



FACTORS AFFECTING EMPLOYEE RETENTION IN SOFTWARE  
DEVELOPMENT COMPANIES FOR STARTUPS

WATCHARAPON SARNSANIT

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR MASTER DEGREE OF BUSINESS  
ADMINISTRATION (INTERNATIONAL PROGRAM)  
IN BUSINESS ADMINISTRATION  
GRADUATE SCHOOL OF COMMERCE  
BURAPHA UNIVERSITY

2023

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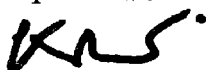
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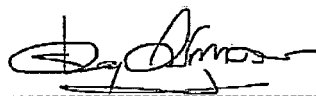
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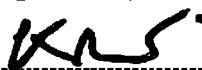
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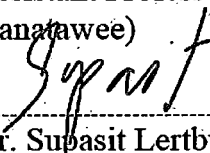


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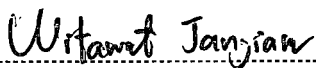
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2023.

The objectives of this research were to investigate the factors affecting employee retention in software startups in Thailand. The sample group consisted of 454 employees working in software startup companies. The research tool was a questionnaire to analyze data using the SPSS program.

The results showed that the most of sample have work experience in startup companies of less than 3 years of 214 people, representing 47.1% and during the 3 years of 147 people, representing 32.4%, graduated with a bachelor's degree in IT 388 people or become an 85.5% each person's work experience will be in the 3 years range of 193 people, is 42.5%. The most income at 20,000-40,000 baht per month is 262 people, representing 57.7%. This proportion can be accounted for as most employees have been working at a startup for only 3 years, and in those 3 years at a startup, there may be someone who has been working for 7 years. Most of them have a bachelor's degree in IT.

Studying the experimental results, it was found that attitudes towards the factors affecting employee retention in software companies for startups where statistical significance is 0.05 include 1. Job security 2. Transparency 3. Work benefits 4. Corporate Culture 5. Environment.



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Watcharapon Sarnsanit

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# CHAPTER 1

## INTRODUCTION

### Background and problem statement

The number of recent business incubators that have opened in the past decade can be used to evaluate the importance of startups (Grimaldi & Grandi, 2005). Non-startup companies have become more competitive as a result of technological disruption compelling them to undergo significant innovative and organizational renewals in order to behave more like startups (Christensen, 1997). However, using strategies to manage and supervise the process of development activities in startups remains difficult (Coleman & O'Connor, 2008). Various methodologies have been suggested to incentivize software development endeavors in startup companies, yet none have demonstrated significant benefits (Sutton, 2000).

Comprehending the management of startup processes in a development setting presents complicated and numerous challenges for software engineering (SE). Startups, according to Bach (1998), according to Bach, are "a bunch of energetic and committed people with no defined development processes." Startups, according to Sutton, are characterized as being innovative and adaptable in nature and averse to enacting procedures or administrative controls that might lead to inefficient procedures. Due to budget constraints, the emphasis is on product creation rather than developing strict processes (Heitlager et al., 2007).

Attempts to adopt lightweight methods for entrepreneurs revealed failures: "Everyone is distracted, and digital engineering activities are always one of the first ways developers cut corners." (Martin & Hoffman, 2007).

Startups commonly use reactive and low-precision engineering approaches, rejecting the concept of repeatable and regulated procedures (Cockburn, 1998). technical activities (Chorev & Anderson, 2006; Kakati, 2003; Tanabian & ZahirAzami, 2005). Startups usually build tech services licensed to clients rather than goods that are distributed and tailored to a single client (Marmer et al., 2012). This component is addressed via market-driven software development, often known as packaged software development or COTS software development (Natt och Dag,

2002). Researchers emphasize the significance of time-to-market as a crucial objective for companies (Sawyer et al., 1999). Furthermore, the product specifications are "invented by the software company" (Potts, 1995). This means that there is no real group of stakeholders until the product is initially released. Therefore, commercial off-the-shelf product needs aren't necessarily obtained from consumers; instead, the development firm proposes, invents, or designs them, which are "rarely documented" (Karlsson et al., 2002). Once the application is released on the market (Alves et al., 2006; Keil & Carmel, 1995) the product specifications can be reviewed accordingly. Hence, unsuccessful product launches are primarily attributed to "products not reaching customer needs". In order to solve this issue, startups adopt product-oriented methodologies that involve adaptable teams and utilize workflows that allow for swift pivots towards the intended market (Heitlager et al., 2007). As a result, many startups prioritize team competitiveness by affording more flexibility to employees rather than enforcing fixed directives (Chorev & Anderson, 2006; Tanabian & ZahirAzami, 2005).

Thailand has experienced a sharp increase in the tech startups in the past years. In 2023, the total size of startup financing in Thailand was approximately 2365.728 million US dollars accordingly to Techsauce.co, (2023). This statistic is updated at 2023/06/20. There are 306 startups and 418 investors.

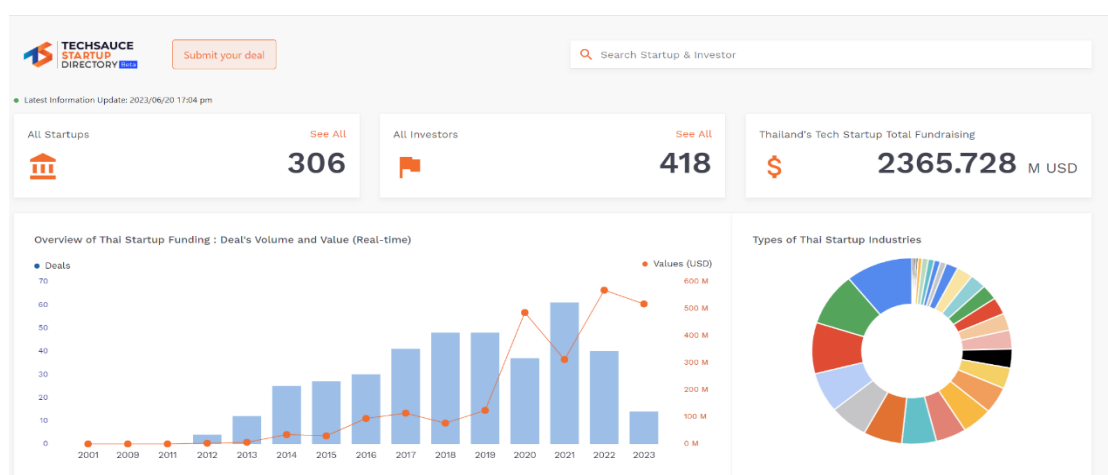


Figure 1 Numbers of deals for tech startups in Thailand.

Source: Techsauce.co (2023)

Employees are an essential part of every company. They are the ones that determine an organization's success and lead the organization toward its vision. (Kurniawati & MeilianaIntani, 2016; Sirota & Klein, 2013; Vosloban, 2012) Motivating employees and meeting their needs improves performance and corporate growth. In the software industry, where competition is fierce, it is crucial for firms to employ various motivational strategies, such as incentives, prizes, and other means, to encourage and inspire their software developers (Zahra & Bogner, 2000). In today's world, team interaction and success are essential to achieving project goals and objectives. (Asproni, 2004; Mahdieh, 2015). Each team member has a unique personality and capacity to complete the assignment. According to Katzenbach and Smith (2015) definition, a team is distinguished by its leadership structure, collaborative work output, and ability to foster open-minded dialogue, collective effort, and effective problem-solving. This is also true for a software development team.

This idea also applies to software development teams, where everyone is working together to achieve a single objective, such as creating an application, providing a service, or finishing a list of tasks outlined in their daily plan. In recent decades, the software industry has grown at a rapid pace. The low investment needed in software development has resulted in a slew of new businesses and challenges. A complex, innovative, performance-driven, cost-efficient, and profit-driven multi-layer product must be produced in a highly competitive environment for innovation to succeed (Muenthaisong & Leemanonwarachai, 2016). In contrast to other industries, the working environment and outcomes in the software sector are entirely dependent on the initiative and engagement that a worker may bring to their project. Because of the changing economy and increased competition, the company needs total effort from its workers to expand and stay in business. The growth of the digital era has provided people with new opportunities, new employment, and in-demand skills. Major tech companies in Thailand are expanding at an unprecedented pace (The Himalayan, 2018). Computer companies provide services and develop applications for both domestic and international clients. Software projects are typically sourced from countries like the United States, India, and Europe. Companies are adopting international guidelines and growth methods such as Agile principles, Scrum



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methodologies, and the Software Development Life Cycle (SDLC) to accomplish this. As a result, some steps have been taken to improve employee standards and growth.

Several studies aim to analyze and assess the determinants that impact the productivity of employees, with the objective of generating new ideas and facilitating informed managerial decision-making. The Software industry is anticipated to face further challenges and experience unprecedented expansion in the future (David, 2000; Dingsøyr et al., 2010; Northrop et al., 2006; Rahman & Qi, 2016). As a result, the business must be ready to support employee skill growth and talent retention in the future.

This research paper examines the factors affecting employee retention in software development companies for startups. Employees and managers benefit from this study by having guidelines for employee retention, allowing for long-term management success in Thailand's software engineering startup ecosystem.

## **Research objectives**

The objectives of this research are:

To investigate the factors affecting employee retention software startups in Thailand.

## **Research hypotheses**

**H<sub>1</sub>:** Transparency has an impact on employee retention at software startups in Thailand.

**H<sub>2</sub>:** Work benefits have an impact on employee retention at software startups in Thailand.

**H<sub>3</sub>:** Teamwork has an impact on employee retention at software startups in Thailand.

**H<sub>4</sub>:** Environment has an impact on employee retention at software startups in Thailand.

**H<sub>5</sub>:** Job security has an impact on employee retention at software startups in Thailand.



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**H<sub>6</sub>**: Corporate culture has an impact on employee retention at software startups in Thailand.

### Conceptual framework

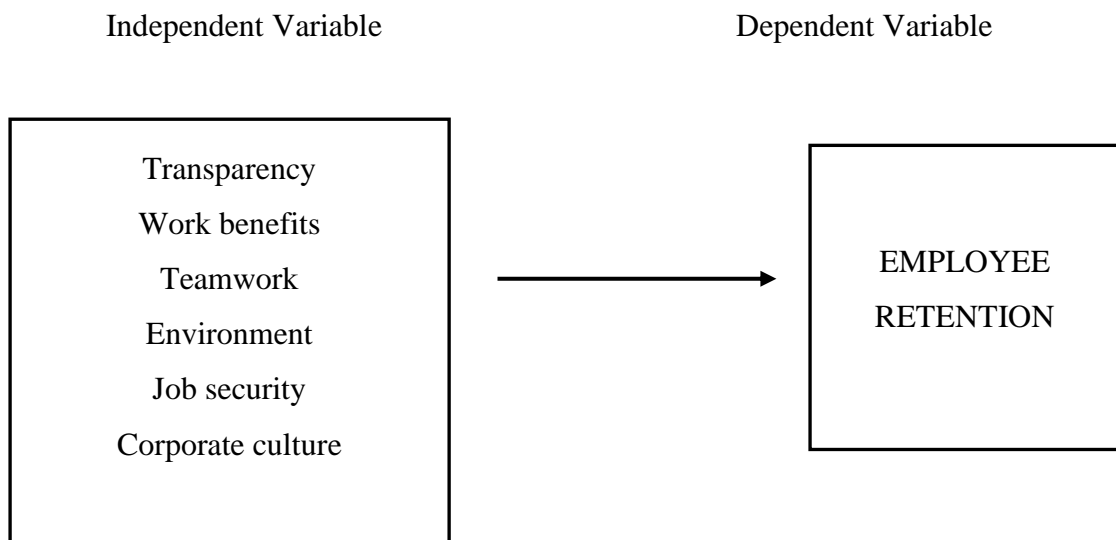


Figure 2 Conceptual framework of the research

### Research scope

1. Scope of content: Independent variable consisting of transparency, work benefits, teamwork, environment, job security, and corporate culture. The dependent variable was employee retention.

2. Scope of time: The study was conducted between April 2021 and May 2023.

3. Scope of location: The research data was collected in Bangkok, Thailand.

4. Scope of population: The sample consists of both males and females who are actively employed in various software startups in Bangkok, Thailand.

The population of this study is Software employees in startups in Bangkok, Thailand.

## Contributions of the research

There are numerous factors that can contribute to research, so the focus of this study should be on the most significant ones.

1. This research can help software startup organizations create a more stimulating and rewarding employee framework to motivate software employees who achieve the company's goals and objectives, as well as prolong employee retention in such organizations.

2. The entrepreneur and employee will get guidelines for enhancing the operation process for retention, which will strengthen the relationship between employer and employee.

## Definition of terms

1. Startups are newly founded businesses or ventures characterized by their innovative and entrepreneurial nature. Typically, these organizations are founded by visionaries or a small group of individuals with a novel idea or concept that they believe has growth and scalability potential.

2. Transparency is the attribute of being readily perceptible, commonly referred to as transparency, assumes a distinct connotation in the realm of business or governance, denoting a state of being characterized by openness and integrity. In accordance with established principles of corporate governance, it is imperative to provide comprehensive disclosure of pertinent information, thereby enabling individuals to make well-informed decisions.

3. Work benefits are various forms of perks or compensation offered to employees in addition to their base salaries and wages. A comprehensive employee benefits package encompasses various components such as a health insurance scheme, life insurance coverage, paid time off (PTO), profit sharing arrangements, retirement benefits, and potentially additional offerings.

4. Teamwork refers to the collective efforts of multiple individuals who each make individual contributions to enhance the overall effectiveness.

5. Environment refers to the context in which an individual carries out their work and encompasses the setting, social dynamics, and physical circumstances. The



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phenomenon under consideration possesses the capacity to exert a substantial influence on various aspects of employee well-being, including but not limited to morale, interpersonal dynamics within the workplace, job performance, overall job contentment, and the physical and mental health of employees.

6. Job security refers to the condition of being employed in a position that offers stability and a low probability of termination.

7. Corporate culture refers to the collective values, attitudes, standards, and beliefs that are shared among individuals within an organization and serve to define its essence.

8. Employee retention refers to an organization's capacity to mitigate employee turnover, which encompasses the voluntary or involuntary departure of individuals from their employment within a specified timeframe. Enhancing employee retention has a direct correlation with the performance and success of a business



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## CHAPTER 2

### LITERATURE REVIEW

The study of employee retention the researcher has conducted a comprehensive examination and analysis of pertinent concepts and theories in order to establish a framework for the study. The researcher has summarized the essence as follows:

1. Concepts and theories related to employee retention
  - 1.1 Definition of employee retention
  - 1.2 Definition of participation
  - 1.3 Characteristics of participatory processes
  - 1.4 Factors affecting employee retention
2. Software development companies for startups

#### **Concepts and theories related to employee retention**

Employee retention is the organization's ability to manage employees in the organization to be satisfied with their employment conditions and not decide to resign (Thatsakosol, 2013). It is something every organization needs to be aware of. Because the personnel in the organization are the ones who drive the organization towards its goals and generate income for the organization. Therefore, when the organization recruits employees to work until they have fully developed capabilities, it is necessary to find a way or approach to retain employees in the organization. This is a challenge that many organizations are facing.

##### **1. Definition of employee retention.**

The term commonly used to refer to employee retention has many scholars who have given a definition. The researcher concluded that employee retention means an approach in which an organization maintains the work of its employees in order to continue to perform at their full potential, and employee retention remains a huge challenge in every organization. The organization must find ways to make employees more satisfied with work by considering factors such as compensation, job security, training and development support from supervisors, the working environment, etc.



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(Das & Baruah, 2013). Employee retention is the part that makes employees feel like they "participate in the organization." (Gering & Conner, 2002). The organization can create participation by defining processes and the scope of content that will be used in training as a tool to convey organizational status. Corporate values or a vision for new employees to create consistency between employees and the organization from the beginning. Therefore, employee retention is an important principle in the process of personal management in the organization. Therefore, we can see that many organizations pay more attention to the personnel management process within the organization. By focusing on or paying attention to personnel management and retaining employees in high-performing groups. Which is a group with high Performance and high potential (Tophanitsuri, 2010). Such people are a group that considers factors in terms of life balance, job characteristics, relationships between colleagues and supervisors, and compensation. However, organizations should manage employee retention across the organization as well.

## **2. Definition of participation.**

The concept of participation places emphasis on the act of cooperation. In order to advance in endeavors that necessitate problem-solving or enhancing work development, it is imperative to involve individuals within the organizational framework. Active participation is required from individuals throughout every stage of the process, starting from the initial step and extending to the verification of data.

## **3. Characteristics of participatory processes.**

The term participatory process refers to a collaborative approach in which individuals actively engage and contribute to decision-making and problem-solving. Participate in the assessment process and disseminate the advantages. The establishment of a participatory framework can be achieved through various means, including but not limited to referendums, meetings, discussions, and opinion polls. Activities such as open-ended listening and group discussions are commonly employed in academic settings to foster active engagement and facilitate the exchange of ideas among participants. According to the study conducted by Rowe and Frewer (2000). The choice of method for building participatory processes depends on the context of each organization that can be implemented and managed by participatory processes. There are many researchers who have studied this, such as Bayley and



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French (2008), who proposed a modeling framework for designing participatory processes that must take into account four main factors. 1. information sharing 2. offering independent ideas 3. working together 4. suitability and making decisions (Bryson et al., 2013) who have studied participatory processes in the context of community participation in designing public participation process.

Encouragement and motivation encouragement and motivation are able to create satisfaction for employees and still retain them in the organization through participation. According to Kumar (2011), employee retention is affected by motivation.

#### **4. Factors affecting employee retention.**

From a review of relevant research, it was found that retaining employees in the organization was in line with the issue of creating employee satisfaction. Satisfaction refers to feelings and thoughts or positive attitudes that employees have toward the job (Saritvanich, 2009). As a result of being able to meet both physical and mental needs. Make employees happy and boost morale. Enthusiasm and ability to work well to achieve goals (Chot, 2013). This will result in employees feeling good about the organization and continuing to work there, and when they are satisfied, they will not think about changing jobs. In the same way, organizations can retain their employees. This is consistent with the results of a study by Pimthong (2014) that discussed the effect of job satisfaction and found that job satisfaction has a positive influence on organizational retention and also contributes to increasing engagement levels with sending organizations. As a result, that person continues to stay in the organization. And when employees are satisfied with their stay in the organization, it can reduce the turnover rate.

Retaining personnel with the organization. According to Wongsuwan (2007), it means to maintain personnel with knowledge, ability, and work experience to enable them to work with their full potential, commitment, stability, and willingness to work with the organization efficiently and for a long time. (Suthiprapha, 2018) implies that employee retention in an organization is motivated by physical incentives or opportunistic incentives. To meet the needs of personnel to receive good welfare and a suitable working environment. This will help promote good physical and mental health and create safety at work. Personnel will have the



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intention to work efficiently, be satisfied with their work, feel like an important part of the organization, and want to stay in the organization as long as possible.

Budsarakamwadee (2013) mentioned the meaning that it is the maintenance of valuable personnel to stay with the organization as long as possible because valuable personnel are a rarity.

Employee retention is related to employee job satisfaction if looking at the personal level and the engagement with the organization because when a person or employee is satisfied with the job (Job satisfaction), it is considered that the person has a good feeling about the work they do, and feeling good about the work they do is a factor that makes a person perform well. They will have the intention and dedication to work to the best of their abilities and have a good attitude towards their own job, which will be the opposite of employees who feel dissatisfied with their job, who will have the opposite feelings and attitudes towards the job where job satisfaction is related to work environment factors such as transparency, work benefits, teamwork, environment, job security, corporate culture, etc. Job satisfaction results in a person being driven to work, being diligent, enthusiastic, and having the morale to work so that they can work effectively and achieve their objectives.

In order to enhance employee retention within the organization. Understanding the initial sentiments and opinions of employees, which are unique to each person, is the most important thing for organizations to do. To be most successful, organizations must use human resource management techniques that are connected to their employees. There are other methods to retain individuals with the company for as long as possible, based on research into the concepts of employee persistence and retention. It consists of the following:

### **Transparency**

The structure of the organization must be clear about tasks that can be clarified. Goal of the event's job description as well as operational standards if the structure of the organization is clear, it is convenient for employees to be able to prevent distortions in their work. It was also found that any job with a good organizational structure knows what to do. How to proceed in the control situation will be easier (Naksawat, 2020). There should be a clear structure suitable for acknowledgment of the scope of work, duties, and responsibilities. Which must verify



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individuals, organizations, and executives must be fair, treat everyone equally, and can be audited transparently. Operates within the framework of the law, there must be a written contract of employment, and the form of employment must be clear.

Kumar (2011) mentioned that there are many retention strategies that have been proven successful, like Transparent work culture, which in this fast-paced environment requires employees to constantly achieve organizational goals within a given time frame.

Naksawat (2020) mentioned a clear structure suitable for the scope of work and allowed access to a limited company document, which will correspond to the participation concept.

Concept of Participation Creighton (2005) who gave the meaning of participation that makes it easier to understand is the employee engagement process. It is a communication process with the overall goal of making better decisions and gaining support from the organization. The goal of the employee engagement process is to give employees factual, limited access to company documents. And allow employees to express their opinions on the proposed projects. They are also involved in solving problems to find the best solution for everyone. Employee involvement is also a form of decentralization because employees know the problems and requirements of their work better than others.

There are three basic conditions for employee participation:

1. There must be freedom: Employees are free to participate or not. Participation must be voluntary. Compulsory participation in any form is not considered participation.
2. There must be equality. Employees participating in any activity must have the same rights as other participants.
3. Employees or target groups must be capable enough to participate in that activity, meaning that in some activities, although employees are free and equal, the activities are complex beyond the capabilities of the target group. Participation cannot happen; otherwise, it must strengthen the ability of employees to participate before joining and promote training in various subjects that employees are specialized in to increase work efficiency.

Participation is characterized by independent participation in co-thinking, co-decision-making, and cooperation. Participate in the evaluation and share the benefits. By creating a process of participation that can occur in many ways, such as opinion polls. Wide open listening and focus group discussions, etc.(Rowe & Frewer, 2000). The choice of method for creating a participatory process must depend on the context of each organization that can be operated and managed. Participation focuses on cooperation to take action on issues that need to be solved or improve work development through the participation of people in the organization. They must be able to participate in every step, from the initial stage to the information verification process.

The participation of employees in the organization will consist of their participation in three areas:

1. Participation in authority means that employees have the power to make decisions in various matters within the organization that will affect the improvement of their work processes as well as participate in improving the work of the organization.
2. Information participation means that employees can access the information they need from the organization for their performance improvement and use it for the development of the organization as well as pass on the information to the team. Decision-makers have access to relevant information based on their level of performance, such as information related to operations, competitive conditions, as well as new concepts or new technologies that can improve operations. And the quality of the products and services of the organization.
3. Engaging in knowledge and skills means giving employees the opportunity to participate in skill development and increase their knowledge, for example by proposing a topic of training or an opportunity for employees to exchange knowledge with both internal and external departments in order to gain knowledge in a variety of dimensions and to achieve flexibility in case the organization depends on a variety of work skills of employees.

Das and Baruah (2013) mentioned participation and employee retention. Hewitt (2002) mentioned that modern business always keeps its employees well



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informed about all important affairs of its business and involves them in decision-making.

### **Work benefits**

Walton (1975) informed that the organization must have a compensation plan that is appropriate and fair to employees' feelings, whether split payouts or rewards. It is clearly a group of employees with high potential, with most of the employees having high potential. Which the issue Compensation is the most sensitive issue. The organization must have a clear strategy, resulting in employees in the organization having high morale in their work and not wanting to resign from the organization.

For monetary compensation, it means compensation in monetary form to employees, consisting of direct monetary compensation and indirect monetary compensation. Direct financial compensation means compensation paid in cash to employees, such as wage compensation. The organization should set the wage rate to be able to compete with organizations with similar businesses. To prevent pulling from other organizations, where the wages must be consistent with the value of the work resulting from the evaluation of the work as well, it also includes compensation that increases according to performance (Merit Pay), which is paid more. Based on actual performance and incentive compensation. It is an incentive wage that is increased from time to time based on performance, depending on the employee's performance according to the specified target, and the organization must take into account the performance of the employee and the performance of the organization together. In terms of indirect financial compensation, it refers to what employees receive from the organization in addition to monetary compensation, such as social security, health insurance, medical expenses, subsidies for children's education, etc. (Thongbai, 2010). Michael and Helen (2007) proposed that the objectives and benefits of organizations need to focus on indirect monetary compensation. To attract and gain a competitive advantage by providing welfare benefits that attract and retain employees with the organization, including showing that the organization pays attention to the needs of employees, etc., and that working hours should be done during business hours to create satisfaction at work rather than work that has to be done over time.



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Das and Baruah (2013) mentioned compensation and employee retention, including Reward and recognition, promotion, and opportunities for growth.

Managers can share welfare in many ways. Such as monetary and non-monetary welfare short-term and long-term welfare. Most of the statutory and non-statutory welfare benefits employees receive after a probationary period depend on the type of welfare. If it is welfare stipulated by law, it must be received on the first day of work. In the general operation of an organization, there are several important elements that play a role in determining the level of quality of work life that will affect operational efficiency.

Kumar (2011) mentioned that to retain a talented workforce and gain their commitment, organizations need to be more flexible. Thus, organizations that are focused on work-life issues can retain employees better.

Tangthong et al. (2014) mentioned that both compensation and benefits management, reward systems, and training and development have a direct and indirect effect on employee retention.

Walton (1975) mentioned the quality of work life by considering the characteristics of the person (Humanistic) and the environment of the individual or organizational society that makes work successful and meets the aspirations of the individual to work. There is a clear requirement that personnel with a quality working life be as follows:

1. Sufficient and fair remuneration

- 1.1 The sufficiency of remuneration is the wage that the contractor must receive and is a fundamental factor affecting the quality of work life. In addition to other factors that are rewards, this is because every person has economic needs that are essential to their existence. Therefore, aiming to work in order to obtain that economic response. Then when receiving compensation for working according to the contract of employment and being able to live according to the standard of living of society, living comfortably is the sufficiency of the compensation.

- 1.2 Fairness of compensation is an assessment of the relationship between job characteristics and the compensation received, or there are other factors involved in considering the fairness of the compensation as well, such as the skills



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that must be used in work, etc., which must be evaluated fairly because compensation for work is part of livelihood.

### **Teamwork**

To foster cooperation between colleagues. Making employees feel like family gives them a sense of security and safety on the job. Providing support when employees need to resolve grievances to clarify if there is any problem or any claim. They should go in and check to avoid misunderstandings between each other.

Teamwork is a practice that is widely popular because there is information and evidence that shows developing agile work teams leads to several performance improvements. There are many scholars who have embraced the idea of working as a team.

Polwong (2008) discussed the concept of working as a team for efficiency and effectiveness. There must be a division of the work. Duties and responsibilities are assigned to personnel according to their knowledge, abilities, and aptitude. Management must be aware that personnel have different abilities. And have skills or expertise in each field. Cooperation and the exertion of thought and wisdom will lead to the success of the work. Teamwork will arise from executives who must create conditions for people within the organization to realize that they must work together and rely on everyone's experience, competence, and consent, and group members must accept the idea of working together as a group or as a team. Thus, being able to achieve common objectives. Elton Mayo conducted a study and found that the most important element in increasing the efficiency of work is Creating a sense of group identity. Gaining social support and solidarity. Based on the concept of teamwork among academics mentioned above, it can be concluded that working as a team helps the operation succeed. It also helps team members feel like part of the team. Loyalty to the team, sharing knowledge, and sharing experiences depend on each other. Jointly solve problems and carry out tasks as assigned. Teamwork effective leaders will be able to lead the organization to sustainable success.

From the study of teamwork data, it was found that working as a team to be successful requires many important principles in practice. Many scholars have mentioned the principles of teamwork in Hackman (2002). A good team has important attributes: a clear team mission, a clear scope of work, delegation of

management authority, and a clear team work process. Balan (2008) suggests that teams may have specific missions and goals as drivers of various activities. But the team will have the same general working style; that is, the team will set clear goals and follow the goals that have been agreed upon in the project direction. Develop workflows to accomplish them. Pass on and practice skills with each other. Implementation of established processes Evaluate and fix the correct process by considering the results of the measurement and analysis; communicate with team members and all parties involved.

In order to effectively achieve the organization's goals, the team plays a very important role. If everyone in the organization feels that they are on the same team and work together to achieve success, the work will be achieved with an objective and goal. Executives need to build a team within the organization and encourage everyone to feel like they are contributing as part of the team.

A team is a group of two or more people working together and interacting among themselves to achieve the same goal effectively (Young & Jakeman, 1979).

### **Environment**

This is a factor related to the environment that can be seen and touched, such as the workplace, where desks, tools, and work equipment must be available and up-to-date. In addition, the working environment has colleagues who are good team members. Helping each other is important to employee retention, so the organization must focus on development improvements in various management areas or the allocation of facilities to work for personnel. Because these factors affect the mental state of the worker. In addition, the working conditions also play an important role. Because of the working environment, such as office equipment tools and appliances that facilitate good work Living conditions while working are good. Good ventilation and hygiene will result in efficient work (Chot, 2013).

Proyanont (2011) defined the working environment as the things within the organization that surround employees and can affect their behavior and feelings. Where the environment may be conducive to work or may be an obstacle to work, which can be divided into 3 types as follows:

1. Physical environment means the environment in the workplace that is conducive to work. And able to work happily. The place has sufficient lighting.



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Organized in an orderly, clean manner, free of disturbing odors. There is no noise that causes annoyance. The air is well ventilated. There is an appropriate temperature level. The equipment involved in the work is appropriate, of sufficient quality, and sufficient to meet the needs.

2. Social environment refers to the environment of relationships or support from within the organization that affects the work, such as a good relationship between employees within the organization in subdivisions between departments and a good relationship between employees and supervisors. Employees have good attitudes toward other people. Both physically, verbally, and mentally, there is good communication with each other. Provide feedback to each other. Employees were feeling safe, accepted, and happy to work. In addition, receiving support from the organization in terms of work, social activities, and promoting a collaborative working environment conveys information that is beneficial to work. Providing assistance when employees have problems at work Make employees happy and efficient at work.

3. Psychological environment refers to the working environment that influences thinking, such as autonomy in work and decision-making. In relation to work obtaining feedback about tasks enables employees to take information that has come to develop and improve their work for the better. Employees are satisfied with their jobs. Employees have mutual respect. And trust each other, having a democratic atmosphere use the rationale for the operation, promoting an atmosphere for more efficient work.

Das and Baruah (2013) mentioned work environment and employee retention and how employees get benefit from work environments that provide a sense of belonging.

Work environment qualities such as the feeling of being understood and accepted by colleagues and how an employer helps workers deal with high workloads and stressful situations (Van Bruggen et al., 2018) to reduce the risk of burnout and increase job satisfaction (Costa & Steffgen, 2020) were linked to employee satisfaction at work.



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Burnout may occur when management does not consider family and professional obligations in the workplace. Employees' stress levels are also elevated when they believe their jobs or specific job characteristics are dangerous (Eiffe, 2016)

### **Job security**

From compiling concepts in related research, things that affect work efficiency job security refers to the feelings of a person towards an organization. By believing in the job and the position in the job, job security is what creates job satisfaction. Laborers often have problems with low labor costs. Lack of factors in work security, health problems, and safety No benefits, no time, too many working hours This affects the feeling of job insecurity mentioned above. Job security is an important factor. Affect feelings and attitudes about safety and progress in work, which affect trust and efficiency as well.

Job factors and career advancement opportunities the work will be different depending on duties and responsibilities. Which must be interesting, challenging, and independent in decision-making (Thongbai, 2010). Employees are satisfied with the nature of work that makes them feel good. Take pride in the work you are responsible for. Having worked on knowledge-challenging assignments that are exotic and interesting, employees will feel enthusiastic about doing things to get things done, which is consistent with the results of the study titled Targeted Employee Retention: Performance-based and job-related differences in reported reasons for staying (2009) found that job satisfaction is the factor that keeps people in the organization. Therefore, the organization must set guidelines for development to correspond to the work assigned by the employee. If employees feel dissatisfied with the job, organizations may solve problems by doing job enrichment by design. Job characteristics that are different from what they used to do in order to gain more expertise in the job (Skill Variety) or may be a method of job rotation (Job rotation). It is a rotation for employees to have the opportunity to work in other positions or in other departments. To learn new skills (Werner & Desimone, 2006) and it reduces monotony in the work that employees are doing. It is considered a benefit that the organization will receive from the employees. Employees become more knowledgeable and capable and do not lose employees from the organization. Therefore, when employees have learned to work at their full potential, the



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organization needs to develop a career path for them to advance in their work. Work progress means employees know that the organization gives employees the opportunity to perform important tasks to promote progress, providing support for employees to show their potential until they can be promoted to higher positions, which is beneficial to employees (Chot, 2013). By setting a career path for employees to reflect their career growth when working in the organization. Which has two career characteristics: vertical, which is an employee promotion with a change in the role. Responsibilities according to higher positions and horizontally by moving jobs within the same position level (job transfer) so that employees develop new skills and increase the opportunity to take on more responsibility, which is consistent with career development. Empowering employees and organizations for future growth by harmonizing individual and organizational needs career planning is an activity of an employee based on what the employee wants to be, and career management is a process that an organization has prepared and implemented for maintenance and development, which from the above is consistent with Tangthong et al. (2014) research that mentions the matter of planning growth for employees that the organization should define or set up a career planning system to help employees have opportunities to open up to learning. This has a long-term effect on personnel development. The plan must be both vertical and horizontal, not limited to the original scope. Therefore, it can enable the organization to create capable personnel and grow in their careers.

Das and Baruah (2013) mentioned job security and employee retention. During research on Japanese workers, it was discovered that employment qualities such as lifelong employment and a seniority structure, as well as job security, contribute to high commitment, job satisfaction, and employee retention in a business.

### **Corporate culture**

Corporate culture is a way of life and a guideline for conducting life in an organization. Which started with a group of people within the organization who had practiced it may be caused by the behavior of only certain groups of people until it changes into a habit. From that habit, it is practiced until it becomes a habit and is a tradition, belief, and value that has been inherited. Each organization will have a



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different organizational culture. Corporate culture will determine or enable personnel within the organization to live together and work together systematically.

From the study of relevant documents and research, the meaning of the word "Corporate culture" for many people is as follows:

Hoy (1990) gave the meaning of the word corporate culture, which refers to organizational culture as a process. Adjustment of personnel in organizations that operate in the same direction; as a result, the identity of the organization is outstanding.

Kumar (2011) mentioned work culture is a part of retention strategies.

Corporate culture is one of the factors of the internal environment, or things within the organization, and has a direct impact on employee management and organizational management. Corporate culture is important because it influences employees' thoughts, feelings, and performance (Williams, 2008). Corporate culture is a set of beliefs that are embedded within expectations, and that influence the thinking and behavior of members of an organization. An organizational environment that creates and fosters identity structures and values is known as corporate culture, and organizational culture can undermine or foster competitiveness and success. The nature of the overall management of the company and the method of command that works are suitable for knowledge, ability, and expertise. It can be seen that in order to create a relationship with the organization, it must rely on the relationships of three factors: employees, supervisors, and the organization. And if the relationship occurs, there will be benefits. The company grows with employee engagement. Therefore, we must try to make the organization love and understand each other. Employees should be accepted and have a clear sense of self-worth in order to make them feel good at work and with colleagues.

Cooke and Lafferty (1989), emphasizing the importance of personnel, describe an organization that has values and expressions of work behavior that have a participatory management style and a person-centered focus on members in the organization. It considers members to be the organization's most valuable resource. The work is characterized by effective communication. Members are happy and proud to work and enjoy teaching, supervising, and mentoring one another. Everyone in the organization is encouraged to make progress on a regular basis. The distinguishing

feature is that maintaining human resources is the most important aspect of the organization.

Table 1 Summary of literature review used for each variable in the study.

Variables	Das and Baruah (2013)	Chot (2013)	Thongbai (2010)	Van Bruggen et al. (2018)	Tangthong et al. (2014)	Cooke and Lafferty (1989)	Kumar (2011)	Hoy (1990)	Frequency (8/8)
Transparency	X						X		0.20
Teamwork	X			X					0.20
Job Security	X	X	X		X				0.40
Work benefits	X		X		X		X		0.40
Environment	X	X		X					0.30
Company Culture						X	X	X	0.30

### Software development companies for startups

Employee retention has a substantial effect on software enterprises for a variety of reasons. First, software ventures rely significantly on the expertise, skills, and knowledge of their employees. To create innovative software products and maintain market competitiveness, a skilled and seasoned workforce is necessary. When experienced employees depart, it can result in a loss of specialized knowledge, disrupt the continuity of projects, and impede the development and delivery of software solutions. Retaining employees permits firms to maintain stability and capitalize on the collective expertise of their teams, resulting in more effective product development and higher-quality outputs.

Secondly, the overall culture and morale of a software venture have a significant impact on employee retention. Startups frequently have a distinctive work



environment that emphasizes collaboration, originality, and a shared vision. When employees feel valued, supported, and engaged, they are more likely to be motivated, loyal, and devoted to the objectives of the venture. High employee attrition can have a negative impact on a startup's culture, undermine team dynamics, and generate a sense of instability and unpredictability among the remaining staff. A high retention rate, on the other hand, fosters a positive and cohesive work culture in which employees can develop strong relationships, share knowledge, and work together effectively, resulting in increased productivity and innovation.

However, various factors related to success assessment have been discovered by conceptual analysis and conclusions. Many researchers have discovered that output measurement is constantly updated and changing (Bourne et al., 2000; Ghalayini & Noble, 1996; Meyer & Gupta, 1994).

Employee satisfaction is based on a common understanding of job definitions and priorities, as well as appropriate criteria for incentivizing employees within a specified timeframe and budget. Aside from continuous horizontal, vertical, formal, informal, oral, and written means of communication, the evaluation of individual performance and employee actions is predictive and founded on a structure of rewards and incentives. The introduction of an MBO-based framework aids in the creation of opportunities and the growth and survival of the organization by enhancing employee efficiency. The employee's development and progress lead to the organization's overall development (Antonacopoulou, 2000; Tsai & TSAI, 2017).

Employee development concentrates on skill development, learning trajectory, self-direction, attitude, and performance, according to Hameed and Waheed (2011). Employee performance improves as a result of improved employee development values, allowing a company to grow more effectively. Employee wellbeing, motivation, and attention to detail are the key factors influencing employee results, according to Alefari (2018). Employee wellbeing refers to an employee's physical and mental wellbeing, as well as the economic implications (Sobhani et al., 2017). Employee motivation is influenced by a variety of factors, such as the job environment, the staff, and incentives, among other things.

Occasional correction and analysis of work constitute attention to detail. Adaptability, learning, job satisfaction, organizational engagement, competitiveness,

flexible working hours, the external world, and absenteeism are all secondary factors. Alefari (2018) described a model to enhance employee performance programs and achieve sustained high performance from employees by taking all of the factors into account.

### **Software startups**

Carmel (1994), who researched the time-to-completion in a young package firm in 1994, provided an early account for the word startup in the SE literature. He saw how innovative and competitive these firms were. He advocated for further studies on their software development processes to repeat innovation and transfer it to other technology industries. Sutton (2000) characterizes tech startups based on the obstacles they face:

1. Lack of operational heritage: startups have no accumulated expertise in development processes and organizational management.
2. Restricted capital: startups usually rely on bringing the product out there, marketing it, and forming strategic partnerships.
3. Multiple influences: pressure from owners, clients, allies, and rivals all affect a company's decision-making. While they are significant in and of themselves, they can be inconsistent as a whole.
4. Dynamic technology and markets: the inexperience of computing firms often necessitates the creation or use of emerging innovations to reach a high-potential market segment.

### **Startup lifecycle**

The lifespan of a startup business has been identified and recorded from various viewpoints, ranging from idea creation to maturity stage, e.g., market (Blank, 2011) and innovation (Heitlager et al., 2006). Crowne's model (Crowne, 2002), which synthesized the startup lifecycle into four phases, is a notable contribution from the standpoint of software engineering (SE). The startup period is where a company develops and refines its design, all the way up until the first sale. This period is primarily defined by the need to assemble an executive team with the necessary expertise to begin product development. The stabilization process coincides with the first sale and continues until the commodity is mature enough to be commissioned by a new client without further product development costs. The growth period starts with

a stable product development procedure and continues until market size, share, and growth rate are determined. Finally, the startup matures into a mature enterprise with efficient and predictable product growth cycles for innovative product developments.

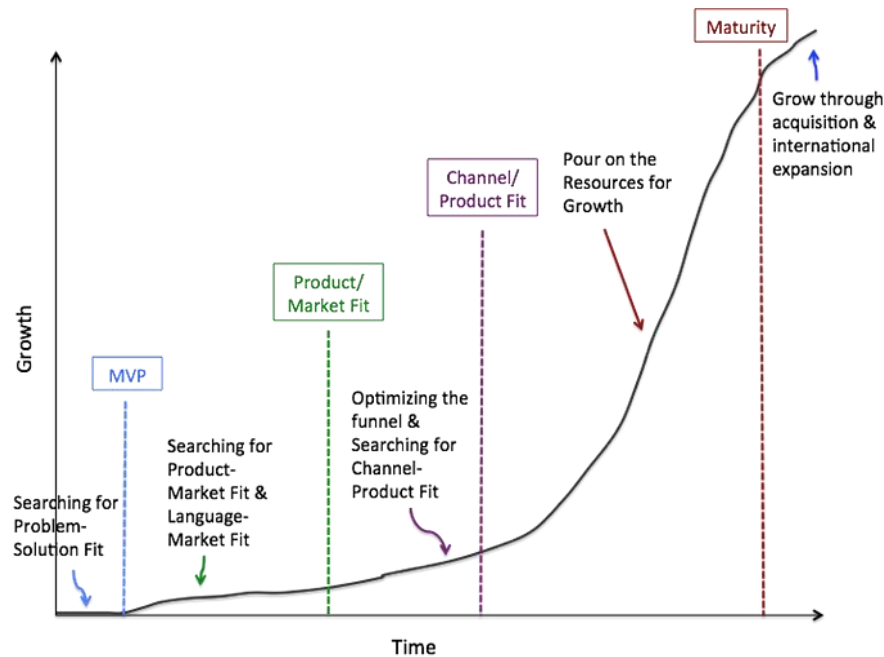


Figure 3 The 5 phases of the startup Growth Lifecycle

Source: medium.com (2016)

Technologists face a significant challenge in implementing methodologies to organize and manage growth processes in startups (Coleman & O'Connor, 2008). In general, software production is managed by implementing software processes, which are described as “the coherent collection of policies, organizational frameworks, technology, procedures, and objects required to conceive, create, deploy, and sustain a software product” (Fuggetta, 2000). Several frameworks have been proposed to guide software development practices in startups, but none have yielded significant benefits (Coleman & O'Connor, 2008; Kakati, 2003; Sutton, 2000). In the form of a startup, SE confronts diverse and multifaceted challenges in managing production processes. Startups are naturally innovative and flexible, and they are hesitant to implement procedures or bureaucratic steps that can impede their natural qualities (Bach, 1998; Sutton, 2000).

Furthermore, startups usually have very little capital and choose to fund product creation rather than developing processes (Coleman & O'Connor, 2008). Any attempts to adapt lightweight strategies to startups announced implementation failure (Martin & Hoffman, 2007). Startups prominently use volatile, reactive, and low-precision innovation methods, rejecting the notion of repeatable and regulated procedures (Chorev & Anderson, 2006; Kakati, 2003; Sutton, 2000; Tanabian & ZahirAzami, 2005). Product-oriented approaches help startups create a scalable squad with workflows that enable them to rapidly shift course based on the intended demand (Heitlager et al., 2007; Sutton, 2000). As a result, many startups place a premium on team efficiency, delegating more authority to staff rather than imposing strict rules. Rather than designing apps for a single customer, startups often develop applications to address a high-potential target market. Market-driven product creation addresses issues relevant to this application type in the literature (Alves et al., 2006). Researchers stress the significance of time-to-market as a primary strategic goal in this regard (Natt och Dag, 2002; Sawyer et al., 1999). Startups typically operate in volatile and uncertain markets, and they must contend with a scarcity of capital. Other unusual factors influencing software creation in a business-driven environment are specifications, which are claimed to be often “invented by the software company” (Potts, 1995), “rarely documented” (Karlsson et al., 2002), which can only be tested after the application is released to market (Dahlstedt, 2003; Keil & Carmel, 1995). Under these conditions, product introduction failure is primarily attributed to “products that do not satisfy consumer needs”.

### **Software development startups in Thailand**

In Thailand, tech startups have been extremely successful in recent years. This campaign to expand resources for those working in technology startups has received financial funding from both the public and private sectors. Moreover, activities such as the startup Thailand Job Fest (Techsauce, 2017) and the government's Thailand 4.0 policy, which aims to boost Thailand's economy through creativity, have been held to showcase goods from these technology startup companies.



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As a result, from about 2015 to the present, several government departments have given budgetary funding to tech startups. Among the ministries and government entities participating in this campaign are the Ministry of Digital Economy and Society, the Ministry of Science and Technology, and the Ministry of Education. As a result, the new tech entrepreneurship movement has gotten a lot of traction in terms of people wanting to establish profitable software companies and international investors wanting to invest in them. A survey conducted from 2012 to 2017 revealed an increase in the number of tech startup companies in Thailand (Techsauce, 2018), as well as an increase in the number of investors willing to fund these startups.

In addition, details on all software startup businesses in Thailand, their funding development, and information about the startup businesses' founders were collected as part of a study on software startups in Thailand. This data revealed Thailand's increasing involvement in tech startups (Association, 2016). Despite this, no recent study on the importance and environment of tech startups in Thailand has been undertaken. Furthermore, tech startup testing is critical during the fund-raising period to assist those interested in making choices and preventing the collapse of these companies (Kajko-Mattsson & Nikitina, 2008). One of the most distinguishing characteristics of a tech startup is the ability to create groundbreaking software under duress even with limited capital. This software must be able to adhere to a long-term corporate model while still being adaptable to different business sizes (Duc et al., 2019; Unterkalmsteiner et al., 2016).

Companies, in particular, strive to invent with little time and money, and they inform themselves about tech startups through networks like the Software Startups Global Study Network (Network, 2018), which brings together academics and those involved in software startups. These networks are set up to disseminate study findings in the sense of tech startups and to make this information and equipment available to both operators and entrepreneurs. They also hope to discover techniques for reducing mistakes and increasing the likelihood of results. While partial studies have been undertaken in other countries, it has been discovered that tech startup research in Thailand is still minimal. In consequence, there is a need to look at software development startup companies in Thailand (Klotins et al., 2019). The goal of the present study is to get a deeper understanding of Thailand's existing



software development startup situation, environment, and organizational commitment to its employees.

Salary guide 2022 was prepared by Manpower Thailand HR agency, which provides comprehensive human resource services. It has revealed the salary rates in various occupations and found that this year the occupation with the highest starting salary is the career in the IT field, where fresh graduates have a salary of 35,000 baht per month.

Compared to the salary rate five years ago, the base salary of office workers for fresh graduates has slightly increased. From the original starting at 9,000 baht to 15,000 baht and the highest at 35,000 baht. Still, if you look at the average overview this year, most of the new graduates will earn a salary of around 15,000–35,000 baht from baht from Manpower (2022).

Table 2 Software salary

Experience / Year	Salary	
	Min	Max
0-2	15,000	35,000
3-5	38,000	46,500
6-8	50,000	75,000
9-10	82,000	105,000
More than 10	118,000	250,000
More than 20	280,000	650,000

Source: Manpower (2022)

### Startup definition

According to Blank (2010), for an entrepreneur, a startup is an enterprise that is founded with the primary aim of formulating a business model that is capable of being expanded and replicated. This typically involves a focus on scalability and sustainability. Business models are strategic frameworks employed by enterprises to determine the most effective ways of generating revenue from their operations. The document provides a comprehensive summary of the operational mechanisms of the

service or product, along with its intended customer base, supply and demand, and distribution network dynamics.

A business typically possesses knowledge of its customer base, competitors, sales channels, and pricing strategies. In contrast, a startup must navigate the unknown by introducing untested product offerings in an effort to entice prospective customers. The business model of the organization may undergo modifications over time until a suitable one is identified for the prevailing circumstances (Blank & Ries, 2014). This has resulted in a startup being treated differently than a large firm and vice versa.

All activities within a company are executed with the purpose of fulfilling an established business plan, which ensures that all individuals adhere to the prescribed procedures in order to achieve ostensibly predictable outcomes. As opposed to established businesses, entrepreneurial ventures formulate hypotheses regarding their assumptions on a business model canvas, subject their product to continuous feedback from the intended consumers, implement multiple iterations across various aspects of the process, and subsequently conduct further experimentation until the startup attains or surpasses its projected sales, profitability, user base, and other associated metrics. In contrast to an established company, a startup exhibits continuous enhancement in terms of novelty and adaptability, thereby facilitating a more efficient commercialization of its innovations. Entrepreneurs are distinct from large corporations in their objectives, performance metrics such as revenue and profit margins, and, notably, their organizational culture and personnel.

## **Startup ecosystem in Thailand**

Thailand's rapidly evolving entrepreneurial environment has culminated in a significant increase in the number of profitable transactions and funds generated in recent years. In 2023, the total size of startup financing in Thailand was approximately 2365.728 million US dollars, according to Techsauce.co (2023). This statistic was updated on 2016-06-20. There are 306 startups and 418 investors.



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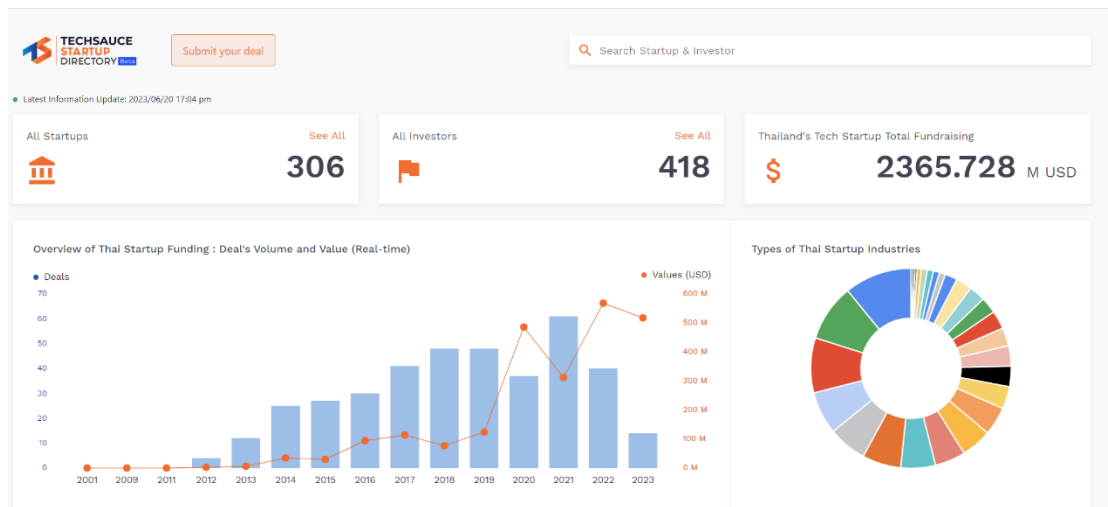


Figure 4 Numbers of deals for tech startups in Thailand.

Source: Techsauce.co (2023)

Thailand is an appealing destination for foreign direct investment in general, and the Thai government is implementing several initiatives to foster a thriving entrepreneurial ecosystem in particular. NIA, the startup Thailand coordinator, plans to catapult Thailand among the Top 20 startup Nations by 2022. Over the same time frame, startups would account for 5% of GDP. Furthermore, NIA intends to raise the size of startup investments to 10–100 million USD per transaction and expand the government sector for startups to 30 billion baht (approximately 850 million USD) per year (Startup Ecosystem Thailand, 2019). Opportunities in Thailand's increasingly developing startup environment can be divided into four categories: e-commerce, fintech, logistics technology, and e-payment.



## CHAPTER 3

### RESEARCH METHODOLOGY

The current research concentrates on “Factors affecting employee retention in software development companies for startups.” This section describes the research methodology employed in this study.

#### Research design

Using quantitative analysis and an online survey questionnaire via Google Forms, the present study identifies the primary factors affecting employee retention in software development companies for startups in Bangkok, Thailand. Google Forms was selected to create the questionnaire due to its wide adoption for research purposes and its good integration for both desktop and mobile devices.

The survey utilized a questionnaire that was developed in accordance with the scholarly literature examined in Chapter 2. In order to ensure alignment with the study's objectives, the questionnaire underwent a comprehensive evaluation of its validity and reliability by an expert supervisor.

#### Population and sample

There were 155 startups in Bangkok (Department, 2022). The research has selected seven themes using criteria for software companies, small business sizes, and more than 1 million registered capital. The total number of employees is 2,640 people. The company collecting is not allowed to disclose the name.

Yamane's (1967) sample size formula used the study's sample size (n) and the population's total size (N).

$$\begin{aligned} n &= \frac{N}{1 + N (e)^2} \\ &= \frac{2,643}{1 + 2,643 (0.05)^2} \\ &= \frac{2,643}{1 + 2,643 (0.0025)} \\ &\approx 347.42 \end{aligned}$$

The sampling selection for this study consists of both males and females and all positions in a software startup that are filled by employees.

Convenience sampling was chosen as the sampling method in the present study due to its advantages of being fast, cost-efficient and providing the ability for respondents to participate at their convenience (Etikan et al., 2016).

## Data collection

The poll was conducted between May 1 and June 1, 2023, for a period of 4 weeks. An initial target of 100 questionnaires per week was scheduled. When the targeted number of filled questionnaires per week was not achieved, the researcher included a larger number of respondents in the subsequent week to compensate.

The link to the questionnaire hosted on Google Forms was sent to the respondents directly, either by email or on their social media accounts on Facebook and LinkedIn. The selected subjects were asked to give 5–10 minutes of their time to complete the survey at their convenience, with the mention that all the data collected will be kept anonymous. The link to the Google Forms questionnaire was also published on several social media groups and forums in Thailand once approval from the group moderator was received.

Once the questionnaires from all 400 respondents were collected, the information was compiled in an Excel spreadsheet and prepared for data analysis.

## Research instrument

Primary and secondary data were used in the present study keeping in mind the following considerations:

1. Primary data is the data gathered from the software employee's questionnaire responses.
2. Secondary data is the data gathered from credible references such as academic papers, books, publications, the internet, journals and various study articles.



## **Designing of questionnaire**

In this research, the researcher used the questionnaire online as a survey, which was a Google Form with a link URL sent to the sampler. The questionnaires were developed in a way appropriate for accomplishing the research goals to measure factors affecting employee retention. The questionnaire comprises three main sections.

### **Part 1: Demographic questions**

The first part of the questionnaire gathers demographic information from respondents, namely the number of working years in the current startup, highest education, years of software development experience, and monthly income.

### **Part 2: Questions regarding retention factors of employee respondent's company**

Part two of the questionnaire aims to collect respondents' information regarding the factors of their current company, namely data about transparency, work benefits, teamwork, environment, job security, and corporate culture.

### **Part 3: Questions regarding employment retention in the current company**

The part three of the questionnaire consists of questions regarding employment retention and reasons that, if satisfied, would keep the respondent in the same company for a longer period of time.

Parts 2 to 3 of the questionnaire use the Likert scale with the following level of opinion, starting from the lowest value of 1 to the highest value of 5, as shown in Table 3 below.



Table 3 Likert scale significance score

Likert scale	Significance
1	Very unimportant
2	Unimportant
3	Indifferent
4	Important
5	Very important

The data analysis in quantitative research the researcher uses the gathered data to evaluate and analyze the data in the following.

$$\begin{aligned} \text{Class interval} &= (\text{Highest value} - \text{Lowest value}) / \text{Number of classes} \\ &= (5-1)/5 \\ &= 0.8 \end{aligned}$$

Table 4 Scale interpretation

Average score	Meaning
1.00-1.80	Very unimportant
1.81-2.60	Unimportant
2.61-3.40	Indifferent
3.41-4.20	Important
4.21-5.00	Very important

## Data analysis

The survey primary data centralized in the Excel form was consequently imported into the IBM SPSS version 27.1 for statistical analysis. Descriptive and inferential analysis was conducted with the purpose of findings the distribution of probability of the sample, including frequencies and percentages. Multiple regression analysis was performed to determine which predictors have an effect on the study's dependent variables. The statistical results were subsequently compiled in a file for further reference.

Descriptive analysis was used to examine the respondent's demographic information about working experience in a startup company, education level, work experience, and monthly income.

Percentages are a mathematical concept that represents a proportion or fraction of a whole. They are commonly denoted by the symbol "%". This statistical tool is widely utilized.

The mean, or average, measures central tendency in statistics. Divide the sum of all values in a dataset by the total number of values to compute it. To get the mean, add all the values and divide by the total count.

$$\bar{X} = \frac{\sum Xi}{N}$$

Where,

$X_i$  = Each value from the population

$\bar{X}$  = The population mean

$N$  = The size of the population

$\sum$  = Sum up

The standard deviation measures dataset dispersion. This analysis shows how far individual data points are from the group mean. It shows how much group members deviate from the average. Higher standard deviations imply more dispersion and greater divergence from the mean. Smaller standard deviation numbers suggest a closer mean. Standard deviation formula.

$$\sigma = \sqrt{\frac{\sum (X - \bar{X})^2}{n}}$$

Where,

$\sigma$  = Population standard deviation

$n$  = The size of the population

$\sum$  = Sum up

$X$  = Each value from the population

$\bar{X}$  = the population mean.

Table 5 Describe statistical types and methods.

Question	Type	Method
Demographics	Nominal & Ordinal	Frequency & Percentage
Factors affecting employee retention	Interval & Likert	Mean and Standard deviation

The Pearson correlation coefficient is a commonly employed statistical measure that is utilized to quantitatively assess the magnitude and direction of two variables' linear connection. The concept primarily concerns the linear correlation between random variables, with its magnitude restricted to the interval of -1 to 1. Table 6 presents the magnitude of the Pearson correlation coefficient for each grade of correlation. The Pearson correlation coefficient is a suitable statistical measure for examining the relationship between two sets of continuous data that demonstrate linearity and conform to a normal distribution. Additionally, The underlying assumption is that each pair of measured values is assumed to be independent of one another. (Liu, 2021) explains correlation grad range.

Table 6 Absolute value of correlation coefficient and correlation grad.

Absolute correlation coefficient	Correlation level
0.8-1.0	High
0.6-0.8	Strong
0.4-0.6	Medium
0.2-0.4	Weak
0.0-0.2	No relationship



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The formula is represented as follows.

$$P_{x,y} = \frac{\sum x \cdot y - \frac{\sum x \cdot \sum y}{n}}{\sqrt{\left(\sum x^2 - \frac{(\sum x)^2}{n}\right) \cdot \left(\sum y^2 - \frac{(\sum y)^2}{n}\right)}}$$

The hypothesis of the study was analyzed using inferential statistics. To examine the factors affecting employee retention, multiple regression was performed. The formula to predict standardized score:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_i X_i + \varepsilon$$

Where,

- $\hat{Y}$  = Dependent variable
- $\beta$  = The predictors are weighted by coefficients
- X = Independent variable
- $\varepsilon$  = Error of Residual

SPSS software processes and analyzes data to create a statistical analysis table. In the next part, the hypothesis's inferential statistical analysis is described.

H<sub>1</sub> : Transparency has an impact on employee retention in software startups in Thailand.

H<sub>2</sub> : Work benefits have an impact on employee retention in software startups in Thailand.

H<sub>3</sub> : Teamwork has an impact on employee retention in software startups in Thailand.

H<sub>4</sub> : Environment has an impact on employee retention in software startups in Thailand.

H<sub>5</sub> : Job security has an impact on employee retention in software startups in Thailand.

H<sub>6</sub> : Corporate culture has an impact on employee retention in software startups in Thailand.

## Validity

The following steps were performed to ensure the validity of the present study.

Step 1: Submit the questionnaire to the thesis committee for their review and potential recommendations for enhancement.

Step 2: In response to the opinions and suggestions of the advisory council, the questionnaire was modified and revised.

Step 3: After receiving feedback and recommendations from the advisory committee, the Index of Item-Objective Congruence (IOC) was applied to evaluate the content validity of the survey questions and responses.

It was decided to utilize the IOC test developed by Rovinelli and Hambleton (1997) to assess each of the questionnaire's questions on the basis of their score range from negative 1 to positive 1 with the following specifications:

The formula is illustrated below.

$$\begin{aligned} \text{IOC} &= \frac{\text{The aggregate ratings of experts}}{\text{The number of all experts}} \\ &= \frac{\sum R}{N} \end{aligned}$$

Congruent	= 1 plus one (+1)
Questionable	= a score of zero (0)
Incongruent	= a negative number (-1).

If the IOC results were equal to or more than 0.5, the questions would be kept. When on the other hand, the outcome is equal to or less than -0.5, the query must be rejected or is "incongruent."

## Reliability test

Cronbach Alpha was used to assess the item validity and reliability of the questionnaire used in this study by analyzing the scaled items. Cronbach Alpha is an analysis tool widely employed by researchers for 1. To assess the item validity in a questionnaire, respectively to assure that the items measure what is required to



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calculate, and 2. to make sure the results are consistent across multiple measurements. The reliability test score will be divided into six groups.

0.81-0.9 = Excellent

0.71-0.8 = Good

0.61-0.7 = Acceptable

0.51-0.6 = Questionable

0-0.5 = Unacceptable

There were questions 43 items. This table below shows reliability test result.

Table 7 Reliability Statistics

Cronbach's Alpha	N of items
0.778	43

The result to show 0.778 was between 0.71-0.8 meaning that Good.

## Ethics

Prior to sending the online questionnaires to the respondents, the researcher provided a succinct and understandable description of the study's goals and objectives. The researcher considered any information obtained from any subject as private and did not reveal the identity of anyone who provided the information. Furthermore, all information obtained from responders was stored in an encrypted device.

Subsequently, proceed to submit a formal request to the relevant ethics agency. Upon successful completion of the ethics examination, you will be given an official certification document. Certified document number IRB4-117/2566 was acquired from the present study.

## CHAPTER 4

### RESEARCH RESULTS

This chapter presents results from the study of the factors affecting employee retention in software development companies for startups. The Researcher collected population data from 7 startups with 2,640 employees as of 2023, and the size of the sample was determined according to Yamane's (1967) concept because the population was known and the confidence level was set at 95% at approximately 347 respondents. The researcher sent the link to various companies, but there were 15 employees who did not complete the questionnaire from 469 respondents, so it was a complete questionnaire that could be used to analyze the results of 454 respondents. The data were then analyzed by the SPSS 22 program, divided into 3 parts as follows:

1. Demographic profiles
2. Respondents' attitudes towards factors affecting employee retention
3. Hypothesis testing

#### **Demographic profiles**

Descriptive analysis is a statistical methodology employed to provide a summary and explanation of the fundamental characteristics of a given dataset. It is an essential tool for understanding and exploring data in various fields. The main objective of descriptive analysis is to provide a comprehensive summary of the dataset, including frequency and percentage.

This study is conducted by questionnaires, which consist of personal factors and have four questions. The form is a radio box for selecting one choice, with questions about the number of working years in the current startup, highest education, years of software development experience, and monthly income. The researcher presents the data with frequency and percentage in Tables 8–11 below.



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Table 8 Frequency and percentage of Working experience in a startup company

<b>Working experience in a startup company</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 3 years	214	47.1
3 years	147	32.4
More than 3 years	93	20.5
<b>Total</b>	<b>454</b>	<b>100.0</b>

From Table 8, the analysis of the 454 respondents from the sample group found that most respondents less than 3 years which represented 214 respondents or 47.1%. The second were respondents in 3 years representing 147 respondents or 32.4%. The least polled were respondents more than 3 years with 93 respondents or 20.5%.

Table 9 Frequency and percentage of Education Level

<b>Education level</b>	<b>Frequency</b>	<b>Percentage</b>
Bachelor's degree in IT or Engineering	388	85.5
Master's degree	27	5.9
Doctoral Degree	6	1.3
Other	33	7.3
<b>Total</b>	<b>454</b>	<b>100.0</b>

Form Table 9 shows that a majority of the sample group had a highest education level, that is bachelor's degree in IT or engineering which represented 388 respondents or 85.5%. The second group is the other group represented 33 respondents or 7.3%. The third group is the master's degree represented 27 respondents or 5.9% and the smallest group was the respondents who accomplished a doctoral degree at 6 or 1.3%.

Table 10 Frequency and percentage of Work experience

<b>Work experience</b>	<b>Frequency</b>	<b>Percentage</b>
Between 1 to 3 years	193	42.5
Between 3 to 7 years	177	39.0
Between 7 to 10 years	48	10.6
More than 10 years	36	7.9
<b>Total</b>	<b>454</b>	<b>100.0</b>

Table 10 shows that a majority of the sample group, most of respondents were between 1 to 3 years represented 193 or 42.5%. The second group was between 3 to 7 years represented 177 or 39.0%. The third group was between 7 to 10 years and represented 48 respondents or 10.6%. The smallest group was more than 10 years represented 36 respondents or 7.9%.

Table 11 Frequency and percentage of Monthly income

<b>Monthly income</b>	<b>Frequency</b>	<b>Percentage</b>
Under ₦20,000	27	5.9
₦20,001- ₦40,000	262	57.7
₦40,001- ₦60,000	99	21.8
₦60,001- ₦80,000	30	6.6
More than ₦80,001	36	7.9
<b>Total</b>	<b>454</b>	<b>100.0</b>

Table 11 shows that most of respondents had monthly incomes between ₦ 20,001- ₦40,000 with 262 or 57.7%. The second group was between ₦40,001- ₦ 60,000 with 99 respondents or 21.8%. The third group was more than ₦80,001 with 36 respondents or 7.9%. the fourth group was between ₦60,001- ₦80,000 with 30 respondents or 6.6%. the least respondents with 27 respondents or 5.9%

## Respondents' attitudes towards factors affecting employee retention

Analysis of the mean and standard deviation criterion

- |                |                  |
|----------------|------------------|
| 1. 1.00 - 1.80 | Very unimportant |
| 2. 1.81 – 2.60 | Unimportant      |
| 3. 2.61 – 3.40 | Indifferent      |
| 4. 3.41 – 4.20 | Important        |
| 5. 4.21 – 5.00 | Very important   |

Attitude toward the factors of their current company have 6 factors, including transparency, work benefits, teamwork, environment, job security and corporate culture. This questionnaire consists of a 5-level rating scale, their results can be presented in the following table.

Table 12 Respondents' attitudes towards the transparency factor

Transparency	Mean	S.D.	Level
The direction of the company is clear.	4.05	0.820	important
The members of the organization are bound to one another by the same objectives and goals.	3.97	0.937	important
The company has a clear termination policy.	3.76	1.113	important
The company encourages employees according to their aptitudes.	3.86	0.954	important
The company gives employees the right to access various documents of the company (regulations, conditions, discipline)	4.00	0.925	important
<b>Total</b>	<b>3.93</b>	<b>0.525</b>	<b>important</b>

Table 12 shows that transparency opinion level was at important with the mean equal to 3.93 (SD = 0.525). When considering each item, the researcher found that all items were important level which can order from highest score being “The direction of the company is clear” ( $\bar{X} = 4.05, SD = 0.820$ ), “The company gives employees the right to access various documents of the company (regulations,

conditions, discipline)” ( $\bar{X} = 4.00$ ,  $SD = 0.925$ ), “The members of the organization are bound to one another by the same objectives and goals” ( $\bar{X} = 3.97$ ,  $SD = 0.937$ ), “The company encourages employees according to their aptitudes” ( $\bar{X} = 3.86$ ,  $SD = 0.954$ ), and “The company has a clear termination policy” ( $\bar{X} = 3.76$ ,  $SD = 1.113$ ) respectively.

Table 13 Respondents' attitudes towards the work benefits factor

<b>Work benefits</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
You have had a variety of experiences.	4.09	0.795	important
You are satisfied with your salary.	3.87	0.908	important
The workplace is equipped with modern equipment and tools.	4.02	0.827	important
Your working hours are flexible.	4.08	0.804	important
The company allows you to work from home.	4.15	0.827	important
The company gives appropriate bonuses to employees based on their performance	3.83	1.094	important
<b>Total</b>	<b>4.01</b>	<b>0.443</b>	<b>important</b>

Table 13 shows the mean and standard deviation for work benefits opinion level was at important with the mean and standard deviation 4.01, 0.443 respectively. When considering each item from highest score being “The company allows you to work from home” ( $\bar{X} = 4.15$ ,  $SD = 0.827$ ), “You have had a variety of experiences” ( $\bar{X} = 4.09$ ,  $SD = 0.795$ ), “Your working hours are flexible” ( $\bar{X} = 4.08$ ,  $SD = 0.804$ ), “The workplace is equipped with modern equipment and tools” ( $\bar{X} = 4.02$ ,  $SD = 0.827$ ), “You are satisfied with your salary.” ( $\bar{X} = 3.87$ ,  $SD = 0.908$ ), and “The company gives appropriate bonuses to employees based on their performance” ( $\bar{X} = 3.83$ ,  $SD = 1.094$ ) respectively.

Table 14 Respondent's attitudes towards the teamwork

<b>Teamwork</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
Employees work effectively as a team.	4.14	0.788	important
When a problem arises, the team collaborates to solve problems.	4.15	0.820	important
The team collaborates to solve problems and obstacles.	4.04	0.784	important
Teamwork is effective and has a good relationship.	4.03	0.798	important
The team's work roles are regularly reviewed.	4.02	0.852	important
<b>Total</b>	<b>4.08</b>	<b>0.465</b>	<b>important</b>

Table 14 shows the mean and standard deviation for teamwork opinion level was at important with mean equal to 4.08 and standard deviation equal 0.465. When considering each item from highest score being "When a problem arises, the team collaborates to solve problems" ( $\bar{X} = 4.15, SD = 0.820$ ), "Employees work effectively as a team" ( $\bar{X} = 4.14, SD = 0.788$ ), "The team collaborates to solve problems and obstacles" ( $\bar{X} = 4.04, SD = 0.784$ ), "Teamwork is effective and has a good relationship" ( $\bar{X} = 4.03, SD = 0.798$ ), and "The team's work roles are regularly reviewed" ( $\bar{X} = 4.02, SD = 0.852$ ) respectively.

Table 15 Respondent's attitudes towards the environment

<b>Environment</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
Your work feels like you're a part of a new innovation.	4.02	0.815	important
You use your imagination and skills to create new applications.	4.06	0.782	important
Your creativity is valuable in creating new innovations.	4.07	0.803	important
You take initiative to continually improve projects or products	4.03	0.804	important
<b>Total</b>	<b>4.05</b>	<b>0.494</b>	<b>important</b>

Table 15 shows the mean and standard deviation of environment opinion level was at important with mean and standard deviation where 4.05 and 0.494. When considering each item from highest score being "Your creativity is valuable in creating new innovations" ( $\bar{X} = 4.07, SD = 0.803$ ), "You use your imagination and skills to create new applications" ( $\bar{X} = 4.06, SD = 0.782$ ), "You take initiative to continually improve projects or products" ( $\bar{X} = 4.03, SD = 0.804$ ), and "Your work feels like you're a part of a new innovation" ( $\bar{X} = 4.02, SD = 0.815$ ) respectively.



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Table 16 Respondent's attitudes towards the Job security

<b>Job security</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
The company has good profits, stability, and high potential for expansion.	4.01	0.874	important
You have a good career and the opportunity to grow in the line of work.	4.08	0.865	important
The company has organized training for employees to increase the efficiency of operations.	3.95	0.930	important
<b>Total</b>	<b>4.02</b>	<b>0.638</b>	<b>important</b>

Table 16 shows the mean and standard deviation of job security opinion level was at important with mean and standard deviation where 4.02 and 0.638. When considering each item from highest score begin “You have a good career and the opportunity to grow in the line of work” ( $\bar{X} = 4.08, SD = 0.865$ ), “The company has good profits, stability, and high potential for expansion” ( $\bar{X} = 4.01, SD = 0.874$ ), and “The company has organized training for employees to increase the efficiency of operations” ( $\bar{X} = 3.95, SD = 0.930$ ) respectively.

Table 17 Respondent's attitudes towards the corporate culture

<b>Corporate culture</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
The company gives importance to employees.	4.05	0.812	important
The company is trusted by customers.	4.02	0.773	important
The company has a flexible policy. Employees can reduce work steps.	4.06	0.792	important
The company has a clear assignment of work.	4.06	0.835	important
The company focuses on providing services according to customer needs.	4.08	0.798	important
The mission, vision, and goals of the company are clear.	4.00	0.856	important
<b>Total</b>	<b>4.05</b>	<b>0.433</b>	<b>important</b>

Table 17 shows the mean and standard deviation of corporate culture opinion level was at important with mean and standard deviation where 4.05 and 0.433. When considering each item from highest score begin "The company focuses on providing services according to customer needs" ( $\bar{X} = 4.08, SD = 0.798$ ), "The company has a flexible policy. Employees can reduce work steps" ( $\bar{X} = 4.06, SD = 0.792$ ), "The company has a clear assignment of work" ( $\bar{X} = 4.06, SD = 0.835$ ), "The company gives importance to employees" ( $\bar{X} = 4.05, SD = 0.812$ ), "The company is trusted by customers" ( $\bar{X} = 4.02, SD = 0.773$ ) and "The mission, vision, and goals of the company are clear." ( $\bar{X} = 4.00, SD = 0.856$ ) respectively.

Table 18 A summary of descriptive statistics of factors

<b>Factors</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
Transparency	3.93	0.525	important
Work benefits	4.01	0.443	important
Teamwork	4.08	0.465	important
Environment	4.05	0.494	important
Job security	4.02	0.638	important
Corporate culture	4.00	0.856	important
<b>Total</b>	<b>4.02</b>	<b>0.34</b>	<b>important</b>

Table 18 shows the mean and standard deviation of summary of descriptive statistics opinion level was at important with mean and standard deviation where 4.02 and 0.34. When considering each item from highest score begin “Teamwork” ( $\bar{X} = 4.08, SD = 0.465$ ), “Environment” ( $\bar{X} = 4.05, SD = 0.494$ ), “Job security” ( $\bar{X} = 4.02, SD = 0.638$ ), “Work benefits” ( $\bar{X} = 4.01, SD = 0.443$ ), “Corporate culture” ( $\bar{X} = 4.00, SD = 0.856$ ), and “Transparency” ( $\bar{X} = 3.93, SD = 0.525$ ) respectively.

Table 19 Respondent’s employee retention.

<b>Employee Retention</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
You want to work with this company forever.	4.01	0.933	important
Although there is an opportunity to change jobs to other companies with higher incomes, you are still willing to work at this company.	3.95	0.947	important
You see that this company is better than other companies.	4.07	0.820	important
You intend to work with this company until your retirement.	3.87	0.996	important

Table 19 (Continued)

<b>Employee Retention</b>	<b>Mean</b>	<b>S.D.</b>	<b>Level</b>
If you working conditions change, you can still work in this company.	3.81	0.924	important
You did not intend to resign even though the company faced financial liquidity problems.	3.77	0.998	important
<b>Total</b>	<b>3.91</b>	<b>0.575</b>	<b>important</b>

Table 19 shows the mean and standard deviation of respondent's employee retention opinion level was at important with mean and standard deviation where 3.91 and 0.575. When considering each item from highest score begin "You see that this company is better than other companies" ( $\bar{X} = 4.07, SD = 0.820$ ), "You want to work with this company forever" ( $\bar{X} = 4.01, SD = 0.933$ ), "Although there is an opportunity to change jobs to other companies with higher incomes, you are still willing to work at this company" ( $\bar{X} = 3.95, SD = 0.947$ ), "You intend to work with this company until your retirement" ( $\bar{X} = 3.87, SD = 0.996$ ), "If you working conditions change, you can still work in this company" ( $\bar{X} = 3.81, SD = 0.924$ ), and "You did not intend to resign even though the company faced financial liquidity problems" ( $\bar{X} = 3.77, SD = 0.998$ ) respectively.

A summary of the results of the Pearson correlation study for all variables. In this study, The Pearson correlation coefficient is used to explain the linear relationship between key components, to propose the factors affecting employee retention in software development companies for startups. There is a link between the variables. All factors appear to be related to each other, with correlation values ranging from 0.3 to 0.5 (Hauke, 2011).

Abbreviation of variables.

Transparency	= Trans
Work benefits	= Work
Teamwork	= Team
Environment	= Env

Job security	= Job
Corporate Culture	= CC
Employee retention	= EM

Table 20 Results from the Pearson Correlations

Correlation among all variables							
	Trans	Work	Team	Env	Job	CC	EM
Trans	1						
Work	0.338**	1					
Team	0.363**	0.355**	1				
Env	0.365**	0.319**	0.367**	1			
Job	0.348**	0.415**	0.370**	0.422**	1		
CC	0.455**	0.426**	0.387**	0.398**	0.460**	1	
EM	0.428**	0.411**	0.361**	0.383**	0.482**	0.435**	1
Correlation is significant at the 0.01 level (2-tailed)					*p<0.05 **p<0.01		

Table 20 shows there are 21 significant correlations coefficient. The researcher can be divided into the two groups are positive weak linear correlation and positive medium linear correlation following below.

Positive weak linear correlation such as

1. Transparency and work benefits at correlation coefficient of 0.338
2. Transparency and teamwork at correlation coefficient of 0.363
3. Transparency and environment at correlation coefficient of 0.365
4. Transparency and job security at correlation coefficient of 0.348
5. Work benefits and teamwork at correlation coefficient of 0.355
6. Work benefits and environment at correlation coefficient of 0.319
7. Teamwork and environment at correlation coefficient of 0.367
8. Teamwork and job security at correlation coefficient of 0.370
9. Teamwork and corporate culture at correlation coefficient of 0.387
10. Teamwork and employee retention at correlation coefficient of 0.361

11. Environment and corporate culture at correlation coefficient of 0.398
12. Environment and employee retention at correlation coefficient of 0.383

#### Positive medium linear correlation

1. Transparency and corporate culture at correlation coefficient of 0.455
2. Transparency and employee retention at correlation coefficient of 0.428
3. Work benefits and job security at correlation coefficient of 0.415
4. Work benefits and corporate culture at correlation coefficient of 0.426
5. Work benefits and employee retention at correlation coefficient of 0.411
6. Environment and job security at correlation coefficient of 0.422
7. Job security and corporate culture at correlation coefficient of 0.460
8. Job security and employee retention at correlation coefficient of 0.482
9. Corporate culture and employee retention at correlation coefficient of 0.435

### Hypothesis testing

The statistical method of regression analysis is employed to examine the correlation between a reliant variable and either one or multiple independent variables.

Hypothesis testing is a key component of regression analysis. Researchers can use regression analysis to test hypotheses about the strength and direction of the relationship between the variables. If the p-value is lower than the significance level (usually set at 0.05), then the relationship is considered statistically significant.

The initial stage in conducting hypothesis testing using regression analysis involves the development of a null hypothesis and an alternative hypothesis. The null hypothesis states that there is no significant relationship between the independent variable (Transparency, Work Benefits, Teamwork, Environment, Job Security, Corporate culture) and the dependent variable (employee retention). The alternative hypothesis, on the other hand, states that there is a significant relationship between the independent variable and the dependent variable.

Research Hypothesis of this study was set as follows.

**H<sub>1</sub>:** Transparency has an impact on employee retention in software startups in Thailand.



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**H<sub>2</sub>:** Work benefits have an impact on employee retention in software startups in Thailand.

**H<sub>3</sub>:** Teamwork has an impact on employee retention in software startups in Thailand.

**H<sub>4</sub>:** Environment has an impact on employee retention in software startups in Thailand.

**H<sub>5</sub>:** Job security has an impact on employee retention in software startups in Thailand.

**H<sub>6</sub>:** Corporate culture has an impact on employee retention in software startups in Thailand.

Next, a regression model is created to test the relationship between the two variables. The regression model will typically take the form of a linear equation, where the dependent variable (employee retention) is regressed on the independent variable as well as any other relevant variables. The regression equation will also include a constant term. After the regression model is created, the next step is to conduct a hypothesis test to determine whether there is a significant relationship between the independent variable and the dependent variable. The determination of statistical significance can be achieved through an analysis of the p-value linked to the coefficient of the independent variable in the regression equation. If the p-value is lower than the significance level (typically 0.05), then the null hypothesis is rejected, and it can be determined that there is a significant relationship between the independent variable and the dependent variable. The results are presented in the following tables:



Table 21 The analysis results of the factors using Multiple Regression Analysis

Variable	Unstandardized Coefficient	S.E.	t	Sig
(Constant)	0.102	0.266	0.383	0.702
Transparency	0.190**	0.049	3.855	0.001
Work benefits	0.173**	0.058	2.973	0.003
Teamwork	0.097	0.054	1.796	0.073
Environment	0.116*	0.052	2.235	0.026
Job Security	0.216**	0.042	5.190	0.001
Corporate Culture	0.158*	0.063	2.502	0.013

The dependent variable is employee retention.

\*\*, \* denote statistically significant at 0.01 and 0.05.

A multiple linear regression equation:

$Y$  = Employee retention

$X_1$  = Transparency

$X_2$  = Work benefits

$X_3$  = Teamwork

$X_4$  = Environment

$X_5$  = Job Security

$X_6$  = Corporate Culture

The Unstandardized model:

$$Y = 0.102 + 0.190X_1 + 0.173X_2 + 0.097X_3 + 0.116X_4 + 0.216X_5 + 0.158X_6$$

Hypothesis 1 Transparency has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows transparency has a positively impact on employee retention where  $\beta$  0.190 and  $p < 0.01$ .



Hypothesis 2 Work benefits has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows work benefits have a positively impact on employee retention where  $\beta$  0.173 and  $p < 0.01$ .

Hypothesis 3 Teamwork has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows teamwork benefits have not an impact on employee retention where  $\beta$  0.097 and  $p < 0.05$ . because p value is 0.073.

Hypothesis 4 Environment has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows environment has a positively impact on employee retention where  $\beta$  0.116 and  $p < 0.05$ .

Hypothesis 5 Job Security has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows job Security has a positively on employee retention where  $\beta$  0.216 and  $p < 0.01$ .

Hypothesis 6 Corporate culture has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows the corporate culture has a positively on employee retention where  $\beta$  0.158 and  $p < 0.05$ .



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## CHAPTER 5

### CONCLUSION, DISCUSSION AND SUGGESTION

This final chapter will present all the main findings in the study of the impact factors on employee retention in software startups in Thailand. The researcher has studied 6 independent variables, including 1. transparency, 2. work benefits, 3. teamwork, 4. environment, 5. job security, 6. corporate culture, and the dependent variable are retention of employees. The chapter summarizes the findings, presents an overall discussion of the results, and begins with a concise summary of the research query and the methodology used to conduct the study. The chapter then presents the study's key findings, emphasizing the most significant findings.

The researcher has studied and created a tool to test research hypotheses. Studying and researching information from books, research results, articles, domestic journals, and international journals. To create a closed-ended questionnaire and use a Likert scale to measure the data from a limited population of employees from seven software startup companies. The population size is 2,640 employees, and there was a complete questionnaire that could be used to analyze the results of 454 respondents, which is considered complete according to the population that has been defined.

The questionnaire was then used to determine the content validity by finding the concordance index by all 3 experts and determination of construct validity by Factor Analysis. After that, the researcher finds Reliability by Cronbach's Reliability Coefficient Alpha. The result shows 0.778 was between 0.71-0.8, meaning that Good. The Research tools to collect the data use surveys, adopt the online questionnaire. Using the questionnaire will ensure that each respondent is anonymous and answers questions. The questionnaire adopts quantitative research and includes the following three parts:

Part 1: Demographic Question

Part 2: Question regarding retention factor of employee respondent's company

Part 3: Questions regarding employment retention in the current company.



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The researchers utilized statistical methodologies after that questionnaire survey, including descriptive statistical analysis and inferential statistical analysis.

Descriptive statistics is a simple statistical method that focuses on frequency, mean and standard deviation. The mean and standard deviation are mainly used to describe and compare the factors of employee retention.

Inferential statistical analysis for answering the research goal that tests the research hypothesis through correlation and Multiple regression analysis. Data analysis was conducted by the researcher using the SPSS statistical software tool.

This chapter's discussion section provides a comprehensive analysis of the study's findings and implications. It analyzes the research question, considers the collected data, and evaluates the strengths and weaknesses of the study. This section also analyzes the study's broader implications and its contribution to the existing body of knowledge on the topic.

Finally, the chapter concludes with suggestions for future research. It identifies areas where further investigation is needed and proposes potential directions for future studies. The chapter also discusses the potential limitations of the current study and suggests ways to address these limitations in future research. Overall, this concluding chapter aims to provide a comprehensive understanding of the study's findings, their implications, and their contribution to the field.

## Conclusion

### 1. Summary of descriptive statistics of Demographic profiles

This study is conducted with the purpose of investigating the factors affecting retention in software startups in Thailand by using data from collected questionnaires with a total amount of 454 responses. The information in the questionnaire has been divided into four parts which are summarized as followings:

Most respondents have working experience in a startup company of less than 3 years, 47.1% with 214 respondents. For 3 years was 32.4% with 147 respondents and for more than 3 years was 20.5% with 93 respondents, respectively.

Their education levels are mostly bachelor's degree in IT or engineering was 85.5% with 388 respondents, other was 7.3% with 33 respondents, master's degree



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was 5.9% with 27 respondents and doctoral degree was 1.3% with 6 respondents, respectively.

Their work experience between 1 to 3 years was 42.5% with 193 respondents, between 3 to 7 years was 39.0% with 177, between 7 to 10 years was 10.6% with 48 respondents, and more than 10 years was 7.9% with 36 respondents, respectively.

They mostly have a monthly income between was ₱20,001 - 40,000 was 57.7% with 262 respondents, between ₱40,001 - 60,000 was 21.8% with 99 respondents, more than ₱80,001 was 7.9% with 36 respondents, between ₱60,001 - 80,000 was 6.6% with 30%, and under ₱20,000 was 5.9% with 27 respondents respectively.

## **2. Summary of descriptive statistics factors with employee retention**

Respondents' attitudes towards factors that affect employee retention are at important level where the mean and standard deviation are equal to 4.02 and 0.34, according to the research on the opinion level of 454 samples. When considering each item from highest score begin "Teamwork" ( $\bar{X} = 4.08, SD = 0.465$ ), "Environment" ( $\bar{X} = 4.05, SD = 0.494$ ), "Job security" ( $\bar{X} = 4.02, SD = 0.638$ ), "Work benefits" ( $\bar{X} = 4.01, SD = 0.443$ ), "Corporate culture" ( $\bar{X} = 4.00, SD = 0.856$ ), and "Transparency" ( $\bar{X} = 3.93, SD = 0.525$ ) respectively.

## **3. Summary of descriptive statistics employee retention in current company**

Respondents' attitudes towards employment retention overall is at an important level where the mean and standard deviation equal 3.91 and 0.575. When considering each item from highest score begin "You see that this company is better than other companies" ( $\bar{X} = 4.07, SD = 0.820$ ), "You want to work with this company forever" ( $\bar{X} = 4.01, SD = 0.933$ ), "Although there is an opportunity to change jobs to other companies with higher incomes, you are still willing to work at this company" ( $\bar{X} = 3.95, SD = 0.947$ ), "You intend to work with this company until your retirement" ( $\bar{X} = 3.87, SD = 0.996$ ), "If you working conditions change, you can still work in this company" ( $\bar{X} = 3.81, SD = 0.924$ ), and "You did not intend to

resign even though the company faced financial liquidity problems” ( $\bar{X} = 3.77$ ,  $SD = 0.998$ ) respectively.

#### 4. Summary of research hypothesis test results

Hypothesis 1 Transparency has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows transparency has a positively impact on employee retention where  $\beta 0.190$  and  $p < 0.01$ .

Hypothesis 2 Employee benefits have a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows work benefits have a positively impact on employee retention where  $\beta 0.173$  and  $p < 0.01$ .

Hypothesis 3 Teamwork has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows us teamwork benefits did not have an impact on employee retention where  $\beta 0.097$  and  $p < 0.05$ . because p value is 0.073

Hypothesis 4 Environment has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows us environment has a positively impact on employee retention where  $\beta 0.116$  and  $p < 0.05$ .

Hypothesis 5 Job Security has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows job Security has a positively impact on employee retention where  $\beta 0.216$  and  $p < 0.01$ .

Hypothesis 6 Corporate culture has a positively impact on employee retention in software startups in Thailand.

The hypothesis testing shows the corporate culture has a positively impact on employee retention where  $\beta 0.158$  and  $p < 0.05$ .

Table 22 Summary of research hypothesis test results  $p < 0.05$ 

Hypothesis	Result
H <sub>1</sub> : Transparency has an impact on employee retention in software startups in Thailand.	correlated
H <sub>2</sub> : Work benefits has an impact on employee retention in software startups in Thailand.	correlated
H <sub>3</sub> : Teamwork has an impact on employee retention in software startups in Thailand.	uncorrelated
H <sub>4</sub> : Environment has an impact on employee retention in software startups in Thailand.	correlated
H <sub>5</sub> : Job security has an impact on employee retention in software startups in Thailand.	correlated
H <sub>6</sub> : Corporate culture has an impact on employee retention in software startups in Thailand.	correlated

A multiple linear regression equation:

Y = Employee retention

X<sub>1</sub> = Transparency

X<sub>2</sub> = Work benefits

X<sub>3</sub> = Teamwork

X<sub>4</sub> = Environment

X<sub>5</sub> = Job Security

X<sub>6</sub> = Corporate Culture

The Unstandardized Model:

$$Y = 0.102 + 0.190X_1 + 0.173X_2 + 0.097X_3 + 0.116X_4 + 0.216X_5 + 0.158X_6$$

Respondents' attitudes towards the variable are in an important level that has the highest to the lowest order by t is job security (t=5.190), transparency(t=3.855), work benefits(t=2.973), corporate culture(t=2.502), environment (t=2.235), teamwork (t=1.796), respectively.

## Discussion

This study can summarize the factors affecting employee retention in software development startups with statistical significance at 0.05 for 5 factors as follows: 1. job security 2. transparency 3. work benefits 4. corporate culture 5. environment There was the regression coefficient of job security ( $\beta=0.216$ ) transparency ( $\beta=0.190$ ), work benefits ( $\beta=0.173$ ), corporate culture ( $\beta=0.158$ ) and environment ( $\beta=0.116$ ). Organizations need to retain employees and reduce the turnover rate of employees in this group. They should start to create satisfaction in various areas of human resource management and various factors that affect employee retention. The factors that must be prioritized are job security, transparency, work benefits, corporate culture, and environment.

The employee at software startups have significant levels of organizational retention is important grade such as Job security as important level, transparency as important level, work benefits as important level, corporate culture as important level, environment as important level and teamwork as important level which corresponds to Das and Baruah (2013) that finding the factors affecting employee retention. In addition also corresponds to Chot (2013) mentioned job security and environment to create satisfaction and resignation tendency of employees, followed Kumar (2011) mentioned employee retention by motivation, the factors that create motivation for retention such as transparency, work benefits, and environment.

## Limitation

1. The sample group in this study is all employees of software startups. Most of them have less than 3 years of work experience in startup companies. If the target group has more than 3 years of work experience in startups, they may understand the factors who remain continually in startup companies. Difficulties of some startup companies can operate the business for more than 5 years, but their business is growing more and can be listed on the stock market will become public companies.

2. This study's use of data does not guarantee a hundred percent level of accuracy; it may be subject to selection bias, in which certain individuals, groups, or



time periods are more likely to influence the results. The investigation was conducted in a particular geographical location in Bangkok which may limit the generalizability of the results.

3. The study was based on what employees said about themselves. This can lead to bias and inaccuracies. Self-reported data are prone to bias, such as social bias, corporate culture, that may compromise the accuracy of the results and may affect the accuracy of the results. Therefore, future research should include additional sources of information, e.g., employer notes, interviews, and observations, to provide a more comprehensive view of the factors that affect employee retention.

## Recommendations

1. This research is a comparative questionnaire content used to collect data. These data may be subject to limitation in subject and in-depth details so Therefore, future research may qualitatively study this issue. to challenge the researcher to be aware and have understand the attitudes or opinions of employees.

2. External factors such as industry competition and economic conditions were not considered. The exclusion of these external factors from the study may reduce the generalizability of the results. Future research should take these external factors into account to provide a more complete understanding of the factors that influence employee retention.

3. The study did not account for individual factors such as employee age, gender, and education level. These individual factors can affect employee retention rates, and excluding them from the study may reduce the generalizability of the results. Future research should take these individual factors into consideration to provide a more nuanced understanding of the factors that affect employee retention.

4. This research has studied only software companies for startups. The next study may expand to study other types of startups to create a human resource management that satisfies the personnel throughout the organization as much as possible.

After conducting a study that found the factors affecting employee retention in software startups, it is essential to suggest some practical recommendations that organizations can implement to improve employee retention rates.



1. In terms of transparency, the organization should be clear about the goals of the work. Employees can know the scope of work. Which must be verifiable Employees have limited access to company documents. And allow employees to express their opinions on the proposed projects. In addition, the organization and executives must be fair and treat everyone equally. Transparent auditing can be done within the framework of the law. A written employment contract Employment patterns must be clear. To make employees feel at ease and stay in the organization wanting to be happy.

2. In terms of work benefits, the organization must have a compensation plan that is appropriate and fair, both direct monetary compensation and indirect monetary compensation. That is, direct monetary compensation is wages. The organization should set a fair wage rate suitable for the position and experience of the employee, while indirect monetary compensation is what the employee receives from the organization in addition to monetary compensation, such as social security, health insurance, and medical expenses. Subsidy for children's education. All the above should be received by employees to keep employees with the organization, and it also shows that the organization is more attentive to the needs of employees.

3. In terms of teamwork, the organization should foster collaboration among colleagues. Making Employees feel like family gives a sense of stability and safety on the job. There must be a division of duties and responsibilities among personnel according to their knowledge, abilities, and aptitudes because personnel have different abilities and expertise in each field. To create conditions for people within the organization to realize that they must work together. It must rely on everyone's experiences, abilities, and consent and make group members accept the idea of working together as a group or as a team, thus being able to achieve common objectives. Therefore, building an effective team should proceed as follows:

3.1 Set direction team members need certainty in setting the team's goals and expectations.

3.2 Choosing team members should be arranged according to the knowledge, ability, and aptitude of each individual.

3.3 Meetings must be done with meticulous intention to make an impression. There is a time limit for everyone to know for sure, and there is a



reminder by the team leader, or executives may use their authority to take care of matters within the team.

3.4 Establishing clear rules for conducting team development by bringing rules to help him achieve the objectives the team needs.

3.5 Objectives for operation focus that should be supported are sincere openness to each other, creating trust, and having an appropriate mutual agreement.

3.6 To have objectives and suitability for the work setup. It is not attached to the management but is established with the participation of members.

3.7 To challenge the working group by bringing in new facts and information. To help support the work.

4. In terms of the Environment, the organization should be allocated to employees. Such as, various environments in the workplace must be conducive to work. And able to work happily. The place has adequate lighting organized in an orderly, clean, and free of disturbing odors. No annoying sound, well-ventilated visible and tactile environments such as workplaces, desks, tools, and equipment must be readily available and up to date. In addition, the working atmosphere with colleagues who are good team members will help each other. It is important for employee retention. In which the organization must focus on the development and improvement of various aspects of management. Or allocation of facilities to work for personnel Because these factors affect the mental state of work.

5. In terms of job security, the organization should plan growth for employees. That is, the organization will have to set up a system to plan to help employees have the opportunity to learn new skills. So that employees can develop new skills and increase the opportunity to take on more responsibility by increasing the potential of employees and organizations for future growth. It is to coordinate the needs of individuals. And the needs of the organization together. When employees have learned to perform their responsibilities at their full potential, organizations need to develop career paths for employees to advance in their careers. Organizations should encourage employees to show their potential so they can move up to higher positions.

6. In terms of Corporate Culture, the organization must try to make employees love and understand each other. Employees should be recognized and have



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a clear sense of self-worth so that employees feel good at work and among colleagues. The organization should have a clear delegation of work. To make employees have a systematic work plan. As a result, the work comes out to meet the goals that the organization wants. As such, the company will gain the trust of customers. Because the work came out efficiently, the customer was impressed. Executives should listen to the opinions of employees, listen to the opinions of employees in order to improve problems in the organization because employees are the ones who experience the problem themselves. Executives should listen to various opinions or suggestions arising from employees.



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## APPENDIX



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**APPENDIX A**  
IOC Evaluation



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### The Result of the Item-Objective Congruence Index (IOC) Test

Topic : Factors Affecting Employee Retention in Software Development Companies for Startups.

Questionnaires for quantitative research were evaluated by the following experts:

Expert No.1: Dr. Chanisara Kaeosawan

Expert No.2: Dr. Sakachai Chanruang

Expert No.3: Dr. Teetut Tresirichod

The IOC scores are determined as follows:

-1 = Incongruent or irrelevant

0 = Questionable

+1 = Congruent and relevant

Then, combined the results in order to calculate the IOC by using the following equation:

$$IOC = \frac{\sum R}{n}$$

Where,

$\sum R$  = The sum up scores of experts

$n$  = Number of experts

### Results

1. The IOC value is between 0.50 – 1.00; the question is acceptable
2. If the IOC value is lower than 0.50; the question will have to be rejected

and Revised



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No.	Question	Expert			IOC score	Result
		1	2	3		
<b>Part 1: Demographics questionnaire</b>						
1.	Working experience in a startup company - less than 3 years - 3 years - more than 3 years	1	1	1	1.00	Acceptable
2.	Education level - Bachelor's degree in IT or Engineering - Master's degree - Doctoral degree - Other	1	1	1	1.00	Acceptable
3.	Work experience - Between 1 and 3 years - Between 3 and 7 years - Between 7 and 10 years - More than 10 years	1	1	1	1.00	Acceptable
4.	Monthly income - Less than ₱20,000 - ₱20,001 - 40,000 - ₱40,001 - 60,000 - ₱60,001 - 80,000 - More than 80,001	1	1	1	1.00	Acceptable
<b>Part 2: Retention factors of employee</b>						
<b>Transparency</b>						
1.	The direction of the company is clear.	1	0	1	0.67	Acceptable



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No.	Question	Expert			IOC score	Result
		1	2	3		
2.	The members of the organization are bound to one another by the same objectives and goals.	1	0	1	0.67	Acceptable
3	The company has a clear termination policy.	1	0	1	0.67	Acceptable
4	The company encourages employees according to their aptitudes.	1	0	1	0.67	Acceptable
5	The company gives employees the right to access various documents of the company (regulations, conditions, discipline).	1	0	1	0.67	Acceptable
<b>Work benefits</b>						
1.	You have had a variety of experiences.	1	1	1	1.00	Acceptable
2.	You satisfied with your salary.	1	1	1	1.00	Acceptable
3	The workplace is equipped with modern equipment and tools.	1	1	1	1.00	Acceptable
4.	Your working hours are flexible.	1	1	1	1.00	Acceptable
5.	The company allows you to work from home.	1	1	1	1.00	Acceptable
6.	The Company gives appropriate bonuses to employees based on their performance.	1	1	1	1.00	Acceptable



No.	Question	Expert			IOC score	Result
		1	2	3		
<b>Teamwork</b>						
1.	Employees work effectively as a team.	1	1	1	1.00	Acceptable
2.	When a problem arises, the team collaborates to solve problems	1	1	1	1.00	Acceptable
3.	The team collaborates to solve problems and obstacles effectively.	1	1	1	1.00	Acceptable
4.	Teamwork is effective and has a good relationship.	1	0	1	0.67	Acceptable
5.	The team's work roles are regularly reviewed.	1	1	1	1.00	Acceptable
<b>Environment</b>						
1.	Your work feels like you're a part of a new innovation.	1	0	1	0.67	Acceptable
2.	You use your imagination and skills to create new applications.	1	0	1	0.67	Acceptable
3.	Your creativity is valuable in creating new innovations.	1	0	1	0.67	Acceptable
4.	You take initiative to continually improve projects or products.	1	0	1	0.67	Acceptable
<b>Job security</b>						
1.	The company has good profits, stability, and high potential for expansion.	1	1	1	1.00	Acceptable
2.	You have a good career and the	1	1	1	1.00	Acceptable

No.	Question	Expert			IOC score	Result
		1	2	3		
	opportunity to grow in the line of work.					
3.	The company has organized training for employees to increase the efficiency of operations	1	0	1	0.67	Acceptable
<b>Corporate culture</b>						
1.	The company gives importance to employees.	1	0	1	0.67	Acceptable
2.	The company is trusted by customers.	1	0	1	0.67	Acceptable
3.	The company has a flexible policy. Employees can reduce work steps.	1	0	1	0.67	Acceptable
4.	The company has a clear assignment of work.	1	0	1	0.67	Acceptable
5.	The company focuses on providing services according to customer needs.	1	0	1	0.67	Acceptable
6.	The mission, vision, and goals of the company are clear.	1	0	1	0.67	Acceptable
<b>Part 3: Questions about employee retention in the current company</b>						
1.	You want to work with this company forever.	1	0	1	0.67	Acceptable
2.	Although there is an opportunity to change jobs to other companies with higher incomes, you are still willing to work at this company.	1	0	1	0.67	Acceptable

No.	Question	Expert			IOC score	Result
		1	2	3		
3.	You see that this company is better than other companies.	1	1	1	1.00	Acceptable
4.	You intends to work with this company until your retirement.	1	0	1	0.67	Acceptable
5.	If your working conditions change, you can still work in this company.	1	0	1	0.67	Acceptable
6.	You did not intend to resign even though the company faced financial liquidity problems.	1	0	1	0.67	Acceptable



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**APPENDIX B**  
**QUESTIONNAIRE (ENGLISH)**



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## Questionnaire

**Directions:** Please indicate your answer with each of these statements regarding the Factors Affecting Employee Retention In Software Development Companies For Startups. Place an "√" mark in the box of your answer.

### Part 1: Demographic questions

1. Working experience in a startup company?
  - Less than 3 years
  - 3 years
  - More than 3 years
  
2. Education level:
  - Bachelor's degree in IT or Engineering
  - Master's Degree
  - Doctoral Degree
  - Other
  
3. Work experience:
  - Between 1 to 3 years
  - Between 3 to 6 years
  - Between 6 to 10 years
  - More than 10 years
  
4. Monthly Income:
  - Under ₱20,000
  - ₱20,001 - 40,000
  - ₱40,001 - 60,000
  - ₱60,001 - 80,000
  - More than 80,001

**Part 2: Retention factors of employees respondent's company:**

<b>Very important</b>	<b>Important</b>	<b>Indifferent</b>	<b>Unimportant</b>	<b>Very unimportant</b>
5	4	3	2	1

<b>Factors</b>	<b>Level of opinion</b>				
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Transparency</b>					
The direction of the company is clear.					
The members of the organization are bound to one another by the same objectives and goals.					
The company has a clear termination policy.					
The company encourages employees according to their aptitudes.					
The company gives employees the right to access various documents of the company (regulations, conditions, discipline)					
<b>Work benefits</b>					
You have had a variety of experiences.					
You are satisfied with your salary.					
The workplace is equipped with modern equipment and tools.					
Your working hours are flexible.					
The company allows you to work from home.					
The company gives appropriate bonuses to employees based on their performance.					
<b>Teamwork</b>					
Employees work effectively as a team.					
When a problem arises, the team collaborates to solve problems.					



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Factors	Level of opinion				
	5	4	3	2	1
The team collaborates to solve problems and obstacles.					
Teamwork is effective and has a good relationship.					
The team's work roles are regularly reviewed.					
<b>Environment</b>					
Your work feels like you're a part of a new innovation.					
You use your imagination and skills to create new applications.					
Your creativity is valuable in creating new innovations.					
<b>Environment</b>					
You take initiative to continually improve projects or products					
<b>Job security</b>					
The company has good profits, stability, and high potential for expansion.					
You have a good career and the opportunity to grow in the line of work.					
The company has organized training for employees to increase the efficiency of operations.					
<b>Corporate culture</b>					
The company gives importance to employees.					
The company is trusted by customers.					
The company has a flexible policy. Employees can reduce work steps.					
The company has a clear assignment of work.					

Factors	Level of opinion				
	5	4	3	2	1
The company focuses on providing services according to customer needs.					
The mission, vision, and goals of the company are clear.					

### Part 3: Employment retention questions

Factors	Level of opinion				
	5	4	3	2	1
You want to work with this company forever.					
Although there is an opportunity to change jobs to other companies with higher incomes, you are still willing to work at this company.					
You see that this company is better than other companies.					
You intend to work with this company until your retirement.					
If you working conditions change, you can still work in this company.					
You did not intend to resign even though the company faced financial liquidity problems.					



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**APPENDIX B**  
QUESTIONNAIRE (THAI)



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## แบบสอบถาม

คำแนะนำ: โปรดทำเครื่องหมาย "✓" ในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุด

### ส่วนที่ 1: ด้านประชากรศาสตร์

#### 1. ประสบการณ์ทำงานในบริษัทสตาร์ทอัพ

น้อยกว่า 3 ปี

3 ปี

มากกว่า 3 ปี

#### 2. ระดับการศึกษา

ปริญญาตรีด้าน IT หรือ วิศวกรรม

ปริญญาโท

ปริญญาเอก

อื่นๆ

#### 3. ประสบการณ์การทำงาน:

อยู่ระหว่าง 1 ถึง 3 ปี

อยู่ระหว่าง 3 ถึง 7 ปี

อยู่ระหว่าง 7 ถึง 10 ปี

มากกว่า 10 ปี

#### 4. รายได้รายเดือน:

น้อยกว่า ฿20,000

฿20,001 - 40,000

฿40,001 - 60,000

฿60,001 - 80,000

มากกว่า 80,001

ส่วนที่ 2: คำถามเกี่ยวกับปัจจัยที่ส่งผลกับการรักษาพนักงานในองค์กร

มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
5	4	3	2	1

ปัจจัย	ระดับความคิดเห็น				
	5	4	3	2	1
<b>ความโปร่งใส</b>					
ทิศทางของบริษัทมีความชัดเจน					
สมาชิกในองค์กรผูกพันต่อกันด้วยวัตถุประสงค์และเป้าหมายเดียวกัน					
บริษัทมีการกำหนดนโยบายเล็กจ้อยอย่างชัดเจน					
บริษัทส่งเสริมพนักงานตามความถนัด					
บริษัทให้สิทธิพนักงานในการเข้าถึงเอกสารต่าง ๆ ของบริษัท (กฎข้อบังคับ เงื่อนไขระเบียบวินัย)					
<b>ผลประโยชน์ในการทำงาน</b>					
ท่านได้รับประสบการณ์ที่หลากหลาย					
ท่านมีความพึงพอใจต่อเงินเดือนที่ได้รับ					
สถานที่ทำงานประกอบด้วยอุปกรณ์และเครื่องมือที่ทันสมัย					
ชั่วโมงการทำงานของท่านมีความยืดหยุ่น					
บริษัทอนุญาตให้ท่านทำงานที่บ้านได้					
บริษัทให้โบนัสพนักงานตามผลงานอย่างเหมาะสม					
<b>การทำงานเป็นทีม</b>					
พนักงานทำงานเป็นทีมได้อย่างมีประสิทธิภาพ					
เมื่อมีปัญหาเกิดขึ้น ทีมร่วมมือช่วยกันแก้ปัญหา					



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ปัจจัย	ระดับความพึงพอใจ				
	5	4	3	2	1
<b>การทำงานเป็นทีม</b>					
ทีมงานร่วมกันแก้ไขปัญหาและอุปสรรคต่าง ๆ อย่างมีประสิทธิภาพ					
การทำงานระหว่างทีมมีประสิทธิภาพและสัมพันธภาพที่ดี					
มีการทบทวนบทบาทการทำงานของทีมสม่ำเสมอ					
<b>นวัตกรรมสิ่งแวดล้อม</b>					
งานของท่านทำให้รู้สึกเหมือนได้เป็นส่วนหนึ่งของนวัตกรรมใหม่ ๆ					
ท่านใช้จินตนาการและทักษะในการสร้างแอปพลิเคชันใหม่ ๆ					
ความคิดริเริ่มสร้างสรรค์ของท่านมีคุณค่ากับการสร้างนวัตกรรมใหม่					
ท่านใช้ความคิดริเริ่มในการปรับปรุงโครงการหรือผลิตภัณฑ์อย่างต่อเนื่อง					
<b>ความมั่นคงในการทำงาน</b>					
บริษัทมีผลประโยชน์ที่ดี มีความมั่นคง และมีโอกาสขยายตัวสูง					
ท่านมีอาชีพที่ดี มีโอกาสเติบโตในสายงาน					
บริษัทมีการจัดอบรมพนักงาน เพื่อเพิ่มประสิทธิภาพของการปฏิบัติงาน					
<b>วัฒนธรรมองค์กร</b>					
บริษัทให้ความสำคัญกับพนักงาน					
บริษัทได้รับความน่าเชื่อถือจากลูกค้า					
บริษัทมีนโยบายที่ยืดหยุ่นพนักงานสามารถลดขั้นตอนการทำงานได้					
บริษัทมีการมอบหมายการทำงานอย่างชัดเจน					

ปัจจัย	ระดับความพึงพอใจ				
	5	4	3	2	1
บริษัทเน้นการบริการความต้องการของลูกค้า					
<b>วัฒนธรรมองค์กร</b>					
พันธกิจ วิสัยทัศน์ และเป้าหมายของบริษัทที่มีความชัดเจน					

### ส่วนที่ 3: คำถามเกี่ยวกับการรักษาไว้ซึ่งพนักงาน:

ปัจจัย	ระดับความพึงพอใจ				
	5	4	3	2	1
ท่านมีความต้องการจะทำงานกับบริษัทนี้ตลอดไป					
แม้ว่ามีโอกาสที่เปลี่ยนงานไปอยู่ที่บริษัทอื่นซึ่งรายได้สูงกว่า แต่ท่านก็ยังเต็มใจที่จะทำงานอยู่ที่บริษัทนี้					
ท่านเห็นว่าบริษัทนี้เป็นบริษัทที่ดีกว่าบริษัทอื่น ๆ					
ท่านตั้งใจจะทำงานกับบริษัทนี้จนกว่าจะเกษียณอายุ					
หากสภาพการทำงานของท่านเปลี่ยนไป ท่านก็ยังทำงานต่อในบริษัทนี้ได้					
ท่านไม่คิดจะลาออกถึงแม้บริษัทจะประสบปัญหาสภาพคล่องทางการเงิน					



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**APPENDIX D**  
**PLAGIARISM CHECKING REPORT**



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## All Chapter

### ORIGINALITY REPORT

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SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

## CHAPTER 1

### ORIGINALITY REPORT

<b>6%</b>	<b>2%</b>	<b>0%</b>	<b>5%</b>
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## CHAPTER 2

### ORIGINALITY REPORT

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## CHAPTER 3

### ORIGINALITY REPORT

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## CHAPTER 4

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### ORIGINALITY REPORT

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## CHAPTER 5

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### ORIGINALITY REPORT

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