but only a few survive in here. There are some common reasons for the startup company behind the failure [55]. These common reasons are Absence of consumer attentiveness to the product or service, funding or cash problems, personnel & staffing problems, concurrence from adversary companies and problems with the appraise of the product or service [55].

B. RQ2: Who's the startup people and kind of characteristics do they represent?

The present world constantly faces new discoveries. And software is one of the most innovative innovations. Currently, the software has stirred a lot of workplaces. In the past, people used to do all kinds of work by using paper pens. But now people can do any type of work done by the software. For this reason, waste of time is low; people are more active in their work. Moreover, the speed of work is increasing, which has been quite helpful in the growth of the economy [48]. It is also good for the country and the nation. Numerous startup companies are coming to the market every year. Software demand has increased significantly. Because software demands are getting better day by day, software companies are not behind in this case [48]. There are numerous startup software companies coming to the industry every year. And their main goal is to influence their industry. But not every company can influence in here. A small number of the company has the ability to survive in the industry. There may be a lot of reasons for a startup company to fail, and one of them is the startup people picking. It can also be one of the reasons behind the success. Now, who is this startup People? What are their responsibilities at work? Now, who is this startup People? What are their responsibilities at work? And why are they considered to be the head of a start-up company behind success or failure? To know about their contribution to success or failure, first, we need to know who are they and know their responsibilities [48]. Founders or (Co) founders are people intricated in the first launch of startup companies. The right to call oneself a co-founder can be accepted through an accord with one's fellow co-founders or with authorization of the board of directors, investors, or shareholders of a startup company [55]. The founder or chief of the founder (co) is very important in starting a startup company because on the basis of its idea, a new company is emerging in the industry [55]. But to get into the industry, it is important to keep the money in mind. For this, investor's contribution is also essential to open a startup company. In order to money is important to open a startup company, the new Idea is also very effective in starting a startup. The main motto behind the startup is to bring something newness [55]. Innovation can be a startup company to reach its goals. Founder or (co) Founder, Investor they are not just Startup People, there are also many more are involved [55]. In the startup companies, there are others who are responsive and they are accounts people, marketing people, sales people, designer, graphics designer, staffs and others. If we think of a startup software company, then some more characters will be added here. In the startup companies, there are others who are responsive and they are Accounts people, Marketing people, Salespeople, Designer,

ISSN No:-2456-2165

Graphics Designer, Staffs, and Others. If we think of a startup software company, then some more characters will be added here. They are a Programmer, Tester, Project Manager, Admin or HR, CEO, CTO/VP Engineer, System Administrator, System Analyst, Content Developer, Technical, Developer, IT, Project Specialist Information Security Engineer, Digital marketing, Web Designer. These are mainly considered responsible at startup companies or software startup companies. Based on these responsive people, start-up companies are coming to market their dominance every year. If there is specific area in the workplace, then everyone's responsibilities are different. There are variation and innovation by showing the responsiveness of their people. The responsibilities of these people are given:

- **Accounts:** A description manager is a person who works for a company and is manage for the management of sales and connection with specific customers. Key accounts give the most business because they hold a small number of clients which gives a large portion of the company's sales [59].
- **Marketing:** Marketing executives point to maximize gains through developing sales plans that match customer conditions and by encourage products, services or plans [60].
- **Vending:** Vending representatives vend retail products, goods, and services to customers. Vending representatives work with customers to find what they want, make solutions and ensure a burnished sales process [61]. Vending representatives will work to search new sales leads, through business directories, client referrals, etc.
- **Designer:** Tasks turn on the market the creator is working for, but key responsibilities comprise: making or envisage a plan and manufacture a design [62].
- **Graphics Designer:** Graphic design is vital in the sales and marketing of goods, and is a critical piece of brochures and logos [63]. Therefore, graphic designers also mentioned to as graphic artists or transmission designers, often work closely with people in advertising and promotions, public relations, and marketing.
- **Chief Executive Officer:** Interface, on behalf of the company, with shareholders, government entities, and the public. Leading the development of the company's short- and long-term is plan [64]. Making and execute the company or organization's vision and mission.
- **Forecast Manager:** Forecast Manager is overseeing for growing and managing technology predict and their cost, time and scope. Oversees include the project plan, communication plan, allocating duties and setting the achievement [65].
- **Project Specialist:** Working in co-occurrence with forecast staff, the forecast specialist helps with the implementation of programs and projects.
- **Maker:** Becoming a software programmer, also known as a computer programmer, playing a key role in the design, installation, testing, and maintenance of software systems [66]. The programs make are likely to help businesses be more well organized learn to pronounce and gives a good service.
- **Programmer:** The bulk of programmers' responsibilities go round writing programs with instructions that computers can follow. Programmers use computer languages to make programs based on designs and workflow charts of software developers and engineers [67].
- **Web Designer:** Web designers program the layout and the overall look of a website. They make graphic and media essentials using Photoshop, Flash and other media applications [68]. Web designers are responsible for programming in HTML and CSS.
- **Tester:** The Tester part is responsible for the vital activities of the test effort, which involves conducting the useful tests and logging the outcomes of that testing.
- **IT:** Specialist can add network management, software program, and database administration. IT specialists may also give technical support to a business or an organization's employees and train non-technical workers on the business's information systems.

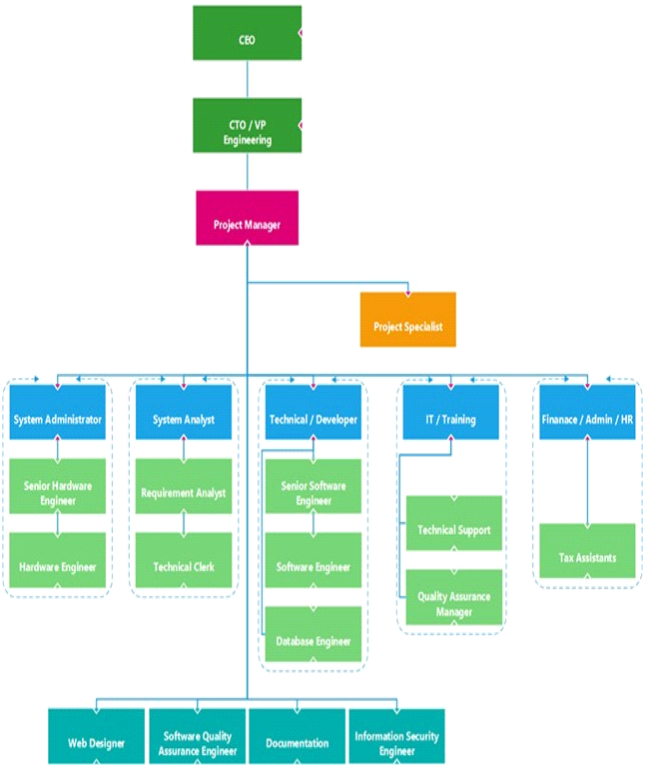

Fig. 5: Standard Organ Gram of a Startup Software People

From this figure, "a standard organ gram of a startup software company" we can easily identify that the characteristics of startup software companies' people who are responsible in software companies. They are basically working as startups or software startup companies. But it is not enough to the acquaintance in the industry. To acquaintance in the industry, they need to follow strategies and also, they need particular people who have specific characteristics [48]. As a good employee, we understand that the level of error is less and accurately able to do that work. But do not forget that no person can afford to work without mistakes. Huge entrepreneurs have impractical supposition [69]. They are not pedant, but they anticipate a lot from themselves and others. However, this lofty supposition can serve entrepreneurs well, particularly when their companies are in their infancy. Now we will discuss

ISSN No:-2456-2165

about what kind of character we want in our startup companies,

- **Someone Who is Creative:** In the startup, the first thing that needs to be creative people who can easily afford to bring innovation. For startup companies, it needs a man who can easily solve problems and gives a good solution which is really efficient [69].
- **Who is Detail-Oriented:** The artistic person will need to work with someone who is very detail-oriented to develop a make plan for how to create the product, service, offering [69]. The startup company needs an artistic person who can easily understand the features and create the products.
- **Who is Process Oriented:** Next, with a more detailed set of statement in tow, need to require someone who is more process-oriented [69]. This is the person who will create sure that there's a system in place to actually put the idea behind the product or service into step [69]. This person ensures that each member of the team knows his or her parts.
- **A Designer:** The process-oriented person would, in turn, loop in a fourth team member with the practical skills to actually make the product. Especially in the practical world, this designer would be a developer or engineer. After obtain this employee with technical expertise, you now have a plan, research, and information backing up that plan, the shell of a product, a system in place to get the product make and the technical skills to do so [69].
- **Who is Impatient and Highly Deadline-Oriented:** Need one final person involved - one who is going to be highly deadline-oriented, fast-paced and, frankly, a little irritated? This person will, for lack of a better term, hold people's feet to the fire and hold each party responsible. This last person probably won't be the most important person on the team, but he or she is a important part of getting across the goal line [48][69].

Those in the start-up companies must have the ability to do their job well and accurately. And the most important thing is innovation. Because the startup company's main focus is innovation. The demand for software companies is increasing day by day, for this reason; life becomes easier [48]. At work, it has been widely filled. Every year many startup software companies are coming up with something new in the industry, yet a few survive in this industry. Why is this happening? A startup company may have a considerable business plan, hard monetary backing, and cheerful industry research, but if their establish team doesn't have the correct balance of nature, they could soon be ending up their company. Startup Company always needs new ideas and follows strategies [55][48]. So, Startup Company needs good team members.

- **Genius:** The brilliance will provocation the rest of the team and ask for things that the others are unsure of how to get done. This person is filled with the crucifixion and is often thought to be the most high-risk member of the team [70].
- **The Starlet:** The starlet is the person who gets down to business and fulfills duties from ordering office supplies to keeping the office network running. It means a project manager. He has a lot of duties to do. The project Manager is in charge of developing and managing technology projects and their cost, time, and scope [70]. Duties include the project plan, transmission plan, assigning tasks, and setting goals.
- **The Leader:** Interface, on behalf of the company, with shareholders, government organizations, and the public. Leading the development of the company's short- and endless plans [70]. Making and executing the company or organization's vision and mission. "Every startup needs a clear leader," says Schoner [70] "It doesn't mean they're paid more or have more equity, and they're not necessarily the CEO. It just means that the others look up to this person and are willing to follow them–if there is conflict and controversial decisions need to be made [70]."
- **Sales:** In a startup company the most important part of the sales department is to sell a product. This is the key to acquiring customers is sales and marketing. In order to introduce identity to a start-up company as a skilled salesman, he must follow some strategies. The first strategy is a target, the second strategy is a lead, the third strategy is an opportunity and the last strategy is a customer [71].
- A startup company will be successful only when the company chooses the right person because the right person is the key to getting up at the startup company. A lot of research has been done on how to form the right team [48]. Research Connection decided not to become demography but to do it right. That would mean they would center of attention on building the startup fantasy team. Here are the six team members at Research Link who are creating sure their brilliant startup is extremely fortunate [48].
- **Association:** A startup company is involved in many characters behind. And each of their contributions is much more important. They are involved in the workspace of the startup company's failure or success. All startup companies want to expansion in the industry but it is impossible by all the startup companies. And its effects are combined on this startup 28 people. What do we mean by the characteristics, the characteristic is a medium where the direction of something is specifically identified? Numerous startup companies come every year for their influence in the industry but only a few survive [48]. And because of that, we can indicate the Startup People. Startup companies are made up of many departments. Various types of characters were employed in one section. There are individual roles of all the characters in the workplace. But to get success, it is important to have some characteristics of startup people that will show the face of success. And all these characteristics will be the same for startup people [73].
- **Build Community by Developing Strong Relationships:** There will be different people in the workplace, and it is important to have a manuscript to work together in combination with these people. As a result of working together the unit must grow, and also the speed of work increases with it. This increases the likelihood that any kind of problem actually solves it together. To work together, this type of characteristics must be a startup people have [73].

ISSN No:-2456-2165

- **Learning Environment:** There is no end to know. There is a store of treasures in everything. The workplace is not its exception. This is a place where there is a lot to learn in every case [73]. In the workplace, people are working together and this is a very important area to learn lots of things.
- **Appreciate** the Significance of Celebration in the Group: Startup people can't have powerful communities if startup people don't celebrate achievements along the way - big and small [73]. Celebrations can be personal or professional, individual or team celebrations.
- **Model Lucidity in Virtual Communities**: In this digital age, building community grows to connect remote teams in a virtual community. unparalleled leaders will make use of closed groups or a wiki within a company's website to share information, wins, concerns, and plans, and communicate regularly and at the moment. Transparency and trust are keys to developing virtual communities [73]. The intent is to get as close as startup people can to the experience of being in an office together. There's a sense of camaraderie there. And it starts with leaders modeling the behaviors of trust and transparency [73].
- **Open Environment:** It's important to have some good steps to get something good. It is important to have a working environment in the workplace. There must be an openminded environment because some new ideas come when it's easy to talk. In the case of startup people, they have characteristics to define them [48]. As well as, a startup company has also characteristics to identify it.

Company: In the case of a startup, a company will be considered when it comes to new things in the industry. The main goals of a startup company are to increase their demand in marketplace. And for the growth of the demand, innovation is necessary. Otherwise, it is not possible to survive in the industry.

- **Innovation:** The main principle of the startup company is innovation [55]. To transform from the competition, startups need to be very new. And that's why they will need some people who carry creativity. Those who can easily identify problems and can solve it quickly.
- **Growth:** Startup companies come to the industry because they want to stay in here. Numerous startup companies come but only a few survive. For that reason, a startup needs to grow quickly [70]. And to reach the goal quickly, the innovation is necessary. Otherwise, the startup company will not grow.
- **Consequence:** The Company's pursuit occurs around a sole product/service.
- **Squad:** The environment needs a little team, which usually adds some present graduates with tiny incidents but a lot of expertise and momentum; it is essential for rapid delivery, usually under coercion.
- **Design:** In the beginning, still testing and learning they are disorganized and usefully with no ranking and managers.
- **Asset:** In startups, profitable resources, human and bodily are usually exceedingly limited. Generally, need monetary resources from shareholders [70].
- **Association:** To make things happen urgently and with little asset, startups need to focus on the product/core business, using wherever possible third-party things to make the product, such as platforms, APIs, Open-Source software, etc. [10], and also delocalization of some activities.
- **Unpredictability:** Startups deal with many unpredictability from different perspectives: market, product resources, competition, people, and finances.
- **Risk-Taking:** Due to alteration and the different unreliability involved, the unsuccessful rate is massive.
- **Malleability:** Startups often are very energetic and able to react urgently to market changes, new technologies, and ruthless products. Before we plunge into the same attribute of successful startups, it's helpful to prompt ourselves on what a startup is. In the media and famous conversation, it often seems as if the term "startup" is being appealed to any small business and also to tech companies of all sizes and stages. But, as General Assembly construe, "there's a vast ideological (and organizational) difference between a startup, small business, and large corporation, which necessitates different funding strategies and KPIs [74]." A startup is a non-permanent organization made to search for a replicable and efficient business model [56]. A startup, which is notable in the condition of the tech industry (and this conversation) should be short for efficiency. The startup is observant to not only manifest its business model but to do so quickly, in a way that will have a notable impact on the recent industry.
- **Be Troublesome:** One of the defining features of victorious startups is troublesome. Disruption which is basically defines the specification of the goal [75]. The goal of the startup company is to expand the business. And it is possible to appear in the industry with something new because the origin of a startup is innovation. This innovation must be targeted in the pursuit, and this goal helps the startup company to advance. Without a target, the start-up company is not possible to continue. Fortunate startups are based on troublesome plans [75]. More than an adage, troublesome is changing the status quo in a surviving industry. Troublesome technology makes new market and value networks and displaces more traditional ones. Thus, the driving factor of a fortunate startup is more than someone wanting to be their own boss—it's someone visualizing "a new normal" for their target industry. It's that crucifixion that pulls them forward in the face of existing contenders, industry standards, and norms.
- **Start with a Tiny Retail:** When it comes to victorious startups, there's a lot of talk about the significance of having a large market. It's true that a startup must in time reach large retail in order to turn into a huge company. But, in the beginning, it's actually best to start with a tiny market [55]. The goal of the startup company is set, there is a great time to reach for the goal. Those who can spend this time can survive in the industry [48].
- **Cornerstone:** Related to starting with a tiny market, another usual of victorious startups is the cornerstone. In our thesis, we have already discussed the characteristics of startup people. We know that a startup company has various types of characteristics [48] like a project manager, a project specialist, employees and others which define the team. When appearing a company from the foundation, especially with a very tiny team, it's easy to take on too lots of projects and get laid out too thin.

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Unfortunately, this can eliminate a startup company. But when a startup company. But when a startup company starts from the bottom, with a small team, it's easy to take on tiny projects and get lay out high-term [74].

- **Provide an Excellent User Incident:** By definition, startups are recent companies. They can't rely on brand allegiance built up over years or decennium like their large, ingrained competitor can do. This is one cause why as long as a useful product that's easy yet amusing to use is so important to the business's high-term triumph [75].
- **Product-Retail Suitable:** Selling a product or service customers actually want is the main. The manufacturing must be prepared and able to pay for what startups sell. Seems uncomplicated, and obvious, yet many startups grapple with defining their product retail fit. A product is another medium for the startup company's industry increasing. Startup companies must aim to decide what they will work with and what products will be able to increase their demand in the industry. In compliance with a CBI perception report, 42 percent of unsuccessful startups surveyed ascribed their failure to the worst retail fit [75]. It's safe to predict most of these companies did some kind of research before setting something in motion. Unfortunately, that research is likely not cover a wide enough target retail base to find out an exact picture of demand. A startup company may have a product or service that is, to begin with well-received, only to later find out it doesn't have the level of support the startup company needs to be victorious. Successful startups know that a beginning plan or product idea may need to be altered as it rolls out. Startup endlessly tests their assumptions and changes course as needed. The sooner a startup lock-in product-market fit, the better the startup base for victory will be.
- **Company Philosophy:** Within a company's first two years, 50-to-60 percent of its employees will doubtless, quit [76]. It usually comes down to poor direction, which directly corresponds with culture. Traditionally speaking, philosophy is nothing more than a set of beliefs shared by a group. Therefore, the office philosophy is fundamentally made up of the presuppositions held by organizations about how work is done. It is very important to have a habitat at work. Different people work here together. Since the workplace is coming up, that's why do questions come to light naturally, who are we as a business and as a person? What do we believe/stand for? How should we be close to our colleagues? The answers to questions like these ultimately control the philosophy of a startup. With the continual pressure to speed up product development and customer purchase [76], it's no wonder so many founders forsake philosophy. Cultivating a strong philosophy ultimately starts with throwing light on values as a company, and then permeating those values into everything from office policies to the work environment [75]. It's for this cause many founders choose shared tech workspaces over conventional office settings. With a shortage of time and resources, pervading the kind of philosophy startups want to reproduce is a smart move.
- **Take Response Earnestly:** Another standard of triumphant startups is their capacity to adjust the response. Whether the response comes from shareholders, counselors, mentors, or customers, triumphant startups extract value from response to help develop their product, service, or business design [56]. Eventually, it's a stable act of knowing when to fulcrum and when to hold your base.
- **Make Attached Communities:** Finally, the most triumphant startups think far and away from customer accession and work toward section building. Inadequate to rely on decades of brand loyalty, like their traditional equivalent, they roll up their sheath and capture their target markets [76]. Whether a startup will be triumphant and fatten into a high-lasting company is based on different factors. But, in inspecting the landscape as a whole, it is possible to recognize some common attributes of triumphant startups [76]. In this thesis, we have explored eight of these shared features including being troublesome, starting with a tiny market, endure focused, as long as an amazing user experience, build engaged community, take feedback seriously, company cultures and product-market fit. One more thing we have to look up is that how we are choosing people for startup companies and how they will be because the fate of a startup company is determined on them.

C. RQ3: Describe the different development phase used for startup companies?

Starting a new company doesn't mean it will be considered as a startup. For a startup, it is mandatory to have two major key characteristics following high uncertainty and rapid evolution [77]. Founder resolve to erect a business; try to set foot in what is called a sphere cycle [77][56]. To start the startup company, the main goal of Startup is to create the organization bigger. However, as with any other complex trial, this does not occur suddenly!

- **The Startup:** Every travel or attempt starts with a plan [55]. Hence, the startup stage follows after the stage of kernel and development [77], where business is just a thought or plan, fundamentally signifying the birth of the business. Many thinks about the startup stage is dangerous in the entire lifecycle. Once the plan is rigorously trialed, it is now time to create the travel legally. Products and customers are in line and ready to roll. The main challenge faced by speculators here is cash fatigue, where they aggrandize the cash essential [77][55]. Since startups try to apprehend a customer base, malleability is the key in this stage – shaping and reshaping the product according to the opening response received from the customers.
- **Extension:** Extending this stage means that the startup has a stable source of earnings and is taking new customers compatible. The speculator should begin to observe an advance in the cash flow with a slow but steady upward movement in the earnings [77]. The biggest dare faced by speculators at this stage is addressing problems like time management, customers, and, most importantly competitiveness [77].
- **Foundation:** Outstretching this stage means that a startup business has been triumphant in becoming a flourishing company that has a balanced flow of earnings along with a solid grounding in retail and a loyal customer base [56]. For the triumphant CEO and their employee, business becomes more of a procedure job, where everyday

ISSN No:-2456-2165

situations are mostly foreseeable. However, such brief success must not make the speculator shift focus from the higher picture, that is, further extension and expansion [77]. They need to keep in mind that the beginning plans which had led to their success must be redefined in order to keep it feasible and absorbing in order to extend the customer base.

- **Enlargement:** This stage is distinguished by extending into recent retail and dispensation channels. A speculator no longer has to poke their nose into little matters since there are people allocated to take up variant problems [55]. Every company at this stage tries to take advantage of recent likelihood and proceed [77]. Business at this phase is marked by rapid extension in revenue and cash flow. The hours of hard work and late-night duty have finally paid off and now the speculator gains the benefits.
- **Adulthood and Feasible Exit:** Although sales and gains remain to endure over the years, rivalry keeps reaching. This stage is mostly marked by amalgam, where the entrepreneur is faced with the dilemma of having to select between whether to keep enlarging or create an out-of-the-way [77]. Operations become very compound at this phase with the Chief Executive Officer having to make both short and high-term decisions. However, it is not always that a startup will follow the accurate sequential order introduced above. In many cases, startups might experience rapid extension straight away after the development phase, or even an exit for that matter. Every stage takes with itself a set of challenges that needs the Chief Executive Officer to modify situations and make resolutions [77]. Development stage which is expounded and makes the Learning Objectives and Performance Steps that were manufactured in the planning stage by expanding all the previous content that was made in the prior two stages, Analysis and Plan [78], into a complete learning environment. An open standard, free substructure for an aggregate view and for making a common language and mutual understanding among all key actors in the startup biosphere, about how great companies are made anywhere in the world from 34 plans to products, to extending business and from aptitude to team, to real company in a stabilized manner [78].
- **Ideating:** Startup companies come to the industry to bring something new, because the novelty is the main prevention of the startup [55]. Every startup company has own product. By this product, they know them into the industry. Startups must have good knowledge about their product. Pioneering aspirations or possible efficient product or service plans is enough for quarry manufacturing [17]. Startups must target their goal for the product. And this is possible by their idea. So, their main responsibilities are that why and how it would create value in the industry.
- **Conception:** Explaining mission and vision with first strategy and key achievement explained for at least the next 3 years on how to get there as 3, 6, 12, 24, 36 months. Two or three pioneering core co-founders with harmonize skills and a balanced possession plan. It maybe has expanded team members for added parts & possession [17].
- **Committing:** Perpetrate and steady co-founding team with a shared vision and point of view. Able to grow the product or service (Minimum workable Product) without the colony of floating outermost asset, or already have the first outcome or service in place. Stockholder accord inscribes between co-founders, including achievement, committed time, and money use, for a minimum of 3 years with lodge terms [78].
- **Validating:** Repeating, and authenticating predictions until having authenticated solution to exhibit the first user extension and revenue. Key Performance Indicators (KPIs) were recognized [78]. It can start to captivate supplementary investment-based assets (money or sweat equity) for fairness, revenue share, or future revenue [77].
- **Ascend:** Focal point on extension, showing KPIs based on quantifiable, extension in users, customer revenue extension, and production adhesion in a large or fast-moving quarry manufacturing [78]. It can and wants to extend fast. May, will or have allure notable finance or would be able to do so if wanted. Hiring, ameliorating standards and execute processes.
- **Inaugurated:** Attained considerable extension that can be expected to carry on. Easily allures monetary and people assets. Depending on vision, mission and dedication will carry on to extend and often tries to culturally carry on "like a startup" [77]. Founders and investors make exit(s) or carry on with the company. To establish a brand-new company, we need uniqueness else there is no hope for success [55].

D. RQ4: Describe the software evolution step in startups software organizations?

The aim is to create digital and innovatory results or services which can help to get the attention and value from industry space [55]. The example of successful products from the current industry, we can know the names, Facebook, LinkedIn, Spotify, Pinterest, Instagram, Dropbox, and YouTube. Technology changes and is helping us in daily life in various ways. In software engineering industry process means split software evolution work into definite stages to better the plan, product, and project management [5] also known as Software Development Life Cycle or software evolution. The systems evolution life cycle also consulted as the request evolution lifecycle, is a term used in systems engineering, information systems, and software engineering to explain a procedure for planning, making, testing, and positioning an information system [18]. Also, Software Development Life Cycle or the Software Evolution Life Cycle is a procedure that produces software with the lofty standard and lowest value in a minuscule time [79]. Software Development Life Cycle includes a detailed idea of how to develop, alter, maintain, and put back a software system. Software Development Life Cycle involves several definite phases, including planning, design, creating, testing, and operation [79]. Software Development Life Cycle works by overcasting the cost of software development while at the same time improving standards and abbreviating production time. Software Development Life Cycle gains this seemingly differing objective by following an idea that removes the typical hazard to software development projects [79]. That plan starts by estimating existing systems for

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insufficiency. Next, it explains the need for the recent system. It then makes the software through the phases of plans, development, testing, and operation. By expecting costly errors like shortcomings to asking the end user for proposals, Software Development Life Cycle can out unnecessary correct and after-the-fact fixes. Software Development Life Cycle done right can allow the largest level of management control and documentation. Developers understand what they should make and why [18][79]. All parties agree on the goal up front and see an understandable plan for appearing at that goal. Everyone understands the fetch and resources required. Several hazards can turn a Software Development Life Cycle execution into more of a barrier to development than a tool that helps us. Unsuccessful to take into account the needs of customers and all users and stakeholders can consequence in a poverty-stricken understanding of the system needs at the outset. The benefits of the Software Development Life Cycle only exist if the idea is followed faithfully. Software Development Life Cycle involves several definite phases, including planning, planning, creating, testing, and deployment [79]. Following the best application and/or phases of the Software Development Life Cycle ensures the process works in a smooth, well-organized, and fertile way.

- **Arrangement:** Without a good idea, cunning power, and the frailty of the project, the evolution of software is unintelligible [79]. Planning kicks off a project impeccably and affects its headway positively. In this phase of the Software Development Life Cycle, the team explains the needs of the new software and controls the fetch and resources need [94]. It also details the risks involved and gives sub-ideas for softening that possibility. In this stage, a Software Requirement Specification document is made [80].
- **Investigation:** This phase is about analyzing the production of the software at a particular phase and creating notes on additional needs. The analysis is very important to proceed further to the next phase [79].
- **Plan:** Once the investigation is ready, the phase of designing takes hold over, which is basically making the architecture of the project [79][80]. This phase helps remove possible flaws by setting quality and striving to stick to it. This phase of the Software Development Life Cycle begins by turning the software specifications into a design plan called the Design Specification [79]. All advocates then review this plan and offer responses and suggestions [79]. It's pivotal to have an idea for gathering and absorbing stakeholder input into this report. Unsuccessful at this phase will almost certainly consequence in cost overruns at the best and total collapse of the project at defeat.
- **Evolution & Application:** The actual task of evaluating the software starts here with data recording going on in the framework. Once the software is evaluated, the stage of the application comes in where the result goes through a pilot study to see if it's operating properly. This SDLC stage evaluates the software by creating all the actual code [80]. If the preceding steps have been followed with attention to detail, this is actually the least complex step.
- **Evaluating:** This stage is usually a subspace of all the stages as in the modern SDLC models, the evaluating activities are most complicated in all the stages of SDLC [80]. However, this stage refers to the evaluating only stage of the result where product flaws are reported, followed, fastened, and retested, until the result holds out to the quality explained in the SRS.
- **Position:** Once the result is trialed and ready to be installed it is free formally in the suitable market. Sometimes product deployment happens in stages as per the business method of that organization. The result may first be liberated in a limited part and tested in the real business environment (UAT- User acceptance testing) [79]. Then based on the feedback, the result may be liberated as it is or with suggested enhancements in the selecting market part. After the product is released in the market, its preservation is done for the existing customer base.
- **Preservation:** Once the software passes through all the phases without any issues, it is to go through a preservation procedure wherein it will be kept going and upgraded from time to time to alter to changes. Almost every software development Indian company follows all the six steps [79], leading to the notoriety that the country enjoys in the software industry in recent days.

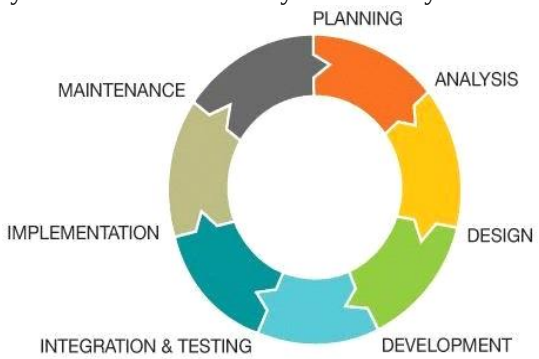

Fig. 6: Software Development Process

Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality software [80]. The SDLC aims to produce high-quality software that meets or exceeds customer expectations, reaches completion within times and cost estimates [80].

V. DISCUSSION

In this chapter, we give a short overview of the research path in connection to other work in software startup companies and their possible collision on the domain. According to research question 1, we have discussed about startup, ecosystem, actions, process design, and also discussed about the relation between startup and entrepreneur. A startup is started by single founders or entrepreneurs to look for a repeatable and scalable business model. More specifically, a startup is a recently emerged business journey that aims to grow a workable business model to meet an industry need. To start a business of startup into the industry, they need alteration. Alteration can be explained simply as a new plan, device, or method [55]. However, Alteration is often also viewed as the appeal of better solutions that encounter recent requirements, needs, or manage industry needs. A business ecosystem is the network

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of corporations including suppliers, distributors, customers, competitors, government agencies, and so on complicated in the delivery of a specific product or service through both rivalry and collaboration. A startup ecosystem is formed by people, startups in their different phases and concerns in a location, interchanging as a structure to generate and scute new startup companies. The main thing of ecosystem is that it will show where startup will lunch and where it fattens to have a result on the capacity and victory of the startups [22]. We also discuss about startup people in this research question. Founders or Co-founders are people complicated in the opening float of startup companies. The right to call oneself a cofounder can be accepted through an accord with one's fellow co-founders or with assent of the board of directors, investors, or shareholders of a startup company. The founder or chief of the founder (co) is very important in starting a startup company because on the basis of its idea, a new company is emerging in the industry. Principle is important thing to know about startup. We also discuss about the principles of startup in this question 1. An assumption is an idea or merit that is a guide for conduct or assessment. In law, it is a rule that has to be or usually is to be followed, or can be desirably followed, or is an inescapable result of something, such as the laws noticed in nature or the way that a system is raised [55]. A principle is an idea or merit that is a guide for conduct or assessment. In principle of startup there are specific categories such as incline startup, market verify, design reasonable, decision manufacturing, business model design and partnering. Now, most important thing is that startup companies committed upon the industry to devote their innovation with four main aims those are outcome, favor, procedure or policy resulting in a viable business model [57]. Through these four primary categories, startup companies are devoting themselves into the industry. In this startup companies which people are involved and what actually they do, what is their responsibilities is described in research question 2. The findings of this thesis we found characteristics that are involved in startup companies and represent them their own responsibilities. Starting a new company doesn't mean it will be considered as a startup. For a startup, it is mandatory to have two major key characteristics following high uncertainty and rapid evolution. For growing startup companies in industry what kind of development phase used for startup companies are described in research question 3. Finally, the last one describes the development process of software in startups software companies discussed in research question 4.

VI. FUTURE WORK

Nowadays startups are emerging rapidly in tech industry. In this thesis our future work concerns about how they can avoid the failure path and adapt the correct path by reading this thesis. Entrepreneurs can arrange seminars or conference to establish a base line for new startup people to follow up the trend correctly. Their experience can be shared among new ones to help them and motivate them. In future research people can investigate the reasons why people around the world still invest so much resource and money to new innovative idea where we see from our current perspective most startups end up with failure result.

VII. CONCLUSION

Discussed a systematic literature review (SLR) on the study of demography of startup software companies. We maintained an analysis agreement following the directions give in [84]. A place of 43 papers (8 International Conference Papers, 1 Journal, 1 Report and 33 articles) were choose for the analysis. Through a comprehensive reading of a subgroup of the choose articles, as a consequence used to distinguish the articles in an order manner. We also choose a set of exploration questions in advance that are investigated and answered throughout the learning [84]. This question was adequately particular to distinguish the articles in replying the investigation questions. The distinguish of the evaluated articles will help testers to evaluate previous studies from the outlook of touchstone, procedure, and data in a useful and well-organized manner. Also discussed about the most remarkable recent test results. This thesis gives a unique time of recommendation on the demography of startup software company's story studies which might be beneficial to the testing group to set up future following in the sector. Our set of research questions emphasis on the knowledge development of startup domain related issues. We defined the ideal way to overcome current boundaries. Moreover, we can find that the importance of startups form in tech industry. As we know that the tech industry is developing gradually and there is no certain limit for this progress. So, each day there might be someone with a new business idea. It's important to build up your own idea before anyone else does. Our research shows that, first of all there is no validated learning process to identify the real need of the customers, because it can change any time depending on their demands. For this reason, they face a high number of challenges in problem evaluation phase. Also, most software startup companies start investing resources in ineffective practices. It is value highlighting that software engineering is only one of the many controls that are applicable and can notify software startup application. Other directions adding Economics, Entrepreneurship, Design, Finance, Sociology, and Psychology. Therefore, there is a require to collaborate with investigator from these controls in order to grow the possible of reaching material and helpful test results that can good application [48]. Related work in this path executes a literature review on Demography of startup software companies [7]. Investigates the startup, startup companies, development, characteristics, test methods, and touchstone, analysis of data. Difference to 41 this, our analysis gives a strategic way for startup software companies and how to grow up the company into the industry. In our thesis, we have collected some publications and data both to discuss startup companies, startup people characteristics, work process and development. We also discussed strategies that help in starting a start-up company in the industry. The collected data were analyzed in several ways. Therefore, we put effort to find how to develop software and increases their demand into the industry. From analyzing the data, we found that there is some process category for developing.

REFERENCES

[1.] Dr. Andy Siddaway, "What Is a Systematic Literature Review and How Do I Do One"in Semantic Scholar, 2014.
[2.] Baumeister, R. F., & Leary, M. R., "Writing narrative literature reviews,"Review of General Psychology, 3, 311-320, 1997.
[3.] Startup Commons Org, "http://www.startupcommons.org/what-is-a-startup.html," 2018
[4.] Nathan Myhrvold, "A market for ideas - Intellectual Ventures," Research Gate, 2005.
[5.] Szirom, S.Z., "Strategic management issues for starting an IP company," Research Gate, 2009.
[6.] "Frequently asked questions about small business," U.S. Small Business Administration, Tech. Rep., 2014.
[7.] Business Dynamics Statistics, US Census Bureau, US Department of Commerce, "https://www.census.gov/ces/dataproducts/bds," 2014.
[8.] Paternoster, N., Giardino, C., Unterkalmsteiner, M., Gorschek, T., Abrahamsson, P., "Software development in startup companies: A systematic mapping study," 2014.
[9.] B. A. Kitchenham, R. Pretorius, D. Budgen, O. P. Brereton, M. Turner, M. Niazi, and S. Linkman, "Systematic literature reviews in software engineering-a tertiary study," IST, vol. 52, no. 8, pp. 792–805, 2010.
[10.] B. Kitchenham and S. Charters, "Guidelines for performing systematic literature reviews in software," in Engineering Technical Report EBSE, 2007.
[11.] M. Petticrew and H. Roberts, "Systematic reviews in the social sciences: A practical guide," in Blackwell Publishing, 2005.
[12.] B. Cornelissen, A. Zaidman, A. Deursen, L. Moonen, and R. Koschke, "A systematic survey of program comprehension through dynamic analysis," TSE, vol. 35, no. 5, pp. 684–702, 2009.
[13.] D. Łmite, C. Wohlin, T. Gorschek, and R. Feldt, "Empirical evidence in global software engineering: a systematic review," ESE, vol. 15, no. 1, pp. 91–118, 2010.
[14.] A. Pourshahid, D. Amyot, A. Shamsaei, G. Mussbacher, and M. Weiss, "A systematic review and assessment of aspect-oriented methods applied to business process adaptation," JSW, vol. 7, no. 8, pp. 1816–1826, 2012.
[15.] B. A. Kitchenham, "Procedures for performing systematic reviews," in Technical Report TR/SE-0401, Keele University, and Technical Report 0400011T.1, National ICT Australia, 2004.
[16.] Quora,https://www.forbes.com/sites/quora/2017/10/23/how-to-stay-motivated-as-astartup-founder/,Quora, 2017.
[17.] M.M. MahbubulSyeed, ImedHammouda, TarjaSysta, "Evolution of Open Source Software Projects: ASystematic Literature Review,"Journal of software, vol. 8, no. 11, 2013.
[18.] Software Startups Org, "https://softwarestartups.org," 2018.
[19.] Stephen D.H. Tsai, Tzu-Tang Lan, "Development of a Startup Business - A Complexity," In Theory Perspective - Research Gate, 1984.
[20.] Abrar Ali Saiyed, Sunil Maheshwari, "Entrepreneurial Characteristics and Strategic Choices of New Venture Firms,"Twelfth AIMS International Conference on Management, 1998.
[21.] ArnisSauka, Alexander Chepurenko, "Entrepreneurship in Transition Economies Diversity, Trends, and Perspectives,"OCED, 2017.
[22.] Mohamed E. Fayad, Mauri Laitinen, and Robert P. Ward, "Software Engineering in the Small,"Communications of the ACM, 2000.
[23.] Karlheinz Kautz, "Knowledge, Learning and IT support in a small software company,"Journal of Knowledge Management, 2001.
[24.] Thomas Chau, Frank Maurer, "A Case Study of Wiki-based Experience Repository at a Medium-sized Software Company,"Proceedings of the 3rd international conference on Knowledge capture, 2001.
[25.] OferMeseri, ShlomoMaital, "A Survey Analysis of University-Technology Transfer in Israel: Evaluation of Projects and Determinants of Success,"The Journal of Technology Transfer, 2001.
[26.] Tracy Hall, Valerie Flynn, "Ethical Issues in Software Engineering Research: A Survey of Current Practice,"Empirical Software Engineering, 2001.
[27.] Hildegard Schick, Sandra Marxen and Jürgen Freimann, "Sustainability Issues for Start-up Entrepreneurs,"Greener Management International, 2002.
[28.] Barry Boehm, "Value-Based Software Engineering,"IEEE, 2003.
[29.] Barry Boehm, Li Guo, Huang, "Value-Based Software Engineering: A Case Study,"IEEEComputer (Volume: 36, Issue: 3, Mar 2003), 2003.
[30.] David Martin, John Rooksby, Mark Rouncefield and Ian Sommerville, "'Good' Organisational Reasons for 'Bad' Software Testing: An Ethnographic Study of Testing in a Small Software Company,"ICSE Proceedings of the 29th international conference on Software Engineering Page 602-611, 2007.
[31.] Kai Petersen, Robert Feldt, Shahid Mujtaba, Michael Mattsson, "Systematic Mapping Studies in Software Engineering,"EASE, 2007.
[32.] Martin Glinz, Roel J. Wieringa, "Stakeholders in Requirements Engineering," IEEE Software, 2007.
[33.] William Scheela, Edmundo Isidro and ThawatchaiJittrapanun, "Business Angel HighTechnology Investing in Southeast Asian Emerging Economies: Myth or Reality?", 2008.
[34.] Hanna Oktaba, Mario Piattini, "Software Process Improvement for Small and Medium Enterprises: Techniques and Case Studies,"ACM Digital Library, 2008.
[35.] Stefan Nann, Jonas Krauss, Michael Schober, Peter A. Gloor, Kai Fischbacha and HaukeFühres, "The Power of Alumni Networks -Success of Startup Companies Correlates With Online Social Network Structure of Its Founders,"MIT Sloan School Working Paper 4766-10, 2009.

[36.] Olavo Barbosa, Carina Alves, "A Systematic Mapping Study on Software Ecosystem,"Proceedings of the Workshop on Software Ecosystems, 2011.
[37.] M.J. Cobo, A.G. López-Herrera, E. Herrera-Viedma, and F. Herrera, "SciMAT: A New Science Mapping Analysis Software Tool,"Journal of The American Society for Information Science and Technology, 63(8):1609–1630, 2012.
[38.] Paul M. Swamidass, "University startups as a commercialization alternative: lessons from three contrasting case studies,"The Journal of Technology Transfer, 2012.
[39.] Jan Bosch, Helena Holmstrom Olsson, Jens Bjork and Jens Ljungblad, "The Early Stage Software Startup Development Model: A Framework for Operationalizing Lean Principles in Software Startups,"LESS, LNBIP 167, pp. 1-15, 2013.
[40.] Sarunas Marciuska, CigdemGencel, and PekkaAbrahamsson, "Exploring How Feature Usage Relates to Customer Perceived Value: A Case Study in a Startup Company,"ICSOB, LNBIP 150, PP.166-177, 2013.
[41.] Prof. Colin Mason, Dr. Ross Brown, "Entrepreneurial ecosystems and growth-oriented entrepreneurship," OCED, 2014.
[42.] Fabian Fagerholm, Maria Paasivaara, Andreas Jedlitschka, PasiKuvaja, Marco Kuhrmann, Tomi M¨annist¨o,J¨urgen M¨unch, MikkoRaatikainen, "Product-Focused Software Process Improvement,"15th International Conference, PROFES Helsinki, Finland, 2014.
[43.] Nicol`o Paternoster, Carmine Giardino, Michael Unterkalmsteiner and Tony Gorschek, "Supplementary material to Software development in startup companies: A systematic mapping study," In International Conference of Software Business, pp. 27-41, 2014.
[44.] V.A. Verbovskii, "Basics of successful startup development in the field of innovation,"Journal of Economics and Social Sciences, 2014.
[45.] Eriks.Klotins, Michael.Unterkalmstenier, and Tony.Gorschek, "Software Engineering Knowledge Areas in Startup Companies: a mapping study,"Blekinge Institute of Technology, SE37179, 2015.
[46.] Thobekani Lose, Robertson K. Tengeh, "The Sustainability and Challenges of Business Incubators in the Western Cape Province, South Africa,"Sustainability 2015(7):14344-14357, 2015.
[47.] Michael Unterkalmsteinera, PekkaAbrahamssonb, XiaoFengWangc, Anh Nguyen-Duca, Syed Shahd, Sohaib Shahid Bajwac, Guido H. Baltese, Kieran Conboyf, Eoin Cullinaf,DenisDennehyf, Henry Edisonc and others. "Software Startups – A Research Agenda,"eInformatica Software Engineering Journal, Volume 10, Issue 1, pp: 89–123, 2016.
[48.] B. Cornelissen, A. Zaidman, A. Deursen, L. Moonen, and R. Koschke, "A systematic survey of program comprehension through dynamic analysis," TSE, vol. 35, no. 5, pp. 684–702, 2009.
[49.] P. Brereton, B. A. Kitchenham, D. Budgen, M. Turner, and M. Khalil, "Lessons from applying the systematic literature review process within the software engineering domain," JSS, vol. 80, no. 4, pp. 571–583, 2007.
[50.] S. Beecham, N. Baddoo, T. Hall, H. Robinson, and H. Sharp, "Motivation in software engineering: A systematic literature review," IST, vol. 50, no. 9-10, pp. 860–878, 2008.
[51.] T. Dyba and T. Dingsyr, "Empirical studies of agile software development: A systematic review," IST, vol. 50, no. 9-10, pp. 833–859, 2008.
[52.] Markos Wonder, Jonathon Green, "https://www.quora.com/What-is-the-origin-of-the-termstartup-and-when-did-this-word-start-to-appear" Quora, 2017.
[53.] Nobel, C., "Why companies fail and how their founders can bounce back. Working knowledge," 2011.
[54.] Wikipedia (Startup Company), "https://en.wikipedia.org/wiki/Startup_company," 2018.
[55.] Wikipedia (Business Model), "https://en.wikipedia.org/wiki/Business_model," 2018.
[56.] Startup commons, "http://www.startupcommons.org/," 2018.
[57.] Olli PekkaHimola, Petri Helo, Lauri Ojala, "The Value of Product Development Lead Time in Software Startup,"System Dynamics Review, 2003.
[58.] Monster,"https://hiring.monster.com/hr/hr-best-practices/recruiting-hiring-advice/jobdescriptions/accountant-general-job-description-sample.aspx," 2018.
[59.] Snag, "https://www.snagajob.com/job-descriptions/sales-representative/," 2018.
[60.] Agcas,"https://www.prospects.ac.uk/job-profiles/fashion-designer," 2017.
[61.] Truity, "https://www.truity.com/career-profile/graphic-designer," 2017.
[62.] Cfi,"https://corporatefinanceinstitute.com/resources/careers/jobs/what-is-a-ceo-chiefexecutive-officer/," 2015.
[63.] Duncan Haughey, "https://www.projectsmart.co.uk/the-role-of-the-projectmanager.php," 2016.
[64.] CW Jobs, "https://www.cwjobs.co.uk/careers-advice/profiles/software-developer," 2018.
[65.] Learn.org,"https://learn.org/articles/What_are_the_Job_Duties_of_a_Web_Designer.html," 2003.
[66.] Greg Skloot, "http://startupsheartcustomers.com/," 2018.
[67.] Paulina Aguilar, "http://thinkapps.com/blog/entrepreneurship/characteristics-of-successfulstartups/," 2014.
[68.] Emily Pope, "https://generalassemb.ly/blog/difference-between-a-startup-and-a-smallbusiness/," 2018.
[69.] SromonaBhattacharyya,"https://yourstory.com/2016/12/five-stages-startup-development/," 2016.
[70.] Startup commons, "http://www.startupcommons.org/startup-development-phases.html," 2018.

[71.] Stackify, "https://stackify.com/what-is-sdlc/," 2017.
[72.] Amir Ghahrial, "https://www.testingexcellence.com/sdlc-methodologies-advantagesdisadvantages/," 2017.
[73.] Amar Krishna, Ankit Agrawal, Alok Choudhary, "Predicting the Outcome of Startups: Less Failure, More Success," IEEE 16th International Conference on Data Mining Workshops, 2016.
[74.] Marco van Gelderen, Roy Thurik, Niels Bosma, "Success and Risk Factors in the PreStartupPhase,"Small Business Economics, Volume 24, Issue 4, pp 365-380, 2005.
[75.] C. Catal and B. Diri, "A systematic review of software fault prediction studies," Expert Systems with Applications, vol. 36, no. 4, pp. 7346–7354, 2009.
[76.] Gregory Gromov, "A Legal Bridge Spanning 100 Years: From the Gold Mines of El Dorado to the 'Golden' Startups of Silicon Valley," NetValley, IPFS, 2010.
[77.] CBInsights, "https://www.cbinsights.com/research/biggest-startup-failures/," 2018.
[78.] Carmine Giardino, Xiaofeng Wang, and PekkaAbrahamsson, "Why Early-Stage Software Startups Fail: A Behavioral Framework,"In International Conference of Software Business, pp. 27-41, 2014.
[79.] Startup Genome, "All Reports - Startup Genome," https://startupgenome.com/all-reports/, Startup Genome, 2018.
[80.] IEEE Milestones, "Wiki Milestones: The Birthplace of Silicon Valley,"http://ieeemilestones.ethw.org/Milestones:The_Birthplace_of_Silicon_Valley, IEEE, 2015.
[81.] Majewski, Taylor, "NYC tech's 35 people to watch in 2016,"BuiltinNYC New York, 2016.