Guideline of Scalable Startup Management with Objective and Key Results (OKRs)

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Abstract

This dissertation examines the four empirical studies of Technology Companies and list of Startup Technology Organizations from Startup Thailand - National Startup Committee to study the strategy with the goal of investigating the strategy for management in startup or technology organization within the area of Thai Digital Industries.

In the first empirical study, Investigating Goal-Setting Method by studying the position in organization has affected the power for expressing opinion or solution; achieving objective and key results in timeline planning; setting the objective and key results too hard to achieve.

In the second empirical study, Investigating Early-stage Startup Strategy by studying the key considerations to preparedness analyze the business model; effecting of personal branding for CEO and Organization's image; effecting of valuation method; creating a pitching deck; effecting and methodology of raising capital; strategizing of business negotiation.

In the third empirical study, Investigating Startup Organization management Strategy by planning the lean canvas to analyze the overall of organization; effecting of RARRA Metric for digital platform growth; practicing of human resource Netflix methodology; managing the financial strategy; effecting and preparing of law and regulation.

In the fourth empirical study, Investigating Startup Technology management Strategy by using the technology product review & design; planning and using the technology stack and cost; practicing project management with agile; managing and constructing develop, test and production; planning and using automation CI/CD; studying technology R&D research.

From the results, we recommended using both of KPI and OKRs as the goal setting method for organizational strategy management.

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Chapter 1

Introduction

1.1 Motivation

Due to many newcomers, startups in Thailand do not gain equality of opportunity. Also, startups in Thailand that already established the company have struggled to scalable their startup with a variety of problems in organization and technology management, goal-settings, business models that are not suitable with the scope market, law and regulation and venture capital presentation preparation process.

Guideline of Scalable Startup Management with Objective and Key Results(OKRs) is invented as a guideline to help newcomer's startup and startup company in Thailand startup ecosystem to construct the stable scalable startup to collaboration and reach to the unicorn startup

1.2 Objectives

This study is written to investigate the investigate the success factors of the New Startups and Startup Organizations to compare the performance of working under OKRs or KPI and Management Strategy in Organization and Technology.

This dissertation will utilize OKRs capability and property as a start up guideline. The Start-up can read and actually follow the guideline strategy and providing knowledge about Startup Guidelines in Organization and Technology Management to enhance newcomer knowledge that lack opportunity to join the startup events.

1.3 Scope of Work

The scope of this project can be listed as follows:

1. Creating Technology Startup Management Guideline according to Thai law and regulation
2. Surveying from:

- Startup organization list from Startup Thailand Center, National Innovation Agency
- Top-tier Technology Organizations
- Successful Established Technology Startups
- Employees from Technology Organization and Startup
- Technology Startup Owners or Management Position

3. Creating Guideline that cover in Early Stage of Startup from pitching, valuation, etc. Till Scalable the Startup Organization with the strategy in organization and technology management.
4. Showing the benefit of using Objective and Key Results (OKRs) to be the goal-setting method for the organization's mission and vision to the squad or team's project goals.
5. Showing the synergy between the Objective and Key Results (OKRs) and Agile methodology that both focus on short period for measurable the Key Results that according to Objectives.

1.4 Thesis Structure

This thesis consists of five chapters which are arranged as follows:

Chapter 1 Introduction - Providing knowledge about Startup Guidelines in Organization and Technology Management. Organization Management using Lean Canvas, OKRs

Chapter 2 Literature Review – proposes the Literature survey that is relevant to this project, and comparison.

Chapter 3 Research Methodology – explains the methods that you use to conduct your research.

Chapter 4 Results and Discussion – shows the results obtained from your research and discusses those results.

Chapter 5 Conclusion and Recommendations – concludes what you have done and what you have found, and gives some recommendations related to the use of your research results.

Chapter 2

Literature Review

2.1 Background Theory

2.1.1 Failure of Startups

Ms. Anattaphisa Jantathai Program Director of the Academy under the Dtac Accelerate Program said that the rivalry in the Thai startup industry is as strong as ever in 2019. Most Thai startups lack funds and fail to break through the "Series A Bottleneck" in which startups are trapped at the seed stage and are unable to scale up to the Series A level. Top 3 weaknesses that prevent Thai startups from scalable have been found by global VCs:

Lack of strategic vision and strategy for growth in wider markets, A minimum target of ten thousand users per day and Management skills and the shortage of programmers for exponential development ("VCs said 99% of Thai startups cannot grow unless they think about global expansion from day one and know when to exit and launch new business idea if their business fails", 2019). Of the top 20 reasons startups fail because of the number of founders being bold enough to share tales of the failure of their company.

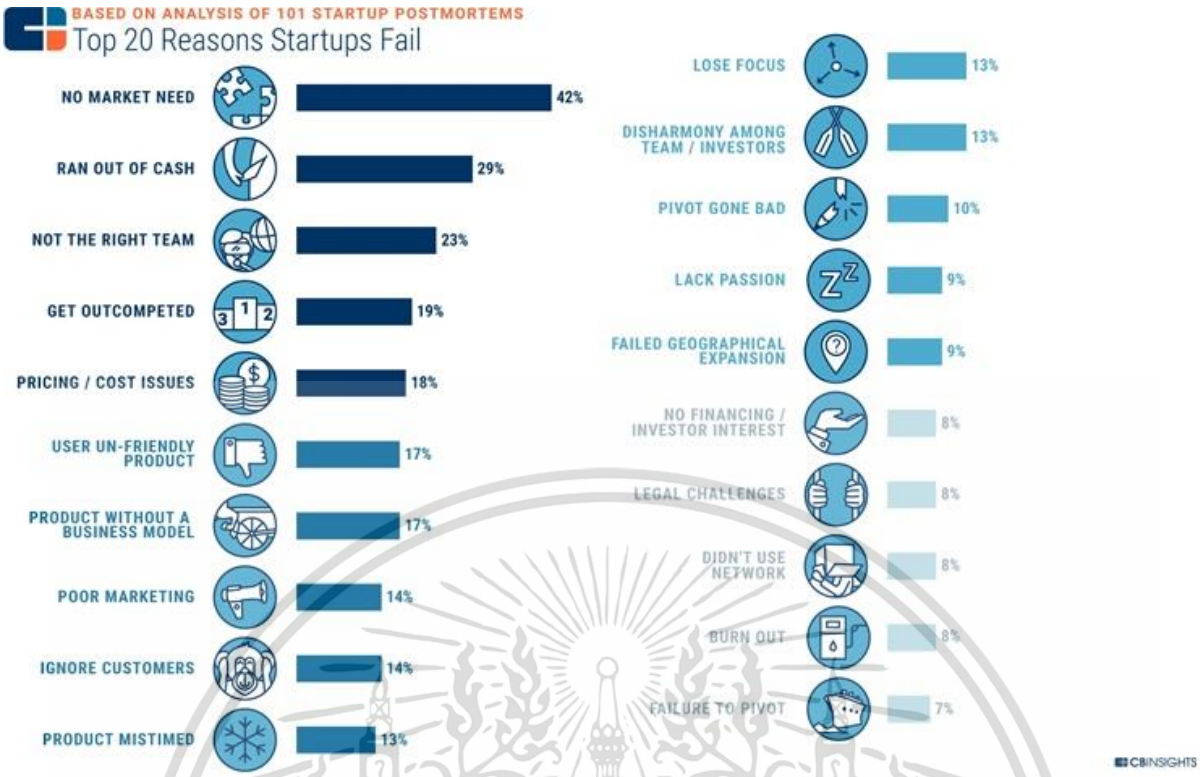

Figure 1.1. Top 20 Reasons Startup fail ("Why Startups Fail: Top 20 Reasons l CB Insights", 2019)

Therefore, to scale startups in Thailand and decrease the failure rate by guiding the strategy through Goal Setting Method, Early Stage Management, Startup Organization Management and Startup Technology Management. By Studying through the others academic thesis study and hypothesis to reflect the problem and solution that can adapt in Thai Startup Ecosystem.

According to Bristol-Faulhammer, M. (2017), Refugees' motivation to start a business is mostly driven by opportunities, as they see the potential for ethnic products and services that go along with migration to Vienna. Their use of human resources, but also their awareness of the reasons for their start-up, as well as favorable market conditions, the economic climate, social networks and exposure to entrepreneurship, are factors that allow refugee entrepreneurs to become productive business owners.

Recommendations for Start-Up Service suppliers

From the lens of shoppers of start-up programs, start-up agencies might take the subsequent recommendations on each program and systems level into consideration:

Program level recommendations.

1. As a result of access to monetary capital is a difficulty for all entrepreneurs, not solely at the start however conjointly as their businesses develop, start-up agencies might do a lot to foster collaboration with angel networks, personal equity companies, and alternative investors

to produce necessary capital for promising business concepts. additionally, they may explore choices to provide micro loans or monetary incentives for entrepreneurs who encourage be successful within the early stage. coaching modules the way to write appealing funding/grant applications in addition as monetary property training can be enclosed within the programs.

2. Considering the variety of competences and circumstances of exile entrepreneurs, general startup programs do not live up to. General recommendation or capacity-building got to be complemented with personalized help. Additionally, incubation officers (who act as case managers) get to invest in intake interviews to know the profile and aspiration of their shoppers and build personalized road maps for entrepreneurial development.

Systems level recommendations.

1. As a result of exile entrepreneurs conduct their analysis regarding beginning a business themselves and regularly use sources that are suspect in each quality and amount of info, they waste time and energy. setup agencies could not solely speed up this info method however conjointly offer a lot of correct information and direct clients to applicable establishments.

2. As a result of a lot of and more agencies are providing startup services and since of a growing and a lot of various target cluster, start-up agencies got to shift from a generalist approach to a coordinated specialist approach to avoid over- or under delivery of services.

3. As a result of start-up agencies have a stronger voice within the entrepreneurial system, they need to leverage their power to be amendment agents and advocate for diversity and multiculturalism in governmental agencies and monetary establishments, to Illustrate, by having multilinguistic employees with a migration background.

4. Considering the principles and rules within the institutional setting (e.g., tax and social security regulations), start-up service suppliers might advocate for different regulations —especially within the transition from welfare system into the first stage of business.

According to Guth, K. L. (2017), The probability for start-ups to thrive is also slim, with just one in ten succeeding in becoming a full-fledged firm. Although the internal dynamics of information management and organizational socialization may contribute to a start-up 's resilience, research has often failed to examine these phenomena in real working groups. Scholars have been calling for more organizational ethnography, particularly of real-world entrepreneurs, to better understand the process of organizing and improving process theory and change for better results. To start-ups and technology firms aimed at turning revolutionary ideas into practical goods in Silicon Valley or elsewhere, the key findings of the thesis bear on confidence issues and creative cooperation among people on a vision that can change as they work and at the same time set up their organization. Presentation of conceptual and operational guidance in company contact management and support. The grounding method often carries related costs for formulation, development, reception, comprehension, start-up and delay, asynchrony, change of speaker (turn-taking), show, fault, and repair — all costs associated with communication. With staff spread around time zones or countries, startups and early-stage technology companies face higher costs compared to other geographically located young companies.

Communication techniques should bring together these different points of view in a way that overrides the language of individual experience, eliminating some of the potential pitfalls of miscommunication and fractured perceptions.

According to Eagle, K. A. (2016), Small businesses play an important role in an economy's wellbeing. Entrepreneurs who succeed in their ventures can expand their companies, hire more employees, and pay more taxes; vice versa, companies struggling or failing can trigger job losses, salaries, and tax revenues. Identifying 2 styles of entrepreneurs: lifestyle and high growth. High-growth entrepreneurs create a competitive edge by introducing innovative innovations into the technological, industry, or business-model domain and developing what they term "innovation-driven companies" (IDEs) with global growth potential opportunities. Entrepreneurs in lifestyle build the more popular category of entrepreneur, "small and medium-sized enterprises" (SMEs) whose business concepts are more conventional and serve local markets. The demands for these entrepreneurs differ considerably. Though the needs of these forms of entrepreneurship are drastically different, governments that seek to encourage entrepreneurship typically bring together all startups. Entrepreneurship and education initiatives would discuss the gaps between those founders and the appropriate financial strategies. Policymakers should decide which groups they wish to help and grow; understanding them will distinguish between success and failure

2.1.2 Factor of Startup

Such constraints on decision taking are especially relevant for entrepreneurs. Entrepreneurs are heavily dependent on the strategic decision-making process and the results that their decisions produce. To entrepreneurs, this dependency is greater than for most other executives, since certain decisions that precede start-up are permanent and impact the whole company. Such sweeping decisions are comparatively uncommon until the venture has begun, and the first offering of the venture is in development. In the end, every entrepreneur's actions and decisions produce several results. These include both financial and personal achievements, and other types of achievements. Such outcomes are important because business is being done for its purpose, not for its own sake. A company that is conducted without profit considerations is a hobby. Outcomes measure the quality of the opportunity, the entrepreneurs and the decisions and actions driving the venture. To decide if the decisions taken by the entrepreneur are worthy of emulation, they need to be measured in terms of success and failure (Chatfield, B. V. 2008).

According to Gonzalez, G. T. (2017), Both internal and external factors which may be causal to the macro survival rate of U.S. startups have been studying this research. Inner factors were examined qualitatively, using a grounded theory procedure. Qualitative analysis revealed three internal factors which allowed the startups studied to survive. Those inside considerations were:

Work Flexibility – Work-motivated businessmen were much more likely to achieve long-term sustainability.

Allies – More likely to survive were the entrepreneurs who identified and utilized allies.

Purposeful safety margin model – Companies whose founders were more likely to succeed with a thorough understanding of the safety margin (MOS) and the underlying elements of pricing and break-even analytics.

The development of Risk Analysis for Initial Needs (RAIN) was inspired by the desire to pursue a solution to the business issue of consistently high failure rates by enhancing company startup planning. RAIN strengthens the start-up business strategy by replacing conventional environmental auditing with resource-based auditing (RBA) and concentrating on sustainability and scalability in post-launch incubation. Using the RAIN start-up planning model at time zero and during the early stages of the business lifecycle will boost profitability and inspire entrepreneurs to support the creation and use of start-up plans.

According to McLeod, J. S. (2000), A successful startup requires not only that several disciplines work together, but that these disciplines look at the project from a system perspective as well. It's not a straightforward process to shift the project team from a discipline-based construction model to a system-based startup model. Moreover, because the project's early stages have the greatest effect on project progress, it is important that start-up preparation happens earlier in the project cycle. The results show that work on these activities began in "very successful" startups at the same time or earlier than suggested in the model, suggesting that the phase recommended in the model may not be sufficiently early. It is worth noting that none of the activities were later initiated than the one mentioned in the Startup Planning model.

Table 1.1. McLeod, J. S. (2000, page 147). "Activities Started Significantly Earlier in Very Successful Startups"

Model Id	Activity Description	Sign. Level	Avg. Phase of Initiation	Compared w/ Model[1]
3-C	Make Startup Team Assignments	0.03	Front-End Eng.	S
3-D	Identify Startup Systems	0.04	Front-End Eng.	S
3-E	Acquire Operations & Maintenance Input	0.04	Concept. Dev.	E
3-F	Assess Startup Risks	0.02	Concept. Dev.	E
4-A	Address SU Issues In Team Building Sessions.	0.03	Concept Dev.	E
4-B	Assess & Communicate Startup Effects From Changes	0.02	Detailed Design	S
4-C	Plan For Supplier Field Support Of Startup	0.03	Front-End Eng.	E
4-E	Plan For Startup QA/QC	0.02	Concept Dev.	E
4-M	Develop & Communicate Startup Procedures And Process Safety Management	0.02	Front-End Eng.	E

According to Bujnoski, M. T. (2017), The Optimal Maturity Model will show, as a guide to business managers, whether the skill maturity of a company ranks ahead or behind the average for companies of its size. With that information business manager may fix possible inefficiencies of capability if the measures are large, or deficits of capability if the measures are small. When faced with growth, business managers could foresee and introduce required operational advances before recruiting more workers and experiencing growing pains. The Optimum Maturity Model will be of great benefit for startup investors. Seventeen of the twenty subject firms are seeking funding. An investor in a company purchases a portion of the corporation with the hope of a potential return. Although a start-up can promote an enticing opportunity, one problem for investors should be whether the start-up will fulfill the requirements of building a company. The Optimal Maturity Model 's diagnostic feature will provide the required insight to investors. Business that helped improve many of its processes to accommodate the high number of total workers, in particular many call center workers (> 100), who had fewer technical skills and increased turnover. Although there was only a superficial partnership between software systems and call systems, the firm had a culture of process development, documentation, and training that penetrated the software teams. Small, young enterprises can increase capacity maturity more easily because low capacity maturity levels are less onerous, young enterprises have little or no pre-existing systems for burdening implementation, and processes and procedures with fewer people are easier to implement. Fourteen of the fifteen smallest businesses listed the word MVP (Minimal Viable Product). It was difficult to say in isolation whether the word was used as part of a product development plan or was it an excuse to launch a minimally solidified product lacking organizational capabilities and lacking a business vision.

According to (Nurcahyo, Ilhamsyah Akbar & Sihono Gabriel, 2018), For example, some of the external factors used in previous research are: competition, economic effects, demographic social cultural, political, natural environment, technological change, patterns, and market share. The internal considerations to be considered are management staff, organizational structure and culture, unique abilities, competitive advantage, logistics, marketing, human resources, finance & accounting, information tech / system, research, and development. There are 11 alternative approaches which have been categorized into 4 major clusters: convergence, concentrated, diversification, and defensive.

Table 1.2. Nurcahyo, Ilhamsyah Akbar & Sihono Gabriel (2018, page 45). “Types of Strategy”

Cluster	Strategy	Definition
Integration	Forward integration	Gaining ownership of Distributor/retailers.
	Backward integration	Seeking ownership of suppliers
	Horizontal integration	Seeking ownership of competi-tor
Intensive	Market penetration	Increase market share throughmarketing efforts
	Market development	Expansion to new geographic area
	Product development	Strategy that seeks increased salesby improving or modify-ing present products or services
Diversification	Related Diversification	Adding new related products orservices
	UnrelatedDiversification	Adding new but unrelated productsor services
Defensive	Retrenchment	Regrouping through cost and assetreduction
	Divestiture	Selling a division
	Liquidation	Selling the whole company

Most of Indonesia 's fashion startups use Intensive Strategy: Market penetration, market development, and product development. In Market Penetration the media used to lift target consumer awareness is Instagram and through group or forum. Business creation is an option since fashion enthusiasts are rising in cities other than Jakarta. Growing up small brand retail is a chance to be abused. The creative production of the company will take quite a large infestation, so make sure the startup has a good market to use.

2.1.3 OKRs - Objective and Key Results

According to Kanket, W. (2019), Performance evaluation is concerned with employee performance management within the enterprise, in which OKRs are a way to set targets and monitor progress that have increasingly been implemented by successful organizations across the globe such as Google, Intel, LinkedIn, Oracle, Twitter, or others in lieu of conventional KPIs. The findings indicated that OKRs promote the process of knowledge sharing and information exchange within the team, which in turn contribute to better organizational success in terms of innovative capacities, productivity , and effectiveness in adapting to changes in the environment. In other words, it can be said that OKRs are best suited to knowledge / creative workers rather than to repetitive labor. Participants also acknowledged from the experiment that they had a problem with preparing the job. This may mean that the KPI work practices are not acceptable when team members have little expertise or knowledge and no leader, resulting in inefficient preparation and setting up of the KPI. It is anticipated that the performance of the KPI team will be improved by having an efficient leader who can direct the design and setting the correct KPI for performance analysis. In other words, it can be inferred that OKRs will lead to better results, as it allows quality and quantity performance analysis to enhance job outcomes. To improve the efficacy of OKRs in performance assessment and management, it is proposed that team members need to have strong expertise or skills so that they can contribute to the team as well as the efficient means of communication and accountability in order to achieve the main results. Training by job simulation can help workers learn more about OKR 's philosophy and method and its meaning.

According to Shende, V. (2019), Increasing strategic challenge involves employee engagement and cooperation from various departments and levels. Consensus therefore needs to be built around the company on strategy so that workers can better understand, accept, and execute the strategy. Therefore, the aim of the strategy is not to optimize the success of a certain company or department but to optimize the corporation's overall efficiency.

A comparative study conducted to compare various System Strategy. BSC (Balanced Score Card) and OKRs (Objective and Key Results) share much overlap across a scientific comparison. Both concentrate on objectives — broad objectives intended to move the company forward — and metrics (known as key results in the field of OKRs and measurements in the BSC) that assess the progress of the organization in achieving the target. The biggest difference between the two is that of cadence. When BSC is established, most companies will draft goals and initiatives intended to remain in place for at least one year, but sometimes longer. However, with OKRs, most companies change their priorities and main results every quarter, reflecting on what could generate the most value over the next 90 days. The main distinction is in "development criteria." Companies develop four distinct targets and metrics while creating a BSC, but similar success viewpoints are: Economic, Consumer, Internal Processes, and Learning & Development. On the other hand, OKRs do not depend on using perspectives. The emphasis again is on what will be most important in the next quarter.

According to Hung, E., & Monastyrsky, M. (2017), Companies are modifying their PM processes in different ways, to match PM with organizational expectations. Sometimes they do so with limited results data, as when performance ratings are dropped. Changes do generally enhance individual efficiency, often in uncharted territories. Of the organizations that participated in Deloitte's 2017 Human Capital Survey, 90 percent that have improved performance management see significant changes in collaboration, 96 percent say the processes are smoother, and 83 percent claim they see an increase in the quality of communications between employees and managers. That is because companies are implementing successful PM strategically, over doing the bare minimum. To highlight enhancements to PM processes, we will point out progress and outcomes in three main areas: evaluation of staff, setting targets and feedback. A 'bottom-up' strategy, where workers set targets while referring to corporate goals, allows goals to be more unique to each individual and contributing to larger programs. Through accountability around goals, such as publicly announcing a target, requires workers to act on it to show honesty. This also helps individuals to freely gage development as opposed to others.

Table 1.3. Hung, E., & Monastyrsky, M. (2017, page 5). “Performance management: Old rules vs. new rule”

Old rules	New rules
Performance appraisals and goal-setting conducted once per year	Check-ins conducted quarterly or more frequently; regular goal-setting occurs in an open, collaborative process
Feedback collected by manager at end of year	Feedback collected continuously and easily reviewed at end of year (often through apps and mobile tools)
Goals kept confidential with focus on individual achievement	Goals made public and transparent with increased focus on team achievement
Employees evaluated by their manager	Managers also evaluated by their employees
Employees force-ranked on a quantitative scale	Employees rated on a qualitative scale; rankings considered, not forced
Compensation kept confidential and focused on equity; bands based on performance ratings	Compensation levels more transparent, more frequently discussed, and focused more on pay for performance than on equity
Managers focused on evaluating performance	Managers focused on coaching and developing people
One leader evaluates each individual in a qualitative, opinion-based process	Many contribute to an individual's performance evaluation; evaluation draws heavily on data
Process considered to be a burden and waste of time	Process is agile, faster, continuous, and lighter

According to Trinkenreich, Bianca & Santos, Gleison & Barcellos, Monalessa & Conte, Tayana. (2019), As the industry has increasingly used OKR (Objective Key Results) to promote the development of tangible and achievable objectives to encourage collaboration, engage the team, and pursue a fast pace, the IT director has shown interest in using it. The OKR literature provides information to construct OKRs and track outcomes (examples, good practices, tips, concepts). However, there is no realistic path or method for collecting quantitative information and transforming a conceptual objective into a tangible aim for a main outcome. There is also no guide on how to get programs to achieve targets. That kind of information is given by GQM+Strategies. They had previous experience using GQM+Strategies in other company divisions, and so we wanted to merge these two approaches. By doing so, we expected OKR to meet the need for a faster approach, while GQM+Strategies will provide complementary information for the activities to be carried out. First, we present the planning and implementation details for the report.

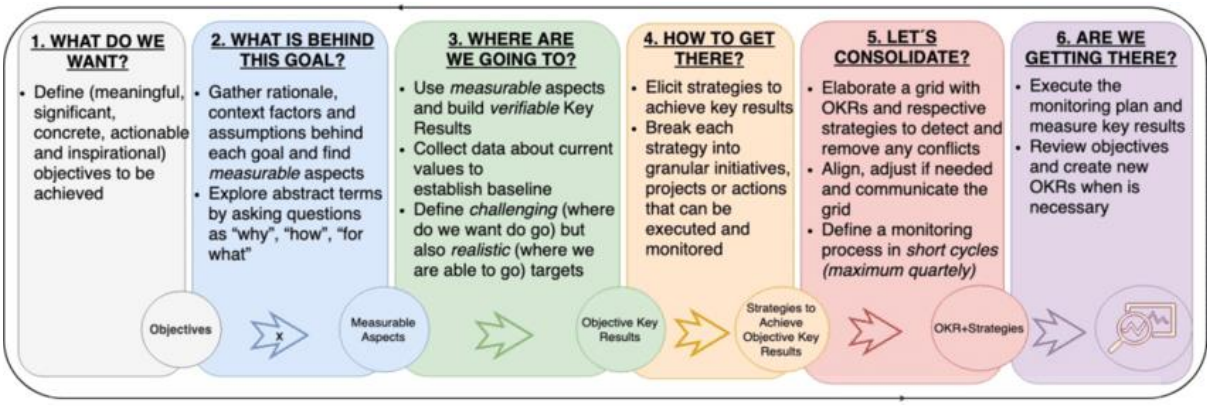

Figure 1.2. Trinkenreich, Bianca & Santos, Gleison & Barcellos, Monalessa & Conte, Tayana. (2019, page 7). "Process to support defining and monitoring OKRs and strategies to achieve them".

The method and expertise gained from using together OKR and GQM+Strategies practices can be useful for practitioners to replicate or adapt the method, as well as being motivated by our experience to identify their own OKRs and initiatives. In addition, researchers may define specific problems to be resolved in future work (e.g., gaps in information in OKR). They found no research documenting the use of OKR in the IT domain which combines OKR and GQM+Strategies. As future works, they plan to carry out new studies implementing the generated method to obtain and develop new data about its use.

2.2 Topic-Specific Readings

2.2.1 Early Stage Startup Management

A company incubator provides a creative approach to promoting higher education technology. It is like the traditional patenting / licensing scenario and yet separate from the transition of technology in far higher education. An incubator's job is to provide an environment in which university-derived start-up companies can be "incubated" into real businesses, and patents and licenses can potentially be turned into long-term equity revenues. It was appropriate strategic planning, reliable market analysis, reasonable and reasonably priced legal assistance, and suitable office space during their early years that the incubator services most desired by the respondents. Because there are major variations in incubator resources most desired by firms developing different product categories, with the software, pharmaceutical and consultancy / service companies providing the most diverse and needs. That there are major variations in services needed depending on how long it has been since the establishment of the respondent organization. The longer the company was founded, the greater their value in finding a management team, legal assistance, employee benefit systems, and office equipment. Newer company respondents cited planning, finance, market research assistance, and cheap office space as the most critical concerns (Scott, J. L., 2000).

According to Hao, W. Y. (2018), Staff find work justified in an early-stage combat tech startup, in the sense of seeking reasonable, equitable, attractive, and meaningful arrangements. The research uses as its theoretical structure the rational sociology of critique by Boltanski, complemented by Pierre Bourdieu's sociology of action. There is a dual sense of the Boltanskian notion of justification. There is no void to attain a justified situation, a position in which actors consider relationships fair and reasonable. It is based on critiques of a form situation's competing structures as much as it qualifies it positively. The startup is defined as engaged in practical and socially beneficial research to solve real world problems through creativity, and it is usually presumed that working in the post-bureaucratic organizational context is conducive to the individual's "development." To understand how it is justified to work in the early stages of fighting startups is to understand how their participants accept this situation and make it fair. Justification would be further operationalized as the participants attractiveness and meaningfulness derive from work. This study shows that participants consider the startup sector justified as a place to work in which it is fairer, more important, desirable, and economically secure. The startup is defined as engaged in substantive and socially beneficial "problem solving" research, and it is usually assumed that working in the organizational context is conducive to the individual's development. The dangers of working in an early-stage company are privatized in this sense and converted into opportunities. This sense of modernity is the same environment to which future remuneration criticisms are displaced in a startup. Wage-remuneration equity issues are made subordinate to one's goal of optimizing one's ability. The workers may agree, but counter-argue that it is not worth that much because this design is mass-produced in factories and is worth very little. For many of my subjects, though, it was clear and convincing that development, fairness, and a sense of purpose can be found in the startup. Where being entrepreneurial is qualified as growth, and innovation qualifies technological innovation, justification often explains technological innovation, wage levels, and the uncertainties and risks of entrepreneurship re-work.

According to Yau, L.(2019), In general, larger companies have clearer and more defined goals and strategies than start-ups and, more importantly, most of the actions taken within a larger company have already been proven to work both internally and externally on the market. Managers in large businesses are more likely to judge and have strong incentives to maintain the status quo of business operations and initiatives. This is the complete opposite for startups; the very existence of a startup demonstrates the goal of changing the status in the marketplace, again internally and externally. Co-founders typically have a particular / equal shareholding in the company over which they all have a degree of control and power. But I think it is difficult to define a strong leader in early-stage companies within a co-founding team. I think the members of the co-founders' community serve as leaders and followers at the same time. This may therefore be a perfect situation to research 'leadership' and 'followership' without applying the bias of a given lens. This would also logically lead one to look at this work from a viewpoint of cooperation, rather than as one in which everyone is a leader and others are just followers. Therefore, a leadership model tailored to start-ups in the early stages takes a more inclusive approach, or at least a multi-to-many partnership structure (team members are both leaders and followers at the same time, or simply partners working with equal partners). The researcher has thus determined that leadership as a practice (L-A-P) is the framework that best addresses the root of the issue without relying on labels. In both cases, before venturing into starting a company together, the co-founders formed some sort of partnership. And this relationship extends to the business relationship that the startup created. All participants were asked to use adjectives or words to describe their relationships with their co-founders, respectively. While they differ from one another, these are not typical words that one would find in a larger organization to describe colleagues. Co-founders should be prepared with this dimension of high fluidity with two main perspectives. One is the common core values and intent for the startup to bring everything together as well as developing its DNA. The other has to do with day-to-day operating procedures, which are mostly what business theorists and practitioners often are concerned about, staying clear and straightforward. For anything that happens on a regular basis, there is often no time and place of shared decision taking. Although co-founders should expect leadership and partnership within the team to continue to evolve, they need to build clear and specific decision-making ways and allow an agile framework to respond to the external market.

2.2.2 Organization Stage Startup Management

According to BOYD, G. W.(2017), The aim of lean startup is to build a minimum viable product; get it into the consumer's hands quickly; evaluate their approval, rejection, or subtle improvements; and then turn or step forward. The philosophy here is: Construct, calculate, learn, and do all as quickly as prudence can. The thought is: Why produce and scale before you know whether the product and business model are acceptable and workable. Minimum viable product is a crucial concept central to the technique for lean startups and is taught with great emphasis. Furthermore, if the entrepreneurs genuinely follow the lean startup approach, as supported by Blank or Ries, then the regular operations after start-up are also seriously affected. Startups that survived the first few rough years did not adopt the conventional product growth, which has been heralded for decades as a product-centered launch model. Alternatively, all successful entrepreneurs developed an alternative solution through a rigorous trial and error process. This was deliberate at times, but it was also almost accidental much of the time. The alternative "learning and development" process could properly be called Customer Growth. This went against conventional / traditional business startup wisdom, however, and was not the standard way to write a proposal, raise funds, and then execute the plan. Resourcing, shaping, and educational organizations were reluctant to adopt modern paradigms like lean startups. Government departments, banks and other lending institutions tend to use conventional criteria to support start-ups. In comparison, colleges and universities were very reluctant to explore any lean startup ideas, and even slower to follow. Evidence of that lies in the fact that the participants' level of education in our survey did not matter at all. It should be. Company education respondents, or university graduates, would have come across this lean startup idea. Most entrepreneurs are simply not performing sufficient self-research. The same mentality which makes heavy risk takers for entrepreneurs also makes them highly independent. They are also given so much negative feedback in creating their dream that the inclination is to step forward and to shut out the naysayers. In our report, the survey question about the minimum viable product should have been a dead giveaway to any startup literature researcher.

According to Wang (Wong), F. (2016), Communication from WOM, marketing messages are transferred (embedded) in the information received by online users. In each individual piece of information, the characteristics, goals, and consequences of marketing messages are varied, influencing the creation of specific attitudes of online users toward the information environment brought into the message. In other words, information generated on social media by entrepreneurs will inevitably contain a certain number of messages related to their company. Provides a theoretical and empirical study into how the use of social media by entrepreneurs is reflected both in the effect on their industry and the resulting amount of venture funding. Specifically, the findings indicate significant impact on specific start-up outcomes of entrepreneurs' tweets (WOM effects), whereas insightful, persuasive, and disruptive tweets were positively linked to start-up engagement. In the main sample, transformative tweets have the best relationship with start-up interaction, but the relative strengths of the coefficients have not been consistent across the main sample and robustness regulation.

According to Sineni, S. (2014), Growth hackers are powered by data and recognize the value of rapidly checking every step to improve conversion levels and user experience. Everything that a growth hacker does is with a sense of urgency and the sole focus being growth. Ginn notes that a growth hacker "thinks outside the box and is able to use guerrilla tactics to achieve growth objectives. To effectively tackle growth hacking, first user interface (FUE) must be optimized and conversion set as the marketing target. An FUE is a user's first contact with the product. Potential customers who see the message from the company and check out the product need to realize what it provides and want those benefits. The determining factor in whether a new user is turning would be an ideal first user experience. Using a pull approach and optimizing a successful first user experience for customers are not modern marketing strategies, like most of the ideas that are focused on growth hacking. The difference is that entrepreneurs and online marketers are searching for innovative ways to refine these concepts to solve a different collection of issues than long-standing businesses. BrandYourself.com, for example, employed growth hacking tactics to reach 60,000 followers within the first 60 hours following the launch of the website. Maintaining a data-driven attitude is a central component of that hacking, and one that can transform the thinking behind any marketing campaign. Data may show that methods of growth hacking would not produce more results than conventional marketing, in which case the team will concentrate on a traditional approach. The point is that rapid testing of every step of the process from start-up to millions of users will decide the most efficient way of getting users and delivering value. Growth hacking also offers startups the ability to compete directly with larger, better-resourced companies and market leaders. The relative lack of capital puts a startup at a significant disadvantage as it meets an organization with a large customer base and millions of dollars in sales. Growth hacking and targeted communication offer a free, or at least more affordable, way for startups to gain exposure and market share.

According to Okafor, A. (2018), The findings of this study show that shareholders will benefit from enhanced valuation methods and an increased aggregate net worth. The outcome of the study can help to reduce the country's unemployment rate as more people take on entrepreneurship due to increased awareness of asset valuation and access to funding and exit strategies. The likelihood of CAPM mergers and acquisitions was 58.40%. Using DCF process, mergers and acquisitions are 1.677 times more likely to be accomplished. The likelihood of mergers and acquisitions of high-tech start-ups using DCF was 62.60% from the statistics. The figures for the real options valuation system predictor generated an odd 2.052 with a probability of 67.2 percent occurrence. In comparison, the asset-based approach, the relative valuation approaches, as well as the mixed valuation process, had lower chances of predicting mergers and acquisitions of high-tech companies with incidence estimates at 30.2%, 31.10%, and 48.0% respectively. As noted, five of the predictors used in the model (capital asset pricing model, discounted cash flow method, real options valuation method, venture capital method, and other methods of valuation) significantly predicted the probability of mergers and acquisitions of high-tech startups. The study findings show that with the use of real options valuation system, discounted cash flow methods, capital asset pricing process, and venture capital approaches, the chances of achieving mergers and acquisitions increase. In support of the current theory, the model built for the study presented evidence along these lines that the probability of achieving mergers and acquisitions can be estimated through the binary logistic regression. The slow speed of growth in the high-tech sector needs no further clarification as most of the companies surveyed indicated a preference for organic growth. Such results will guide the application of valuation methods in the industry in future direction.

According to Meyer, R. C. (2015), The ability to learn was considered to be the most appealing aspect of a startup company in a survey of 436 mainly working, college educated participants. Therefore, startup companies looking to raise their applicant rate and hire new hires can advertise the ability to learn in their recruiting statements. Conversely, the findings indicated that the small size of the company was deemed the least desirable of five features. Despite the size of the business being ranked as the least attractive on average, it was the only feature where substantial differences were identified. Specifically, the unemployed participants found the small business size to be substantially more attractive than the participants who were working. Older participants (age 55-64) often found small business size appealing, slightly more so than their younger counterparts (i.e., participants aged 18-35). Such results underline several prospective candidate groups' diverse preferences and highlight the importance of tailoring a company's recruitment strategy. In other words, a startup company might perform an examination of the workforce to identify differences in employee diversity, temperament, and ability. The company will then use the findings of this study to establish a recruitment plan designed to increase the number of applicants with the desired backgrounds and personalities. Findings showed that expectations for the unemployed / actively pursuing participants were greater than those for the unemployed / passively pursuing participants and for the employed / passively seeking participants. Most surprisingly, the participants currently employed / actively seeking showed the largest mean intention score, even greater than the participants who were unemployed / actively looking for. Inspection of the data seemed to suggest that the observed group differences were driven by the active vs. passive principal effect. Nevertheless, this finding suggests that there are many working individuals available to jobs in a startup business, and that it might be prudent for an entrepreneur or human resources recruiter to devote a greater portion of their energy to hiring or stealing currently employed individuals who have the skills-setting needs of a startup.

2.2.3 Technology Startup Management

According to Pazderski, P. I. (2018), This initiative focused primarily on the IT industry, as it was the pioneer in agile practices at the time. Initially, agile approaches were developed and created for safer, quicker, cheaper product creation and bringing software engineers closer to the app customers. Over time, agile approaches were growing, developing, and morphing for use in all aspects of IT, such as supply chain, logistics, distribution and maintenance. Subsequently agile approaches started to penetrate other markets such as banking and retail. In addition, different developments in engineering, such as lean processes, started to balance and integrate with agile practices. Hypotheses H1a, H2a, H2b, and H2c have been discussed to address the first part of the original question: agile management activities were landmarks in the agile IT sector? The endorsed hypothesis H2b offered a partial or conditional answer: The more efficient an enterprise was viewed, the more successful its operations were on average. So, address the second part of the original question, the hypotheses H1b and H2c were explored: What agile market trends were landmarks in the agile IT industry? All theories were underpinned by the survey data element analysis and cluster analysis. Specific agile patterns for enterprises have been identified, labeled, and analyzed. Hypothesis H1c was discussed to address the third part of the original question: The agile business archetypes have become landmarks in the agile IT industry? The forms fell into archetypal groupings. Analysis of the clusters identified three main agile archetypes of enterprises that were labeled and analyzed.

According to Kausar, M. (2017), Regular stand-up meeting is an agile process that lets the team organize their day-to-day operation by addressing three questions: I What did you do yesterday ii) what will you do today? And iii) What does it get in the way? Whereas daily morning stand-up meetings are an agile pattern, as it has been observed that performing daily stand-up meetings in the morning is more effective than performing them in the middle of the day or at the end of the working day. The continued observation of the changed procedure contributed to the development of trends for regular morning stand-up meetings. Using this template, we tackled the problem of information transfer and collaboration and teamwork problems. Distributed agile practices differ according to their granularity and abstraction level. Since there are several distributed agile trends, we grouped them into four groups, which are trends of control, coordination, cooperation, and testing. This grouping helps to understand and classify which behaviors are to be used in a specific scenario. Depending on the issue they solve, we have categorized distributed patterns. The description for the four categories follows: Management Patterns: Because the team is spread over various time zones of offshoring, it is challenging to handle all the scattered team members and as they work on separate project projects, it is difficult to determine the overall success of the project. To tackle this issue, we use management trends as they consist of strategies that help coordinate onshore and offshore team members and their actions in a collaborative environment to efficiently implement agile. Communication patterns: Since the team is physically dispersed around various time ranges, they have minimal overlapping operating hours, making it impossible to establish real-time contact with the onshore and offshore team members. Contact practices reflect on how scattered team leaders can sustain a productive communication platform in an agile environment using numerous online platforms to include synchronous and asynchronous communication methods. Collaboration Patterns: Even though the project 's purpose is offshoring; certain joint work tasks also need to be carried out to enhance communication between the onshore and offshore team members. And if the onshore and offshore team leaders do not know each other, this causes confusion and uncertainty among the team members that affects the effectiveness of the overall team. To address this issue, teamwork dynamics include suggestions to which tasks onshore and offshore team leaders can perform together to increase team cohesion and project development. Verification patterns: As in agile we focus on creating the best product according to customer feedback. However, since the team is dispersed at different locations, it is difficult to create a common rule for all the scattered production sites and how to show the client the progress of the project. To solve this problem verification patterns focuses on how effectively customers can get a distributed project developed according to their needs and monitor what has been developed.

Figure 1.3. Maryum Kauser. (2017, page 130). "Distributed Agile Patterns Application on Traditional Scrum Lifecycle".

Chapter 3

Research Methodology

3.1 Startup Goal-Setting Method

3.1.1 Objective and Key Results (OKRs)

How to set goals for everyone in the organization to have goals that are consistent across the organization with the objective. Which describes the aims of the organization at various levels? And the key result is the method of achieving a set goal by determining the value of success that achieved that goal. The OKRs system will let all personnel in the organization know. How to achieve the goals of the organization in the same direction, which will make the organization move forward quickly.

3.1.2 Real Case's Example using OKRs

1.Google

Google is successful in using OKRs in the company. OKRs help companies to develop forward in every project.

Google has also used OKRs since 1999 because it helps them convert them from a company of 40 employees to 60,000 employees. Google has been using OKRs framework for a long time because they get remarkable results from it. They set ambitious objectives and grade their key results on a scale with 0-1.0 by the end of each quarter.

And In 2008 Google launched Chrome to the market by setting OKRs. The objective will create an era browser to market and the challenge key results that are used for measurement in 1 week. It will have 20 million active users.

The initial results show that Chrome cannot approach the goal of OKRs and at that time Chrome had only 3% of market share but Google got good feedback from users.

Google's OKRs is too hard. But the heart of OKRs is making the employee excited with our works and making them feel not secure if they save in each comfort zone

In the same year Larry and Sergey, the founder of Google wrote OKRs “We should create a web that changes pages like a magazine” and then they established the second team to manage applications on Chrome. This team is responsible for making applications perform fast similar runs on the desktop. So, they must cooperate with other companies to make real OKRs.

After 4 months, Chrome can run JavaScript faster than Firefox up to 10 times. And 2 years passed, Chrome can run JavaScript faster than Firefox to 20 times and after that Google Chrome can overcome OKRs. More than 20 million people use Chrome per week.

Later in 2009, Google played bigger. By targeting the OKRs of 50 million Chrome users per week. But the result appears to have failed Because there are only 38 million users

In 2010, instead of following the original goal, set up a new OKRs for the Chrome team that requires 100 million users per week, but the results show that this time, Google has succeeded. This time, Google comes with a bigger OKRs Do whatever it takes to reach your target. By starting to adjust the business direction of the "Chrome Fast" campaign in the United States to increase awareness. Followed by the release of Chrome for iOS and Linux to expand the market beyond the existing Windows system.

In addition, it does some small things, such as alerts users with Chrome in their hands but does not use it. And unbelievably, this method is more effective than you think. Because in that quarter (Quarter 3/2010) Chrome has used from 87 million to 107 million and shortly after that, Chrome has 111 million users per week. And keep going

In 2018, just counting on mobile phones alone, Chrome has more than 1 billion users a day. Google can really thank OKRs. This time, Google comes with a bigger OKRs Do whatever it takes to reach your target. By starting to adjust the business direction of the "Chrome Fast" campaign in the United States to increase awareness. Followed by the release of Chrome for iOS and Linux to expand the market beyond the existing Windows system.

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Present, the browser proportion of people around the world demonstrate that 58.94% of Chrome, 13.7% of Safari, 5.17% of Firefox. Chrome is the number one in the market. Because it covers the market segmentation over half.

Google strongly believes that OKRs are transparent, and everyone has the right to view what other workers are doing. According to them, OKRs that are between .6 to .7 are considered successful because if someone is continuously hitting 1.0, it shows that their goals are not that ambitious.

Google also does not consider low grade OKRs a bad thing because they believe that these OKR's are used as data for the OKRs of next quarter.

2.Intel

In November 1979, Intel was Janus-faced with uncertainty. Its flagship silicon chip was being crushed by 2 competitors Motorola and Zilog. Intel was in a dice scenario. Andy Grove, Intel's then President, knew that they had an enormous downside. So, they designed and enforced the OKRs system. A goal designed to stretch the boundaries of what's potential.
By Jan 1980, Intel crushed the competition taking its place because of the high chip maker. beneath Grove, Intel magnified revenue from $1.9 billion to $26 billion.
They triple-crown with ideas that do not go anywhere while not executed. while not a team operating along ideas peter out and firms fail.

3.LinkedIn

The CEO of LinkedIn, Jeff Weiner, provided clear directions and goals to employees and he believed that the best destinations need clear vision and mission. And the good leader can provide strategy, defining clear objectives and measured results.

He considered that OKRs has limited time. So, he must motivate the entire team to set goals that are challenging. The quantity of OKRs should be between 3-5 in a quarter,

Weiner set up a meeting with the team once a week to follow how all the employees are working towards, specify problems, share the achievements.

3.1.3 Best practices for writing good OKRs

Setting objectives for all will be important to the organization's goals. Each goal should be clear, that is to separate the activities of each group. Obviously understanding the purpose, the program was developed by Intel's Andy Grove and implemented by large and small companies. You have got to understand the OKRs character before you write something. These are two essential characteristics. Structure Each team, department or individual should have 3-5 objectives. The objectives should be achieved within a very limited timeframe (e.g. one year or one quarter). It is not an ongoing task. Objectives are supposed to be formidable. Google's 70th success rate considers motivating performance.

The two major queries that should be answered once you have made OKRs for your company square measure given below:

1.Where do we expect our business to need (goals)?

• Unfair aim could be a person within the company should genuinely realize the ability that should be comfortable to perform within the individual. And can do the job.

• Linear targets are difficult to rely on the simplest results.

The department's priorities are verified by subordinate managers in conjunction with senior management. Subordinate supervisors must achieve structure targets in accordance with the organization's top-level executives.

Employees have their own targets to achieve. In conjunction with one's own department

For key results: There are three key outcomes per goal.

Core outcomes will have to be tangible.

They are the steps necessary to understand the goal of the associate. So, reaching them is equal to attaining your goals.

They are not actioning but performance.

2.How can we tend to get there (measurable steps)?

Your entire team should consider these inquiries to be vital once following the OKR best practices for your company. It is essential for key leadership groups all the way down to team members. respondent these 2 queries fosters a cascading interaction of objectives that keep the complete company aligned and awake to what direction the corporate is taking.

OKRs: obtaining Started

The process explained below can assist you and your team adapt to OKRs in regarding six weeks before the beginning of another year or quarter.

First Step: establish Team Objectives and Key Results

Identify 3 to 5 primary objectives of your team within the returning year or quarter. It ought to be in line with the vision and mission of the corporate. Identification of the key results return when this. The steps to attain these goals ought to even be explicit.

Second Step: want however Your Team can Organize OKRs

Monitoring OKRs is difficult, however there are square measure tools and strategies that your company will build use of to try and do this. you will be able to build use of spreadsheets.

Your team needs to establish a scientific method to roll out the OKRs to your team members, otherwise, it will get helter-skelter.

Third Step: operating with Team Leads in Drafting Objectives

You need to assemble all division heads and cascade the importance of OKRs. the advantages of OKRs to every department and the company as a full ought to be explicit.

Organize a gathering with the heads/executives concerned therefore you will be able to produce a method of rolling out OKRs along.

Fourth Step: Cascading OKRs to Team Members

The next step would be to organize the team leads/managers World Health Organization can cascade the new method to their several groups. they need to confirm that the OKRs square measure is understood by the team members.

Fifth Step: Writing of Individual OKRs

Following the meeting of the leads/managers, the team members ought to be directed to put in writing their individual OKRs. Managers and team members ought to collaborate at this stage. At the initial arrival, the team member ought to build a comparison between individual objectives and what the manager expects. The individual's objectives must be compelled to be in line with those of the corporate. At the tip of the arrival, the immediate superior and team member ought to reach a compromise. The immediate superiors ought to permit their team members to form their own selections and goals, however at identical times, make sure that these square measures are in line with the values and goals of the corporate.

Sixth Step: activity

At the tip of the primary cycle of OKRs, it is crucial for your company to judge however the individual OKRs could have affected any of the team or high-level company OKRs. This analysis can precede a company-wide meeting wherever team heads can discuss the direction of the corporate for consecutive quarter or year.

Seventh Step: observance Individual OKRs

Managers should check on the progress of the staff and see thereto that the key results square measure being achieved. OKRs also are a good thanks to live performances of team members and promote responsibility.

With the higher than steps and best practices declared, the adoption of OKRs by your company is a simple method. If you would like steering on a way to implement this, be at liberty to achieve bent U.S.

3.1.4 Upsides of OKRs

1. Focus

Focus is that the 1st good thing about OKRs because of after you set OKRs, you are restricted within the range of them. There is over one objective, however invariably but seven. Fewer is best. each objective ought to work on one line. As for key results, you ought to have not any over 5 per objective. As a result of this inherent necessity to limit the quantity of things to specialize in, OKRs very force direct choice-making. associate degree OKRs cycle ought to begin with the question, what is most vital for ensuing 3 (or six, or twelve) months? This time-bound question sets OKRs aside from alternative goal-setting systems because of they convey to the surface the few initiatives that may create a true, immediate distinction whereas deferring fewer pressing ones. By standing firmly behind a couple of top-line OKRs, leaders offer their groups a compass and a baseline for assessment.

2. Alignment

Once top-line objectives square measure set is once the important work begins. As they shift from designing OKRs to execution, managers, and contributors alike tie their day-after-day activities to the organization's company-wide vision. The term for this linkage is alignment, and its price cannot be overdone. In keeping with the Harvard Business Review, corporations with highly aligned workers square measure over double as seemingly to be prime performers.

3. Commitment

After focus and alignment return commitments. Commitments square measure OKRs that each one has in agreement are going to be achieved, and schedules and resources are going to be adjusted to make sure that they are delivered. pursuit these commitments are finished transparently. every team member should produce terribly clear signals for everybody that they are operating towards their OKRs. whether or not this can be done through a Google Sheet or associate degree OKRs code pursuit tool like BetterWorks, sharing OKRs progress on all-hand slides each single month, or printing them out and posting all of them over the workplace walls to mention you currently apprehend what you are pains for and if you are striking it or not, it does not matter as long as there's alignment and transparency.

4. Tracking

Tracking OKRs from output to outcome is why management by objectives is therefore fashionable top-tier corporations. each OKRs ought to be ready to be half-track via the metrics established once they were written. And whereas OKRs do not need daily chase, regular check-ups—preferably weekly—are essential to forestall slippage. Having these reference points to grade your current OKRs is the long run magic of them on the individual level. area unit you not off course to satisfy this objective or not? Why or why not?

5. Stretching

Stretching is last however not least. As John Doerr says, "Larry Page of Google is that high priest of 10x-ing everything, stretching additional. He'll say, 'I'd rather have the target be to travel to Mars, and if we tend to disappoint, we'll get to the moon. this is often however you create moonshots.'" OKRs inherently push organizations to attempt additional, to eke out a touch quite what they thought was potential.

The main profit is to stay vision, goals, and objectives continuously before the staff. they will understand what is precisely expected of them. they will then additionally align their work to team, department, and company goals.

OKRs are a unit typically darling by leaders and managers seeing their individuals begin moving towards vital goals, not tiny unimportant tasks. Focus and productivity is the result of smart OKRs methods. OKRs, on a private, team and company level structure, a system that shows however everything one person will connect to the work of others.

If an Associate in Nursing worker is aware that not meeting his goals makes achievements more durable for individuals in alternative departments, they will need to undertake more durable ones. Once everybody is aware of however their work matters, it will increase overall engagement, motivation, and determination. It's a psychological effect: nobody desires to be the weakest link; therefore, they'll attempt more durable. This is often an awfully powerful tool.

3.1.5 Downsides of OKRs

1. Goal unclear

The overall relationship between OKRs is not obvious. OKRs are an area unit alleged to be clear, with everyone's OKRs visible to anyone else. That is nice, however it does not essentially flag up the connection between totally different objectives and the way one objective would possibly feed into another. OKRs area units are generally simply an easy list; however, I am abundant like a technique map approach. A visible map of objectives shows, at a fast look, the connection between objectives – and helps to confirm everyone seems to be taking possession in a similar direction.

2. Importance Ranking

OKRs designed from the bottom-up will lack company-wide alignment. whereas it is nice that OKRs are a unit created with input from everybody within the organization, this will have its disadvantages. Namely, if each team is planning their own OKRs, overall alignment with the highest organizational priorities is lost. For the bottom-up approach to be extremely prosperous, there must be absolute clarity on what the organization as an entire is attempting to realize. OKRs ought to then feed into this.

3. Framing

The "how" is too prescriptive for a few folks. Instead of going people Associate in Nursing groups to create their own best manner towards an objective, OKRs began clear results that lead, stepwise, to the target. This can be too prescriptive for a few folks, notably if they're accustomed loads of autonomy, and will probably leave them feeling reasonless or detached – albeit the target itself thus me thing |are some things are a few things} they were antecedently engaged with! That is why it is so vital to involve everybody within the method of setting OKRs. People will set too many OKRs. whereas a technique map or Balanced record focuses attention on the terribly high strategic priorities, in theory, a listing of OKRs can be if your arm. With an easy list format, there is no structure to stick to, no limit to what you will add. this will result in objective-overload, that is rarely an honest factor. It is much better to stay to high priorities solely.

3.2 Startup Corporate Management

3.2.1 Early-stage Startup Management Strategy

Key Considerations

1 Is the creation a troublesome period? If now not, how wouldn't it be sorted?

2 How rapidly can a mechanical item come to advertise?

3 What is the degree of hazard related with this startup?

4 Does the period have clear bundles and a quantifiable market?

5 Who claims the Intellectual Property (IP)?

6 What could be my job in the new business endeavor: full–time worker, warning load up part, official, or expert?

7 What are the fantasies for the business? Is it to build up the business and capacity for a securing or a likely first sale of stock (IPO)? Or on the other hand, is it to build a little, yet economical business?

8 Will capital from private venture organizations be required? Provided that this is true, will the business thusly be offered or open to the world? Private financial specialists rely upon these leave procedures to get an arrival on their ventures.

9 What is the current day charge of the business? Pre-money valuations (valuation of an organization past to a speculation) of early-degree bunches are commonly inside the $1–3 million territory.

Key Considerations Below are contraptions to remember while choosing whether or how not to start a NewCo:

The valuations depend on various variables, including:

• In what phase of advancement is the age?

• Is there confirmation of-thought lab information?

• Is there a working model?

• Are there paying clients?

Converse with limit clients. The data got by means of posing inquiries will offer significant remarks that not best will build trust in the startup's latent capacity, yet in addition will beautify the likelihood of getting speculation and, at last, the satisfaction of the endeavor.

• Who are your clients?

• What do they care about?

• Can the business endeavor's product(s) clear up their issues?

• How are they at present tending to the issues?

• How does the period clear up their issues in a totally novel manner?

• How monstrous is the market?

• How an extraordinary arrangement would they say they will pay for an answer?

Personal Branding

Companies need to differentiate themselves and reinforce their brand on the marketplace in the ever-evolving innovation environment, even if it means making their own episodic content in the Netflix model. Why waste precious business capital on producing the content? Building up your company will go a long way to building excitement and reputation through this form of branding. A solid, personal brand can be the cornerstone of success for many entrepreneurs. Personal brand of a founder shines a light on his or her startup, but business success is more than brand awareness: it is also about reputation and trust. Consumers tend to be confident about a new company's leadership before they become its customers.

In 2017, 42 percent of Americans consider brands less trustworthy than they did a few decades ago, according to McCann. Last year's follow-up report showed that 56 percent of customers around the world now claim they trust local brands more than global brands, an rise of 13 percent since 2015. In both studies survey respondents demonstrated optimism that brands would have a positive effect on the planet, but the main theme was the value of authenticity and identification. That is what a strong personal brand will bring to your business.

"When a company lacks legitimacy because it's so new to the market, a well-known, reputable founder will open doors and close deals," says Malte Kramer, founder and CEO of Luxury Presence, a real estate platform, and marketing network. For that reason alone, ensuring that your personal brand is firing on all cylinders is a critical factor in your startup growth. Of course, you'll need a great product or service, a successful marketing campaign, and so on, but the difference between public approval and apathy will be your personal brand.

And how is it that you develop a good personal brand? The first step is to discover how you view yourself today. Perform a search on Google. Tell the people on your network what your strengths they think are. Why do you see your own abilities in this alignment? Hold those differences in mind when you follow your search for legitimacy using the tactics below.

1. Raise other leaders in startups.

Showcasing other smart people's skills does build your own reputation. Although rivalry is an important part of entrepreneurship, partnerships and mutual support will make successful startups. This puts the brand in a good light by demonstrating that you value other players in startup space.

Drybar founders Alli Webb and Michael Landau, for example, host a podcast called "Raising the Bar." They interview founders around the world, helping listeners learn about entrepreneurship, business risks and work-life balance. Through improving fellow founders' skills, Webb and Landau build legitimacy for other new company owners and underline their own beliefs. A core part of their branding is contributing to the current global dialogue about how to deliver greater productivity, comfort, health, fun and innovation to the planet through great business ideas.

2. Educate your fans on social media.

By serving the social media people as a valuable educational or knowledge outlet, you build a bond of trust. That trust carries your company into their confidence. You should educate your followers in whatever sector you have the experience in, but it is better to search for places where you can really make a difference in their lives. Sharing useful perspectives on subjects such as personal finance, job, health, and entrepreneurship can be perfect ways of creating a thankful audience for that cause. Of course, if you happen to have a lot of SEO expertise and, for example, your followers are in marketing then share this information! Look at how to add value.

3. Share your know-how as a guest.

You do not need to restrict your efforts to blog posts, videos, tweets and other social media platforms of your own. You can also use guest posting to market yourself. Give your original material to online commercial publications or business blogs. This strategy is the culmination of the last two points, as it demonstrates alignment with the business community as well as positioning you as an information source.

Start the sculpture of a successful personal brand, one that will improve the atmosphere around your new company. Learn how to be community-oriented and share experiences that are of high quality. Your impact in your field will increase over time — right along with your company.

Startup Valuation

Venture capital companies and individual investors have hundreds of models for valuing a company, ranging from the simplest to the most nuanced ones that require multiple qualitative variables and statistical analysis. Some of the most popular startup valuation models include:

Venture Capital Method

A startup valuation that uses a forecast start-up terminal value and an investor's expected return (often reported as 10X, 8X, and so on) to assess pre- and post-money valuations. Formula of the Venture Capital Method is:

Pre-Money Valuation = Post Money Valuation — Invested Capital with the Post-Money Valuation being the terminal value divided between the expected return. Let us say an investor values your startup at a terminal value of $1,000,000 and he wants a 20X return on his $10,000 investment. In this case, your Post-Money valuation would be $50,000. And, according to the Venture Capital Method, the Pre-Money Valuation would be: Pre-Money = $50,000 — $10,000 = $40,000

Berkus Method

A straightforward approach that values startups based on five main aspects and gives each aspect some money

Qualitative element to be considered Value

- Sound Idea
- Prototype
- High-Quality Management Team
- Strategic Relationships
- Product Rollout or Sales Made $500,000 each.

The value will increase by $500,000 for each feature the startup possesses in full. Nevertheless, the investor may reduce the value of the item to say $400,000 or $250,000, to decide the final value, depending on the degree in which each product is created.

Cost-to-Duplicate Method

This startup valuation approach involves some intense due diligence, since its main objective is to decide how much it will cost from scratch to start the same company. The cost-to-duplicate strategy is a very practical solution, which brings into question a startup's competitive advantages. If the startup duplicate cost is very small, then its value will be next to zero. In addition, if replicating the business model is expensive and complicated, then the startup's value will grow as the complexity increases.

Discounted Cash Flow Model (DCF)

A mathematical technique used by financial analysts to calculate a company's worth by predicting its future cash flows, discounting them to achieve their present value at a certain discount rate. The sum of those discounted cash flows will be the startup's corresponding value. Given that this approach relies heavily on assumptions that allow some historical data to be implemented, startups are not the most used.

Comparable Method

This method makes use of referential knowledge and numbers from other related transactions to estimate a startup's value. Let us say a similar app to the one built by the company has recently been valued at $5,000,000 by a venture capital firm and the app has 100,000 active subscribers / users. This means the company was priced at $50 per customer. An investor could use this benchmark to evaluate a startup with a similar application.

Valuation by Multiples Method

The Valuation by Multiples approach is one of the most used for startups which have already made some money and display profits. Let us say the startup produces $250,000 in EBITDA. Depending on the industry you are in, your market, your management team and some other qualitative factors, an investor might tell you he's valuing your company at say 5X, 10X or 15X your current EBITDA. It is an effective and easy valuation technique utilized by investors to measure the value of a more mature company rapidly. Other popular valuation models include the Scorecard Model, the Book Value Method, and the First Chicago Method.

Picking the right method for your stage

Startups have various phases they are going through from the moment the concept comes up to the point the business evolved into a fully operating organization. Both startup valuation models could be more appropriate for some stages than others, so you need to decide the stage you are in before selecting the best approach for you. Here is a rundown of the four rising startup stages:

Seed Stage

Seed Stage Companies Valuation The earliest of the phases for any company. There is typically no revenue at this point, no money, no team, no company. Only a thought, and the desire to proceed. The Berkus method, or even the Venture Capital Valuation Method, may be the most recommended for you at this stage.

Round A Stage

Now your startup is a good idea going forward. You possibly already have a trial product or a prototype or have already made some sales. You may rely on more quantitative approaches at this point such as the Cost-to-Duplicate method, or indeed, the Venture Capital approach again. Bear in mind that what you have done so far is not always a clear sign of what is to come, so make sure that you don't undervalue your company by using current statistics as though they were your startup's greatest success measure.

Round B Stage

What you need at this point is capital to expand and to continue to grow. The business model has already been proved (to some extent) by now, and the capacity for generating revenue can be measured. Now you can integrate some startup valuation models that rely heavily on financial data for a number to come up with. These approaches include the Standard DCF and Multiple Standard Valuation.

There are some other advanced stages that are similar to an IPO, but given that getting to those stages requires some serious development and guidance, at that point you do not need this guide, investment bankers and advisors will probably do a great job in valuing the company at those stages.

How much can I expect to raise on each stage?

This depends on many factors including your network, the ability to build a convincing pitch deck and the idea / business model's soundness. You may expect to lift a quantity similar to the following ranges however:

· Seed Stage: From $250,000 to $2,000,000

· Round A Stage: From $2,000,000 to $15,000,000

· Round B Stage: From $15,000,000 to $50,000,000

Creating a Pitching Deck

1. The Problem

It is where you can illustrate why your product or service works as the key to your pitch by explaining the crucial problem it addresses. This problem plays a major role in attracting investors' attention. If you accurately explain the question, you can communicate with your audience by touching upon an issue they have faced in their own lives.

· Clearly defines the dissatisfaction of the target group-using figures and observations. Why did you understand the frustration? Share your stories and be a storyteller.

· Focus on the "normal" aspect – You were motivated to come up with a solution, as you saw the issue impacting others too. How did you conclude that others are trying to address this problem you've been observing? Is this question only applicable to a single party, or is it a wider issue?

2. The Solution

There is a solution to where there is a problem. You want to highlight your product or service features in this section and demonstrate how it works. This requires knowing your market and how where the value of your product fits into this market. Where are you going to fix the question you found out? Is there a solution to the question already? And is the question that the solutions already in place are not good enough?

Using the SWOT analysis for your company as well as your rivals to get a better view of the market and where the solution fits in. Diving into your rivals will help you understand why potential solutions fail and how those failures can be avoided. You will illustrate these advantages for investors once you recognize the essential factors that describe your specific value proposition. Remember that your idea may sound revolutionary, but the most important factor is viability. Greater viability would result in greater investor interest.

3. Value Proposition

Now that you have stressed the problem and the approach, it is time to show your specific value proposition. You should have a persuasive letter describing why you deserve to invest in it. Keep in mind using a common phrase, which means it should be very straightforward and comprehensible.

Fast tip: To help you identify your specific value proposition, using the Product Positioning Canvas.

4. The Competition

You will need to look at other businesses in the sector here. How do they deal with the same question, what is their solution and where does this scenario suit your product / service? Using images is the best way to illustrate the market scheme in investor minds and explain it with clarity. You will use the Competitive Analysis guide to bring together your data and study before incorporating them in your pitch list.

5. Competitive Advantages

Indicate the factors that give the firm a competitive advantage after the rivalry is displayed. What would set you apart and how did you explain those advantages?

· What features are unique to your product / service?

· What is the pace of take-up?

· You're the first product on the market to solve the problem?

· How do you fix an old problem in a whole new, creative way?

· What does your plan look like for pricing? Does it fit with the budget of your target market to spend on solving the problem?

· Why is it that you use technology?

· Do you find possible alliances, now or in the future?

Each of these elements should show the quality of your work in the business. If you know these factors, you will be more convincing and be able to answer questions from potential investors without any hesitation.

6. Market Validation & Traction

Using key metrics like monthly active users, ARPU (average revenue per user), profit margins, etc. ... Showing these key metrics will prove you are practical in your strategy and willing to further grow your company.

You may want to replace this slide with a Progress or Timeline slide to show what you have done and what's to come if you're pre-launching or don't have a minimum viable product yet. You can also use your business model focused on financial predictions. But bear in mind that because of a wrong business model, a lot of startups fail. You would need a solid business plan that guarantees financial sustainability to be able to collect funding.

7. The Team

Have you ever heard the expression that "Investors are not investing in ideas, they are investing in you? "In fact, when you think about your idea, it can be all about business relationships and how passionate you seem. It is not a single-person game. You will need a good team of people who are united in this and willing to put their energies into shared objectives for the future of the business.

8. The Ask

Here is the part you've been really looking forward to! Time to score the investment which will help your idea expand. What are the objectives that you mentioned on this deck that you need to achieve in your venture? What will fix your business' financial problems, and launch operations?

· Please state explicitly why this sum is important.

    · Explain how long the number will support your future actions.

    · Explain where the Investment Graphs will be used. Provide a roadmap for the organization to display the next big moves.

Raising Capital

How much money should I raise?

You should already have some sort of a business plan by this point. At least the canvas for a business plan. And please consult. Your strategy will contain realistic projections for the next three to five years about revenue and expenses. They are going to be wrong. That is perfect. When you take the business plan exercise seriously, it shouldn't be so wrong that you can't come up with a low-resolution burn idea that is, the amount of money you're going to lose, net, on a monthly basis before your company is self-supporting. The consensus converges around raising enough for 12 to 24 months of service. If you think you're going to have a positive cash flow in that period and there might be a lot of new companies, but high-growth startups are rarely you can only collect enough to make a positive cash flow. In other words, if you believe that all you need in nine months is $200,000 of seed capital to achieve profitability, then collect $200,000 of seed capital. (Raising $300,000 of seed capital, because nothing really goes according to plan.)

If at tolerable terms, you cannot find 12 to 24 months of money, then raise as much as you can just if you can raise enough to execute on any iteration of your strategy. Ideally, you'd collect as much as you can to make it last 12 to 24 months and change your strategy. Cut the fire. Bootstrapping. De-risk the business. And go higher. Just because you want to capital for 18 to 24 months does not mean it's going to be there.

Here are two wise but seemingly conflicting pieces of advice: negotiate for less than you would like; collect more than you need. You can also increase the size of a round without losing face. This does not work the same way. And because nothing ever goes according to plan after the boost, if you have the chance to raise more money without crushing dilution or onerous terms, do so.

A Strategic approach to finding the right investors

1. Build a list of potential investors, with whom you would like to collaborate.

2. List the investors by chance and probability of investing (A, B, C, Passed).

3. Qualify the investors to ensure that they are a match.

4. In the case of VC, know all about the business, but also know the individual partners, and know which partner conducts deals such as yours.

5. Look at the interactions of the partner to find a good intro. Never talk to someone without an intro.

6. Hold on. Follow in. Remember this is a promotional campaign.

The right investor shares your Vision, Objectives, and Moral Outlook

It is a risk to take money for the sake of money from an individual whom you don't agree with on vision, priorities and morality. I just saw it happen. I have seen this ruin perfectly successful companies and generate needless tension that consumes life. Here is the actuality. You are better off paying nothing than leaving poor investors to raise. Entrepreneurship is difficult when everyone rows in the same direction. Failure to take a nine-to-five job for a while and try again later than offering an employer the next 10 years of your life which would make them miserable is vastly better.

10 Funding Options to Raise Startup Capital for Your Business

1. Bootstrapping your business

To order to be successful with your company venture for the first time, you have to make sure that you have some saved up funds that you can quickly access or get from friends or family. The method of using personal saved money or friends and family support is known as bootstrapping or self-funding. Having your family and friends funding is a great way to kick off your company. Friends and family are often much more forgiving when it comes to paying the loan debt than other outside outlets. And if you are approaching the right friend or family member who supports your project, you will get some, if not all of the funds you need to start up.

Pros - Funds can be quickly obtained, few to no regulatory barriers and Flexible interest rates
Cons - Bootstrapping doesn't work for big business; it works exclusively for small companies

2. Crowdfunding

Digital technology has made sharing of their issues on an open media network simpler for people. Crowdfunding sites are primarily designed for individuals to sell their business ideas or problems to an investor group or people willing to support their ideas or cause. How it works essentially is that a person makes a pitch on the crowdfunding site, shares his business model, and it's growth potential. When the crowd-funders on the site embrace his idea, they must make a pledge to publicly support his business plan and donate money, respectively.

Pros

- Crowdfunding effectively generates public support for your business, thereby running some free ads and at the same time providing financing for your business

- Crowdfunding removes the intricacies involved in putting your company in the hands of an investor or broker and allows simpletons on the crowdfunding site

- Has the ability to draw venture capital investments

Cons

- The intense rivalry inherent in crowdfunding platforms can be daunting if somebody or people pitch the same business concept as yours.

- If the pitch of your company is not as good as your competition, your business idea is likely to be ignored or rejected

3. Seek Angel Investment for Your Startup

Curious maybe if there is something like Angel investment or Angel investor? Yeah, it is. Angel investors are essentially individuals with vast amounts of money and able to invest in business ventures off the edge.

Often Angel investors come together in groups to scrutinize business ideas to pick the right candidate to invest in.

Pros - Angel investors give mentorship alongside start-up money and can take chances on company ventures because they expect a strong investment return from start-ups

Cons - Capital investors provide the company ventures with lower investment costs relative to venture capitalists.

4. Seek Venture Capital for your Startup

Venture capital funds are operated by experts who check out businesses with promising potential with a sharp eye. A modus operandi means investing in a solid rather than an equity firm. When the company they are working with has an IPO or acquisition, they then pull out and try other investments.

Pros

-Venture Capital tracks effectively the success of a business in which it has invested, thereby ensuring the viability and development of its investment.

- Businesses with exponential growth levels such as Uber, Flipkart, have a pre-designed exit plan that allows them to reap massive profits that they can, in turn, reinvest in their company's growth-mentoring and experience venture capital can also effectively support a business or company.

Cons - Venture capitalists must stay loyal to your company until its money and income have been recovered. This typically takes place over a slim three to five-year period-you appear to lose ownership of your company when you give up a significant part of it to venture capital investors-venture capital investors are looking for bigger businesses with defined viability levels and recognizable employees. It could prove to be a challenge for you as company startups typically do not have this degree of stability.

5. Seeking Funds from Business Incubators and Accelerators

Companies just starting out will access funds supported by incubators and accelerators. The services they are selling can be found around the globes in major cities. Slight variations distinguish the terms "incubators and accelerator for business." Core Difference Business incubators effectively grow companies while fast-track businesses accelerate.

Pros - Company owners seek mentorship from their founder’s links with other startups can be built

Cons - Over its lifetime of 4-8 months, if there is no commitment, the startup could spiral downwards

6. Source Funds by winning contests

Another great way to raise funds is by competing or contesting that allows entrepreneurs to demonstrate or sell their business module to other rivals competing for the same business funding. As a contestant, if you are trying to win over investor trust, you are expected to present a thorough and detailed business plan.

Pros - Press coverage will be allocated to your company during competing in these competitions, thereby giving you the much-needed exposure for starting up your business.

Cons - Losing competitions or tournaments will demoralize the fainthearted, causing them to abandon their business startup plans.

7. Raise Money through Bank Loan

Banking institutions offer financial insurance on loans to individuals with a clear business strategy to handle them. The business plan must be well designed to express the modus operandi, expected income and projected maturity date. Banks' financial arrangement is in two forms, they are working capital loans and investment. Working Capital Loan This loan is expected to go through one full period of producing revenue. Assets and debtors typically have a default leverage. Funding This process includes presenting the business plan and succinct valuation information along with the project report that approved the loan.

Pros - Entrepreneurs can access big if resources can easily monitor the cycle of producing income

Cons - High risk of collateral loss because loan grants are a significant requirement

8. Acquire Loans from Microfinance Providers or NBFCs

Microfinance was set up to offer small-scale enterprises access to capital who lack exposure to traditional banking capital or lending. Individuals with low credit scores perceive microfinance institutions as a respite if traditional banks are out of favor.

Non-Banking Financial Corporations (NBFCs) make loans available to individuals seeking loans without automatically enforcing any regulation such as traditional banks and credit repair services.

9. Government Programs that Offer Startup Capital

Government schemes providing startup capital are an ideal way to get the company funded. You are expected to apply a proposal, which the grant committee may approve. Once your proposal is scrutinized and approved, you will be given the funds to start your company.

Pros - Government funding is typically large, and you have surplus resources to finance your startup

Cons - Because of government bureaucracy, the process of review, approval and subsequent release of funds will take a long time

10. Other Ways you can Raise Money for your Startup

Stock Pre-Sale: An innovative way to collect funds for your company is by pre-sale of the goods before formally releasing the products. This increases customer trust in your brand and enables you to size up your product's demand before its official launch. Companies such as Apple and Samsung follow this practice, which enables customers to make pre-purchases before their goods are officially released.

Selling properties: removing properties of high financial value in your hands will effectively act as an immediate source of funding for your start-up.

Credit Cards: Corporate credit cards are an immediate source of financing. New companies that are incurring heavy spending can use credit cards if they meet the minimum payment criteria.

Business Negotiation

Negotiation on business is a world of inconsistencies. You must be steady but versatile. Open and share, but still cagous. There is a great deal to wrap your head around. Perhaps the most important thing may be your attitude. Look for a mutually beneficial result, and you will feel more confident with the entire exercise. Follow these five tips to get the next negotiation ready.

1. Do your homework

Always do your homework before beginning the business negotiations. You will come as far as you can to the table thinking about the business you are working with and the industry, they are in.

- Know the key words and definitions they are likely to use so that terminology does not confuse or scare you. Yet if anything comes up that you do not understand, then asking for clarification is okay.
- Inform yourself about their goods or services, their markets, and their rivals. It will provide you with a sense of their strengths and weaknesses and help you foresee what can be negotiated. Social networking is such a fantastic resource for research of this kind.
- Comprehend your point. Understanding what you bring to the table is critical, and why they would choose to do business with you. It is not just income that is the biggest factor. You can be easier to deal with as you are more sensitive or nearby. Should not be afraid to encourage the issues that divide you from yourself.

2. Do not be Anchor

Being the first to claim a number can be a good way to take control of a negotiated market. The first statistic is also a point of reference for the remainder of the discussion. With a severe number, some negotiators will open-either very high or very low. They are hoping it anchors the other side. You have been grounded if you realize that you must shift someone a long way from their original position – and that makes you feel awkward. When you buy your first car it happens. It may be a confrontational tactic and might not suit your personal style, but when someone wants to bind you – even if you don't want to do it – you should be mindful of this. When this happens, do not be afraid to say you are a long way apart. This will give the message you will not get steamrolled.

3. Know where you can compromise

Being an owner of small business, you may need the contract more than your negotiating partner. For that, be rational. Do not let this get your ego in the way. To make it worthwhile, determine what you need from the contract and be prepared to compromise on anything else. This is something that you can do strategically. Identify and convey incentives for you to give way on your least respected terms when you do. Do not whine about it – just make sure that your bargaining partner sees you pass. For their own compromises they will be more likely to reciprocate.

4. Aim for a win-win (be nice)

Negotiating is not about seeking to get an adversary dominated. This is company – you are trying to come up with a positive outcome that helps all. Think of it this way. Scientifically confirmed a win-win mindset strengthens business negotiations. As people collaborate, their brains produce oxytocin – a hormone that makes them feel comfortable and shared. At the other hand, a person losing an aggressive negotiation feels assaulted and releases cortisol from their brain. This makes them cynical and potentially resentful – thus undermining the chances of repeating business. Just note that all sides can win and the power of being polite is not underestimated.

5. Have a plan B

Even if you both walk off the deal. Consider what you will do if business talks fail and ask if you will be able to live with that result. This exercise will help you find out how hard you are negotiating. If you are not in a good spot, you need to be rational about it from the beginning. Getting a Plan B also means that if talks hit a snag, you can keep going. You are never taken aback. So, if you've got a plan B-leave it up to you. If the other party knows the options too well, they will know how hard they can pressure you.

Common Hard-Bargaining Tactics & Negotiation Skills

To prevent your negotiation from disintegrating into hard-bargaining tactics, you first need to make a commitment not to engage in these tactics yourself. Remember that there are typically better ways of meeting your goals, such as building trust, asking lots of questions, and exploring differences. The better prepared we are for hard-bargaining strategies in negotiation, the better able we will be to defuse them.

Extreme demands followed up by small, slow concessions. Perhaps the most common of all hard-bargaining tactics, this one should stop dealers from making too fast concessions. This can, however, discourage parties from making an agreement, and drag business talks out unnecessarily. Have a good idea of your own priorities, best alternative to a negotiated agreement (BATNA), and the bottom line – and do not be fooled by an aggressive rival to fend off this strategy.

Commitment tactics. The adversary can say that his hands are tied or that he can bargain with you only with minimal discretion. Do what you can to find out if those methods of dedication are real. You may find you need to negotiate with someone with more authority to do business with you.

Take-it-or-leave-it negotiation strategy. Offers are never to be nonnegotiable. To defuse this difficult-bargaining strategy, seek to disregard it and focus solely on the substance of the deal, then make a counteroffer that satisfies the needs of all parties.

Inviting unreciprocated offers. You can find that, when you make a bid, your counterpart asks you to make a concession before making a counteroffer itself. Through raising your demands, do not bid against yourself; rather, show that you are waiting for a counteroffer.

Trying to make you flinch. Sometimes you can find your adversary continues to make higher and higher demands, waiting for you to hit your breakpoint and surrender. Name the hard-bargaining strategy and make it clear that you are just going to engage in a mutual bid exchange.

Personal insults and feather ruffling. Personal attacks will render you vulnerable and feed on your insecurities. Take a break if you feel flustered, and let the other party know you do not tolerate insults or other cheap ploys.

Bluffing, puffing, and lying. Exaggerating and misrepresenting evidence will ward off you. Be suspicious of statements that sound too good to be true, and carefully examine them.

Threats and warnings. Want to learn how to treat threats? The first move is to understand threats and oblique reminders as the strategies that they are hard bargaining. Ignoring a threat and identifying a threat can be two successful defusing techniques.

Belittling your alternatives. By belittling your BATNA, the other party may be trying to make you cave in. Do not let her mess up your determination.

Good cop, bad cop. When facing off with a team of two negotiators, you can find that one person is fair and the other hard. Realize that they work together and are not swept up in these hard-negotiating methods.

5 Win-Win Negotiation Strategies

Business negotiators realize the value of win-win negotiations: the chances of a long-lasting and productive business relationship are far better when both parties are happy with their compromise. Yet practical approaches to establish a win-win negotiating deal still seem elusive. The following five, from experts at Harvard Law School's Negotiating Program, will help set up you and your counterpart for a genuinely win-win contract.

1. Win-win negotiation strategy #1: Make multiple offers simultaneously.

You will know very little when you put just one bid on the table at a time if the other party turns it down. In comparison, think about what happens when you pose several offers simultaneously, each of which is equally important to you, advises Professor Max H. Bazerman of the Harvard Business School. When the other side does not consider all the proposals, ask her which one she likes best. Her preference for a specific offer will provide you with a clear hint as to where you could find value-creating, win-win trades and mutual benefit. In addition to recognizing possible win-win moves, you demonstrate your welcoming and versatile disposition as well as your ability to consider the desires and needs of the other party while you are making several offers simultaneously. So, the next time you're about to make a bid, Bazerman suggests, consider making three that you, instead, trust equally.

2.Win-win negotiation strategy #2: Include a matching right.

According to Harvard Business School and Harvard Law School professor Guhan Subramanian, in negotiations, having a reciprocal right in your contract a promise that one side will suit any offer the other side later receives can be a classic win-win move. Imagine you are a property owner negotiating with a prospective tenant. In the future, you want to retain the right to sell the apartment to someone else because the prospective occupant needs a promise to rent the apartment for as long as she wishes. Offering a reciprocal right to the tenant the ability to match any valid third-party offer would allow you to maintain your own flexibility while allowing the tenant the opportunity to avoid interrupting a transfer. Matching rights in this way will increase the chances of a win-win arrangement.

3.Win-win negotiation strategy #3: Try a contingent agreement.

Parties often hit impasse in negotiation because they have conflicting expectations about the probability of future events. For example, you may be persuaded that your company will produce a project on schedule and under budget, but the customer may find your plan unrealistic. In these cases, a contingent agreement — negotiated "if, then" helps to minimize risk of potential uncertainty — offers a way for parties to agree to disagree when going forward, writes professor Lawrence Susskind of the Massachusetts Institute of Technology in his book Good for You, Better for Me: Discovering the Trade Zone and Winning at Win-Win Negotiation (PublicAffairs, 2014). Contingent obligations also provide opportunities for enforcement or consequences for failure to comply, Susskind explains. You may recommend charging defined fines for turning your project up late or agree to lower your rates substantially, for example, if you go over budget. To add a contingent arrangement to your contract, start by making both parties write their own scenarios about how they plan to unfold in the future. Then discuss standards and criteria that any scenario appears acceptable. Finally, include both the situations and the consequences and incentives agreed in your contract. A contingent arrangement will dramatically improve the chances of satisfying yourself with whatever solutions are in place — and help create a win-win contract.

4.Win-win negotiation strategy #4: Negotiate damages upfront.

Since contingent arrangements can not foresee all potential occurrences, another way to promote a win-win arrangement is to include in your contract provisions on liquidated damages that stipulate how much will be paid if the contract is broken, according to Subramanian. Know that if one party sues the other side down the line for breach of contract, the complainant (if she wins) will seek monetary damages, rather than the actual goods or services that have been lost. For example, agreeing up front precisely how much is to be paid for each late or delayed delivery will streamline any potential dispute resolution mechanisms or litigation that occur. Additionally, damage mitigation brings a new problem on the table — and thereby increases the scope for value development. In this way, bringing new issues to the mix increases the likelihood of win-win negotiations.

5.Win-win negotiation strategy #5: Search for post-settlement settlements.

Consider only having come to an understanding. You are pretty pleased with the offer but think you could have eked out more interest from it. According to traditional wisdom, you should stop talking to your counterpart about the arrangement, and move on, so as not to break the deal. In comparison, Bazerman tells the other person to ask whether he will be willing to take another look at the agreement and see whether it can be changed. Explain to your counterpart that if it does not change any of your results you will both be able to refuse a revised contract. This form of post-settlement settlement can lead to a division between you of new sources of value. If you did not have one before, it can also help produce a win-win deal. Your success in hammering out your initial agreement might have provided the trust that is required to explore the possibility of an even stronger contract.

3.2.2 Startup Organization Management Strategy

Lean canvas

Lean Canvas is a tool to help you quickly build a business plan that fits startups, which are also common in the Hackathon at times. Executives or rivals can see the market summary in a short period of time. It is to ensure that the company goods and services that are generated (Product and Service) meet customer needs. Including strengths Sales channel Earnings and income source, etc., can be used as a small whiteboard.

- Product: Problem, Solution, Key Metrics and Cost Structure

- Market: Customer Segments, Channels, Unfair Advantage and Revenue Stream.

With a Unique Value Proposition as a connection point on both sides.

For writing a Lean Canvas business plan, we must first understand all as follows:

1. Customer Segments

The first factor of Lean Canvas is identifying the target customers. That is, identifying all potential consumer groups of the organization. We will give priority to those who are likely to switch to use first, which is the Early Adoption, such as the Customer Segment of Terebinth Cloud ERP, which is the SME group that is developing their business, with Early Adoption as the group. Who are looking for corporate management programs, accounting programs, etc.

2. Problems

It identifies all the problems that our customers have identified in Part 1 that they are trying to solve. In order to understand what the main problems of customers are causing customers to want to buy or change to use our products and services Including other options Of customers that use alternatives to solve problems (Existing Alternatives), which need to specify Problems in Lean Canvas because in order to develop products and services based on the understanding of the problems of target consumers.

3. Unique Value Proposition

Once we know the customer groups and the problems of our customer groups the next section identifies the strengths of our products and services. Which we must specify are the Features and Benefits that meet the needs of our target customers as well, such as a low-cost ERP system that covers all business processes of customers, etc.

4. Solution

This step is an analysis and brainstorming process to identify the company's methods or methods that can solve the existing problems of customers. Which must be consistent with the problems of the customers (Problems) in part 2 as well, such as a flexible ERP system that can be applied to all types of business operations

5. Channels

Is to identify ways in which we can bring products and services or communicate the value of products and services to the target customers such as through SEO marketing with the Keyword that the target customers use to find a Solution to solve their problems or Showcase at Can be issued or Direct Sales etc.

6. Revenue Stream

Identify revenue flows, including pricing mechanisms for products and services Which will identify all sources of possible revenue for the company Whether it is sales revenue, service fees, membership fees, maintenance fees, etc.

7. Cost Structure

Is the cost structure Specify the total cost of the company Both in terms of fixed costs (Fix Cost) such as office rental Staff salary And variable costs (such as operating costs, water costs, electricity bills, brochures for investment presentations in Sales Pitch etc.

8. Key Metrics

Are key factors or indicators that can help determine whether a company is successful or unsuccessful And have the opportunity to grow in the future or not, such as the number of products sold in each month The number of customers that sign-up, the number of customers that cancel the contract, etc.

9. Unfair Advantage

The advantage or advantage of the company that is more outstanding than the competitors in the market and must be able to copy hard This may include various techniques or resources that the organization has.

Benefits of Lean Canvas

1. Understand the market

From the analysis of customer segments and problems, which is the heart of Lean Canvas, it helps to understand the real needs or problems of the target customers. Can offer a solution A way to meet the new needs that match the target customers very well. Considered as a very useful marketing research

2. Understand the product

Businesses can produce products. Outstanding service There are strengths that competitors are difficult to imitate. And able to deliver unique value to target customers

3. Understand marketing methods

The business arranges tools to effectively connect with target customers. Both ways of awareness Purchase channel Shipping method Communication channels and evaluation channels

4. Understand the business overview

Lean Canvas helps to know the source of income. The cost structure which is the total expense. Knowing investments, monthly profits, can assess business stability and payback period correctly. In addition, it helps to understand key factors and indicators that make a business grow and succeed.

5. Understand yourself

Once the Lean Canvas is complete, entrepreneurs can analyze themselves perfectly for the business they want to build or not. Know the strengths that can be used to develop a business. And learn more to reduce weakness.

RARRA Metric

Typically, everyone knows AARRR. It is a tool that is used to measure the result of a product. In general, RARRA is the same model but more than a reordered list of AARRR for the modern, and highly challenging in the real app store.

-Acquisition

Is observing the number of people who visit our website. Acquisition, the more, the better, because it is considered to create opportunities for people to come to the website as much as possible.

-Activation

It is considered another important step, because if many people come to our website, it is true. But we can't activate him, it's useless. One thing that is important is that we should allow users or customers to come to the website and have a good user experience from the first time.

-Retention

If we have more customers that have applied for membership But he doesn't come back to use us repeatedly, like we can change the passerby in front of the fitness To become a client who has applied for a fitness membership for 1 month, but he rarely goes back to play The likelihood that he will join the members in the next months should be lower, etc. Therefore, we should have a way to bring the same customers back to use our products more often.

Most commonly used tools and we often see, such as Email, Line, which may be set to order to log out from the Auto at all, maybe every 3 days, 7 days or every 1 month etc.

-Referral

Meaning customers have a good experience or have a good first impression And they will invite friends to use our system more

We will see many Current systems have already set the goal of Viral growth, which, if effective, will help increase product growth.

-Revenue

Depending on how each business model is generating revenue from, for example, some systems may allow users to use it for free and collect money from certain features later. Or some systems may collect money from the first use, for example, but nevertheless you have to measure and always improve the metric for each cycle

RARRA is a re-prioritized funnel

We must focus on maintenance. Then move on to Referral, Activation, Revenue. And Acquiring should be the last step.

How to use RARRA to build a growth strategy.

1. Start with Retention

As we have said, retention is the foundation for the growth of the mobile app. And the lens you see in every part of your marketing campaign should be that.

The first step is to retain the current rate for the device as well as your primary transfer point.

Calculate your N Day retention to see how many users are coming back to your app and where your efforts should be directed. Who are the most users, and what are they doing in your app? What are their features? Which times of the day are the most active?

Using cohort analysis to identify the optimal user journey for your application and enable new users to follow that path.

2. Speed Up App Setup

You have only one shot to trigger new apps. So that makes it even more important to have a nice first experience with your app.

You were not making an app just for someone to download it — you want them to take some action. You would think a well-designed UI would mean you do not need an official onboard flow. But when you have got a super easy setup, you will need to direct new users through their first device experience. Efficient onboarding lets users spend less time finding out the app's route and getting right to the cause.

3. Create an Efficient Referral Network

By encouraging users who already like your product to recommend it to others, you can grow your user base quickly and provide the prospective users with powerful social proof. You will enable users to invite their networks and keep them active on your app by providing loyalty incentives like cash back or discounts on future purchases. Two-sided rewards can also provide an effective way to engage existing users and draw new users. Take for example Airbnb and Uber. Airbnb-Uber-Referrals These companies are creating a viral loop which turns their referral programs into a powerful customer acquisition engine by offering incentives to both current users and those they refer to. Create interest in your referral system via email reminders or use in-app messages like Uber's above to capture the attention of users and provide them with a fast way to share their specific connection link.

4. Increase Customer Loyalty Value

Submit Email notification to keep users returning to your application. To attract the customer work cycle by creating the bold title or the interested subject.

Examples of the company use RARRR Duolingo's achievement emails Identify Upsell and Cross-Sell Opportunities. Using behavioral data to submit personalized deals to users on similar goods or services, packages of goods and common or trendy products. By offering free shipping or exclusive discounts with a minimum order, build upsell opportunities.

Take Amazon's mobile app: It features prominently recommended items based on the purchasing background, scores, and browsing activity of a customer.

Growth Hacking

Growth Hacking is a type of marketing. Is a low-cost marketing By going deep into the matter of using technology to help To make the most of In order to attract early stage customer acquisition or to expand into a new customer base to grow at leaps and bounds.

Growth Hacking is a type of marketing. Is a low-cost marketing by going deep into the matter of using technology to help To make the most of In order to attract early stage customer acquisition or to expand into a new customer base to grow at leaps and bounds

Examples of growth hacking techniques that are evident in Thailand now Like various websites That has set many interesting topics today Make people interested to click to read And the sharing became enormous until the website became famous.

Funnel is like dividing the customer experience into pieces. Beginning with customers seeing us on advertising media Go to the beginning of use until the end of use and with payment

Give an example of quantitative analysis. Let us say we have 100 users entering our website in the first step. And 50 people pressed to the next page, representing 50% and only 10 people pushing to go, accounting for just 20%. From then to analyze Qualitative information (Qualitative) Now we will get in-depth information that That customers don't like Because I don't like this picture on that page Or feel which button in front When it's not clear Or can't find the button. That is the User Experience that we must go deeper and finally We make assumptions to solve those problems. And experimenting with what kind to do to get better customer feedback

Case Study Airbnb Growth

Let us look at another example of the Startup Growth Hacking of Airbnb, a website for people who have room. Can post to open to find people to rent daily Now starting to see many Thais using Airbnb booking methods instead of renting hotels when traveling. Because cheaper and really experience the owner of the room in that country. Of course, when opening new Airbnb, it is still not very well known. The usual marketing is to advertise on Facebook or in various media. For people to press in but Airbnb has a better way of

Airbnb created the Post to Craigslist feature so homeowners can post announcements from beautiful Airbnb images. Clear details can be posted on Craigslist, making Airbnb posts more prominent than those posted by others.

In addition, Airbnb sends an email to people posting Craigslist rentals on their website to invite them to announce their home details on Airbnb.com.

Most tools are Google Analytics, Mix Panel, and back-end systems for viewing consumer behavior on our platform.

In addition, we use various marketing tools to look at consumer behavior when seeing our advertisements, such as Facebook Analytics or MailChimp etc. Because we want to see consumer behavior from start to finish. And take an analysis to see gaps in the development of the user experience of users.

Human Resource Netflix methodology

Human Resource Management means the management of human resources in an establishment in relation to planning. And arrange for each person to work in a position suitable for their qualifications to achieve continuous development

Netflix is a good example of human resource management and management.
Netflix developed from a video rental store. Changed to the website that offers movie viewing services via the website. Netflix changed the management of human resource management from the old way. Focusing on freedom, creativity, and personal responsibility, using 7 principles.

1.Values are What we value

Netflix's employees have the courage to make decisions when the situation arises. Being a listener rather than a retaliator Endures the pressure and can quickly summarize problems. Is a person who learns quickly, can perform tasks in a specific job, and creates motivation for others to drive the organization and do everything honestly. There is sharing of others, such as sharing knowledge and new ideas.

2.High performance

For Netflix, hiring a qualified employee means hiring an employee who pays attention to the company first, and as a result turns out to be the most effective employee.

3.Freedom and Responsibility

Ideal people for Netflix have self-awareness, self-reliance, discipline, continuous improvement, and leadership. Netflix allows them to grow with quality. Companies do not suppress freedom when business grows often.

4.Context, not Control

Focus on efficiency and non-formalities, be informal and deal with increased complexity through self-discipline and self-assessment. Focus on the necessary rules such as ethical rules and laws and regulations that prevent major disasters.

Netflix has only one main policy:

"Act in the best interests of the company"

Management will follow the ideology and objectives of the company. They define clear priorities and set the correct parameters. Supervision is important in specific situations: for example, if an employee is still trained if he or she is not suitable for that role or in an emergency.

5.Highly aligned, loosely coupled

In Netflix meetings between different departments are kept to a minimum and are almost always flexible. There is an agreement and strategy sharing between employees without approval. Big, fast, and flexible are the goals, made possible by people who are highly effective in the right context.

6.Pay top of market

The best employee compensation will be reviewed every year by answering the above questions. In this way, compensation will vary between roles and can increase quickly or remain stable in the long run - and well-performing employees are often at the top of the market. Not everyone on Netflix will grow and stay in the company forever.

Getting promoted is important.

7.Promotion and development

Netflix inspires great people to improve, giving them the opportunity to develop in the company of great colleagues, as well as offering great challenges. On the other hand, companies avoid traditional growth processes, their career planners are not organizations.

Financial Strategy

Create financial planning

Financial planning is the process of approximating the capital required and figuring out an organization's market competition. It is the process of framing financial policies in relation to procurement, investment, and administration of funds of an enterprise.

Financial Planning is the process of framing objectives, policies, procedures, programs, and budgets regarding the financial activities of a concern. This ensures effective and adequate financial and investment policies. The importance can be outlined as-

- Decent Funds must be ensured.
- Financial planning helps ensure a fair balance between the outflow and the inflow of funds to preserve stability.
- Financial Planning ensures that the suppliers of funds are easily investing in companies which exercise financial planning.
- Financial Planning helps in making growth and expansion programs which helps in long-run survival of the company.
- Financial Planning reduces uncertainties with regards to changing market trends which can be faced easily through enough funds.

- Financial Planning helps in reducing the uncertainties which can be a hindrance to growth of the company. This helps in ensuring stability and profitability in concern.

Financial for start-up business

Get back to your business plan and analyze your budget plan. Then, look at your forecast sales and expenditures every month. Do not forget to be realistic. Determine what the months or days that there could be possible lower sales are. Know how much resources you have right now that you are ready to finance some costs in the budget plan.

Determine what precisely in the budget plan you would require financing and how much you need. Normally, expect that start-up businesses will be spending much in the starting years. The high spending rate will continue until the company will breakeven.

Determine also if your business is seasonal, i.e., toy manufacturing. The cash flow of this type of business can be predictable. Consider some contingency funding because there may be unexpected problems that entail costs. Review your business plan and know what the risks are. Addled on the review of all your forecast and figures, decide how much financing you require. Thus, access to start-up financing is used to cover development costs and start-up losses. Hence, the sources of finance are your own hard-earned money, friends, family and investors.

Determine what short-term and long term that will suit your needs. Their banks are offering overdraft funding. You pay interest on the amount you overdrawn each day. There are financing facilities of lenders that provide a more significant amount of credit but higher risks and complex requirements. Check your qualifications for any start-up financing support. Thus, the qualifications and requirements depend on the institution offering the loan opportunity for starting-up businesses. In addition, prepare all the documents and make a self-assessment to build your confidence to make the loan application get the approval. It is advisable that you should not rely on your business start-up for financing. You may have saved some money where you can use it for start-up. You might also have some investments like properties you can sell to use the profit as start-up capital. The point here is that you should diversify the source of funds to kick-off your business. The government is now helping and encouraging entrepreneurs to set up a business and open accessible fund sources. However, as a business newbie or starting a new business in town, you must always remember that nothing is free. Lenders often look for something in return for their money that goes out via credit. Usually, a loan will need collateral or personal guarantee.

1. Crowdfunding

The idea is to take advantage of the influence of online networks like social media. The crowdfunding approach may include peer-to-peer loans, peer-to-business loans, reward-based lending and equity.

- Peer-to-peer loans may include private investors lending money to a private for a fixed interest rate.
- Peer-to-Business is a business loan by investors, businesses or government agencies.
- Reward-based crowdfunding is you collect funds from investors in return for your goods or services.
- Equity crowdfunding provides in return for investment in the stock or equity of your company.

Crowdfunding based on incentives is typically the most successful and quickest for start-up business. Crowdfunding strategy was not only common for providing a lower risk but also for rewarding creative and innovative business ideas.

2. Short term loans

Those are straight loans and interest rates with a pre-agreed duration. The loan period is the interest rate which is shorter and higher. The investment is comparatively expensive. To access the credit facility, there is a need for some protection or guarantee. This lending facility is the best one for you if your company has unpaid invoices. To banks, the interest of unpaid invoices may be lent up to 85-90 per cent. It will be refunded until you get the payments

3. Business grants

Policy helps start-up companies. The Local Enterprise Partnership (LEP) is one of the state grants given in EU countries. The European Commission's Competitiveness of Industry and SME (COSME) also offers funding to small and medium-sized enterprises. Competitions can also act as a great opportunity for funding sources. Virgin Enterprise's VOOM Pitch, for example, offers start-up companies the chance to sell their ideas and creativity to Sir Richard Branson and win prize money.

4. Angels

There are affluent individuals and executives of former firms who also want to be in the business sector. Also, some individuals are able to invest directly in small businesses owned by others. In their field they are experienced and full of wisdom that can contribute experience, network, technological expertise, and knowledge of management. They have the right to supervise management activities because of their rich experience. Having a seat on the board of directors will make it.

5. Venture capital

Venture capital is a basic approach for start-up funding. The capitalist typically searches for technology-driven business which has the potential to grow high. The venture capitalists typically take on an equity stake within the business. This is because they want to be a part of balancing their investment's high risk and high return. If you want to move into capitalism, make sure the investor brings appropriate business experience and expertise.

Law and Regulation

Startups should have clear knowledge of the variations in employment law between startups and SMEs such as outsourcing, NDA and NCA job contracts, Intellectual Property Law (IP), Intellectual Property Regulation Of what intellectual property should be registered and, if infringed, what should be done and business rules.

Furthermore, once the company starts to expand and the company plan is in place Entrepreneurs need to start raising funds. Either in the form of investors (VC) or crowdfunding, in order to enter into a joint venture agreement, startups need to understand the term sheet offered by investors.

The basic laws for start-ups that should be started from the start of business are divided into 2 essential sections that are

Part 1: Regulatory Sandbox

Signing partnerships with 30 organizations to develop several areas, whether traveling FinTech finance, tourism, etc. by doing the Regulatory Sandbox would give us the opportunity to try out new business models that the law is not yet comprehensive. Developing prospects for new business sectors, including regional innovation.

Part 2: Speed up the draft Start-up Business Act

In many countries, such as Italy, the Philippines, India, there are different laws for start-ups that will help promote the development of the start-up ecosystem in order to be accessible and changeable and make Thailand able to compete with other countries.

Introduction to the basic law The start-up must know the following.

1. Enterprise Law
2. Law relating to intellectual property
3. Regulation on labor
4. Legal act, treaty
5. Business-specific legislation (such as Fintech start-ups should also be mindful of the regulatory standards, financial law rules and regulations, etc.

3.3 Startup Technology Management

Technology Product Review & Design

Tech product Review Process

Identify the Total Addressable Market

The Total Addressable Market (TAM) is an indication of the future potential size of the enterprise and is something we look at in depth when investing in companies. We are also searching for bottom-up sizing rather than top-down as it offers a far more practical and observable size measure.

Once you have established the total adjustable market and thus the potential size of the company, you are on the way to building the basis for your valuation.

Find comparable companies

Do not need to be in the very same field when looking for comparable companies. What is crucial is that they have a business model similar to that of the company that you create. For example, if you are developing a software-as - a-service company, then looking at companies like Open Table, Sales Force, DropBox, Box, and others will be helpful. You will need to check for data relevant to public or private companies 'sales, valuations (or market capitalization / business value if you look at public companies).

Build a cap table

When looking to invest in a startup, the first thing we do is build a capitalization table, which shows the different funding rounds that have been raised by the business, the investment and the number of shares (with percentages) owned by each shareholder. Once the historical cap table is built, and you've reached the current shareholding, you need to insert the new funds required and provide an assumption for the valuation. This should help generate a price per share for investors.Once we have established a working model (here is a useful link for that), we would then make an assumption on the number and sizes of the future rounds required (since we invest early, there is likely to be a further 2 or 3 rounds of funding). The future rounds, if all goes well, will be done at higher valuations, but will also dilute all shareholders, including the investor. When we invest, we assume that we would at least participate on a pro-rata basis

Test scenarios to reach a fair valuation

So now we have our model, with expectations of the future size of the business and implications on future rounds to the investor's shareholding. The next step is to link the 2 together. The idea here is to pick a valuation scenario, typically the GOOD scenario, and then projection the investors shareholding of that valuation.

Tech product Design Process

Alignment with technical founders

Do you truly understand the founders' vision? Could you pitch it to a new candidate the way that they pitched it to you? As product ideas are validated with customers, the pitch is likely to change frequently— you'll need to stay in sync with the messaging. Participating in customer calls or visits, leading part of the company all-hands, and having regular check-ins with the founders can help ensure that you stay aligned on communicating the vision.

Somewhat more difficult is aligning on roles and responsibilities. If one or more of the founders are technical, you need to establish your role relative to theirs very early on—preferably before you even start. Technical founders often want someone else to handle the drudgery of management, leaving themselves free to focus on technical decision-making. This can be a delicate dance on numerous levels. First, you obviously have technical opinions that are likely as valid as a founder's, and egos may start to come into play. If a founder is the CTO and you're brought on as the VP of engineering, the most common division of labor is:

Table 2.1. Role and Scope of CTO & VPE

Role	Scope
CTO	Technical vision and architectural decision-making
VPE	People and process management; responsible for delivery

Recruiting and interviewing

Whether you’re starting from scratch or joining a startup that already has a small team, take the time to flesh out and document your recruiting strategy and interviewing process. Winging it is all too common, but it’s destructive and shortsighted. Your people are the most important aspect of your business: They enable everything else. One task often delayed is establishing a career ladder, as time to market and establishing product-market fit are often considered the most important things to tackle early on. Career ladders, on the other hand, are seen as a management artifact only needed when the organization gets larger. It’s better to look at them as a recruitment tool. Potential hires are evaluating you as much as you’re evaluating them. Demonstrating that you’ve put some thought into their future at your organization helps to demonstrate an inclusive mindset, particularly to underrepresented candidates.

Read several career ladders and borrow the ideas that resonate with your team’s emerging engineering values. However, start small! Some companies have elaborate ladders based on their size and experience, which may not match your eventual trajectory. Consider starting with these simple ladders:

Table 2.2. Engineering track & Management track

Engineering track	Management track
Engineer	Engineering manager
Senior engineer	Senior engineering manager
Staff engineer	Director of engineering
Principal engineer	

Collaborate with your team to define the expectations for each job title and the grounds for promotion to a higher position. Avoid the temptation to have too many levels, e.g., senior engineer 1–6. Often, this is driven by compensation issues such as salary bands and equity distribution. Instead, work with your leadership team to develop wide and overlapping salary bands. It’s inevitable that people will want to figure out how to move up the ladder in order to increase their compensation. This, in turn, leads to overpromotion and level-jumping. Your goal as a leader is to reinforce that promotions are and should be about mastery of current skills and the acquisition of new ones. Emphasizing this concept is best done by separating the process from compensation.

Equally important is your interview procedure. First, you need to be able to explain the process clearly and succinctly to both your interview team and the candidates. A poorly prepared interview team creates a bad experience for all participants. Each interviewer needs to know the expectations of the role, what they are expected to assess, how to provide feedback, and how the final hiring decision will be made. Second, interviewing is exhausting and time-consuming for everyone, especially candidates, who are likely interviewing at multiple places at the same time. Explaining the end-to-end process early helps them better assess if they should make the time commitment.

Team composition

Keeping teams small and cross-functional is generally considered an industry best practice. While this is a solid guideline from startup to enterprise-level, the guidance often ends there. Just how small should a team be? Which functions should be considered part of the cross-functional team? Take the time to establish these policies from the get-go.

Teams should be no smaller than three people, excluding the manager. There's no such thing as a team of one, so if you have any, you should move quickly to correct the situation. No matter how talented an individual is, there's no team dynamic with a single person, and no incentives for them to reduce the inherent risks of working in isolation. A team of two has similar issues. At three people, there's the minimum amount of structured communication and process required to form the basis of a team.

If three is the minimum size, what's the maximum? In my experience, seven to eight people is ideal and 10 is the maximum. Beyond that, it's difficult for a manager to maintain a solid sense of overall team health. A model that I find works well is to have a staff-level engineer, three senior engineers, and four engineers led by an engineering manager. Not only does this offer diversity of experience but it creates a built-in mechanism for mentoring. Staff and senior engineers should be encouraged to mentor the other engineers on the team. This, in turn, strengthens the overall team dynamic and builds up team identity.

Technology Stack & Cost

The technology stack is a set of programming languages, frameworks, and libraries composed to build a web or mobile application. It enables to create a system where different application functions work on the same infrastructure. Tech stack of any software consists of client and server sides. But there are projects that require only the client side.

The client-side or front-end is the visual part of the application that clients can see and interact with via web and mobile browser.

The server-side or back-end is responsible for software functionality and is not visible for users. Also, backend empowers the communication between server and database.

The technology stack of both sides can be built by using plain programming language, framework, CMS, or combination of all.

Cost

As a startupper, you are likely to have a strict budget that is split between development and marketing. So, here are a few things that you should know about the development costs.

Technology's price

Being a startup founder, you would not want to waste money. Thus, the most profitable thing for you to do would be to embrace open-source solutions. The beauty of open source is that the original source code is available and open to the public, meaning you can use such technologies for free.

The programming languages developers said they use most for open source projects.

Back-end technology **Front-end technology**

Table 2.3. Back-end Technology & Front-end Technology

JAVA	JavaScript
Python	HTML
Ruby	CSS
Microsoft.NET	
PHP	

A framework is a development environment, with ready-made solutions and tools, which speeds up the development process. A framework is like a semi-finished product, from which you can create a complete project. Every language has many different frameworks. There are both common ones that can be used for developing any solution, and specialized ones for narrow tasks. Frameworks are used to develop large and complex projects with unique functionality. It is much faster and cheaper than developing in plain language.

Back-end framework **Front-end framework**

Table 2.4. Back-end Framework & Front-end Framework

Angular	Spring
React	Hibernate
Vue.js	Symfony
jQuery	Play
Bootstrap	Laravel

CMS is a ready-made solution, a constructor, which enables you to assemble a project from different parts on your own. CMS is suitable for building small projects. It allows creating a simple customized product in short terms. This is a ready-made software that only requires some configuration. There are many solutions in all languages, but all popular CMS are made in PHP.

Table 2.5. CMS readymade framework

WoldPress
Joomla
Drupal
Magento
Wix

Each of the solutions is the basis for building other ones. Frameworks are made on plain languages, while CMS is made on frameworks.

Community

Make sure that the technology you are going to use for a startup has a vibrant and active community.

Overall, the community mirrors how good the technology is. If it is not good, then the community will be just as bad. The community also indicates how rich is the technology for learning resources which would be beneficial for any startup developer. Moreover, the community offers support for solving technical issues that a startup might have. Our team happens to work with one of the most active communities – the Ruby community. We can assure you, that a community is a big factor for a startup. Thanks to communities of Ruby and its RoR framework, they can be called “startup technologies”.

Scalability

You are planning on growing your startup and engaging with more users, right? Well, then choosing a programming language that is easily scalable is a must-have.What exactly does a scalable product mean? – you might ask.Well, a scalable application, whether mobile or web, should be able to process multiple requests quickly to your server. Say, you have a hundred requests per day, your product functions perfectly. But will this continue to happen as you begin to gain traction and get more requests? What if it crashes in the worst possible moment? Startup horror. In order not to face such a horror, use scalable programming languages and frameworks, like PHP, Python or Ruby.

Project size

The right startup goal should be not creating a large startup all at once, but focusing more on gradual business growth.Obviously, at first, you are going to focus on creating an MVP (Minimum Viable Product) that will help collect the necessary feedback from your target audience and figure out what features are missing. However, your tech stack should have a promising future in creating not only a basic MVP but rather the grown-up startup that your heart desires.

Project type

Whether you want to build a marketplace, a social network app or a file hosting service, your technology stack for web applications or for mobile apps will highly depend on it.If you are interested in building a marketplace, then Ruby is a suitable candidate for this job. Ruby on Rails with React are a perfect combination for an e-commerce website. There are many examples of service marketplaces built with Rails, and to name a few: Fiverr, Airbnb, TikkTalk, Shopify and Couchsurfing.If you are eager to develop a social network app or a file hosting service, then Python is your best shot. Just look at Facebook, Instagram or Dropbox.What about creating a game? Want to build another Minecraft? Then, you should choose Java.Also, you can always have a look at the tech stacks of companies that are already on the market. You can check them out at Stackshare, a platform showing the software tools that companies are using. A technology stack should function as a tool to get your startup up on its feet. Time plays here a key role. But the important thing is not to forget about the quality in chase of time and economy. If you neglect the product quality and only focus on the speed, cost or design, the result just might be another dropped project that did not see the light of day.

Project Management with Agile

Transparency criteria for custom production project management systems are much higher than those for the in-house teams. External expectations for the consumer do not extend to us, so it is easy for them to avoid calling for our services. Have you ever heard that an internal team of a corporation has been fired for one failed release? That happens to custom software development companies all too much.

Custom production has three significant peculiarities:

- The client requesting the program still needs to know how much the project will cost before you start
- Projects can not be reliably measured due to a lack of details
- The job itself will inevitably change during the whole phase.

Teams are in circumstances where they are required to assess proposals but can not do so with a high degree of accuracy. They do need to consider the fact that the variety is certainly going to change. If it weren't for the need to include a detailed assessment of the project, classic Scrum could be used. But there's no such thing as a customer who wants to hear, "We'll be working on creation for a few months, assessing pace, and then letting you know exactly how long the rest of the work will take."

Understanding the task

First, to get a clear understanding of what we must do we familiarize ourselves with the project. It's crucial for the team to understand the following at this point:

· What product does the customer want to deliver, and why?

· Who is going to use the drug, and how does it make a profit?

· How is the company built around that product going to work?

· How do the sales and marketing work?

Understanding the answers to those questions is more critical than just assessing the project correctly. To help the customer develop the first iteration of their product in such a way that it can evaluate as many product theories as possible, the team needs to understand its mission. A strong understanding of the mission also lets the team provide the right options when something goes wrong to change the scope, so that nobody inadvertently loses a function that is vital to the company.

Project planning

When we have a clear understanding of the overall task of the project, we help the customer build a first version of the product, or minimum viable product (MVP), and provide a rough estimate in terms of man-hours and resources. We negotiate with the customer on the price of the team members per hour, and we inform the customer how the job will be completed. This helps us to adjust this version deadline and budget, but we decide in advance that if anything goes wrong (which will eventually happen) we will change the scope without changing the deadlines or the budget. The evaluation should always be practical (you can't release a bike instead of a car) but this is how we get some versatility. When all the documents are signed, we establish a file and add to it all the documents we have at this point: file interview notes, use case list, MVP description notes, initial project estimate and a milestone schedule. We build features based on the assessment we initially gave, saving the original estimate as the Initial Estimate. We use simple business language in product descriptions, which focus on the market importance of a function. Then, we agree with the customer on milestones. As Releases we build them and put features in the releases. In doing so we have a record of the issues we originally decided on in the project management system.

Iteration Planning

We continue using a classic Scrum method in the planning stage of iteration. We use a calendar to schedule iterations in a release, setting out an outcome for each iteration that has business meaning and is transparent to us and to the client. For example, we enforce the production of materials and the uploading of images in the first iteration, but in the next iteration it is done to determine the location and save it on the server. The development team breaks down apps into User Stories, discusses them with the company, reviews them, prioritizes them, and uses them in a sprint. In a sprint the tasks included no longer change. However, features can alter in updates, and there may be additional user stories in a feature. The only constraint is our initial commitment to these changes: release deadline and budget. It is relatively easy to monitor, as summary data is automatically collected about the initial assessment and the time spent per release and function.

Kanban and time tracking

The team works with a classic Kanban project board at each iteration. We put tasks on the board and create ties between them, taking note of their status. The Kanban board lets us see the state of the current iteration: which tasks are stuck, which team members are overworked, and who is bored and who has done his job. This Board's main aim is to make our process clear and to signal issues. We ask the team to keep track of the time spent at the end of each day, splitting the hours into their different tasks. Thus, we see the overall amount of time spent on tasks and apps, and we can take timely action. To monitor the association between the initial evaluation of a function and the time spent on related activities, we use reports with charts:

Reports

We send out a paper with the iteration plan and measurements at the beginning of each iteration, and at the end of each iteration we do a demo of what was done and give a report.

We indicate in the report which task or issue we've been working on, what function its part of, and how much time each team member has spent on it.

We use an API for getting these reports into Google Sheets from the Target process. We issue invoices to our clients, based on these data.

Bugs

In projects glitches are inevitable. Bugs are more than just clear code bugs — they are all instances where the software does not work the way the customer or consumer wants to.

QA engineers typically find bugs and are given priority by project managers, consulting with the client when required. We spend about 20–25 percent of our time fixing errors in each iteration. This includes more than just feature level bugs; it also includes unpredictable things like testbed problems, glitches in Continuous Integration scripts and more.

When reviewing a project first, we try to compensate for the time spent correcting mistakes, but we can't foresee anything that will go wrong. Errors are always, therefore, what necessitates changing a release content.

Changing the Scope

When we know there is a chance of missing a deadline, we start a conversation with the customer about which functionality to drop or simplify to get the release on time. We typically have a fair idea at this stage about which improvements will free up considerable time and which will not. The consumer, in effect, has a clear understanding of how important the role of the product is to the company.

Changing the distance is a very difficult process both for customers and our team. Yet it is necessary, at the same time. It is important to realize that you cannot constantly change the scale or else the product is going to be a complete failure.

Managing and Constructing Develop, Test and Production Server

The main three environments are: development, stage, and production.

Development

This is the setting that is on your computer. This is where all your code updates will be done. It is where all of your responsibilities and divisions coexist with those of your colleagues. Typically, the production system is designed differently from the system in which the users function. It will be linked to some local database or dummy database, so you can write your code without messing up the actual data. Since several people work in the development environment, you can manage any branch splitting as well. In the creation world, nothing that you do changes what users see when they pull up the website. It is for you and the other web developers to see how new features are going to work, and to try to change. There is going to be a lot of preliminary research in this area. You don't want to see the application published until you make sure it at least works locally. Work through the code as carefully as you can to minimize the bugs that squeak through to the next configuration.

Stage

The stage setting is as close as it can be to the production environment. This time, instead of getting a local computer, you can have all the code on a server. It will connect to as many facilities as possible without affecting the surroundings of development. Here all the hard-core work is happening. Any migrations to the database will be checked here and any configuration changes will occur. When you need to upgrade big versions, the stage environment will help you identify and address any bugs that may arise. When you have got a customer, this is when you'd send them a sample of how things work and feel. Once they make it live, they will be able to see how things work and they will be able to give you any input you need. Think of the stage setting as the location where the last tests are carried out, and polish things up.

Production

This is the environment you are talking about each time you talk about making your project live. After all the changes and checking, the production environment is where users access the final code. This one is the most critical out of all the ecosystems. That's where businesses are making their money and you can't have any catastrophic errors here. That's why for all the research you need to go through the other two environments first. Any bugs or mistakes that exist will be noticed by a customer once you're in production and you can only hope it's something minor. For certain situations, you can be carrying out the adjustments on a timeline to tackle load problems or to make sure there are no big issues that slip through. If there is an emergency, you can release changes to the production environment without going through the stage environment even though it is not something you want to do regularly.

The Use Case

This issue is very popular and over the years we have seen it not only in cloud-based deployments and environments but also in local deployments, similar to "3 blades in the next room rack." This issue applies to any deployment in the picture with more than 1 climate, such as DEV, QA, STG, PROD etc. And, as you've probably guessed, the problem is the configuration data and its management. Wiki talks extensively about Configuration Management(CM) — CM planning and management, controls, status, etc., but as an architect and DevOps engineer I'm just concerned about the specifics and how to get things done in the quickest and most effective way. At first, the question occurs when you start thinking about how you can handle your device or service's simple configuration parameters, such as a port number, a database link string, or your Consul DNS — I mean you can't hardcode them! All right, there are ways to solve this (config files, etc.). Yet what happens if the device runs in VMs or is containerised? Meaning, you will have to re-deploy the device to adjust one configuration parameter. And, if you change one thing in the environment of your app, it will cascade into re-deploying other components. So, when you go through the project, you're adding complexity to the approach, you'd have to think about how to handle more and more configurations, anything along the lines of getting a Hadoop cluster, plus a Spark cluster through running work, plus the whole infrastructure environment to run load balancing and application discovery Web services. Now, multiply all of this by number of environments you might have (i.e. growth, prod, staging, sandbox # 1, sandbox # 2, engineering, etc.).

The most irritating part of all this, there's no longer any single version of reality — your settings start changing as you go through the program or system's life cycle, and most often you don't have a clear record of what's changed and by whom. CM's sophistication took on a whole new dimension when we delivered Analytical Projects — making it possible for Data Scientists to create, train and deploy the models without needing a bunch of engineers helping them all the time. In other words, the Analytical Framework needs to be robust and reliable, but customized to Data Scientists' needs to avoid having 5–6 digit numbers on the bill for cloud use.

To sum up, we discovered the need for configuration data:

Provide a single version of the reality.

Provide a clear record of changes and a guide to what caused the change (the audit trail, in other words).

Implement concern separation i.e. applications should be busy applying business logic and not handling configurations.

Manage various configuration data complexities like nested configs.

Cloud-agnostic service as far as possible, hence the application service distributed across numerous cloud providers.

The simplification and streamlining of delivery procedures.

All config data rates-program, device, network, deployment, schedule, etc.

Solution highlights as follows

The centralized HA configuration software helps users (clients) to access data using keys. Config modules can be deployed in the stand-along node / machine or in the Kubernetes cluster as container.
· Configuration data obtained by API, in the form of key-value pairs. For example, an application will make a REST call like Where Cassandra is server configuration, sandbox is the environment, and cassandra port is config parameter-key, to retrieve the Cassandra database port number.

Configuration data stored in JSON format and can take the form of a flat or relatively complex nesting style.

To store config info, we used Github service as a backend. We have a corresponding Git branch for each deployed environment (dev, qa etc.). Linkage between divisions and environments is not limited to 1-to-1. For an example, you can have multiple branches referencing DEV environments: one for implementations, one for Application A, one for infrastructure. The divisions usually don't merg. This approach enables us to make changes to configure data in one of the branches, and the changes are automatically propagated to applications and services running within the provided context. It also makes the monitoring of who and what improvements have been made super easy. GitHub configuration data repository can be either public or private. Also, one can use GitLab, GCP Source Control, and so on, instead of GitHub.

Config service has pluggable architecture by default — we can plug it to any backend, such as Consul, Cassandra or Git-compliant.

A key security backend such as HashiCorp Vault, Azure Key Vault and AWS KMS makes it simple to incorporate.

Deploy many apps on many clouds, still, use same configs

When you need to install multiple applications on more than one cloud platform, as I did during one of the commitments, and you also want to maintain a single repository for all of your config data needs. Multi-cloud deployment model offers continuity in how config data is handled and creates a consistent version of the reality when configurations are involved. If you deploy config service on Kubernetes in the container, run it on a VM, or run it on your laptop locally, you always connect to the same config backend (in this case git repo) which ensures consistency across the board of configurations.

Automation CI / CD

Continuous integration

The aim in modern application development is to have several developers working on different features of the same app simultaneously. However, if an organization is set up to merge all branching source code together on one day, the resulting work can be tedious, manual, and time-consuming. That's because when a developer who works in isolation makes a change to an application, there's a chance that it will conflict with other developers making different changes at the same time. This problem can be compounded further if each developer has customized their own local integrated development environment (IDE) instead of agreeing on one cloud-based IDE.

Continuous integration (CI) lets developers merge their code changes back into a common branch, or "trunk," more often — sometimes even hourly. When the changes a developer makes to an application are integrated, those changes are tested by automatically constructing the application and performing various levels of automated testing, usually unit and integration testing to ensure that the changes have not changed the software. That means checking everything from classes and functions to the various modules that make up the entire device. When automated testing finds a mismatch between new and existing code, CI makes fixing those bugs easily and even easier.

Continuous delivery

Continuous delivery automates the release of the approved code to a server following the completion of builds and device and integration testing in the CI. So, it is critical that CI is already integrated into your development pipeline in order to have an efficient continuous delivery process. Continuous delivery is aimed at providing a codebase that is always ready to deploy to a production environment.

Each stage in continuous production — from the fusion of code updates to the distribution of ready-to-produce builds — involves test automation and automation of code release. The operations team can launch a production device quickly and efficiently at the end of the process.

Continuous deployment

A mature CI / CD pipeline final stage is the continuous deployment. Continuous deployment automates the release of an update to production as an extension of continuous delivery, which automates the release of a production-ready prototype into a code repository. As there is no manual gate before output at the pipeline level, continuous deployment relies heavily on well-designed test automation.

Continuous delivery in practice ensures that a developer's update to a cloud application will go live within minutes of writing it (assuming automated testing passes). It makes the continuous collection and integration of customer reviews much simpler. Taken together, both related CI / CD activities make it less risky to deploy an application, making it easier to deliver changes to software in small bits, rather than all at once. Nonetheless, there is still a lot of initial work, because automated programming would need to be designed to meet a range of programming and release stages in the CI / CD pipeline.

The CD pipeline automates changes to several environments

Continuous delivery is the automation moving applications into deployment environments. Most development teams typically have one or more development and testing environments for testing and reviewing the application changes. To automate the steps and provide documentation, a CI / CD platform such as Jenkins, CircleCI, AWS CodeBuild, Azure DevOps, Atlassian Bamboo or Travis CI is used.

A typical CD pipeline has phases of development, testing, and deployment. Lots of these phases include more complex pipelines:

- Pulling code and executing a build from the version control.
- Implementing the necessary implementation measures that are automated to stand up or tear down the cloud infrastructure as code.
- Move code to the framework for goal computation.
- System variables are managed and optimized for the target system.
- Pressing components of the application to their providers, such as web servers, API providers, and database services.
- Executing the appropriate steps to restart services or call service endpoints required to move new code.
- If tests crash, perform continuous checks and rollback conditions.
- Providing log data and the distribution status warnings.

Jenkins provides us with various interfaces and tools to automate the entire process.

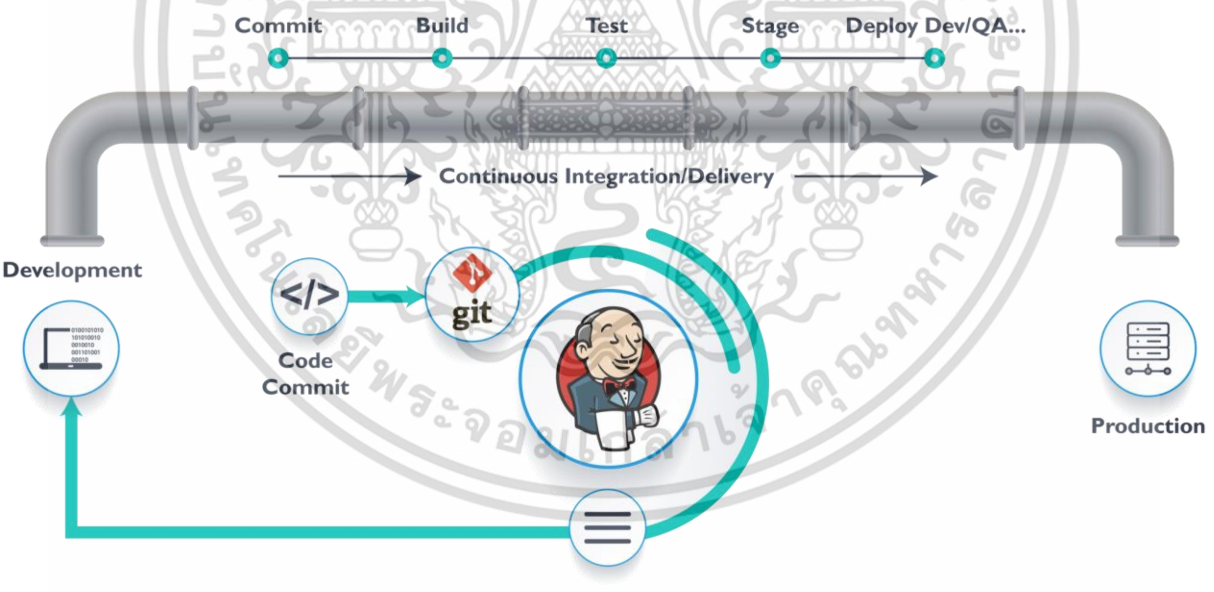


Figure 2.1. Jenkins automate process

We have a Git repository where the Code is committed by the development team. So, from there, Jenkins takes over, a front-end platform where you can describe your whole job or mission. Our role is to ensure that the integration and distribution process for that specific tool or program is continuous.

Jenkins removes the code from Git, and then Jenkins transfers it into the commit process, where each branch commits the code. Construction step is where we compile the code. If it's Java code, we're using tools like maven in Jenkins and then compiling the code to run a series of tests. Also, these test cases are supervised by Jenkins.

Instead, to deploy it using Docker it passes on to the staging server. This goes on into development after a series of unit checks or equilibrium measures.

Docker is just like a virtual world we can create a server in. Creating a whole server takes a few seconds and deploying the objects that we want to check. But here the problem arises:

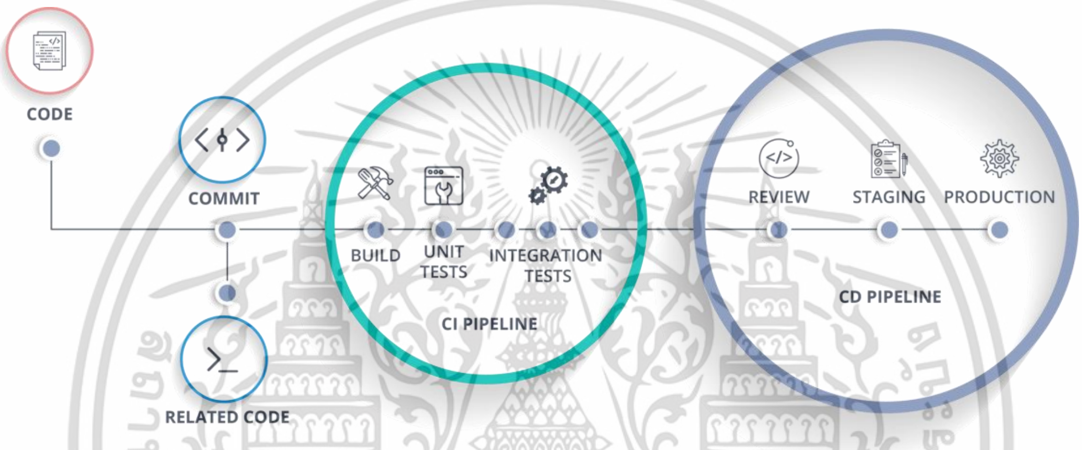


Figure 2.2. Docker pipeline process

You can run the whole cluster in a couple of seconds as we said earlier. We have an image storage registry where you create and store your image forever. For any system that can reproduce itself you can use it anytime.

Technology R&D Research

Main Hypothesis

We are describing a major theory together that we want to explore. In several months the theory will be our North Star. We describe desired learning from here to concentrate on. Such necessary lessons are used to generate interventions but also to evaluate our job.

Let's say our company is providing services to older people. We focused on a watch style system to monitor their falls and their health. A Subscription Service supports our company.

We have a strong plan to build on this dream, but we still believe that creativity can have an immense impact.

Hypothesis: "We agree that leveraging incorporation of home automation will put children and parents together, thus the mental wellbeing of both groups."

Context: The business partner is very interested in a possible new revenue stream, the Product partner is talking about the plan for next year and the viability of such an approach. Everyone is talking about separating themselves from both the rivalry and the future ROI. Everybody's excited about the project but there are still too many unknowns to apply to the roadmap this year.

Desired Learnings

1. Who are the key providers of home automation, what's needed to integrate with them?
2. What kind of interactions are we able to give our users?
3. Which is the necessary technological investment to build / ship a first experience on the largest platform? What about being integrated with other platforms?
4. How do we calculate usage, traction and the relationship between our 2 groups?
5. What are the ways to monetize a service like that if we were to ship it?

Such necessary insights come from R&D stakeholder discussions. When the hypothesis is verified and the stakeholders agree to add a similar project to the plan, they need to be able to address the obvious questions the teams may have.

The aim is not to have anything ready to ship to customers, but to have gathered enough information to make the right planning decisions for the business to have enough exposure.

The decision may be as easy as seeking an opportunity or not, or should we not. Both outputs are nice because decisions are what makes companies move forward. Proving that we shouldn't do it would also save a massive amount of time and resources and solidify the path the business is going.

Setting goals and scope

Setting goals for a team is a great way to establish priorities and to make sure that we are comfortable with why we operate a certain way and what we do. Let's start by breaking down what I hope R&D can accomplish:

Explore technological & business opportunities, Evaluate feasibility and Evaluation technologies

The big question is how do we do that, particularly in a software company that believes in small iterations and agile planning? And how do we leave space for the technical team to find appropriate solutions by themselves.

Operating timeline

Now that we have targets we have to realize where the team is going to be operating. By this I mean what part of the company's timeline the team will concentrate on. The way I see it, this is how I break down an annual timeline:

1. The current quarter: a straightforward plan for achieving well-defined priorities from the executive team. This is the VP of Engineering and Product's main priority. It is not R&D that is concerned.

2. Next quarter: execs have rough business targets in preparation which need to be translated into priorities and metrics. Discuss pragmatic strategies to get there with product vice president and engineering vice president focusing on roadmap concretization. R&D to advise if necessary, possibly investigating something that comes up and that the "execution team" can't handle (more on that later). 3. 6 months from now: research and development to identify prospects & viability to help shape future priorities and strategies. Key goal of R&D squad.

Execution and R&D teams

Let's think about the implementation team as opposed to the research and development department. The execution team is the shipping team which focuses on this section, it's the frontline team. The main goal of that team is to provide solutions to the issues that the exec team agreed we needed to address this quarter. It isn't a team made up of "janitors" (a word I learned from a boss in a previous company), nor is it a team of "contractors" heading down a list of predefined stories for them. It's a team of amazing people who understand our goods, the required sacrifices, the quality of value, and see the rubber hit the ground every day. It is a team that builds and ships continuously.

The R&D squad, in contrast, is not shipping to consumers, or at least not. This support team is there to address very hypothetical or deeply difficult issues. Their production is what feeds into the decision-making process that allows us as an organization to figure out the things we want to address next or next quarter after. They help the other departments consider our future contingency needs, personnel needs or strategic decisions like acquisitions.

This isn't a mad team of scientists working on what could one day be great. This is a project that discusses issues that may be getting closer to our North Star faster. This is a technical, product- and business- team as they represent those departments. This is a team that often offers partial answers to tough questions, so that others can use it to determine whether and when a problem is worth solving.

Scoping

For almost all levels some form of work will occur. We seldom get exact answers to questions without having to spend some time researching / discussing options. This would make space for both the implementation and the analysis teams. Let's speak about discovery vs analysis to help us with the words.

Discovery: is conscious of a well observable question in the solution. Discovery is usually fast (from day to week) and ready to be virtually instantly enforced. One way to think about it is that we know that a solution is there right, so we need to make sure we find it.

Research: as described in the dictionary: "systematic analysis and review of materials and sources with a view to establishing facts and drawing new conclusions." In other words, the compilation and establishment of facts that help us make informed decisions.

The implementation team needs time to learn, they have issues to deal with, and they have a lot of background, but also they need space to explore and find the right solution to a particular issue that we are about to address.

The R&D department is focused on long-term research projects with less tangible production and a lot of throw-out work to gather evidence and come to new conclusions.

Output

The goal is to have a big effect on the company's future, and we are doing so by shaping the roadmap. Therefore, our performance must achieve this aim. For most organizations, a Product department controls the roadmap. And we need to tell them what they need to understand and determine whether it makes sense to alter the roadmap. There are three key types of performance which tend to help:

- Product Updates — using the vocabulary of the Company to sum up the learning. Occasionally it's a little uncomfortable, because we answer a question and make a suggestion but don't have a complete development plan, it will be something that the product team will do later. However awkward it may sound to non-Product people, speaking a common language is super important. I used a basic outline that I can modify as I go, here are some sections: the one sentence concept, priorities, counter-goals, motivation, theory, use cases, key open questions, key open questions, suggestions. And finally, a detailed experiment overview, with links to the experiments, code and demos.

- Prototypes / demos — providing people with an opportunity to see what we can create together whenever possible.
- Documentation, plenty of documentation and examples — there are two explanations for this, first the product briefs do not go through all the specifics of what we have discovered and the findings of tangents. Furthermore, even if the research turns into a solution that can make it to the roadmap, you want to give as much knowledge as possible to all departments (eng, design, etc ...), so that they don't lose time and feel assured that they will operate under a certain timeframe.

3.4 Research Proposal Evolution

Research Question

1. OKRs (Objective and key results) helps IT management and corporate management startups to become successful and scalable.
2. If not which methodology helps IT management and corporate management startups to become successful and scalable.

Research Hypotheses and Justification

H0a: OKRs helps Technology Startup and Organization in Early-stage management, Corporate-stage Management and Technology Management with the the strategy.
H1a: OKRs does not help Technology Startup and Organization in Early-stage management, Corporate-stage Management and Technology Management with the strategy.

H0b: KPI helps Technology Startup and Organization in Early-stage management, Corporate-stage Management and Technology Management with the strategy.
H1b: KPI does not help Technology Startup and Organization in Early-stage management, Corporate-stage Management and Technology Management with the strategy.

H0c: Using Both KPI and OKRs helps Technology Startup and Organization in Early-stage management, Corporate-stage Management and Technology Management with the strategy.
H1c: Using Both KPI and OKRs does not help Technology Startup and Organization in Early-stage management, Corporate-stage Management and Technology Management with the strategy.

Operationalization of Variables

Common control Variables

Types of business are Tech company and Startup company.

Extraneous Variables

- Political
- Economic
- Socialogical
- Technological
- Legal
- Environmental

Independent variables and Dependent variables.

- Independent variables
  Position in Startup Organization

- Dependent variables
  Result of using OKR's in the organization.

Chapter 4

Results and Discussion

4.1 Survey, Consent and Participants

Survey

A survey and letter of consent were prepared in order to enable data collection. The aim of the survey was to define statistically patterns and trends in agile organizational activities extracted from the initial exploratory research I performed, with the additional potential goal of surfacing possible linkages between its various elements.

From Figure 6. Survey Questionnaire in Appendix A, Clustering each survey by using the position in organization; area field of startup or technology organization; current stage of startup or organization; kinds of method that organization have used to measurable key results and goal-setting.

Consent

The participation in this research project is completely voluntary. They may decline altogether and stop at any point. Their responses will be masked and will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as collective combined summaries. No one other than the researchers will know your individual answers to this questionnaire.

Also, Don't collect the personal information like name, email, company name to prevent the conflict of interest and prevent the reveal of information.

Participants

15 people from 108 Startup companies from Startup Thailand Ecosystem, National Innovation Agency (May, 2020). and 6 Technology Well Known Companies in Thailand.

4.2 Collection, Analysis, and Results

Data Collection

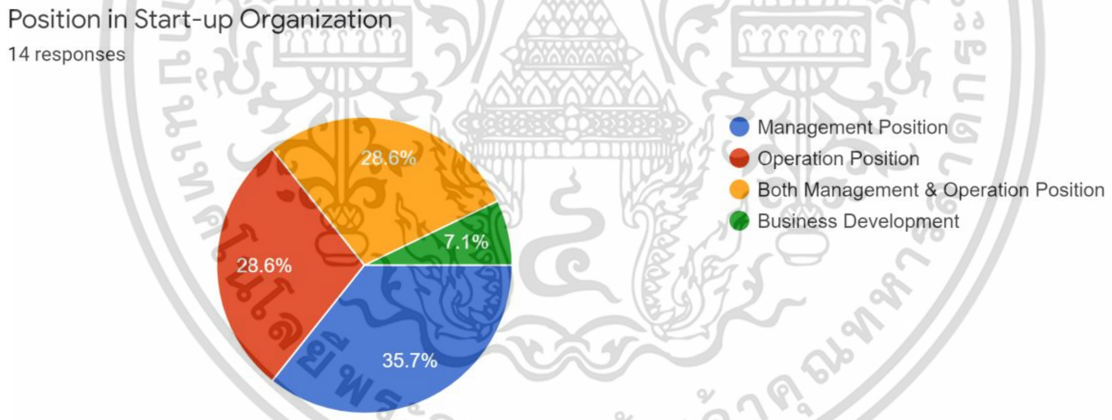
We invite people to participate in this research, studying: “Guideline of Scalable Startup Management with Objective and Key Results (OKRs)”.

The purpose of the research is to investigate the success factors of the New Startups and Startup Organizations to compare the performance of working under OKRs or KPI and Management Strategy in Organization and Technology.

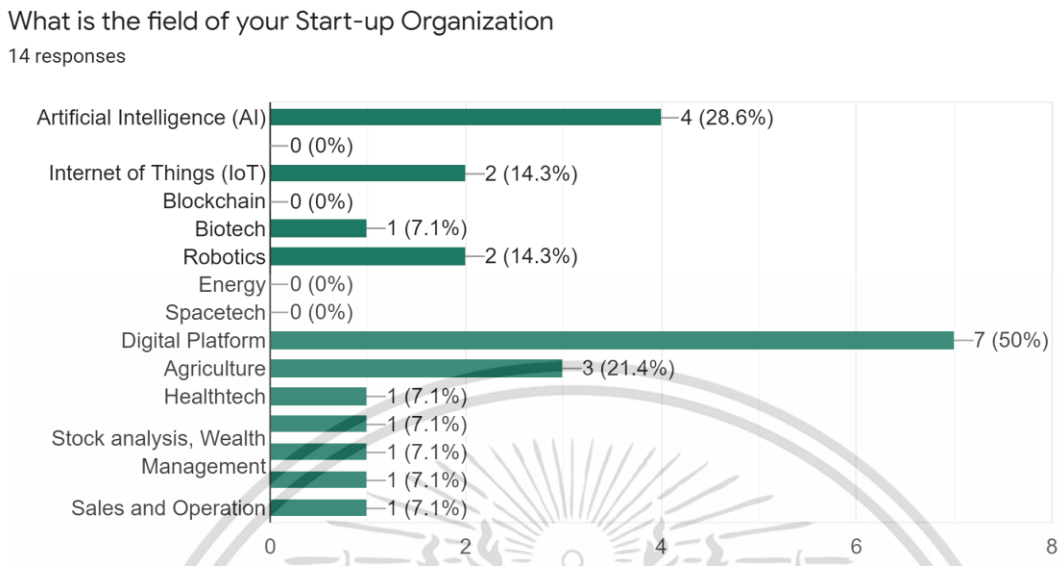
The related questionnaire has been designed to collect information on this topic.

Survey Result Accumulation

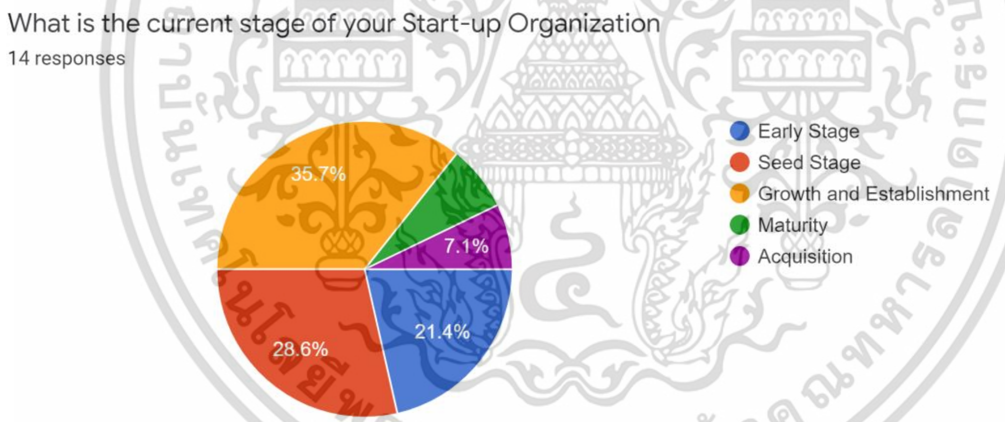
Question A



Question B

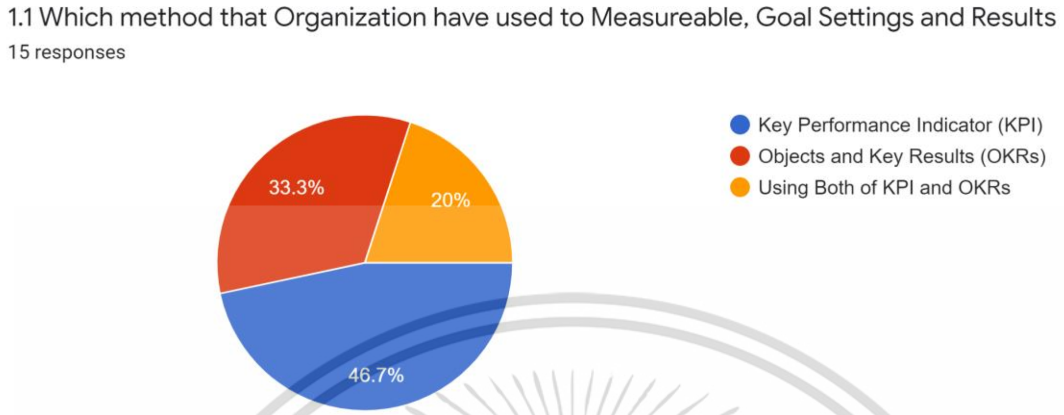


Question C

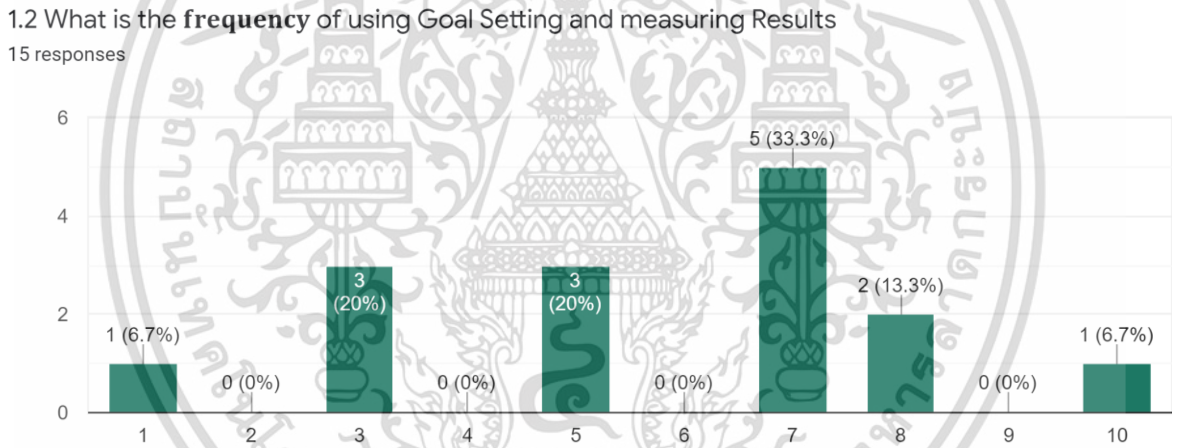


1. The following questions are about the Objective and Key Results (OKRs)

Question 1.1



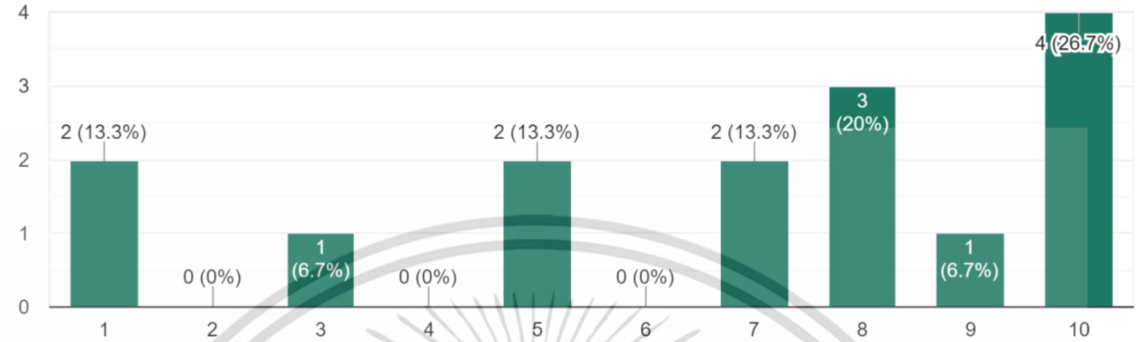
Question 1.2



Question 1.3

1.3 In your experience, Position in Organization have affected on expressing opinion or solution in ***Company*'s** Goal Settings or not

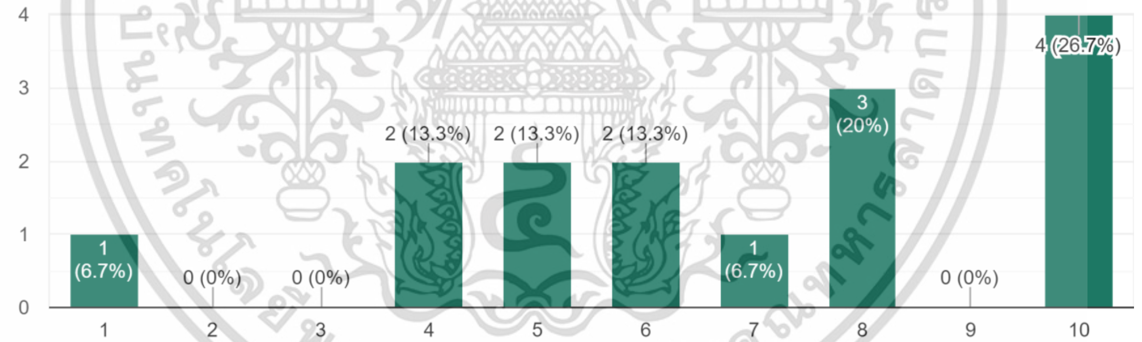
15 responses



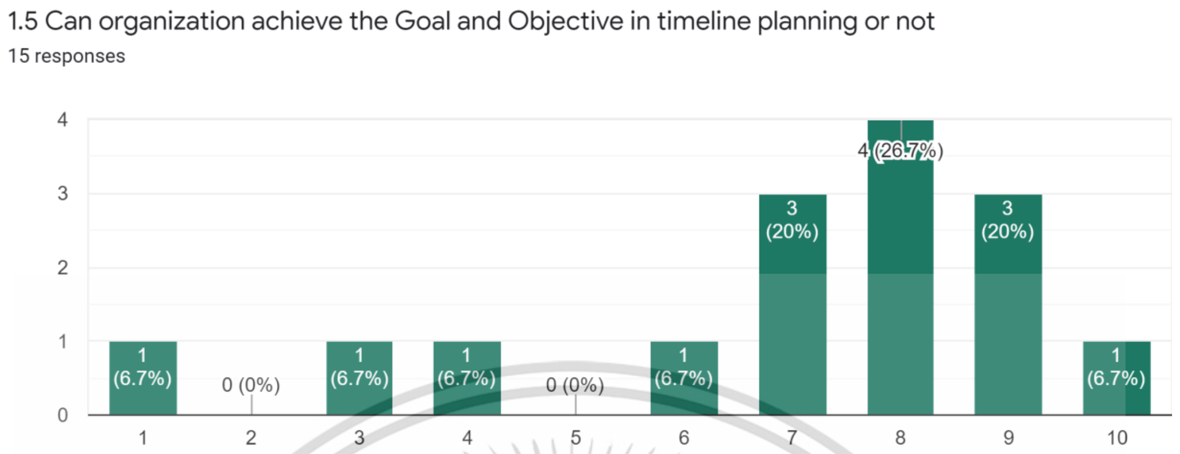
Question 1.4

1.4 In your experience, Position in Organization have affected on expressing opinion or solution in ***Squad or Team*'s** Goal Settings or not

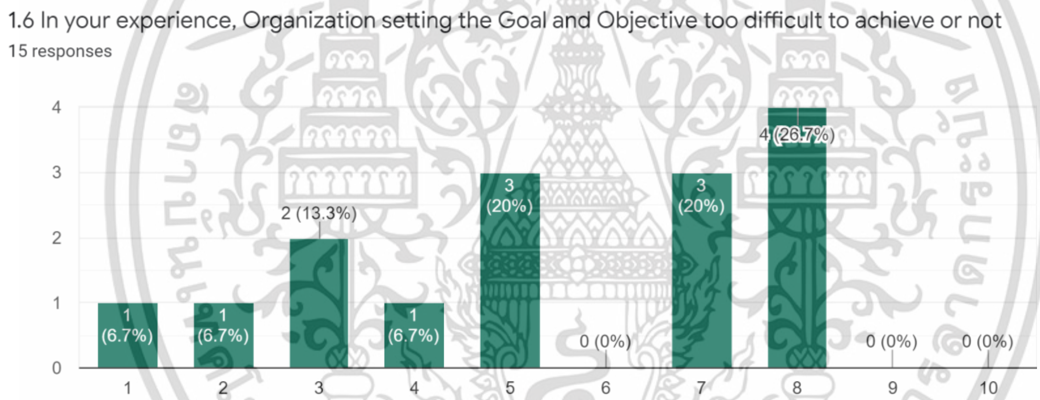
15 responses



Question 1.5



Question 1.6

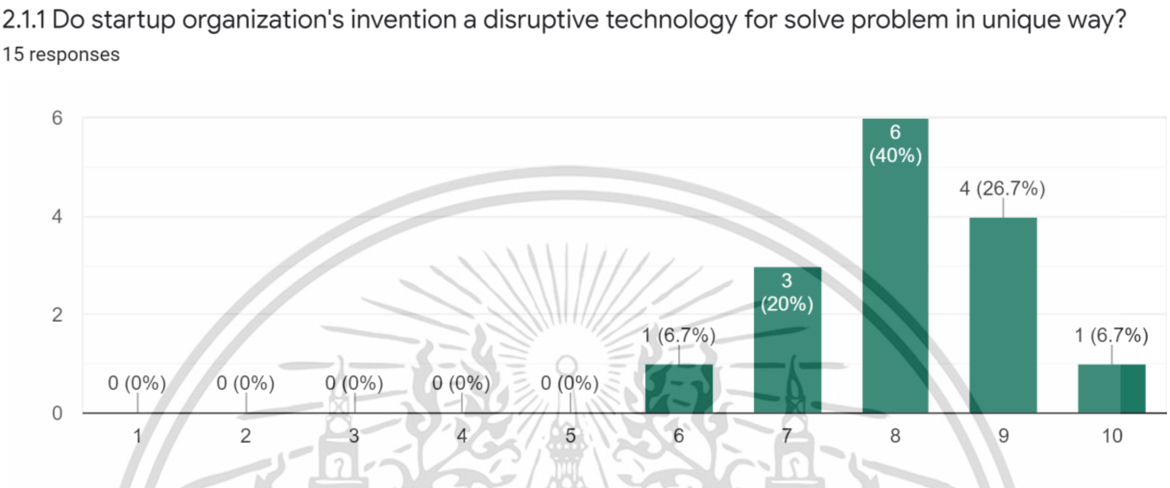


Question 2

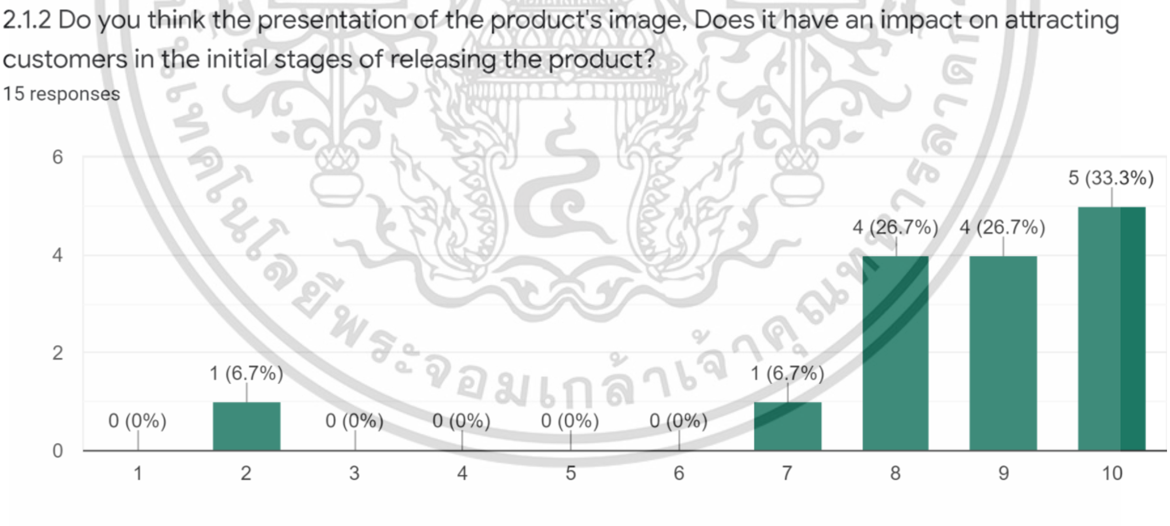
The following questions are about the Startup Early Stage strategy

2.1 Key Consideration

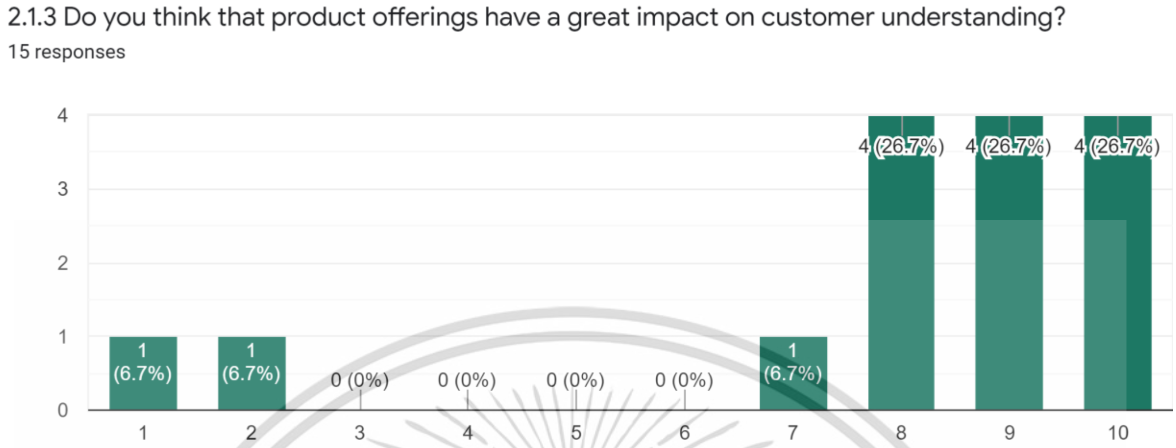
Question 2.1.1



Question 2.1.2

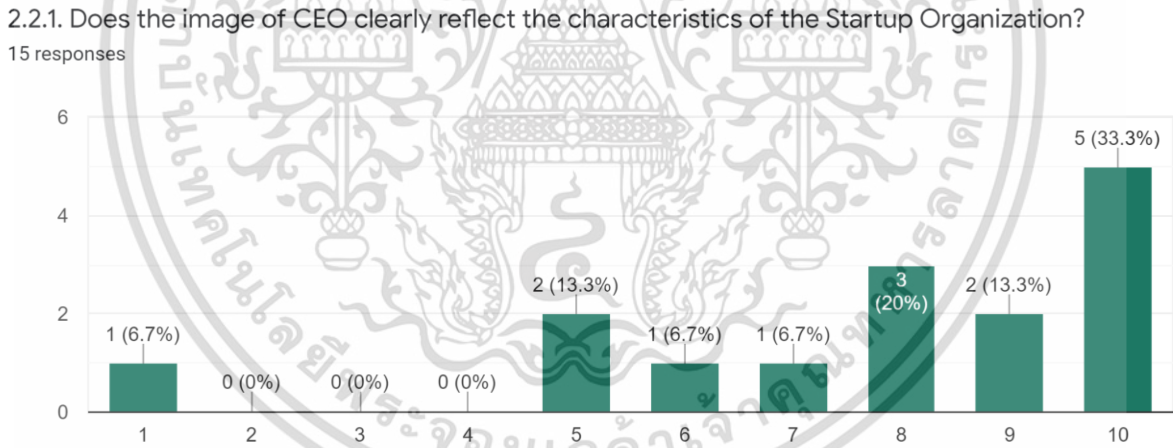


Question 2.1.3

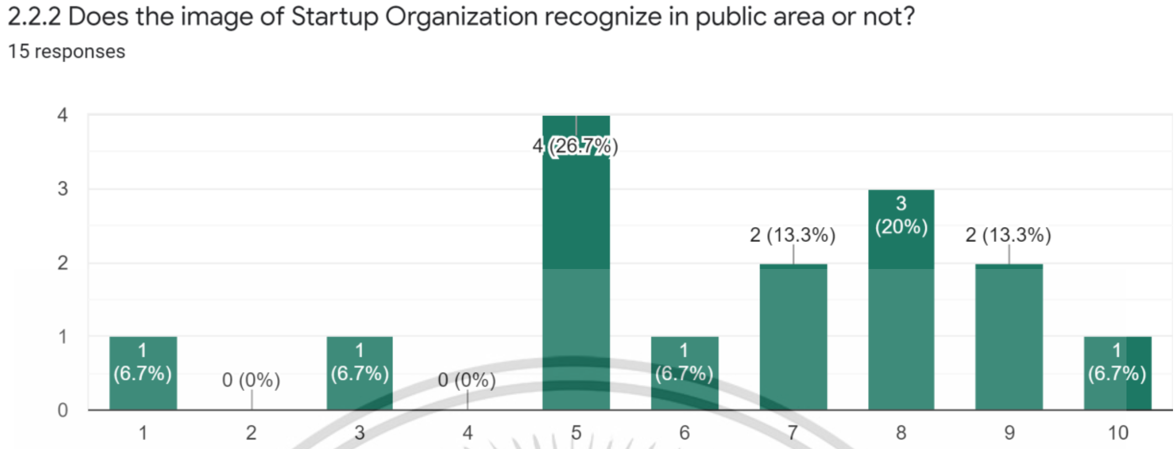


2.2 Personal Branding:

Question 2.2.1

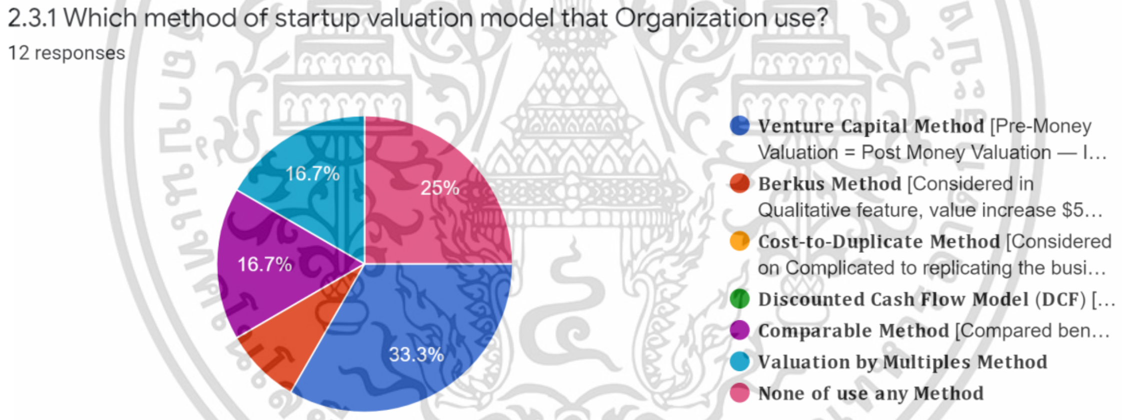


Question 2.2.2

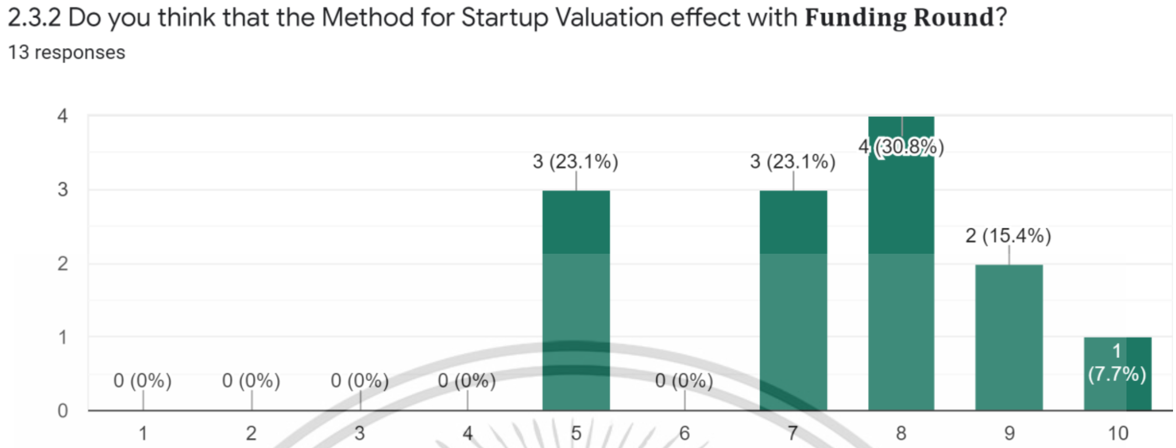


2.3 Startup Valuation:

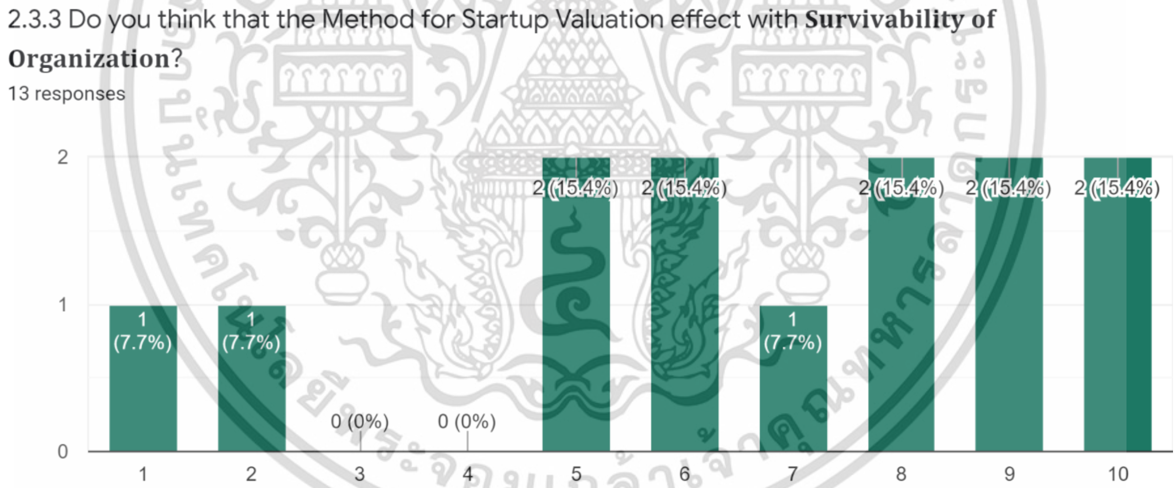
Question 2.3.1



Question 2.3.2



Question 2.3.3

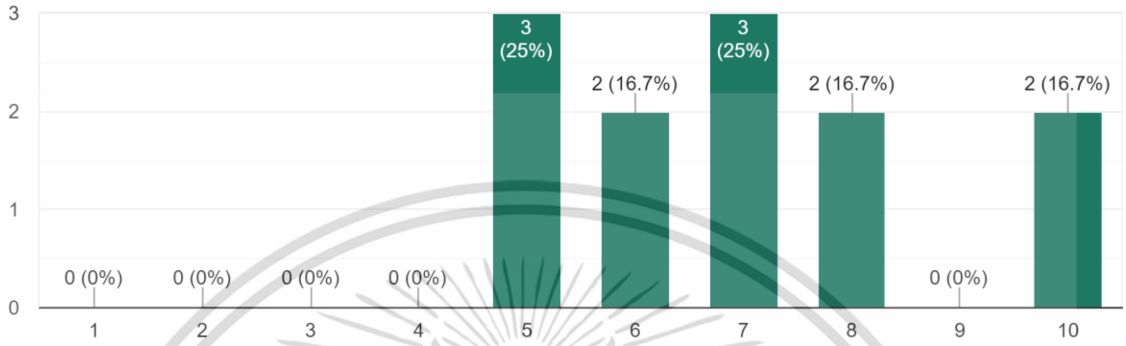


2.4 Creating a Pitching Deck:

Question 2.4.1

2.4.1 Do Gross Merchandise Value (GMV) and Retention Rate have affected in decision?

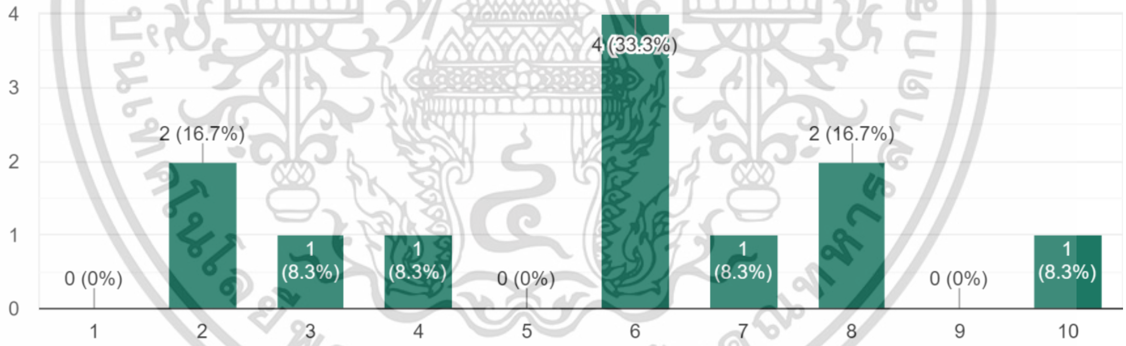
12 responses



Question 2.4.2

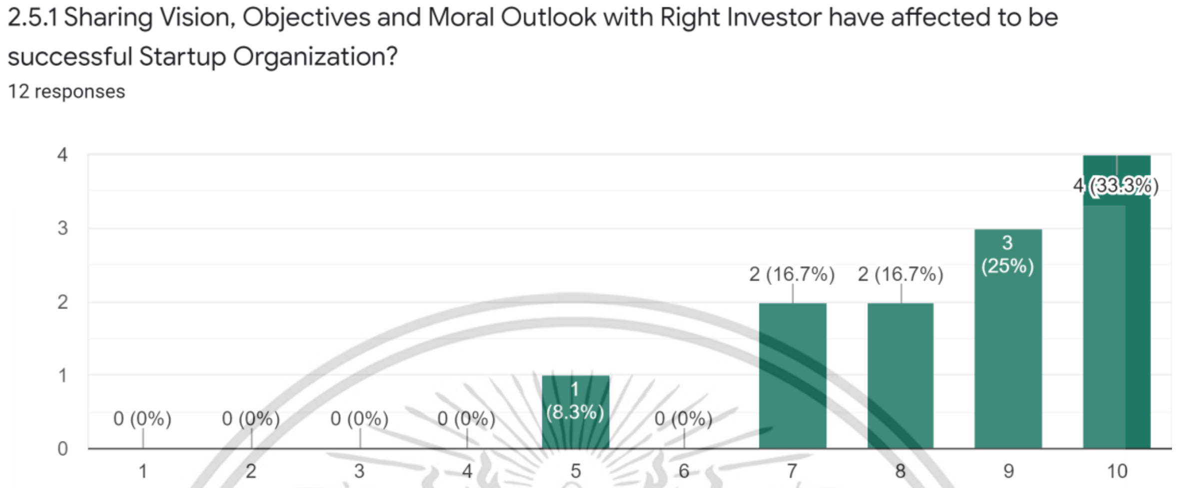
2.4.2 Does Unfair Advantage have affected in decision in Incubator or Seeding Startup Program?

12 responses

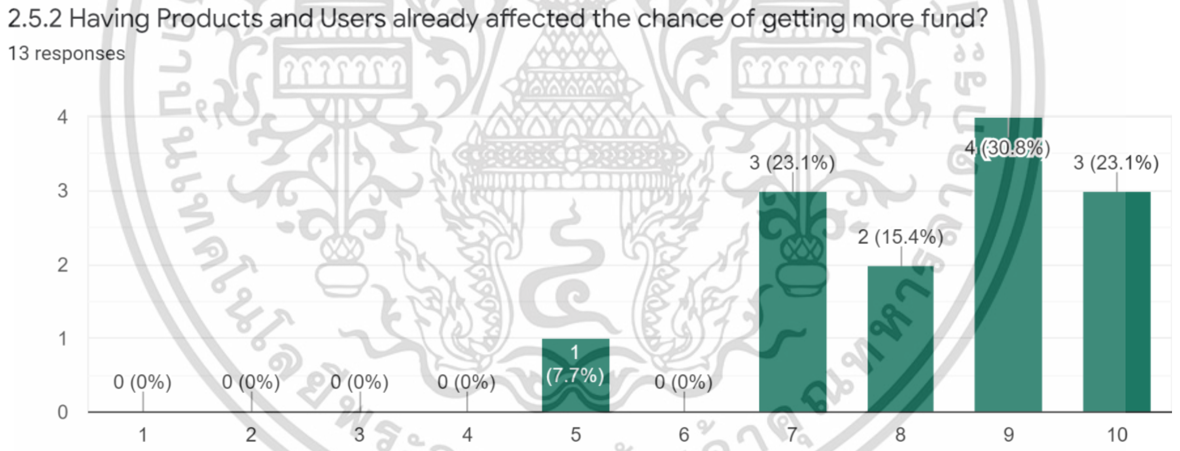


2.5 Raising Capital:

Question 2.5.1

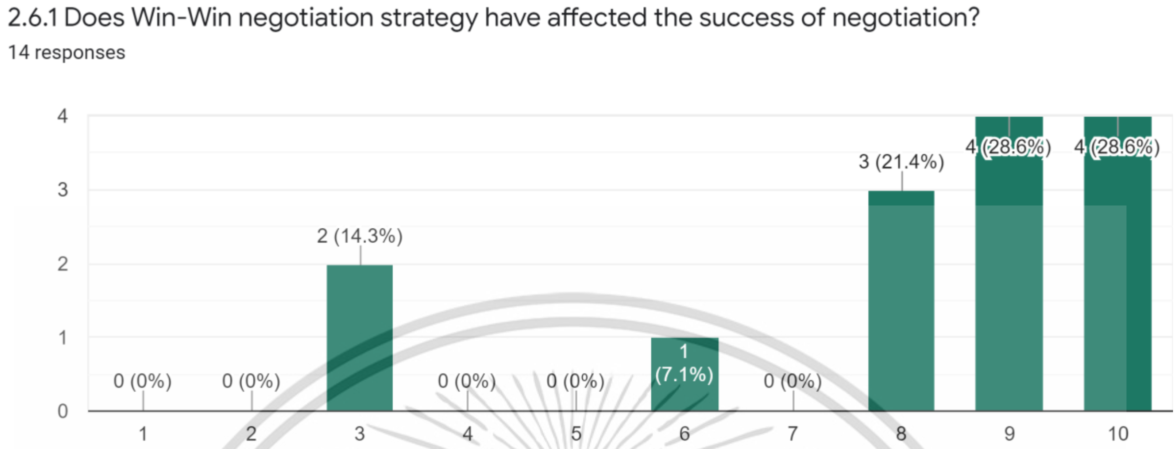


Question 2.5.2

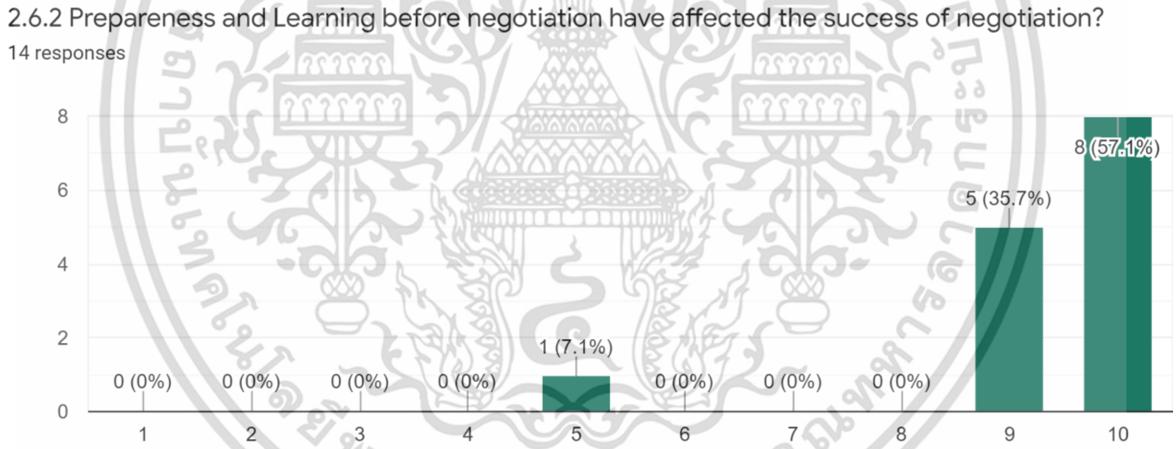


2.6 Business Negotiation:

Question 2.6.1



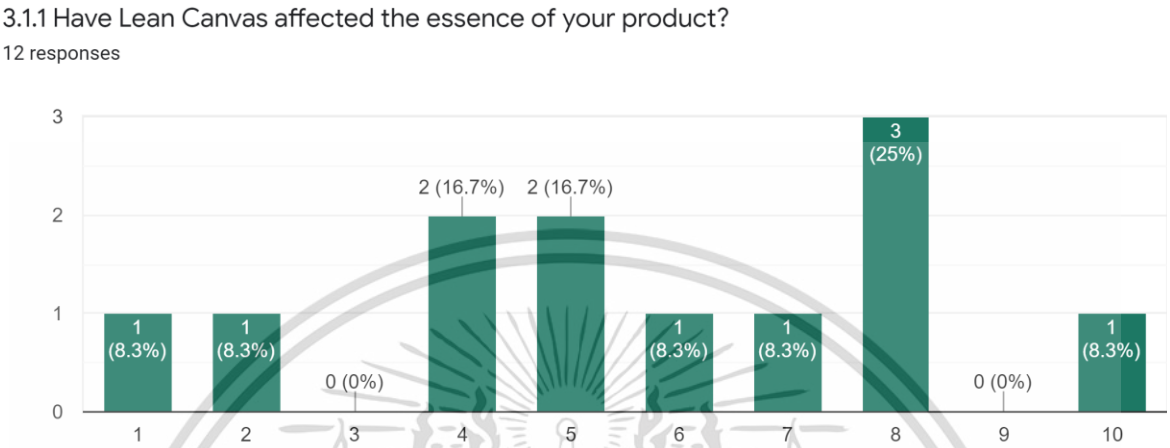
Question 2.6.2



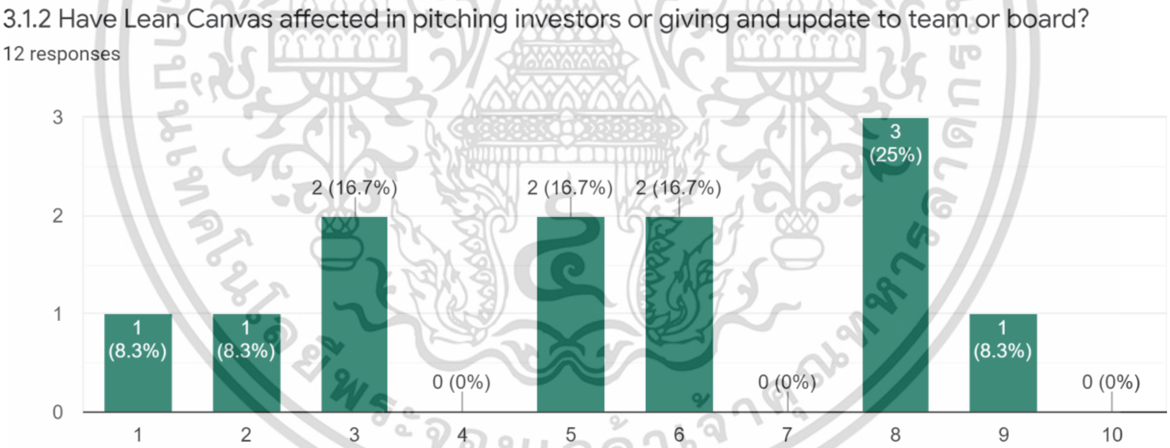
3. The following questions are about the Startup Management Stage strategy

3.1 Lean Canvas:

Question 3.1.1



Question 3.1.2

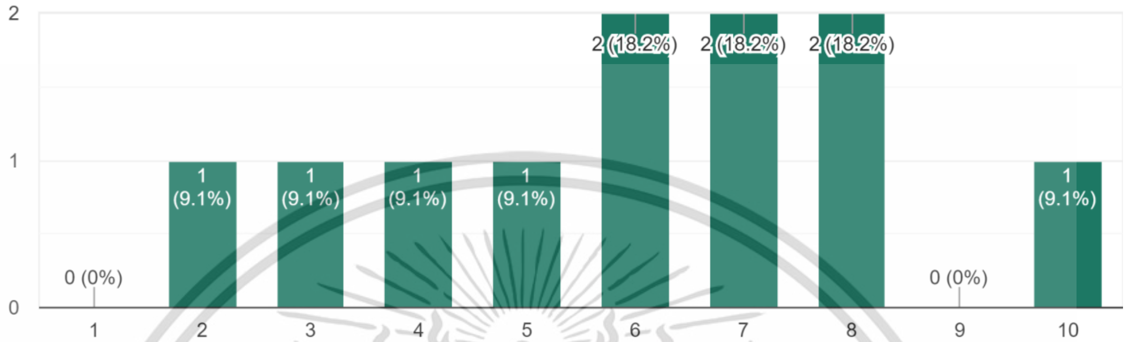


3.2 RARRA Metric:

Question 3.2.1

3.2.1 Using RARRA Metric to identify behavioral data have affected in Upsell & Cross-Sell Opportunities or not?

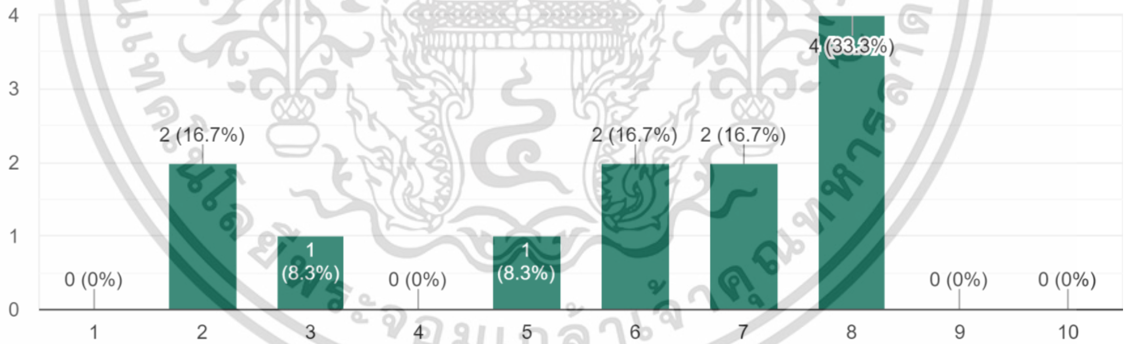
11 responses



Question 3.2.2

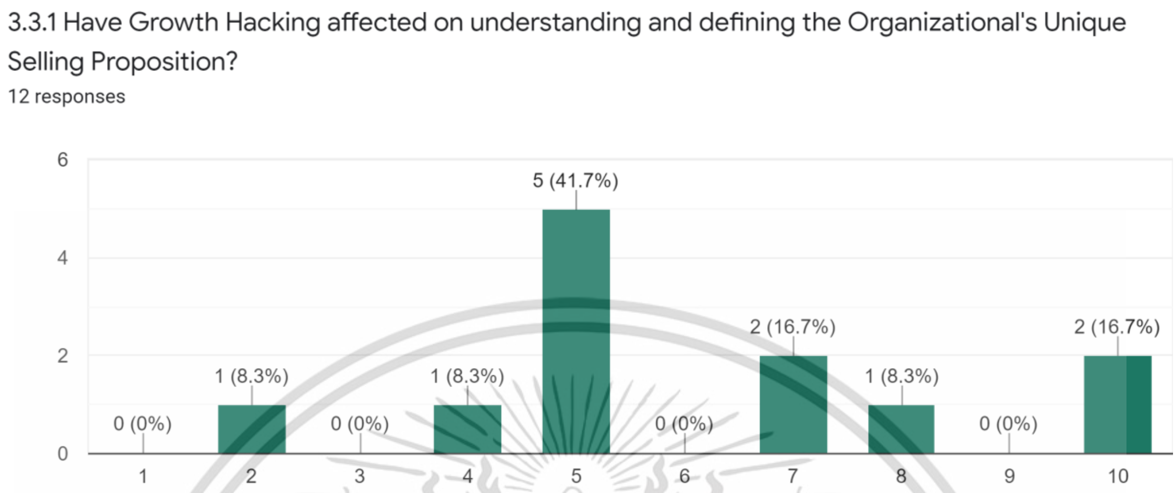
3.2.2 Due to RARRA Metric, Retention is the first priority. Do you think that Retention have affected on using product of customer?

12 responses

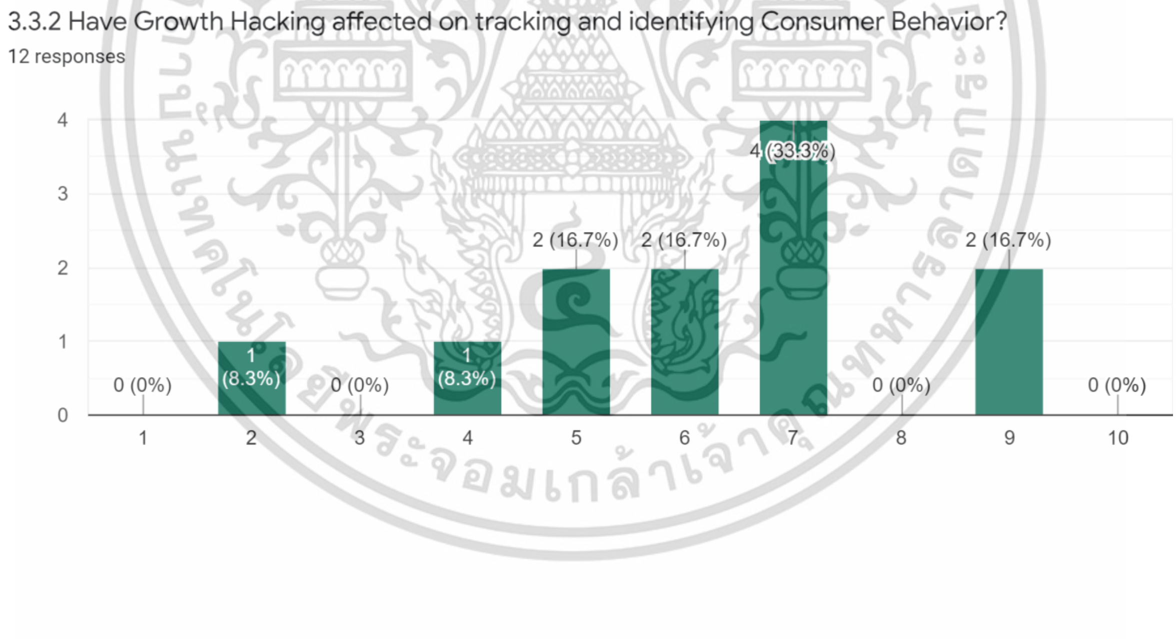


3.3 Growth Hacking:

Question 3.3.1



Question 3.3.2

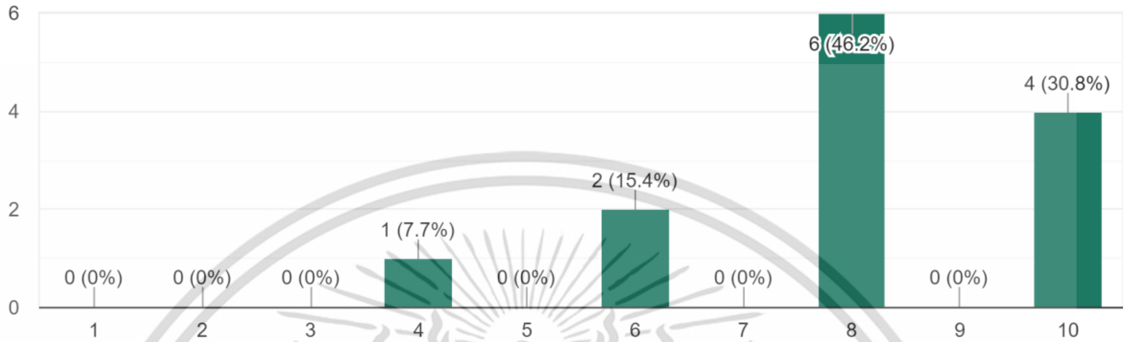


3.4 Human Resource Netflix Methodology:

Question 3.4.1

3.4.1 Does your Organization focusing on talent , company values embracing differing perspectives?

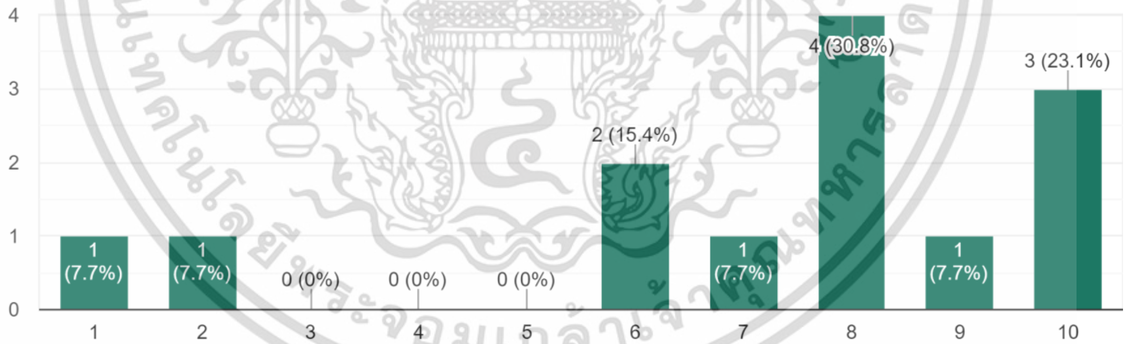
13 responses



Question 3.4.2

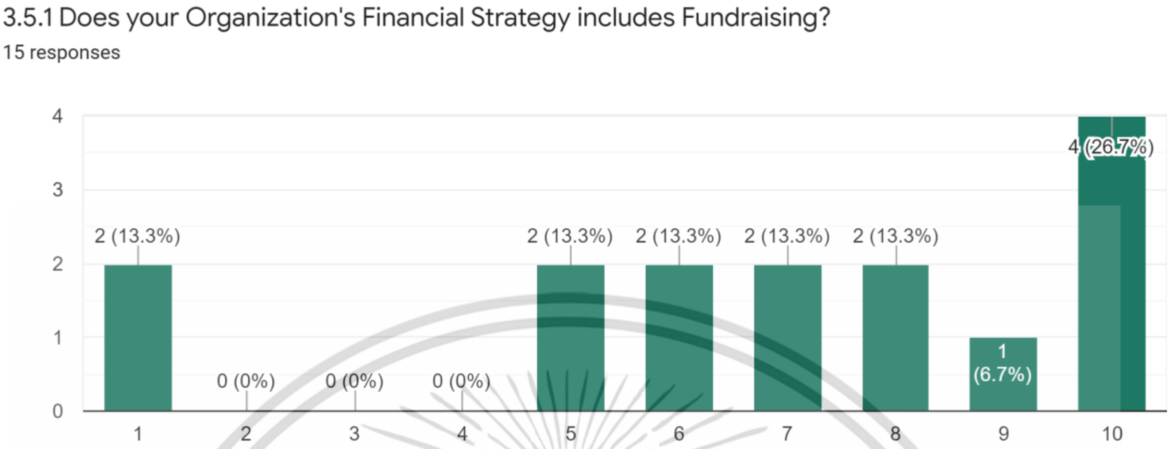
3.4.2 Does your Organization idealing people for self-awareness, self-reliance, discipline, continuous improvement and leadership.

13 responses

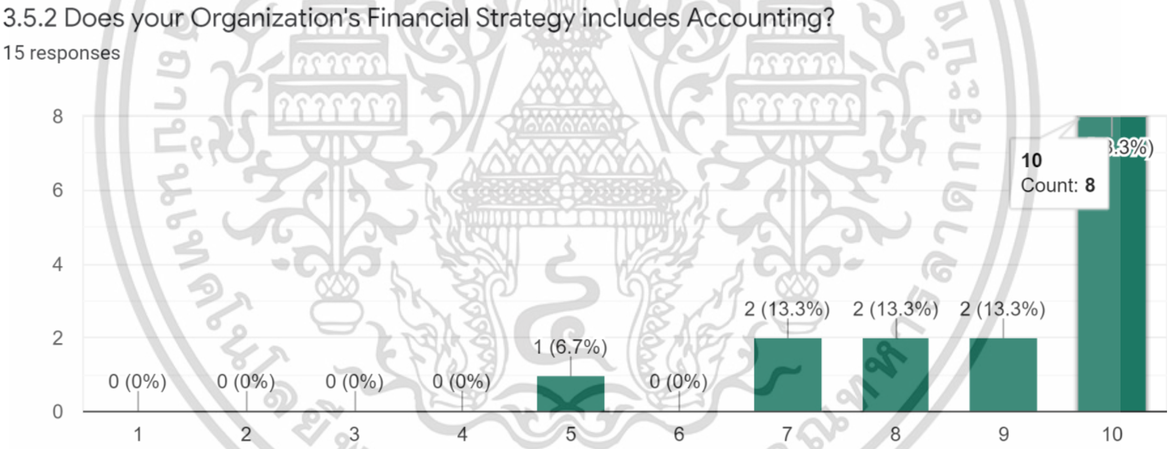


3.5 Financial Strategy:

Question 3.5.1

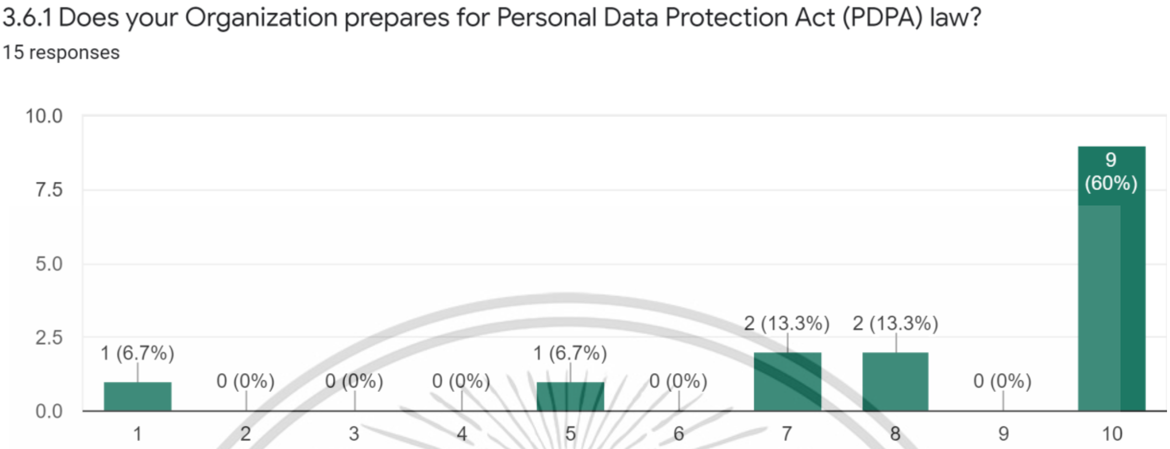


Question 3.5.2

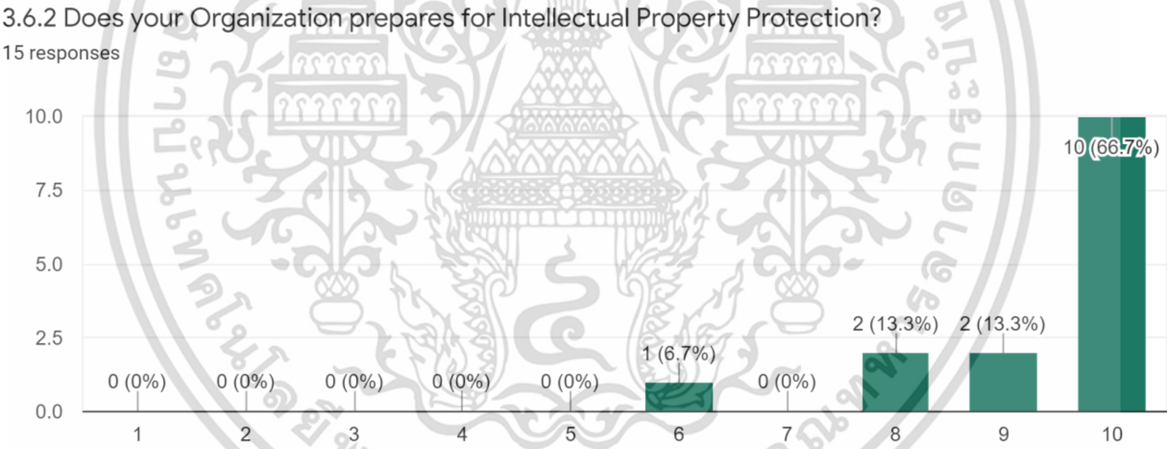


3.6 Law and Regulation:

Question 3.6.1



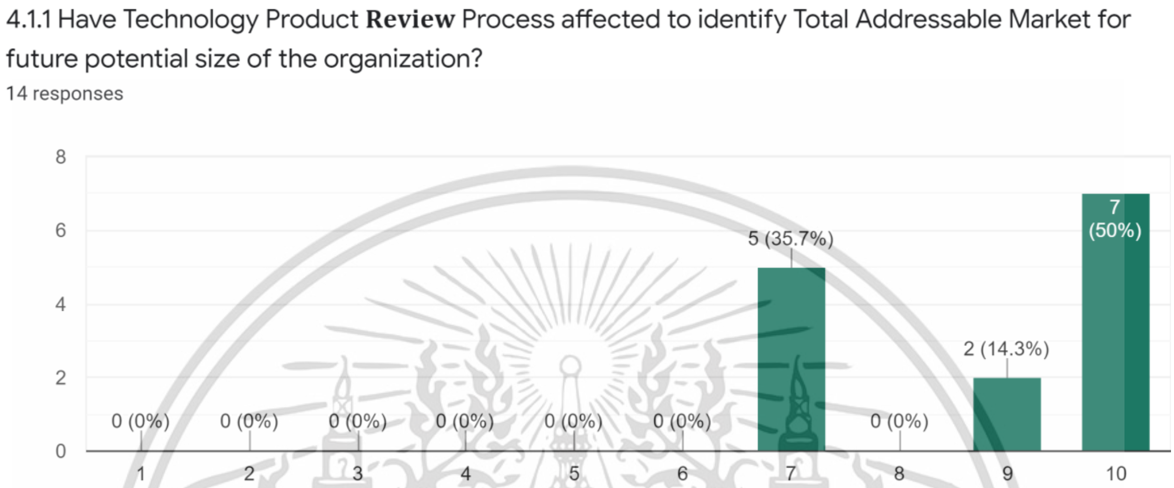
Question 3.6.2



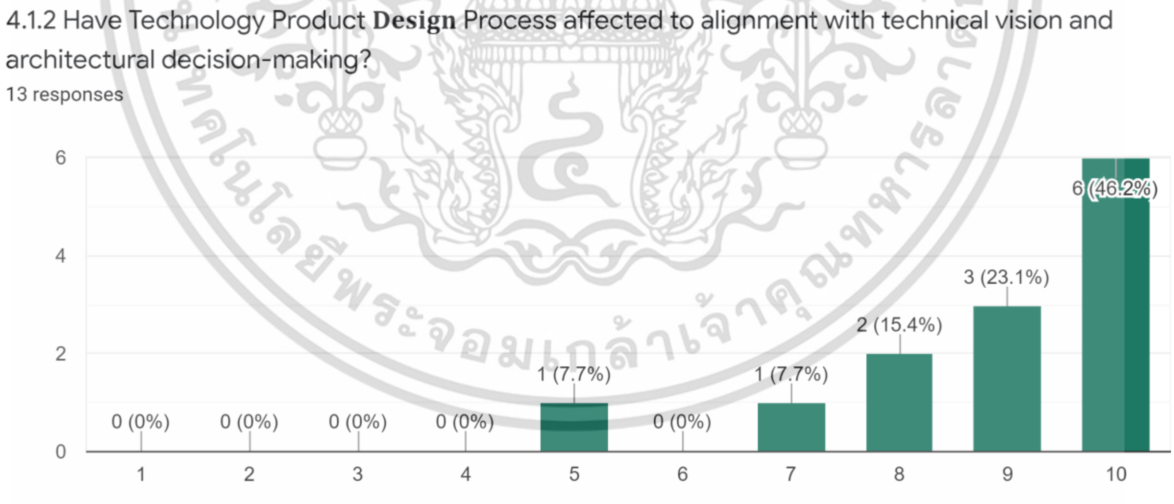
4. The following questions are about the Startup Technology Management Stage strategy

4.1 Technology Product Review & Design:

Question4.1.1

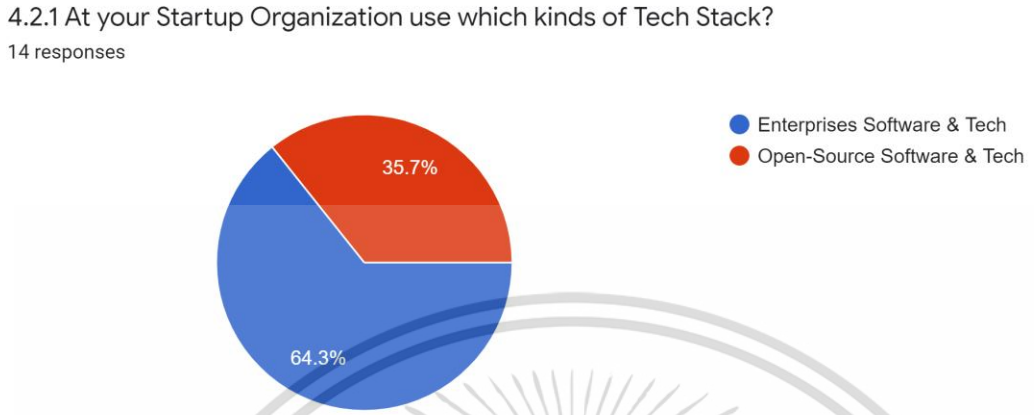


Question 4.1.2

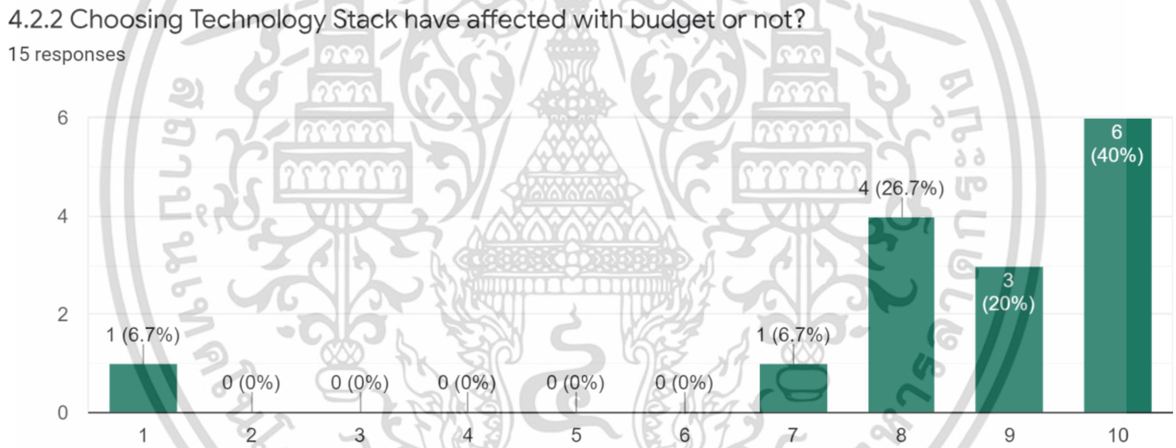


4.2 Technology Stack & Cost:

Question 4.2.1



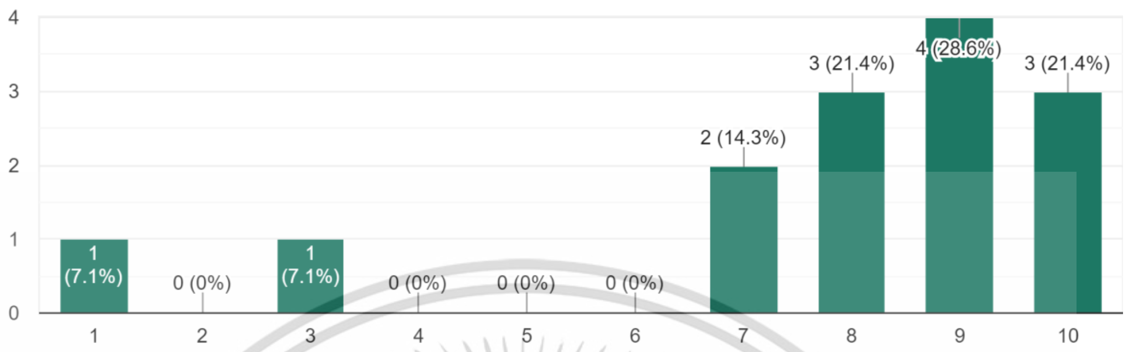
Question 4.2.2



Question 4.2.3

4.2.3 Choosing Technology Stack have affected with Project Size and Project Type or not?

14 responses

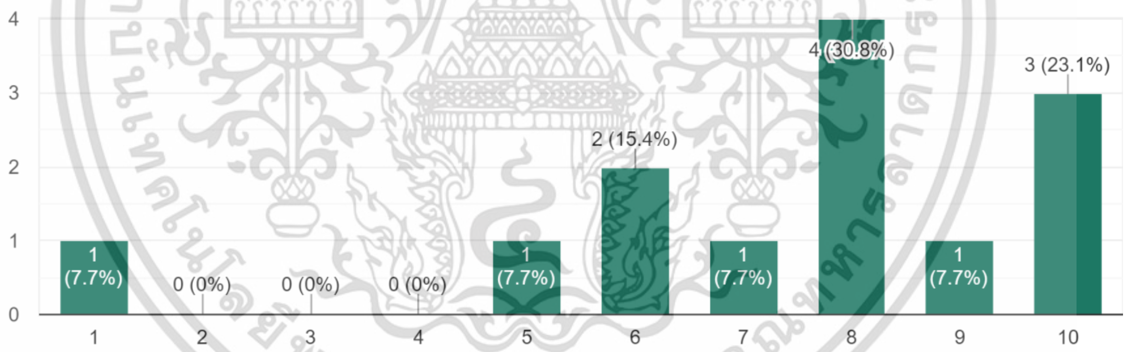


4.3 Project Management with Agile:

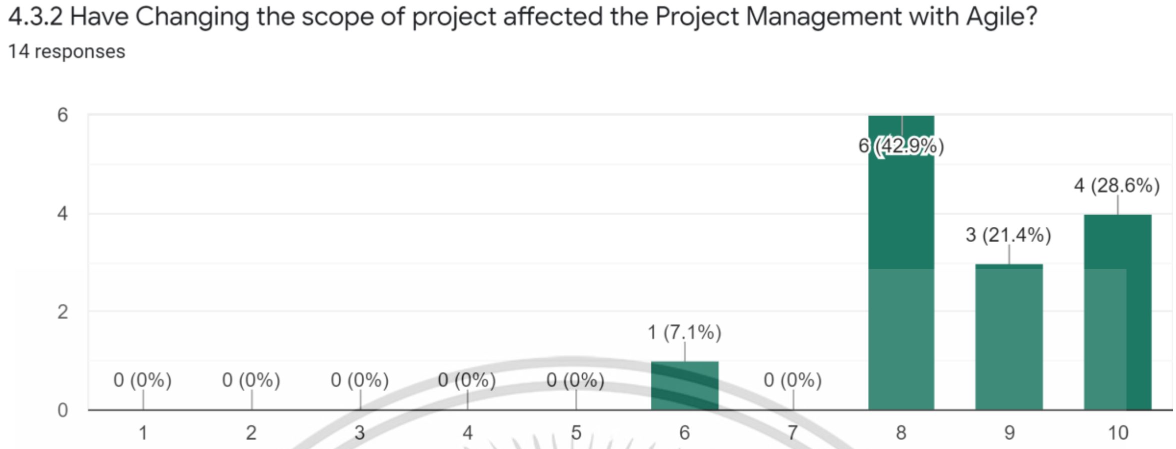
Question 4.3.1

4.3.1 Have Project Management with Agile affected by Kanban project board and time tracking?

13 responses

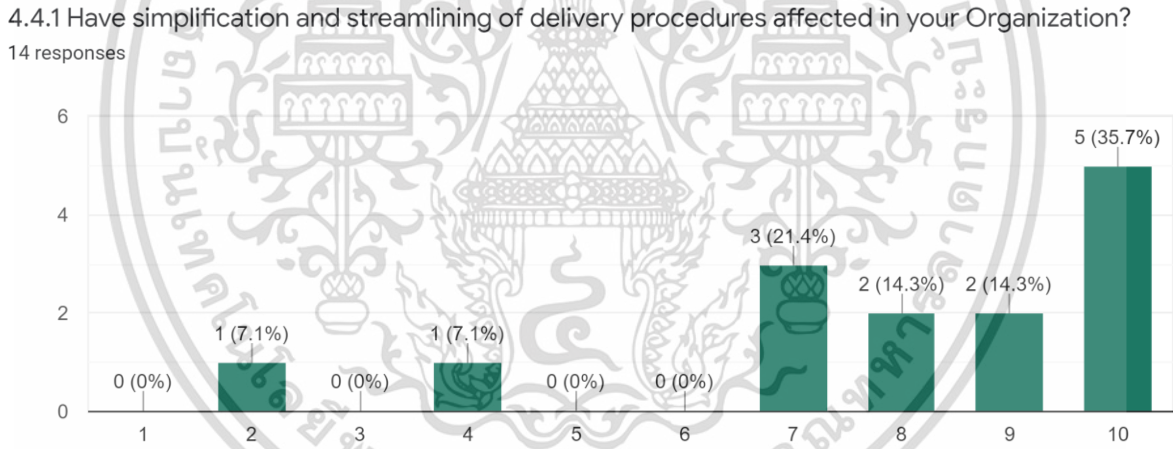


Question 4.3.2



4.4 Managing and Constructing Develop, Test and Production Server:

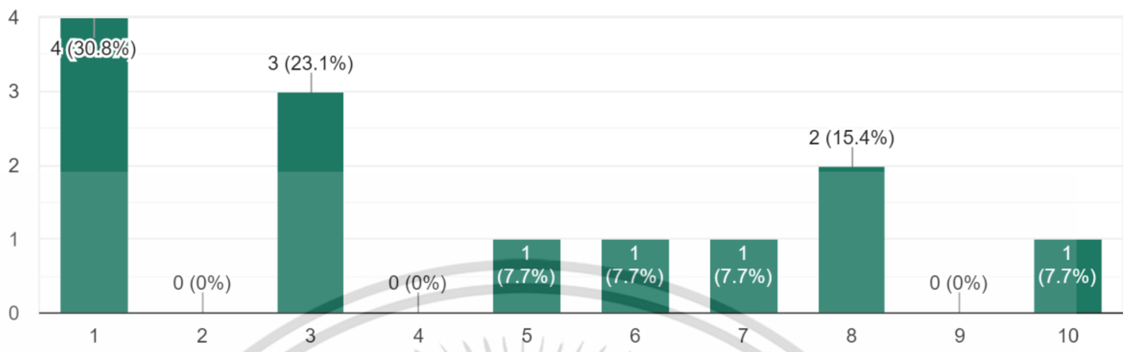
Question 4.1.1



Question 4.4.2

4.4.2 Have deploying many apps on many clouds by using same config in your Organization?

13 responses

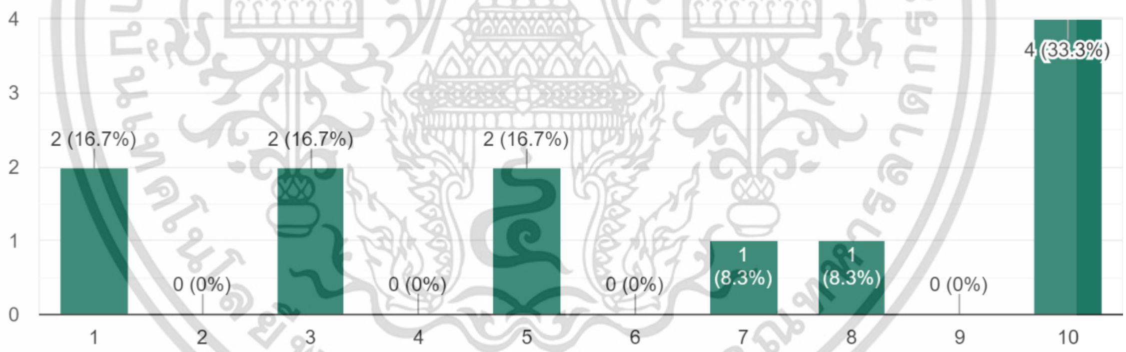


4.5 Automation CI / CD:

Question 4.5.1

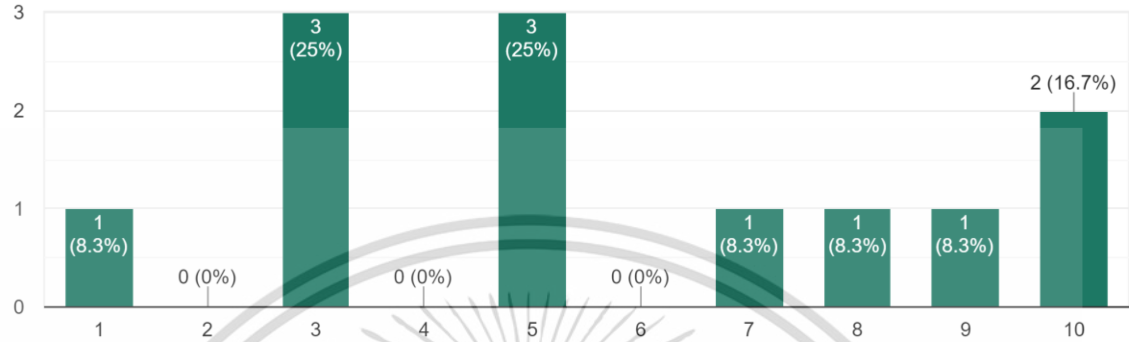
4.5.1 Using Automatation CI/CD have affected in your CI/CD environment or not?

12 responses



Question 4.5.2

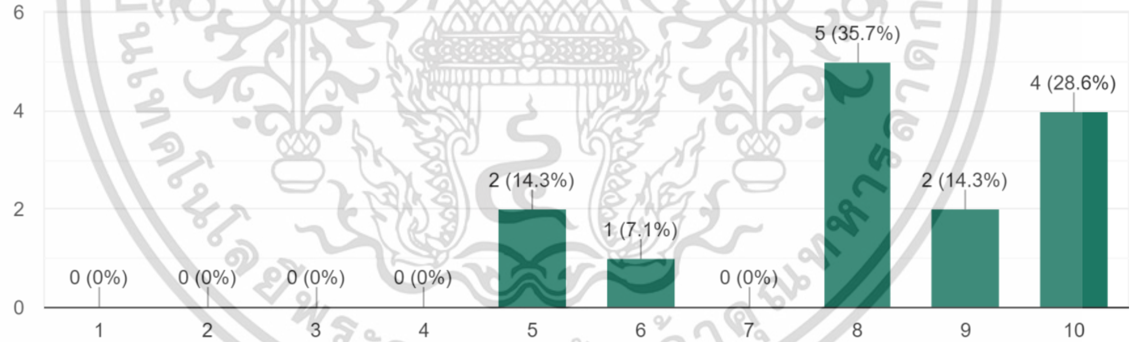
4.5.2 Planning complex pipelines to coverage all the automation have affected in your CI/CD environment or not?
12 responses



4.6 Technology R&D Research:

Question 4.6.1

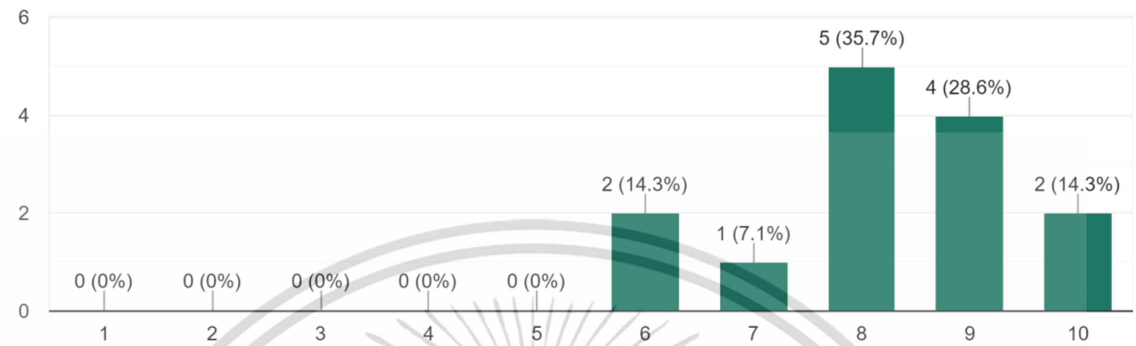
4.6.1 Have your organization affected by Technology Research and Development?
14 responses



Question 4.6.2

4.6.2 Setting Goal and Scope, Hypotheses, Operating Timeline affected in Technology Research and Development or not?

14 responses



Data Analysis

Correlation from MS-Excel

We using Correlation to find relationship of the KPI’s users, OKRs users and Both using KPI and OKRs users with the survey questionnaire answered that coverage all topics from Goal-setting method, Early-stage Startup Management Strategy, Startup Organization Management Strategy and Technology Management Strategy.

We have classified the survey questionnaire in 3 groups that are the KPI’s user, OKRs users and Both using KPI and OKRs, then correlate each group to find which methodology have the most factor relationship and prove the hypothesis that methodology are suitable with guideline that presented strategy for Early-stage and Organizational-stage of Technology Startups.

Correlation coefficient values below 0.3 are considered to be weak; 0.3-0.7 are moderate; >0.7 are strong.

1.2 What is the frequency of using Goal Setting and measuring Results	A1
1.3 In your experience, Position in Organization have affected on expressing opinion or solution in Company's Goal Settings or not	A2
1.4 In your experience, Position in Organization have affected on expressing opinion or solution in Team or Squad's Goal Settings or not	A3
1.5 Can organization achieve the Goal and Objective in timeline planning or not	A4
1.6 In your experience, Organization setting the Goal and Objective too difficult to achieve or not	A5
2.1.1 Do startup organization's invention a disruptive technology for solve problem in unique way?	B1.1
2.1.2 Do you think the presentation of the product's image, Does it have an impact on attracting customers in the initial stages of releasing the product?	B1.2
2.1.3 Do you think that product offerings have a great impact on customer understanding?	B1.3
2.2.1. Does the image of CEO clearly reflect the characteristics of the Startup Organization?	B2.1
2.2.2 Does the image of Startup Organization recognize in public area or not?	B2.2
2.3.2 Do you think that the Method for Startup Valuation effect with Funding Round?	B3.2
2.3.3 Do you think that the Method for Startup Valuation effect with Survivability of Organization?	B3.3
2.4.1 Do Gross Merchandise Value (GMV) and Retention Rate have affected in decision?	B4.1
2.4.2 Does Unfair Advantage have affected in decision in Incubator or Seeding Startup Program?	B4.2
2.5.1 Sharing Vision, Objectives and Moral Outlook with Right Investor have affected to be successful Startup Organization?	B5.1
2.5.2 Having Products and Users already affected the chance of getting more fund?	B5.2
2.6.1 Does Win-Win negotiation strategy have affected the success of negotiation?	B6.1
2.6.2 Prepareness and Learning before negotiation have affected the success of negotiation?	B6.2
3.1.1 Have Lean Canvas affected the essence of your product?	C1.1
3.1.2 Have Lean Canvas affected in pitching investors or giving and update to team or board?	C1.2
3.2.1 Using RARRA Metric to identify behavioral data have affected in Upsell & Cross-Sell Opportunities or not?	C2.1
3.2.2 Due to RARRA Metric, Retention is the first priority. Do you think that Retention have affected on using product of customer?	C2.2
3.3.1 Have Growth Hacking affected on understanding and defining the Organizational's Unique Selling Proposition?	C3.1
3.3.2 Have Growth Hacking affected on tracking and identifying Consumer Behavior?	C3.2
3.4.1 Does your Organization focusing on talent , company values embracing differing perspectives?	C4.1
3.4.2 Does your Organization idealing people for self-awareness, self-reliance, discipline, continuous improvement and leadership.	C4.2
3.5.1 Does your Organization's Financial Strategy includes Fundraising?	C5.1
3.5.2 Does your Organization's Financial Strategy includes Accounting?	C5.2
3.6.1 Does your Organization prepares for Personal Data Protection Act (PDPA) law?	C6.1
3.6.2 Does your Organization prepares for Intellectual Property Protection?	C6.2
4.1.1 Have Technology Product Review Process affected to identify Total Addressable Market for future potential size of the organization?	D1.1
4.1.2 Have Technology Product Design Process affected to alignment with technical vision and architectural decision-making?	D1.2
4.2.2 Choosing Technology Stack have affected with budget or not?	D2.2
4.2.3 Choosing Technology Stack have affected with Project Size and Project Type or not?	D2.3
4.3.1 Have Project Management with Agile affected by Kanban project board and time tracking?	D3.1
4.3.2 Have Changing the scope of project affected the Project Management with Agile?	D3.2
4.4.1 Have simplification and streamlining of delivery procedures affected in your Organization?	D4.1
4.4.2 Have deploying many apps on many clouds by using same config in your Organization?	D4.2
4.5.1 Using Automatation CI/CD have affected in your CI/CD environment or not?	D5.1
4.5.2 Planning complex pipelines to coverage all the automation have affected in your CI/CD environment or not?	D5.2
4.6.1 Have your organization affected by Technology Research and Development?	D6.1
4.6.2 Setting Goal and Scope, Hypotheses, Operating Timeline affected in Technology Research and Development or not?	D6.2

Figure 3.1. Survey Qustionnaire headname change for Correlation Table

The Correlation of the KPI's users with the survey questionnaire answered:

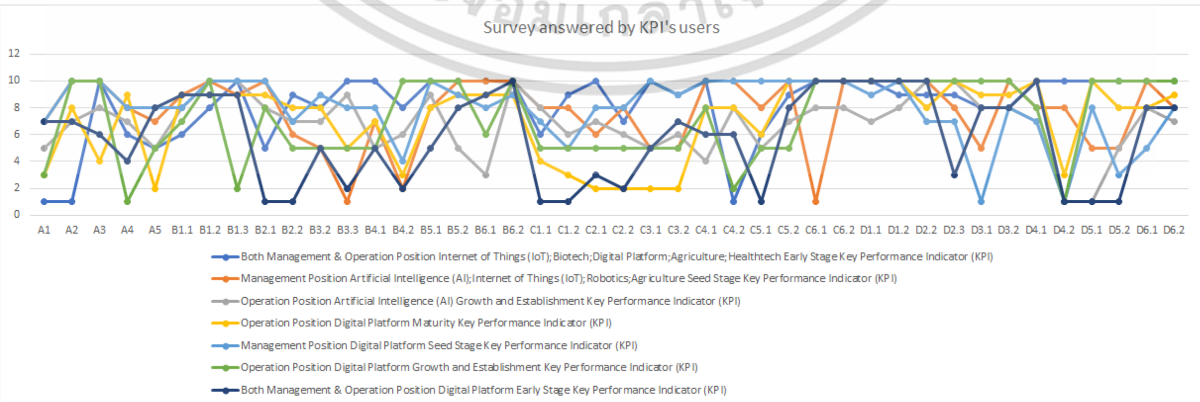


Figure 3.2. Survey answered by KPI's users

From Appendix “Correlation Table from survey answered by 7 KPI’s users”, the acceptable of total strong positive correlation coefficient values are 55 pair of relationships

KPI's user Strong Positive Correlation Coefficient Value

Positive Correlation

A5 / A1	0.75
B1.1 / A1	0.71
B1.2 / A2	0.87
B1.3 / A4	0.79
B3.2 / B2.2	0.72
B3.3 / B3.2	0.74
B5.1 / B2.2	0.75
B5.1 / B4.2	0.7
B6.1 / B5.2	0.75
C1.1 / B2.1	0.75
C1.2 / A3	0.73
C1.2 / C1.1	0.79
C2.1 / A3	0.79
C2.1 / C1.2	0.8
C2.2 / A3	0.88
C2.2 / C1.1	0.86
C2.2 / C1.2	0.82
C2.2 / C2.1	0.84
C3.1 / C2.1	0.87
C3.2 / C2.1	0.77
C3.2 / C3.1	0.93
C4.1 / B4.1	0.76
C4.1 / B5.2	0.88
C4.1 / B6.1	0.73
C4.2 / A1	0.76
C4.2 / A4	0.71
C4.2 / B1.1	0.79
C5.1 / B6.2	0.75
C5.1 / C2.2	0.75
C5.2 / A4	0.86
C5.2 / B1.3	0.75
C6.2 / B5.2	0.91
C6.2 / B6.1	0.84
C6.2 / C4.1	0.76
D1.1 / B5.2	0.88
D1.1 / B6.1	0.83
D1.1 / C6.2	0.94
D1.2 / B5.2	0.72
D1.2 / C6.2	0.88
D1.2 / D1.1	0.8
D2.2 / B6.2	0.92
D2.3 / B2.2	0.77
D2.3 / B5.1	0.73
D4.2 / B4.1	0.74
D4.2 / C1.2	0.75
D5.1 / B5.2	0.73
D5.1 / C4.1	0.7
D5.2 / B4.2	0.74
D5.2 / D2.3	0.79
D5.2 / D5.1	0.75
D6.1 / B6.2	0.72
D6.1 / D2.2	0.72
D6.2 / B5.2	0.74
D6.2 / D5.1	0.83
D6.2 / D5.2	0.8

n = 55 relationships

Figure 3.3. KPI’s user Strong Positive Correlation Coefficient Value

The Correlation of the OKRs users with the survey questionnaire answered:

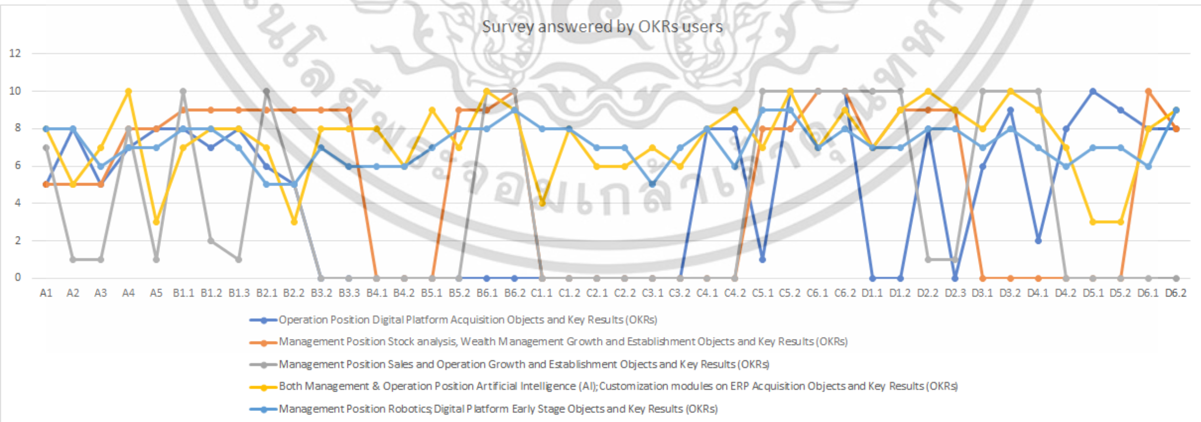


Figure 3.4. Survey answered by OKRs users

From Appendix "Correlation Table from survey answered by 5 OKRs users", the acceptable of total strong positive correlation coefficient values are 115 pair of relationships

OKRs user Strong Positive Correlation Coefficient Value

A3 / A2	0.73	C1.1 / A1	0.77	C3.1 / B4.1	0.99	C6.2 / B2.1	0.7	D4.1 / D3.2	0.76
A5 / A2	0.81	C1.1 / B4.1	0.83	C3.1 / B4.2	0.97	C6.2 / C6.1	0.91	D4.2 / A2	0.74
B1.2 / A2	0.73	C1.1 / B4.2	0.91	C3.1 / B5.1	0.99	D1.1 / B6.1	0.95	D4.2 / C4.1	0.98
B1.2 / A3	0.9	C1.1 / B5.1	0.84	C3.1 / C1.1	0.81	D1.1 / B6.2	0.95	D4.2 / C4.2	0.98
B1.2 / A5	0.74	C1.2 / A1	0.84	C3.1 / C1.2	0.97	D1.1 / C5.1	0.97	D5.1 / A2	0.84
B1.3 / A2	0.75	C1.2 / B4.1	0.98	C3.1 / C2.1	0.95	D1.2 / B6.1	0.99	D5.1 / C4.1	0.82
B1.3 / A3	0.87	C1.2 / B4.2	1	C3.1 / C2.2	0.95	D1.2 / B6.2	0.97	D5.1 / C4.2	0.74
B1.3 / A5	0.77	C1.2 / B5.1	0.98	C3.2 / A1	0.83	D1.2 / C5.1	0.92	D5.1 / D4.2	0.85
B1.3 / B1.2	0.97	C1.2 / C1.1	0.91	C3.2 / B4.1	0.96	D1.2 / D1.1	0.96	D5.2 / A2	0.85
B2.1 / B1.1	0.76	C2.1 / A1	0.84	C3.2 / B4.2	0.99	D2.2 / A2	0.72	D5.2 / C4.1	0.84
B3.2 / B1.2	0.76	C2.1 / B4.1	0.96	C3.2 / B5.1	0.96	D2.2 / A3	0.95	D5.2 / C4.2	0.75
B3.3 / B1.2	0.76	C2.1 / B4.2	0.99	C3.2 / C1.1	0.95	D2.2 / B1.2	0.96	D5.2 / D4.2	0.86
B3.3 / B3.2	0.99	C2.1 / B5.1	0.96	C3.2 / C1.2	0.99	D2.2 / B1.3	0.97	D5.2 / D5.1	0.99
B4.1 / A1	0.82	C2.1 / C1.1	0.95	C3.2 / C2.1	1	D2.2 / B3.3	0.7	D6.1 / A3	0.8
B4.2 / A1	0.84	C2.1 / C1.2	0.99	C3.2 / C2.2	1	D2.3 / B1.2	0.7	D6.1 / A5	0.75
B4.2 / B4.1	0.98	C2.2 / A1	0.83	C3.2 / C3.1	0.95	D2.3 / B3.2	0.99	D6.1 / B1.2	0.94
B5.1 / A1	0.83	C2.2 / B4.1	0.96	C4.1 / A2	0.76	D2.3 / B3.3	0.98	D6.1 / B1.3	0.98
B5.1 / B4.1	0.99	C2.2 / B4.2	0.99	C4.1 / A3	0.72	D2.3 / B5.2	0.98	D6.1 / D2.2	0.94
B5.1 / B4.2	0.98	C2.2 / B5.1	0.96	C4.2 / A3	0.72	D3.1 / C5.2	0.86	D6.2 / A2	0.84
B5.2 / B1.2	0.76	C2.2 / C1.1	0.95	C4.2 / C4.1	0.96	D3.2 / C5.2	0.94	D6.2 / A3	0.96
B5.2 / B3.2	0.98	C2.2 / C1.2	0.99	C5.1 / B6.1	0.92	D3.2 / D3.1	0.95	D6.2 / B1.2	0.95
B5.2 / B3.3	0.96	C2.2 / C2.1	1	C5.1 / B6.2	0.95	D4.1 / A1	0.87	D6.2 / B1.3	0.94
B6.2 / B6.1	0.98	C3.1 / A1	0.82	C6.1 / B1.1	0.72	D4.1 / D3.1	0.89	D6.2 / D2.2	0.97
								D6.2 / D6.1	0.88

n = 115 relationships

Figure 3.5. OKRs user Strong Positive Correlation Coefficient Value

The Correlation of the Both using KPI and OKRs users with the survey questionnaire answered:

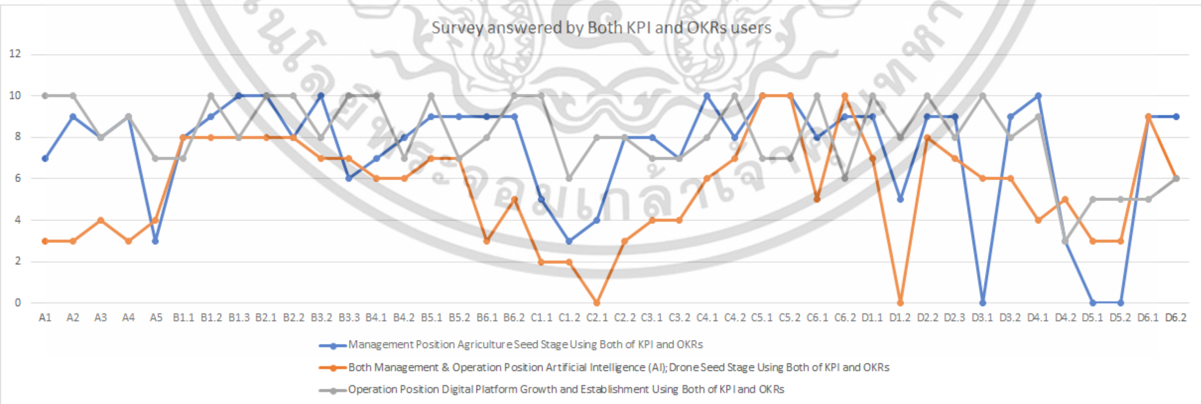


Figure 3.6. Survey answered by Both using KPI and OKRs users

From Appendix "Correlation Table from survey answered by 3 Both using KPI and OKRs users", the acceptable of total strong positive correlation coefficient values are 326 pair of relationships

Both using KPI and OKRs user Strong Positive Correlation Coefficient Value

A2 / A1	0.95	B5.1 / B2.1	0.94	C2.1 / B1.2	1	C3.2 / B3.2	0.75	C6.1 / A2	0.96	D1.2 / B1.2	0.98	D2.3 / B2.1	0.86	D4.1 / B6.1	1
A3 / A1	0.9	B5.1 / B2.2	0.75	C2.1 / B2.1	0.86	C3.2 / B4.2	0.86	C6.1 / A3	0.91	D1.2 / B2.1	0.92	D2.3 / B3.2	0.98	D4.1 / B6.2	0.94
A3 / A2	0.99	B5.1 / B4.1	0.89	C2.1 / B2.2	0.86	C3.2 / B5.1	0.94	C6.1 / A4	0.91	D1.2 / B2.2	0.78	D2.3 / B4.2	1	D4.1 / C2.1	0.77
A4 / A1	0.9	B5.2 / B1.3	1	C2.1 / B3.3	0.72	C3.2 / B6.1	0.98	C6.1 / B1.2	0.99	D1.2 / B4.1	0.91	D2.3 / B5.2	0.86	D4.1 / C2.2	0.98
A4 / A2	0.99	B5.2 / B3.2	0.94	C2.1 / B4.1	0.96	C3.2 / B6.2	0.98	C6.1 / B2.1	0.91	D1.2 / B5.1	0.99	D2.3 / B6.1	0.93	D4.1 / C3.1	0.99
A4 / A3	1	B5.2 / B4.2	0.86	C2.1 / B5.1	0.98	C3.2 / C1.1	0.78	C6.1 / B2.2	0.8	D1.2 / B6.1	0.85	D2.3 / B6.2	0.755	D4.1 / C3.2	0.98
B1.2 / A1	0.99	B6.1 / A1	0.82	C2.1 / B6.1	0.77	C3.2 / C2.1	0.86	C6.1 / B4.1	0.92	D1.2 / B6.2	0.98	D2.3 / C2.2	0.86	D4.1 / C4.1	0.93
B1.2 / A2	0.92	B6.1 / A2	0.95	C2.1 / B6.2	0.94	C3.2 / C2.2	1	C6.1 / B5.1	0.99	D1.2 / C1.1	0.95	D2.3 / C3.1	0.96	D4.1 / C6.1	0.84
B1.2 / A3	0.86	B6.1 / A3	0.98	C2.1 / C1.1	0.98	C4.1 / A2	0.79	C6.1 / B6.1	0.84	D1.2 / C1.2	0.91	D2.3 / C3.2	0.86	D4.1 / D1.1	0.88
B1.2 / A4	0.86	B6.1 / A4	0.98	C2.1 / C1.2	0.96	C4.1 / A3	0.86	C6.1 / B6.2	0.97	D1.2 / C2.1	0.98	D2.3 / C4.1	1	D4.1 / D1.2	0.85
B1.2 / A5	0.72	B6.1 / B1.2	0.77	C2.2 / A1	0.9	C4.1 / A4	0.86	C6.1 / C1.1	0.96	D1.2 / C2.2	0.92	D3.1 / A5	0.92	D4.1 / D2.2	0.77
B2.1 / A1	0.9	B6.1 / B2.1	0.98	C2.2 / A2	0.99	C4.1 / B1.3	0.86	C6.1 / C1.2	0.92	D1.2 / C3.1	0.81	D3.1 / B2.2	0.8	D4.1 / D2.3	0.93
B2.1 / A2	0.99	B6.1 / B3.2	0.84	C2.2 / A3	1	C4.1 / B2.1	0.86	C6.1 / C2.1	0.99	D1.2 / C3.2	0.92	D3.1 / B3.3	0.92	D4.1 / D3.2	0.98
B2.1 / A3	1	B6.1 / B4.2	0.93	C2.2 / A4	1	C4.1 / B3.2	0.98	C6.1 / C2.2	0.91	D1.2 / C4.2	0.94	D3.2 / A1	0.71	D5.1 / A5	0.92
B2.1 / A4	1	B6.1 / B5.1	0.88	C2.2 / B1.2	0.86	C4.1 / B4.2	1	C6.1 / C3.1	0.79	D1.2 / C6.1	0.99	D3.2 / A2	0.89	D5.1 / B2.2	0.8
B2.1 / B1.2	0.86	B6.2 / A1	0.96	C2.2 / B2.1	1	C4.1 / B5.2	0.86	C6.1 / C3.2	0.91	D1.2 / D1.1	0.99	D3.2 / A3	0.94	D5.1 / B3.3	0.92
B2.2 / A1	0.82	B6.2 / A2	0.99	C2.2 / B3.2	0.75	C4.1 / B6.1	0.93	C6.1 / C4.2	0.95	D2.2 / A1	0.99	D3.2 / A4	0.94	D5.1 / D3.1	1
B2.2 / A5	0.97	B6.2 / A3	0.98	C2.2 / B4.2	0.86	C4.1 / B6.2	0.75	C6.2 / B1.1	0.97	D2.2 / A2	0.92	D3.2 / B1.3	0.75	D5.2 / A5	0.92
B2.2 / B1.2	0.86	B6.2 / A4	0.98	C2.2 / B5.1	0.94	C4.1 / C2.2	0.86	C6.2 / C5.1	0.97	D2.2 / A3	0.86	D3.2 / B2.1	0.94	D5.2 / B2.2	0.8
B3.2 / A3	0.75	B6.2 / B1.2	0.94	C2.2 / B6.1	0.98	C4.1 / C3.1	0.96	C6.2 / C5.2	0.97	D2.2 / A4	0.86	D3.2 / B3.2	0.92	D5.2 / B3.3	0.92
B3.2 / A4	0.75	B6.2 / B2.1	0.98	C2.2 / B6.2	0.98	C4.1 / C3.2	0.86	D1.1 / A1	0.99	D2.2 / A5	0.72	D3.2 / B4.2	0.98	D5.2 / D3.1	1
B3.2 / B1.3	0.94	B6.2 / B4.1	0.81	C2.2 / C1.1	0.78	C4.2 / A1	0.96	D1.1 / A2	0.97	D2.2 / B1.2	1	D3.2 / B5.1	0.78	D6.1 / B1.1	1
B3.2 / B2.1	0.75	B6.2 / B4.2	0.75	C2.2 / C2.1	0.86	C4.2 / A2	0.83	D1.1 / A3	0.94	D2.2 / B2.1	0.86	D3.2 / B5.2	0.75	D6.1 / C5.1	1
B3.3 / A5	1	B6.2 / B5.1	0.98	C3.1 / A1	0.77	C4.2 / A3	0.75	D1.1 / A4	0.94	D2.2 / B2.2	0.86	D3.2 / B6.1	0.98	D6.1 / C5.2	1
B3.3 / B1.2	0.72	B6.2 / B6.1	0.94	C3.1 / A2	0.93	C4.2 / A4	0.75	D1.1 / B1.2	0.98	D2.2 / B4.1	0.96	D3.2 / B6.2	0.86	D6.1 / C6.2	0.97
B3.3 / B2.2	0.97	C1.1 / A1	0.97	C3.1 / A3	0.97	C4.2 / A5	0.83	D1.1 / B2.1	0.94	D2.2 / B5.1	0.98	D3.2 / C2.2	0.94	D6.2 / B1.3	1
B4.1 / A1	0.93	C1.1 / A2	0.86	C3.1 / A4	0.97	C4.2 / B1.2	0.98	D1.1 / B2.2	0.75	D2.2 / B6.1	0.77	D3.2 / C3.1	0.99	D6.2 / B3.2	0.94
B4.1 / A2	0.78	C1.1 / A3	0.78	C3.1 / B1.2	0.72	C4.2 / B2.1	0.75	D1.1 / B5.1	1	D2.2 / B6.2	0.94	D3.2 / C3.2	0.94	D6.2 / B4.2	0.86
B4.1 / A5	0.88	C1.1 / A4	0.78	C3.1 / B2.1	0.97	C4.2 / B2.2	0.94	D1.1 / B6.1	0.88	D2.2 / C1.1	0.98	D3.2 / C4.1	0.98	D6.2 / B5.2	1
B4.1 / B1.2	0.96	C1.1 / A5	0.81	C3.1 / B3.2	0.89	C4.2 / B3.3	0.83	D1.1 / B6.2	0.98	D2.2 / C1.2	0.96	D3.2 / C6.1	0.73	D6.2 / C4.1	0.86
B4.1 / B2.2	0.97	C1.1 / B1.2	0.98	C3.1 / B4.2	0.96	C4.2 / B4.1	0.99	D1.1 / C1.1	0.94	D2.2 / C2.1	1	D3.2 / D1.1	0.78	D6.2 / D2.3	0.86
B4.1 / B3.3	0.88	C1.1 / B2.1	0.78	C3.1 / B5.1	0.83	C4.2 / B5.1	0.92	D1.1 / C1.2	0.89	D2.2 / C2.2	0.86	D3.2 / D1.2	0.75	D6.2 / D3.2	0.75
B4.2 / A2	0.79	C1.1 / B2.2	0.92	C3.1 / B6.1	0.99	C4.2 / B6.2	0.86	D1.1 / C2.1	0.98	D2.2 / C3.1	0.72	D3.2 / D2.3	0.98		
B4.2 / A3	0.86	C1.1 / B3.3	0.81	C3.1 / B6.2	0.9	C4.2 / C1.1	0.99	D1.1 / C2.2	0.94	D2.2 / C3.2	0.86	D4.1 / A1	0.82		
B4.2 / A4	0.86	C1.1 / B4.1	0.99	C3.1 / C2.1	0.72	C4.2 / C1.2	0.99	D1.1 / C3.1	0.83	D2.2 / C4.2	0.98	D4.1 / A2	0.95		
B4.2 / B1.3	0.86	C1.1 / B5.1	0.94	C3.1 / C2.2	0.97	C4.2 / C2.1	0.98	D1.1 / C3.2	0.94	D2.2 / C6.1	0.99	D4.1 / A3	0.98		
B4.2 / B2.1	0.86	C1.1 / B6.2	0.88	C3.2 / A1	0.9	C4.2 / C2.2	0.75	D1.1 / C4.2	0.92	D2.2 / D1.1	0.98	D4.1 / A4	0.98		
B4.2 / B3.2	0.98	C2.1 / A1	0.99	C3.2 / A2	0.99	C4.2 / C3.2	0.75	D1.1 / C6.1	0.99	D2.2 / D1.2	0.98	D4.1 / B1.2	0.77		
B5.1 / A1	0.99	C2.1 / A2	0.92	C3.2 / A3	1	C5.1 / B1.1	1	D1.2 / A1	0.99	D2.3 / A2	0.79	D4.1 / B2.1	0.98		
B5.1 / A2	0.97	C2.1 / A3	0.86	C3.2 / A4	1	C5.2 / B1.1	1	D1.2 / A2	0.96	D2.3 / A3	0.86	D4.1 / B3.2	0.84		
B5.1 / A3	0.94	C2.1 / A4	0.86	C3.2 / B1.2	0.86	C5.2 / C5.1	1	D1.2 / A3	0.92	D2.3 / A4	0.86	D4.1 / B4.2	0.93		
B5.1 / B1.2	0.98	C2.1 / A5	0.72	C3.2 / B2.1	1	C6.1 / A1	0.99	D1.2 / A4	0.92	D2.3 / B1.3	0.86	D4.1 / B5.1	0.88		

n = 325 relationships

Figure 3.7. Both using KPI and OKRs user Strong Positive Correlation Coefficient Value

Findings

Findings that Using Both KPI and OKRs for methodology in strategy management of Early-stage Management, Corporate Management and Technology Management have coverage most of the factors and strategy that suggested by our guideline that reflect in survey questionnaires. Also prove the "H0c: Using Both KPI and OKRs helps Technology Startups and Organizations in Early-stage management, Corporate-stage Management and Technology Management with the strategy". The result of correlation from "Correlation Table from survey answered by 3 Both using KPI and OKRs users" show the strong positive correlation coefficient values (0.7 - 1.0) in 325 values.

The using of OKRs for methodology in strategy management of Early-stage Management, Corporate Management and Technology Management have coverage in the area of Early-stage Management and Corporate Management from the result of "Correlation Table from survey answered by 5 OKRs users" show the strong positive correlation coefficient values (0.7 - 1.0) in 115 values. That proves the hypothesis "H0a: OKRs help Technology Startups and Organizations in Early-stage management, Corporate-stage Management and Technology Management with the strategy".

The using of KPI for methodology in strategy management of Early-stage Management, Corporate Management and Technology Management have coverage in the area of Corporate Management and Technology Management from the result of “Correlation Table from survey answered by 7 KPI’s users” show the strong positive correlation coefficient values (0.7 - 1.0) in 55 values. That proves the hypothesis “H0b: OKRs help Technology Startups and Organizations in Early-stage management, Corporate-stage Management and Technology Management with the strategy”.

Summarize, all of the three methods have different characteristics. For KPI it works well in the Corporate Organization which has a systematic hierarchy. For OKRs it works well in Early-Stage Organization which needs the agility to prepare to scale up the organization. For the merger of two methods above, using both KPI and OKRs works well in every kind of organization which can serve the purpose of agility and systematic hierarchy. Also, goods for organizations that need to scable or transform their organization.

Chapter 5

Conclusion and Recommendations

5.1 Early Stage Startup OKRs patterns Identified

There are 4 companies currently in the Seed stage state.

Company no.2 is doing AI, IOT, Robotics, Agriculture.

The method used to measure the results is KPI.

Company no.7 doing with digital platforms,

The method used to measure the results is KPI.

Company no.8 doing with agriculture.

The method used to measure the results is the KPI and OKRs.

Company no.14 doing AI related

The method used to measure the results is KPI & OKRs.

There are 3 companies currently in the Early stage state.

Company 1 deals with IOT, Biotech, Digital platform, Agriculture, Healthcare.

The method used to measure the results is KPI.

Company 5: Robotics, Digital platform

The method used to measure the results is OKRs.

Company 12 deals with digital platforms.

The method used to measure the results is KPI.

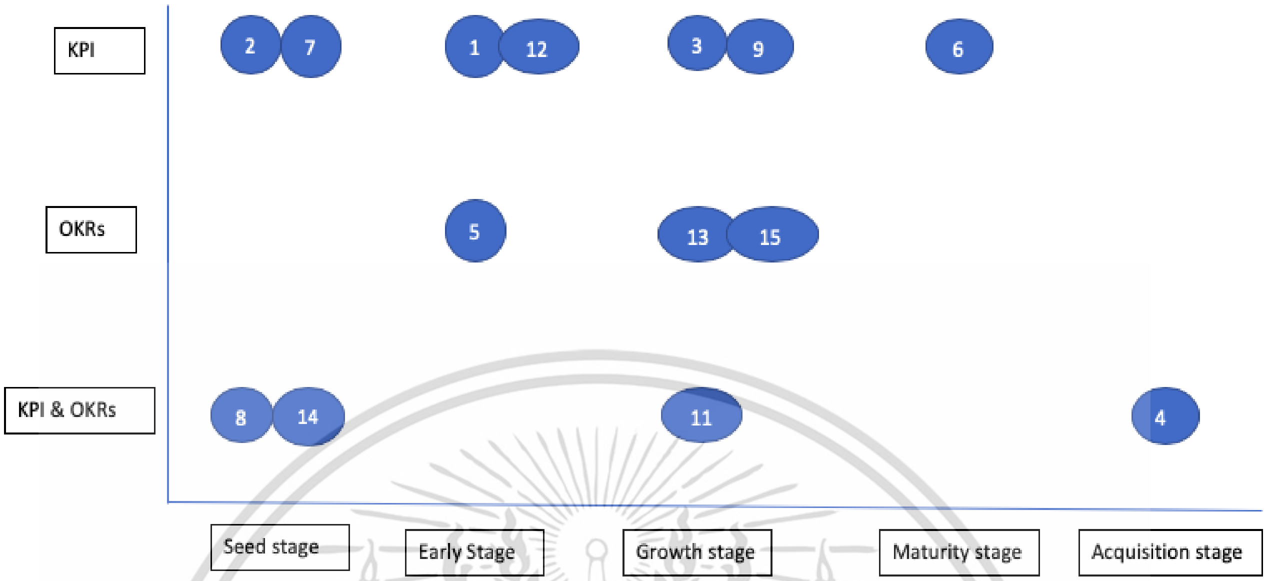
5.2 Corporate Startup OKRs patterns Identified

There are 5 companies that are currently in the Growth and Establishment stages.

Company no.3 is doing AI.
The method used to measure the results is KPI.
Company no.9 deals with digital platforms.
The method used to measure the results is KPI.
Company no.11 deals with digital platforms.
The method used to measure the results is KPI & OKRs.
Company no.13 does stock analysis, wealth management
The method used to measure the results is OKRs.
Company no.15 does sales and operation
The method used to measure the results is OKRs.
There is 1 company that is currently in the Maturity stage status.
Company no.6 deals with digital platforms.
The method used to measure the results is KPI.

There is 1 company that is currently in the Acquisition stage.
Company no.4 is doing AI, Customization modules on ERP.
The method used to measure the results is OKRs.

And there is 1 company that does not specify stage, which is the company no.10 using measurement is OKRs.



*** No.10 not identified stage but use OKRs measurement

Figure 4.1. Early Startup OKRs and Corporate Startup OKRs pattern identified

Graph above show the information of each company that have different current stage and measurement.

5.3 Implications of the Study

Theoretical implications in this dissertation are coverage in Goal-Setting Method: OKRs (Objective and Key Results); Real Case's Example using OKRs; Best practices for writing good OKRs; Upsides and Downsides of OKRs.

In Early-Stage management strategy: Key Considerations before starting the startup; Personal Branding the image of CEO and Organization; Startup Valuation methods for value the startup; Creating a Pitching Deck for presentation in fundraising or competitive events; Raising Capital method suggestion; Business Negotiation technique.

In Organization management strategy: Lean canvas for analyze the unfair advantages, source of revenue and etc; RARRA Metric focus on retention of organization product usage by customers; Growth Hacking agility marketing method; Human Resource Netflix methodology which encourage employee to discuss the problem directly by focus on the good of company to achieve the objective and key results of company; Financial Strategy for organization; Law and Regulation of Thailand Startup.

In Technology management strategy: Technology Product Review & Design; Technology Stack & Cost; Project Management with Agile; Managing and Constructing Develop, Test and Production Server preparing for hybrid cloud computing; Automation CI / CD for software deployment pipeline; Technology R&D Research.

Managerial implications in this dissertation recommend using the combination of upside of the KPI and OKRs to be a tool for goal-setting and key results for organization management and technology management which covers the need of agility and hierarchy structure.

5.4 Limitation of the Study

Limited Number of Responses

From the 15 participants, half of participants with the Technology Organization scope were contacted to do the survey via Line messenger, Facebook messenger and Startup group in Facebook. The Technology startup and organization were contacted to do the survey via Email and Startup Page's Facebook Messenger which they answer via their Facebook Messenger neither Email.

For the future researcher, we recommend contacting the National Startup Committee of Startup Thailand, National Innovation Agency directly to spread the survey questions with a high probability of answering more than sending the email directly to the startup company that mostly ignores the survey email.

Researcher's Bias

Due to research questions and theoretics that focus on Objective and Key Results (OKRs) because researchers see the benefits of using OKRs to be the other indicator which can replace or combine the existing goal-setting indicator to give the best advantages for the organization. Also researchers have observed that "Human Resource Netflix methodology and Project Management with Agile" have similar foundations with OKRs methodology which is the bottom up structure that will enhance the operational position in a company and express more opinions to achieve or support the organization's main goal and objective.

5.5 Future Research Opportunities

From this research, there are still many shortcomings such as New data collection of new startup businesses that fail, what the cause of the failure really is, and questionnaires should focus on startups that have the same business background. If anyone wants to make the research more accurate Should specify the number of companies and not more than 10-15 companies with the same type of business and give 1-2 months to respond to the sent questionnaires and create interesting content or topics to attract the companies to answer the questionnaire And forced to answer all questions Questions should not exceed 10-12 questions that are comprehensive and can be analyzed to find the conclusion.

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Appendix

Figure 5.1. Survey Participant Consent

Guideline of Scalable Startup Management with Objective and Key Results(OKRs) - Bachelor's Project Survey

We invite you to participate in this research, studying: "Guideline of Scalable Startup Management with Objective and Key Results(OKRs)".

The purpose of the research is to investigate the success factors of the New Startups and Startup Organizations to compare the performance of working under OKRs or KPI and Management Strategy in Organization and Technology.
The related questionnaire has been designed to collect information on this topic. It should take about fifteen minutes to complete.

Your participation in this research project is completely voluntary. You may decline altogether and stop at any point. Your responses will be masked and will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as collective combined summaries. No one other than the researchers will know your individual answers to this questionnaire.

If you agree to participate -- please answer the questions on the questionnaire as best you can.

If you have any questions, please contact the primary researchers.
Thank you for your assistance in this important endeavor.

Sincerely yours,
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Figure 6. Survey Questionnaire

The five-page dissertation survey was provided to research participants. The online equivalent is at https://docs.google.com/forms/d/1SzJUIoIibEFwVJYPWEN1gWMI3-E-jJcDH2kTenJTZjU/prefill (Kanokwan Onraksa & Kaong Htat Lwin & Nuttachart Suwan, 2020).

Position in Start-up Organization

- ○ Management Position
- ○ Operation Position
- ○ Both Management & Operation Position
- ○ อื่นๆ:

What is the field of your Start-up Organization

- ☐ Artificial Intelligence (AI)
- ☐ Augmented Reality (AR) และ Virtual Reality (VR)
- ☐ Internet of Things (IoT)
- ☐ Blockchain
- ☐ Biotech
- ☐ Robotics
- ☐ Energy
- ☐ Spacetech
- ☐ Digital Platform
- ☐ Agriculture
- ☐ Healthtech
- ☐ อื่นๆ:

What is the current stage of your Start-up Organization

- ○ Early Stage
- ○ Seed Stage
- ○ Growth and Establishment
- ○ Maturity
- ○ Acquisition

1. The following questions are about the Objective and Key Results (OKRs)

1.1 Which method that Organization have used to Measureable, Goal Settings and Results

- ◯ Key Performance Indicator (KPI)
- ◯ Objects and Key Results (OKRs)
- ◯ Using Both of KPI and OKRs
- ◯ อื่นๆ: ____________

1.2 What is the **frequency** of using Goal Setting and measuring Results

10 = Every 7 days | **9** = Every 14 days | **8** = Every 21 days | **7** = Every month | **6** = Every 2 months | **5** = Every Quarter(3 months) | **4** = Every 4 months | **3** = Every 6 months | **2** = Every 8 months | **1** = Every Years

	1	2	3	4	5	6	7	8	9	10	
Every Years	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Every 7-days

1.3 In your experience, Position in Organization have affected on expressing opinion or solution in ***Company's*** Goal Settings or not

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

1.4 In your experience, Position in Organization have affected on expressing opinion or solution in ***Squad or Team's*** Goal Settings or not

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

1.5 Can organization achieve the Goal and Objective in timeline planning or not

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

1.6 In your experience, Organization setting the Goal and Objective too difficult to achieve or not

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2. The following questions are about the Startup Early Stage strategy

2.1 Key Considerations:

2.1.1 Do startup organization's invention a disruptive technology for solve problem in unique way?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.1.2 Do you think the presentation of the product's image, Does it have an impact on attracting customers in the initial stages of releasing the product?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.1.3 Do you think that product offerings have a great impact on customer understanding?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.2 Personal Branding:

2.2.1. Does the image of CEO clearly reflect the characteristics of the Startup Organization?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.2.2 Does the image of Startup Organization recognize in public area or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.3 Startup Valuation:

2.3.1 Which method of startup valuation model that Organization use?

- ◯ **Venture Capital Method** [Pre-Money Valuation = Post Money Valuation — Invested Capital]
- ◯ **Berkus Method** [Considered in Qualitative feature, value increase $500,000 per feature.]
- ◯ **Cost-to-Duplicate Method** [Considered on Complicated to replicating the business model]
- ◯ **Discounted Cash Flow Model (DCF)** [Sum of the Predicting Future Discount Cash Flows]
- ◯ **Comparable Method** [Compared benchmark with similarity technology startup valuation]
- ◯ **Valuation by Multiples Method**
- ◯ **None of use any Method**

2.3.2 Do you think that the Method for Startup Valuation effect with **Funding Round**?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

2.3.3 Do you think that the Method for Startup Valuation effect with **Survivability of Organization**?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

2.4 Creating a Pitching Deck:

2.4.1 Do Gross Merchandise Value (GMV) and Retention Rate have affected in decision?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.4.2 Does Unfair Advantage have affected in decision in Incubator or Seeding Startup Program?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.5 Raising Capital:

2.5.1 Sharing Vision, Objectives and Moral Outlook with Right Investor have affected to be successful Startup Organization?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.5.2 Having Products and Users already affected the chance of getting more fund?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.6 Business Negotiation:

2.6.1 Does Win-Win negotiation strategy have affected the success of negotiation?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

2.6.2 Prepareness and Learning before negotiation have affected the success of negotiation?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3. The following questions are about the Startup Management Stage strategy

3.1 Lean Canvas:

3.1.1 Have Lean Canvas affected the essence of your product?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.1.2 Have Lean Canvas affected in pitching investors or giving and update to team or board?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.2 RARRA Metric:

3.2.1 Using RARRA Metric to identify behavioral data have affected in Upsell & Cross-Sell Opportunities or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.2.2 Due to RARRA Metric, Retention is the first priority. Do you think that Retention have affected on using product of customer?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.3 Growth Hacking:

3.3.1 Have Growth Hacking affected on understanding and defining the Organizational's Unique Selling Proposition?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.3.2 Have Growth Hacking affected on tracking and identifying Consumer Behavior?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.4 Human Resource Netflix Methodology:

3.4.1 Does your Organization focusing on talent , company values embracing differering perspectives?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.4.2 Does your Organization idealing people for self-awareness, self-reliance, discipline, continuous improvement and leadership.

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.5 Financial Strategy:

3.5.1 Does your Organization's Financial Strategy includes Fundraising?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.5.2 Does your Organization's Financial Strategy includes Accounting?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.6 Law and Regulation:

3.6.1 Does your Organization prepares for Personal Data Protection Act (PDPA) law?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

3.6.2 Does your Organization prepares for Intellectual Property Protection?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4. The following questions are about the Startup Technology Management Stage strategy

4.1 Technology Product Review & Design:

4.1.1 Have Technology Product **Review** Process affected to identify Total Addressable Market for future potential size of the organization?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

4.1.2 Have Technology Product **Design** Process affected to alignment with technical vision and architectural decision-making?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

4.2 Technology Stack&Cost:

4.2.1 At your Startup Organization use which kinds of Tech Stack?

◯ Enterprises Software & Tech

◯ Open-Source Software & Tech

4.2.2 Choosing Technology Stack have affected with budget or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

4.2.3 Choosing Technology Stack have affected with Project Size and Project Type or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Strongly Effective

4.3 Project Management with Agile:

4.3.1 Have Project Management with Agile affected by Kanban project board and time tracking?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.3.2 Have Changing the scope of project affected the Project Management with Agile?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.4 Managing and Constructing Develop, Test and Production Server:

4.4.1 Have simplification and streamlining of delivery procedures affected in your Organization?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.4.2 Have deploying many apps on many clouds by using same config in your Organization?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.5 Automation CI / CD:

4.5.1 Using Automatation CI/CD have affected in your CI/CD environment or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.5.2 Planning complex pipelines to coverage all the automation have affected in your CI/CD environment or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.6 Technology R&D Research:

4.6.1 Have your organization affected by Technology Research and Development?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

4.6.2 Setting Goal and Scope, Hypotheses, Operating Timeline affected in Technology Research and Development or not?

	1	2	3	4	5	6	7	8	9	10	
Strongly Ineffective	○	○	○	○	○	○	○	○	○	○	Strongly Effective

Correlation Tables from survey answered by KPI's Users

Color	Correlation Coefficient Value
	0.9 - 0.99
	0.8-0.89
	0.7-0.79
	0.6-0.69
	-0.7
	-0.8
	-0.9

	A1	A2	A3	A4	A5	B1.1	B1.2	B1.3	B2.1	B2.2	B3.2	B3.3	B4.1
A1	1												
A2	0.62325	1											
A3	0.01613	0.01833	1										
A4	0.20336	-0.01063	-0.25245	1									
A5	0.75157	0.22222	0.46744	-0.15939	1								
B1.1	0.71279	0.58507	-0.59399	0.4132	0.13502	1							
B1.2	0.59776	0.87751	0.27397	-0.03249	0.28307	0.3669	1						
B1.3	0.2587	-0.39202	-0.21105	0.79917	0.15861	0.25072	-0.31539	1					
B2.1	0.05424	0.54115	0.28328	0.47168	-0.25002	0.08879	0.59566	-0.06869	1				
B2.2	-0.57074	-0.33001	0.20276	0.54525	-0.55903	-0.4425	-0.19714	0.27894	0.60334	1			
B3.2	-0.26446	-0.30056	-0.05749	0.60488	-0.25482	-0.25407	-0.26633	0.53871	0.31795	0.72272	1		
B3.3	-0.5282	-0.54007	0.2499	0.12594	-0.26143	-0.71116	-0.25435	0.24932	0.11249	0.67169	0.74904	1	
B4.1	-0.38367	-0.54604	0.31109	0.45083	-0.06482	-0.45826	-0.57646	0.4552	0.15112	0.68558	0.64312	0.44548	1
B4.2	-0.70593	-0.28415	0.48532	-0.61383	-0.30086	-0.88205	-0.06813	-0.59593	0.03297	0.30814	0.03145	0.57485	0.05673
B5.1	-0.48649	-0.06553	0.63785	0.0141	-0.25188	-0.71665	0.15025	-0.21447	0.6181	0.75504	0.49324	0.69667	0.44483
B5.2	-0.25047	0.033	0.32671	-0.15625	0.01857	-0.24063	-0.25225	-0.35854	0.13022	0.11662	-0.0854	-0.28378	0.5111
B6.1	-0.0077	-0.21296	-0.0462	0.2377	0.1444	0.11344	-0.547	0.23727	-0.17553	0.00359	0.02745	-0.38505	0.61389
B6.2	-0.08032	-0.30429	0.36145	-0.5762	0.22822	-0.2958	-0.06202	-0.25427	-0.46523	-0.35528	-0.71575	-0.15556	-0.28402
C1.1	0.03127	0.11844	0.62531	0.41459	0.00444	-0.23028	0.44659	0.19135	0.75357	0.64779	0.2786	0.38809	0.28644
C1.2	-0.33473	-0.34265	0.73355	0.18888	-0.04047	-0.57701	-0.06599	0.12926	0.3992	0.6665	0.16246	0.39624	0.59523
C2.1	-0.20336	-0.45427	0.7924	0.08841	0.27097	-0.72309	-0.11912	0.27823	0.15198	0.52893	0.40992	0.68647	0.62215
C2.2	0.12949	0.02597	0.88357	0.22188	0.38956	-0.39272	0.30582	0.17361	0.52088	0.46104	0.22263	0.33528	0.47501
C3.1	-0.0466	-0.38835	0.69894	0	0.5031	-0.63738	-0.21586	0.27535	-0.05224	0.28204	0.46505	0.57429	0.65906
C3.2	0.1186	-0.41036	0.60091	-0.12375	0.66946	-0.52413	-0.20756	0.31705	-0.31614	-0.00368	0.28746	0.47332	0.43716
C4.1	-0.1188	0	0.47519	0.2066	0.13502	-0.25	-0.18345	0	0.35514	0.38719	0.25407	-0.04183	0.76376
C4.2	0.76882	0.60288	-0.2043	0.71293	0.25358	0.79198	0.56455	0.4879	0.49423	-0.02503	0.15714	-0.3067	-0.14863
C5.1	0.09116	0.28957	0.49788	0.55793	0.04782	-0.1033	0.33569	0.19535	0.84902	0.66606	0.54989	0.27163	0.55904
C5.2	0.24723	-0.07415	-0.17512	0.86437	0.0761	0.37936	-0.25451	0.7522	0.24636	0.35492	0.5067	-0.0798	0.6424
C6.1	-0.43166	-0.32043	-0.30333	-0.32716	-0.23535	-0.38669	-0.39635	-0.14281	-0.39455	-0.00815	0.43248	0.51558	0.0225
C6.2	-0.05185	0.07857	0.05185	-0.13525	0.14731	0	-0.32026	-0.24073	-0.09687	-0.14484	-0.07392	-0.41992	0.4
D1.1	-0.19011	-0.03274	-0.05185	-0.23293	-0.00982	0	-0.42701	-0.32097	-0.21958	-0.19312	-0.27105	-0.51729	0.3
D1.2	0.27397	0.50952	-0.09963	-0.11912	0.2123	0.3669	0.07692	-0.34693	0.05584	-0.37109	-0.23082	-0.66656	0.01601
D2.2	0.01613	-0.06721	0.09677	-0.54697	0.08249	0	0.09963	-0.35401	-0.39177	-0.48062	-0.86235	-0.38621	-0.55995
D2.3	-0.63914	-0.03209	0.15401	0.13727	-0.75703	-0.39702	0.1308	-0.26003	0.65896	0.77444	0.27997	0.46098	0.14852
D3.1	-0.62862	-0.3232	-0.40411	-0.50756	-0.63789	-0.18898	-0.34669	-0.47381	-0.40269	-0.12544	-0.41612	-0.06325	-0.37528
D3.2	-0.0412	0.55415	0.18542	-0.23289	-0.21073	0.15174	0.41359	-0.67829	0.46192	-0.04796	-0.57279	-0.58764	-0.23842
D4.1	-0.43477	-0.56851	-0.54697	-0.06707	-0.32676	0	-0.8663	0.09472	-0.6289	-0.11754	-0.05999	-0.20248	0.26148
D4.2	-0.37415	-0.56114	0.33827	0.27186	-0.09902	-0.33975	-0.53819	0.29205	0.0249	0.47488	0.05481	0.05234	0.7414
D5.1	-0.65206	-0.08475	0.18562	-0.02069	-0.47602	-0.49079	-0.27194	-0.35559	0.38773	0.58282	0.40037	0.26816	0.57527
D5.2	-0.91078	-0.33004	0.198	-0.22382	-0.72008	-0.66667	-0.30575	-0.46801	0.25156	0.60843	0.11292	0.36255	0.33096
D6.1	-0.4973	-0.30717	0.1946	-0.40892	-0.30717	-0.31851	-0.26711	-0.42438	-0.16564	0.02013	-0.60114	-0.24364	-0.00695
D6.2	-0.77771	-0.33391	0.17283	-0.45083	-0.40266	-0.63647	-0.50707	-0.54711	-0.09687	0.24945	0.01232	0.13389	0.4

	B4.2	B5.1	B5.2	B6.1	B6.2	C1.1	C1.2	C2.1	C2.2	C3.1	C3.2	C4.1	C4.2	C5.1	C5.2	C6.1	C6.2	D1.1	D1.2	D2.2	D2.3	D3.1	D3.2	D4.1	D4.2	D5.1	D5.2	D6.1	D6.2
B4.2	1																												
B5.1	0.70975	1																											
B5.2	0.11916	0.21168	1																										
B6.1	-0.42129	-0.2684	0.7539	1																									
B6.2	0.32958	-0.16151	-0.10847	-0.17257	1																								
C1.1	0.19243	0.68632	-0.10555	-0.29854	0.01946	1																							
C1.2	0.38963	0.66353	0.25485	0.0782	0.3192	0.7938	1																						
C2.1	0.44119	0.67684	0.05582	-0.05022	0.20953	0.55587	0.80815	1																					
C2.2	0.20836	0.6535	0.17486	-0.01455	0.1138	0.86007	0.82737	0.84446	1																				
C3.1	0.29134	0.49972	0.22023	0.17797	0	0.31614	0.49379	0.87112	0.68216	1																			
C3.2	0.19466	0.23849	0.01068	0.08305	0.17719	0.1456	0.31072	0.77346	0.53769	0.93653	1																		
C4.1	0	0.39814	0.88232	0.73733	-0.2958	0.23028	0.4721	0.36155	0.50492	0.49029	0.23295	1																	
C4.2	-0.77946	-0.24505	-0.30855	-0.02824	-0.48193	0.31526	-0.18042	-0.22206	0.15488	-0.21745	-0.21084	-0.0396	1																
C5.1	-0.01918	0.67684	0.32196	0.13727	-0.52382	0.75102	0.54805	0.4878	0.75174	0.42543	0.14782	0.67145	0.43243	1															
C5.2	-0.70445	-0.13119	0.23648	0.66886	-0.56429	0.14976	0.13191	0.07614	0.19459	0.17856	0.05555	0.5311	0.56999	0.51504	1														
C6.1	0.39892	0.1173	-0.11422	-0.1866	-0.31955	-0.52863	-0.4662	-0.0634	-0.46831	0.18537	0.21161	-0.21483	-0.48028	-0.31195	-0.29432	1													
C6.2	-0.14183	-0.10426	0.91018	0.84163	-0.2582	-0.42714	-0.11447	-0.18033	-0.09794	0.14979	0.02542	0.76376	-0.19011	0.13525	0.33113	0.05625	1												
D1.1	-0.09455	-0.2201	0.88684	0.83337	-0.04303	-0.51089	-0.0992	-0.29304	-0.24485	-0.04993	-0.14403	0.63647	-0.33413	-0.08265	0.20972	-0.0125	0.94444	1											
D1.2	-0.34066	-0.26711	0.72312	0.63024	-0.3721	-0.44659	-0.39592	-0.48729	-0.22348	-0.14391	-0.21977	0.55035	0.13284	0.11912	0.25451	-0.04504	0.8807	0.80064	1										
D2.2	0.17648	-0.34595	-0.20691	-0.26182	0.9237	-0.08598	0.08546	-0.14025	-0.12949	-0.37277	-0.17395	-0.47519	-0.3172	-0.63112	-0.60776	-0.385	-0.31109	-0.05185	-0.27397	1									
D2.3	0.56874	0.73809	0.0104	-0.38235	-0.09587	0.58589	0.51683	0.21427	0.24365	-0.15573	-0.40014	0.05672	-0.16941	0.40175	-0.18689	-0.04735	-0.3218	-0.25579	-0.38052	-0.0616	1								
D3.1	0.42112	-0.18058	-0.09095	-0.21437	0.44721	-0.43519	-0.17844	-0.40996	-0.63614	-0.57447	-0.50626	-0.47246	-0.64359	-0.7223	-0.60222	0.25983	-0.14434	0.14434	-0.20801	0.58372	0.30012	1							
D3.2	0.11271	0.11047	0.52859	0.11803	0.1539	0.14976	0.16374	-0.33142	0.05838	-0.47615	-0.61607	0.30349	-0.00687	0.17019	-0.19737	-0.52903	0.33113	0.44151	0.47721	0.32963	0.36394	0.22942	1						
D4.1	-0.15346	-0.47943	0.3409	0.63611	0.03492	-0.72724	-0.26629	-0.35976	-0.63583	-0.20259	-0.17188	0.1033	-0.44879	-0.53049	0.20602	0.29419	0.49592	0.66122	0.25989	0.04207	-0.26114	0.50756	-0.10749	1					
D4.2	0.02804	0.18551	0.51216	0.62643	0.28076	0.30799	0.75814	0.47686	0.42842	0.31094	0.16582	0.604	-0.24772	0.25849	0.4419	-0.45044	0.29656	0.39541	-0.07123	0.08713	0.17863	-0.01427	0.14403	0.36545	1				
D5.1	0.45568	0.63166	0.73913	0.35676	-0.42664	0.0692	0.28161	0.15106	0.12138	0.20625	-0.10499	0.70112	-0.39187	0.46973	0.12159	0.28575	0.58139	0.52529	0.37484	-0.51403	0.5181	0.053	0.33437	0.21107	0.31005	1			
D5.2	0.74278	0.63702	0.42779	-1.7E-17	0.0986	0.1919	0.48958	0.2066	0.0748	-0.01634	-0.25236	0.29167	-0.65999	0.13773	-0.2782	0.15754	0.12729	0.25459	-0.1223	0.0396	0.79405	0.53545	0.40465	0.2066	0.41525	0.75955	1		
D6.1	0.38445	0.01449	0.35037	0.16001	0.72682	0.01048	0.43917	0.0141	-0.01021	-0.24986	-0.27558	0.07963	-0.5874	-0.31492	-0.35213	-0.36363	0.10426	0.38228	-0.08347	0.72433	0.30969	0.66212	0.56618	0.34782	0.58402	0.14994	0.61048	1	
D6.2	0.61458	0.38228	0.74682	0.37956	0.04303	-0.25126	0.20604	0.08265	-0.09794	0.14979	-0.03389	0.50918	-0.795	-0.02254	-0.20972	0.36253	0.61111	0.68519	0.32026	-0.06913	0.31355	0.43301	0.33113	0.49592	0.37345	0.83129	0.80619	0.5097	1

Correlation Table from survey answered by Both using KPI and OKRs user

Color	Correlation Coefficient Value
	0.9 - 0.99
	0.8-0.89
	0.7-0.79
	0.6-0.69
	-0.7 -0.8
	-0.9

	A1	A2	A3	A4	A5	B1.1	B1.2	B1.3	B2.1	B2.2	B3.2	B3.3	B4.1	B4.2	B5.1	B5.2	B6.1	B6.2	C1.1	C1.2
A1	1																			
A2	0.95268	1																		
A3	0.90419	0.99124	1																	
A4	0.90419	0.99124	1	1																
A5	0.66114	0.40181	0.27735	0.27735	1															
B1.1	-0.82199	-0.60999	-0.5	-0.5	-0.97073	1														
B1.2	0.99662	0.92447	0.86603	0.86603	0.72058	-0.86603	1													
B1.3	0.0822	0.38125	0.5	0.5	-0.69338	0.5	0	1												
B2.1	0.90419	0.99124	1	1	0.27735	-0.5	0.86603	0.5	1											
B2.2	0.82199	0.60999	0.5	0.5	0.97073	-1	0.86603	-0.5	0.5	1										
B3.2	0.40389	0.66285	0.75593	0.75593	-0.41931	0.18898	0.32733	0.94491	0.75593	-0.18898	1									
B3.3	0.66114	0.40181	0.27735	0.27735	1	-0.97073	0.72058	-0.69338	0.27735	0.97073	-0.41931	1								
B4.1	0.93472	0.78247	0.69338	0.69338	0.88462	-0.97073	0.96077	-0.27735	0.69338	0.97073	0.05241	0.88462	1							
B4.2	0.56949	0.79241	0.86603	0.86603	-0.24019	0	0.5	0.86603	0.86603	0	0.98198	-0.24019	0.24019	1						
B5.1	0.99419	0.97986	0.94491	0.94491	0.57656	-0.75593	0.98198	0.18898	0.94491	0.75593	0.5	0.57656	0.89104	0.65465	1					
B5.2	0.0822	0.38125	0.5	0.5	-0.69338	0.5	0	1	0.5	-0.5	0.94491	-0.69338	-0.27735	0.86603	0.18898	1				
B6.1	0.82675	0.95863	0.98783	0.98783	0.12453	-0.35921	0.77771	0.62862	0.98783	0.35921	0.84856	0.12453	0.57286	0.93326	0.8825	0.62862	1			
B6.2	0.96862	0.99834	0.98198	0.98198	0.45392	-0.65465	0.94491	0.32733	0.98198	0.65465	0.61859	0.45392	0.81706	0.75593	0.98974	0.32733	0.94063	1		
C1.1	0.97465	0.86053	0.78571	0.78571	0.81224	-0.92857	0.98974	-0.14286	0.78571	0.92857	0.18898	0.81224	0.99054	0.37115	0.94491	-0.14286	0.67993	0.88846	1	
C1.2	0.93472	0.78247	0.69338	0.69338	0.88462	-0.97073	0.96077	-0.27735	0.69338	0.97073	0.05241	0.88462	1	0.24019	0.89104	-0.27735	0.57286	0.81706	0.99054	1
C2.1	0.99662	0.92447	0.86603	0.86603	0.72058	-0.86603	1	0	0.86603	0.86603	0.32733	0.72058	0.96077	0.5	0.98198	0	0.77771	0.94491	0.98974	0.96077
C2.2	0.90419	0.99124	1	1	0.27735	-0.5	0.86603	0.5	1	0.5	0.75593	0.27735	0.69338	0.86603	0.94491	0.5	0.98783	0.98198	0.78571	0.69338
C3.1	0.77513	0.9305	0.97073	0.97073	0.03846	-0.27735	0.72058	0.69338	0.97073	0.27735	0.89104	0.03846	0.5	0.96077	0.83653	0.69338	0.99627	0.90784	0.61413	0.5
C3.2	0.90419	0.99124	1	1	0.27735	-0.5	0.86603	0.5	1	0.5	0.75593	0.27735	0.69338	0.86603	0.94491	0.5	0.98783	0.98198	0.78571	0.69338
C4.1	0.56949	0.79241	0.86603	0.86603	-0.24019	0	0.5	0.86603	0.86603	0	0.98198	-0.24019	0.24019	1	0.65465	0.86603	0.93326	0.75593	0.37115	0.24019
C4.2	0.96312	0.83577	0.75593	0.75593	0.83863	-0.94491	0.98198	-0.18898	0.75593	0.94491	0.14286	0.83863	0.99587	0.32733	0.92857	-0.18898	0.6449	0.86603	0.99891	0.99587
C5.1	-0.82199	-0.60999	-0.5	-0.5	-0.97073	1	-0.86603	0.5	-0.5	-1	0.18898	-0.97073	-0.97073	0	-0.75593	0.5	-0.35921	-0.65465	-0.92857	-0.97073
C5.2	-0.82199	-0.60999	-0.5	-0.5	-0.97073	1	-0.86603	0.5	-0.5	-1	0.18898	-0.97073	-0.97073	0	-0.75593	0.5	-0.35921	-0.65465	-0.92857	-0.97073
C6.1	0.99947	0.9621	0.91766	0.91766	0.63628	-0.80296	0.9934	0.11471	0.91766	0.80296	0.43355	0.63628	0.92261	0.59604	0.99718	0.11471	0.84469	0.97622	0.96662	0.92261
C6.2	-0.93472	-0.78247	-0.69338	-0.69338	-0.88462	0.97073	-0.96077	0.27735	-0.69338	-0.97073	-0.05241	-0.88462	-1	-0.24019	-0.89104	0.27735	-0.57286	-0.81706	-0.99054	-1
D1.1	0.99419	0.97986	0.94491	0.94491	0.57656	-0.75593	0.98198	0.18898	0.94491	0.75593	0.5	0.57656	0.89104	0.65465	1	0.18898	0.8825	0.98974	0.94491	0.89104
D1.2	0.99814	0.96946	0.92857	0.92857	0.61413	-0.78571	0.98974	0.14286	0.92857	0.78571	0.45896	0.61413	0.91129	0.61859	0.99891	0.14286	0.85954	0.98198	0.95916	0.91129
D2.2	0.99662	0.92447	0.86603	0.86603	0.72058	-0.86603	1	0	0.86603	0.86603	0.32733	0.72058	0.96077	0.5	0.98198	0	0.77771	0.94491	0.98974	0.96077
D2.3	0.56949	0.79241	0.86603	0.86603	-0.24019	0	0.5	0.86603	0.86603	0	0.98198	-0.24019	0.24019	1	0.65465	0.86603	0.93326	0.75593	0.37115	0.24019
D3.1	0.32058	0.01749	-0.11471	-0.11471	0.92261	-0.80296	0.39736	-0.91766	-0.11471	0.80296	-0.73704	0.92261	0.63628	-0.59604	0.21678	-0.91766	-0.26783	0.07509	0.52438	0.63628
D3.2	0.71458	0.89341	0.94491	0.94491	-0.05241	-0.18898	0.65465	0.75593	0.94491	0.18898	0.92857	-0.05241	0.41931	0.98198	0.78571	0.75593	0.98432	0.86603	0.53995	0.41931
D4.1	0.82675	0.95863	0.98783	0.98783	0.12453	-0.35921	0.77771	0.62862	0.98783	0.35921	0.84856	0.12453	0.57286	0.93326	0.8825	0.62862	1	0.94063	0.67993	0.57286
D4.2	-0.90419	-0.99124	-1	-1	-0.27735	0.5	-0.86603	-0.5	-1	-0.5	-0.75593	-0.27735	-0.69338	-0.86603	-0.94491	-0.5	-0.98783	-0.98198	-0.78571	-0.69338
D5.1	0.32058	0.01749	-0.11471	-0.11471	0.92261	-0.80296	0.39736	-0.91766	-0.11471	0.80296	-0.73704	0.92261	0.63628	-0.59604	0.21678	-0.91766	-0.26783	0.07509	0.52438	0.63628
D5.2	0.32058	0.01749	-0.11471	-0.11471	0.92261	-0.80296	0.39736	-0.91766	-0.11471	0.80296	-0.73704	0.92261	0.63628	-0.59604	0.21678	-0.91766	-0.26783	0.07509	0.52438	0.63628
D6.1	-0.82199	-0.60999	-0.5	-0.5	-0.97073	1	-0.86603	0.5	-0.5	-1	0.18898	-0.97073	-0.97073	0	-0.75593	0.5	-0.35921	-0.65465	-0.92857	-0.97073
D6.2	0.0822	0.38125	0.5	0.5	-0.69338	0.5	0	1	0.5	-0.5	0.94491	-0.69338	-0.27735	0.86603	0.18898	1	0.62862	0.32733	-0.14286	-0.27735

	C2.1	C2.2	C3.1	C3.2	C4.1	C4.2	C5.1	C5.2	C6.1	C6.2	D1.1	D1.2	D2.2	D2.3	D3.1	D3.2	D4.1	D4.2	D5.1	D5.2	D6.1	D6.2
C2.1	1																					
C2.2	0.86603	1																				
C3.1	0.72058	0.97073	1																			
C3.2	0.86603	1	0.97073	1																		
C4.1	0.5	0.86603	0.96077	0.86603	1																	
C4.2	0.98198	0.75593	0.57656	0.75593	0.32733	1																
C5.1	-0.86603	-0.5	-0.27735	-0.5	0	-0.94491	1															
C5.2	-0.86603	-0.5	-0.27735	-0.5	0	-0.94491	1	1														
C6.1	0.9934	0.91766	0.79536	0.91766	0.59604	0.95382	-0.80296	-0.80296	1													
C6.2	-0.96077	-0.69338	-0.5	-0.69338	-0.24019	-0.99587	0.97073	0.97073	-0.92261	1												
D1.1	0.98198	0.94491	0.83863	0.94491	0.65465	0.92857	-0.75593	-0.75593	0.99718	-0.89104	1											
D1.2	0.98974	0.92857	0.81224	0.92857	0.61859	0.94491	-0.78571	-0.78571	0.9996	-0.91129	0.99891	1										
D2.2	1	0.86603	0.72058	0.86603	0.5	0.98198	-0.86603	-0.86603	0.9934	-0.96077	0.98198	0.98974	1									
D2.3	0.5	0.86603	0.96077	0.86603	1	0.32733	0	0	0.59604	-0.24019	0.65465	0.61859	0.5	1								
D3.1	0.39736	-0.11471	-0.34996	-0.11471	-0.59604	0.56362	-0.80296	-0.80296	0.28947	-0.63628	0.21678	0.26219	0.39736	-0.59604	1							
D3.2	0.65465	0.94491	0.99587	0.94491	0.98198	0.5	-0.18898	-0.18898	0.73704	-0.41931	0.78571	0.75593	0.65465	0.98198	-0.43355	1						
D4.1	0.77771	0.98783	0.99627	0.98783	0.93326	0.6449	-0.35921	-0.35921	0.84469	-0.57286	0.8825	0.85954	0.77771	0.93326	-0.26783	0.98432	1					
D4.2	-0.86603	-1	-0.97073	-1	-0.86603	-0.75593	0.5	0.5	-0.91766	0.69338	-0.94491	-0.92857	-0.86603	-0.86603	0.11471	-0.94491	-0.98783	1				
D5.1	0.39736	-0.11471	-0.34996	-0.11471	-0.59604	0.56362	-0.80296	-0.80296	0.28947	-0.63628	0.21678	0.26219	0.39736	-0.59604	1	-0.43355	-0.26783	0.11471	1			
D5.2	0.39736	-0.11471	-0.34996	-0.11471	-0.59604	0.56362	-0.80296	-0.80296	0.28947	-0.63628	0.21678	0.26219	0.39736	-0.59604	1	-0.43355	-0.26783	0.11471	1	1		
D6.1	-0.86603	-0.5	-0.27735	-0.5	0	-0.94491	1	1	-0.80296	0.97073	-0.75593	-0.78571	-0.86603	0	-0.80296	-0.18898	-0.35921	0.5	-0.80296	-0.80296	1	
D6.2	0	0.5	0.69338	0.5	0.86603	-0.18898	0.5	0.5	0.11471	0.27735	0.18898	0.14286	0	0.86603	-0.91766	0.75593	0.62862	-0.5	-0.91766	-0.91766	0.5	1

Correlation Table from survey answered by OKRs users

Color	Correlation Coefficient Value
	0.9 - 0.99
	0.8-0.89
	0.7-0.79
	0.6-0.69
	-0.7 -0.8
	-0.9

	A1	A2	A3	A4	A5	B1.1	B1.2	B1.3	B2.1	B2.2
A1	1									
A2	-0.12588	1								
A3	0.18795	0.73825	1							
A4	0.40379	-0.42512	0.26854	1						
A5	-0.57527	0.81656	0.49191	-0.57242	1					
B1.1	-0.31807	-0.66975	-0.92308	-0.35806	-0.25962	1				
B1.2	-0.14257	0.73176	0.9008	0.07356	0.74111	-0.67955	1			
B1.3	-0.29791	0.75167	0.8745	0.0636	0.77184	-0.69687	0.9713	1		
B2.1	-0.25439	-0.91227	-0.71902	0.29531	-0.5184	0.76132	-0.54743	-0.53343	1	
B2.2	-0.69222	-0.03169	-0.18014	-0.37268	0.54044	0.52042	0.26318	0.24177	0.3962	1
B3.2	0.24512	0.22288	0.68667	0.41391	0.27028	-0.42485	0.76728	0.6248	-0.15211	0.26737
B3.3	0.1977	0.17612	0.67258	0.47078	0.24793	-0.41467	0.7605	0.63239	-0.08898	0.28423
B4.1	0.82872	0.27599	0.69738	0.52357	-0.19181	-0.76487	0.38822	0.27173	-0.54425	-0.6322
B4.2	0.8427	0.34855	0.68054	0.37268	-0.11378	-0.72058	0.39477	0.256	-0.61632	-0.58333
B5.1	0.83194	0.28544	0.69655	0.50589	-0.18252	-0.76077	0.38973	0.27028	-0.55412	-0.6273
B5.2	0.24512	0.28153	0.66197	0.27594	0.34048	-0.37545	0.76728	0.60725	-0.20644	0.31879
B6.1	0.57827	-0.63349	-0.11953	0.58058	-0.58714	0.21828	-0.14094	-0.31757	0.4915	0.03246
B6.2	0.50866	-0.57204	-0.13839	0.42945	-0.45888	0.29728	-0.09267	-0.28771	0.47347	0.18139
C1.1	0.77407	0.46569	0.56383	0	0.06967	-0.53932	0.36262	0.1916	-0.70091	-0.40825
C1.2	0.8427	0.34855	0.68054	0.37268	-0.11378	-0.72058	0.39477	0.256	-0.61632	-0.58333
C2.1	0.83858	0.38322	0.66189	0.28527	-0.06967	-0.68641	0.39284	0.24386	-0.647	-0.54858
C2.2	0.83858	0.38322	0.66189	0.28527	-0.06967	-0.68641	0.39284	0.24386	-0.647	-0.54858
C3.1	0.82385	0.26331	0.69793	0.54651	-0.20392	-0.76968	0.38594	0.27344	-0.5308	-0.63817
C3.2	0.83858	0.38322	0.66189	0.28527	-0.06967	-0.68641	0.39284	0.24386	-0.647	-0.54858
C4.1	0.36116	0.76047	0.72058	0	0.256	-0.8807	0.42767	0.4551	-0.92447	-0.66667
C4.2	0.31175	0.65644	0.72315	0.18831	0.1581	-0.92037	0.40726	0.4707	-0.81191	-0.71583
C5.1	0.5595	-0.58906	-0.31009	0.23094	-0.50675	0.43412	-0.28031	-0.48472	0.4433	0.1291
C5.2	0.33174	-0.17463	-0.19612	0.22822	-0.59222	-0.19612	-0.56408	-0.45288	-0.10783	-0.86753
C6.1	-0.8427	-0.34855	-0.68054	-0.37268	0.11378	0.72058	-0.39477	-0.256	0.61632	0.58333
C6.2	-0.77407	-0.46569	-0.56383	0	-0.06967	0.53932	-0.36262	-0.1916	0.70091	0.40825
D1.1	0.55225	-0.73616	-0.37913	0.38604	-0.66083	0.45022	-0.38458	-0.55981	0.57327	0.04933
D1.2	0.48698	-0.70497	-0.21592	0.55277	-0.59449	0.32388	-0.19962	-0.36436	0.5936	0.11237
D2.2	-0.07401	0.72076	0.95982	0.22911	0.62515	-0.82446	0.96573	0.97052	-0.58864	0.05123
D2.3	0.35855	0.17719	0.66672	0.45305	0.17635	-0.42826	0.70786	0.54979	-0.1552	0.18235
D3.1	0.67368	-0.30858	-0.31421	0.16251	-0.75245	-0.02327	-0.68856	-0.69457	-0.07678	-0.85999
D3.2	0.57827	-0.07816	-0.11953	0.14515	-0.58714	-0.24946	-0.52531	-0.48374	-0.28004	-0.94121
D4.1	0.87053	-0.47801	-0.23458	0.41818	-0.87238	-0.00998	-0.58242	-0.67025	0.07684	-0.75844
D4.2	0.22832	0.74786	0.68051	0	0.27173	-0.8661	0.39747	0.46754	-0.87822	-0.65561
D5.1	-0.07466	0.84499	0.42206	-0.50848	0.52921	-0.54619	0.28563	0.37044	-0.87365	-0.36177
D5.2	-0.01614	0.85788	0.4507	-0.4995	0.52229	-0.56874	0.30424	0.37361	-0.90275	-0.37975
D6.1	-0.39421	0.65865	0.80933	0.10612	0.75324	-0.61555	0.94612	0.98812	-0.40113	0.33221
D6.2	-0.0172	0.84647	0.96649	0.05324	0.69891	-0.83495	0.95873	0.94678	-0.74209	0.0119

	B3.2	B3.3	B4.1	B4.2	B5.1	B5.2	B6.1	B6.2	C1.1	C1.2	C2.1	C2.2
B3.2	1											
B3.3	0.99506	1										
B4.1	0.56055	0.52649	1									
B4.2	0.55532	0.50529	0.98342	1								
B5.1	0.56091	0.52482	0.99975	0.98723	1							
B5.2	0.98731	0.9691	0.53166	0.55532	0.53553	1						
B6.1	0.52601	0.53025	0.37085	0.34619	0.36847	0.49931	1					
B6.2	0.56091	0.55531	0.2938	0.29875	0.29494	0.56091	0.9807	1				
C1.1	0.4786	0.39968	0.83163	0.91856	0.84385	0.54158	0.25175	0.27442	1			
C1.2	0.55532	0.50529	0.98342	1	0.98723	0.55532	0.34619	0.29875	0.91856	1		
C2.1	0.54473	0.4867	0.96068	0.99511	0.96665	0.56047	0.32794	0.29729	0.95313	0.99511	1	
C2.2	0.54473	0.4867	0.96068	0.99511	0.96665	0.56047	0.32794	0.29729	0.95313	0.99511	1	1
C3.1	0.55965	0.52829	0.99956	0.97763	0.99866	0.52614	0.3737	0.29207	0.81486	0.97763	0.95205	0.95205
C3.2	0.54473	0.4867	0.96068	0.99511	0.96565	0.56047	0.32794	0.29729	0.95313	0.99511	1	1
C4.1	0.0617	0.02105	0.65561	0.66667	0.65815	0.0617	-0.45438	-0.51215	0.61237	0.66667	0.6634	0.6634
C4.2	0.04677	0.02926	0.6448	0.61056	0.64173	0.00779	-0.44005	-0.53644	0.46414	0.61056	0.5834	0.5834
C5.1	0.36642	0.34247	0.21764	0.2582	0.22304	0.39828	0.9218	0.95871	0.31623	0.2582	0.2767	0.2767
C5.2	-0.66753	-0.65753	0.17206	0.10206	0.16373	-0.7305	-0.25175	-0.4051	-0.0625	0.10206	0.0625	0.0625
C6.1	-0.55532	-0.50529	-0.98342	-1	-0.98723	-0.55532	-0.34619	-0.29875	-0.91856	-1	-0.99511	-0.99511
C6.2	-0.4786	-0.39968	-0.83163	-0.91856	-0.84385	-0.54158	-0.25175	-0.27442	-1	-0.91856	-0.95313	-0.95313
D1.1	0.29218	0.28663	0.19403	0.19731	0.19479	0.29218	0.95415	0.95365	0.18124	0.19731	0.19634	0.19634
D1.2	0.47146	0.48261	0.25258	0.22473	0.2496	0.44373	0.99197	0.97832	0.13762	0.22473	0.20643	0.20643
D2.2	0.6986	0.70218	0.48942	0.46108	0.48681	0.66699	-0.18955	-0.19023	0.3451	0.46108	0.43922	0.43922
D2.3	0.99261	0.98282	0.63191	0.62809	0.63257	0.98011	0.59446	0.62	0.54592	0.62809	0.61726	0.61726
D3.1	-0.53511	-0.56001	0.32672	0.31493	0.32585	-0.55006	0.10378	-0.00931	0.25219	0.31493	0.30411	0.30411
D3.2	-0.55538	-0.57672	0.37085	0.34619	0.36847	-0.58208	-0.13764	-0.26595	0.25175	0.34619	0.32794	0.32794
D4.1	-0.1718	-0.19424	0.51962	0.4987	0.51798	-0.19745	0.52334	0.41504	0.39446	0.4987	0.48036	0.48036
D4.2	-0.04045	-0.06803	0.54605	0.53854	0.54611	-0.0549	-0.56843	-0.63856	0.45883	0.53854	0.52694	0.52694
D5.1	-0.29337	-0.33948	0.14521	0.20672	0.15306	-0.24235	-0.83196	-0.82052	0.31648	0.20672	0.23736	0.23736
D5.2	-0.25085	-0.30194	0.20085	0.26806	0.2095	-0.19572	-0.79171	-0.77796	0.38302	0.26806	0.30095	0.30095
D6.1	0.62079	0.64147	0.17335	0.14237	0.16984	0.5915	-0.28957	-0.26128	0.05812	0.14237	0.12351	0.12351
D6.2	0.64346	0.6256	0.51512	0.52381	0.51712	0.64346	-0.27201	-0.24998	0.48115	0.52381	0.52125	0.52125

	C3.1	C3.2	C4.1	C4.2	C5.1	C5.2	C6.1	C6.2	D1.1	D1.2	D2.2	D2.3	D3.1	D3.2	D4.1	D4.2	D5.1	D5.2	D6.1	D6.2
C3.1	1																			
C3.2	0.95205	1																		
C4.1	0.65175	0.6634	1																	
C4.2	0.64836	0.5834	0.98647	1																
C5.1	0.21035	0.2767	-0.5164	-0.5871	1															
C5.2	0.18293	0.0625	0.40825	0.50282	-0.31623	1														
C6.1	-0.97763	-0.99511	-0.66667	-0.61056	-0.2582	-0.10206	1													
C6.2	-0.81486	-0.95313	-0.61237	-0.46414	-0.31623	0.0625	0.91856	1												
D1.1	0.19289	0.19634	-0.56725	-0.58572	0.9743	-0.18124	-0.19731	-0.18124	1											
D1.2	0.25632	0.20643	-0.56183	-0.53939	0.92261	-0.27524	-0.22473	-0.13762	0.96442	1										
D2.2	0.49251	0.43922	0.56355	0.58893	-0.39684	-0.3451	-0.46108	-0.3451	-0.45866	-0.25905	1									
D2.3	0.63055	0.61726	0.08104	0.06143	0.43944	-0.60796	-0.62809	-0.54592	0.36878	0.53274	0.64771	1								
D3.1	0.32762	0.30411	0.2907	0.29684	0.15012	0.86042	-0.31493	-0.25219	0.22943	0.06533	-0.5436	-0.43291	1							
D3.2	0.3737	0.32794	0.51929	0.54392	-0.13408	0.94075	-0.34619	-0.25175	-0.05443	-0.18964	-0.3392	-0.47083	0.95292	1						
D4.1	0.5214	0.48036	0.12468	0.13387	0.51506	0.62351	-0.4987	-0.39446	0.59038	0.47632	-0.47266	-0.05305	0.89702	0.76613	1					
D4.2	0.54556	0.52694	0.98342	0.98199	-0.65293	0.47317	-0.53854	-0.45883	-0.67912	-0.66302	0.5542	-0.03416	0.26886	0.52588	0.04963	1				
D5.1	0.13473	0.23736	0.8269	0.74425	-0.73659	0.31648	-0.20672	-0.31648	-0.82595	-0.89199	0.3495	-0.31413	0.13521	0.37573	-0.20619	0.85675	1			
D5.2	0.18927	0.30095	0.84886	0.75625	-0.69213	0.30095	-0.26806	-0.38302	-0.79004	-0.85845	0.36393	-0.26613	0.14936	0.3828	-0.17267	0.86616	0.99746	1		
D6.1	0.17785	0.12351	0.33221	0.37169	-0.47789	-0.49405	-0.14237	-0.05812	-0.53373	-0.31996	0.94093	0.53654	-0.76568	-0.56682	-0.72777	0.36003	0.26489	0.26079	1	
D6.2	0.51209	0.52125	0.66667	0.64064	-0.40574	-0.33535	-0.52381	-0.48115	-0.50736	-0.35315	0.9734	0.59915	-0.48104	-0.27201	-0.45121	0.63889	0.50205	0.52336	0.88814	1