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Evaluations of Project Management Software in Small and Medium Enterprises in Vietnam

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Abstract

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Nowadays, with the boom of advanced technology, more business owners are aware of upgrading their business performance and business projects. In the small and medium enterprises' market, there have been many newcomers in recent years. How can one company become the game changer and take their business to the next level? As there are lots of projects and opportunities going on all the time in this trendy Vietnamese market. Therefore, project management software is the solution to help improve the current project management among small and medium companies in Vietnam.

This report will supply knowledge about the software that is available for Project Management. Mixed qualitative and quantitative research methods are used in this report. Qualitative methods are used directly towards several small and medium enterprises in Vietnam by interview questionnaires, rating Project Management Software's features questions. Besides, information and facts about PMS usage in the Vietnamese market will also be collected by online surveys, internet keywords tracking, and search engine optimizing.

The report will also offer a general opinion about the pros and cons of using Project Management Software to manage companies' projects. Businesses will then have top-down transparency in administration, assignment, decentralization clearly in their powers and responsibilities. Plus, it improves staff and workers' efficiency when performing the work with productivity evaluation by software. Lastly, effective and strict monetary management will then be enhanced. On the other hand, business owners must consider implementing this kind of software, the cost of training for the project staff, and difficulties in deploying this Project Management Software into use.

In conclusion, Project Management Software is a big step towards significant business successes and the project process ultimately improved. Hence, small and medium enterprises in Vietnam need to take this opportunity seriously and act in this technological competition.

Keywords
Project Management, Project Management Software, IT-solution, Small and medium enterprises, Vietnam

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Terms and Abbreviations

PM	Project Management
PMS	Project Management Software
SME	Small and Medium Enterprises
PTT	Project management tools and techniques
SDCA	Specifically Designed Company's Application
IT	Information Technology

1 Introduction

In the 21st century, international business has become a daily topic in every nation. It, therefore, draws a great deal of domestic and international investment between countries. Vietnam is not an exception with its unbelievably fast developing economy. As a result, many business ventures are growing and developing faster than ever before. PM is becoming a significant part of their lives of all business owners and their partners. So, PMS is not a new topic for companies in Vietnam, with the boom of technology growth in modern time.

Nevertheless, PM's process is the place where the problems arise for its complexity. In reality, Vietnamese companies' projects are run and handled manually because it has been a tradition for hundreds of years. There used to be no standard or professional tools to manage the projects efficiently. The last thing we should expect is that the results are deficient and defeated.

For over the last ten years, the good news is that much software/tools for project management have been developed globally. And, these new waves of technology have come to Vietnam. To achieve tremendous, faster success, the Vietnamese small and medium-sized enterprises should adapt to their projects and adopt the latest technology.

Thus the open possibilities, more training, or practical knowledge of PMS are still needed for the SME teams in Vietnam. They could, therefore, better understand their project and know which PM tools are best for implementing their project. They will then use the best PM tools, better coordinate their project, and accomplish their goals more rapidly.

There is the biggest question of all. Where are the statistics or data on PMS used by Vietnamese SME? And what are the obstacles and opportunities in the field of PMS when implemented in some companies?

1.1 Goals for this thesis project

Through this study, the Project Managers and their staff among Vietnamese SME will be given a better opportunity to manage Vietnam's projects. They will gain:

- Knowledge of the theoretical framework of PM, PMS, and legal definitions for SME in Vietnam.
- The facts on the evaluations and popularity of PMS in the Vietnamese SME market.
- Pros and cons of using PM applications to manage projects rated by SME's employees.

1.1.1 Research questions

- What PMS is being used among Vietnamese SME?
    - If PMS has not been used, what are solutions there among there for PM?
- What are the barriers to the use of PMS in Vietnamese SME?
    - Are there any difficulties when implementing the PMS into use?
    - If PMS were implemented, would the training be needed for project staff?
    - What will be the changes when putting a PM solution into use for SME?
- What are the benefits of using PMS for SME in Vietnam?
    - What will be the positive changes with the installation of the new PMS?

1.2 Scope of this thesis

This thesis project will only focus on PMS's usage and popularity, not any other kind of software. Moreover, it zooms into the Vietnamese market and specifically targets only SME (companies usually under 200 personnel). Finally, those SME will be exclusively in the industries of:

- Education and Training
- Finance & Banking
- Air Fares
- Clothes Manufacturing
- Event Management
- Media Production
- Telesales
- Real Estate
- Information Technology
- Logistics
- Renewable Energy

1.3 Out of scope

Other kinds of software, such as system software or application software which do not support project management, will not be discussed. Also, the non-Vietnamese market will not be covered in this research project. Furthermore, enterprises or organizations with sizes larger than 300 employees are also out of scope for this research project. Lastly, this report will not cover SME from these fields:

- Agriculture farming
- Fishing
- Food processing
- Forestry
- Garments
- Shoes manufacturing
- Machine-building
- Mining, coal, steel, cement
- Chemical fertilizer, glass, tires, oil
- Mobile phone manufacturing
- Machine manufacturing,
- Office accounting and computing machinery manufacturing
- Engine and other electrical equipment manufacturing
- Radio, television, and communicative equipment
- Motor vehicles and trailers manufacture
- Electricity, gas, and water supply
- Construction Trade
- Sales and repair of motor vehicles and household goods
- Wholesale trade and contract basics (Except for motor vehicles)
- Transport, storage, and communications intermediation

2 Theoretical framework and Background theory

2.1 Definitions of "Evaluation" and its term applied in this research.

According to the Cambridge Dictionary, "evaluation" decides the process of determining or measuring the quality, relevance, sum, or value of one or more things. Additionally, in Business English, Cambridge Dictionary states that "evaluation" means the process of deciding or measuring the quality, relevance, sum, or value *or a report that includes get/give/offer an evaluation, a free evaluation, and evaluation something.* (Cambridge Dictionary 2020)

In Information Technology, "evaluation" describes the behavior to test out a new operating system or software to decide whether to buy/ implement it. In this research thesis, we will consider "evaluation" as the activity of testing out, measuring the qualities, performances, and applicability of all computer's PMS for SME in Vietnam.

Moreover, projects, in general, consume resources, budget, and time. (Ahmed 2011, 5). Therefore, the evaluations of PMS will also be based on the consumption of these aims.

2.2 What is "Project Management"?

The application of expertise, skills, methods, and strategies to project tasks to fulfill project specifications is project management. A project is a provisional effort to achieve a specific goal. Knowledge and practices in project management are best described in terms of its part processes. (Kidd & Song 2007, 13)

A collection of procedures, instruments, and models built together to execute a project across the lifecycle is the Project Management System. (Project Steps, 2007)

As described by Ahmed in his book, Software Project Management: A Process-Driven Approach, Project Management is the act of starting an event using limited time, budget, and resources to achieve goals. Furthermore, it is possible to incorporate the fourth dimension of customer satisfaction to project management. Because it has started for the clients, therefore, the project results should, as planned, satisfy the client. (Ahmed 2011, 4)

2.3 What is "Software"?

As defined by the Cambridge Dictionary, software refers to the guidelines for watching what the computer does or computer programs. (Cambridge Dictionary 2020)

Plus, in the Cambridge Business-English Dictionary, it is said that software means the programs that are installed on a computer machine to do some specific tasks.

In general, software in information technology's term is the computer's tool to carry out jobs to meet the users' goals.

2.4 What is "Project Management Software"?

In the report of Webopedia.com, Project Management Software (PMS) is defined as a professional framework computer application. This application is made to support project managers and their teams in managing the project process step-by-step. In a supplement, PMS can also track project activities, follow up with goals, calculate expenses, communicate, and make schedules between personnel.

Without using PMS, it is challenging to manage project tasks like navigating personnel, team planning, schedules, etc. Therefore, we could understand that PMS is the software solution designed to fill in the gap.

Project-Management.com says that PMS explicitly lets project managers and teams fulfill customer expectations and manage time, expenses, and design restrictions.

To achieve success, most software offers a comprehensive PM approach that can streamline project goals, removing the need for multiple outside resources. Typical PMS can offer the following features:

- Real-time reporting
- Notifications and alerts
- Gantt charts
- Contact management
- Document and file management
- Frequently used templates
- Project road maps and timelines
- Scheduling: meetings, calendars
- Team collaboration
- Subtasks and task dependencies
- Task management (assign, deadlines)
- Time tracking and billing
- Quoting and invoicing
- Customizable dashboards

Furthermore, the position and significance of PMS were analyzed based on performance criteria and considerations. The bar of succession is defined as measures to evaluate a project's success or failure. The success factor means "input" into the management system, leading to the project's success directly or indirectly. (Cooke-Davies 2002)

2.5 Definitions of "Small and Medium Enterprises" and its application like the Vietnamese market

According to the Vietnamese Government's "Decree on guidelines for law on support for small and medium enterprises"- No. 36/2018/ND-CP, SME is classified by size, including micro, small and medium enterprises. (Government of Vietnam 2018)

1. Micro-enterprises are those businesses in agriculture, forestry, fishing, and infrastructure that have an estimated annual number of workers enrolled in social welfare not exceeding ten. Their yearly gross turnover does not exceed 3 billion VND or a total capital not exceeding 3 billion VND.

A micro-enterprise in the commercial and utility sector has an estimated annual number of workers enrolled in social welfare of no more than ten and a yearly gross income of no more than 10 billion VND or total capital of no more than 3 billion VND.

2. Small businesses in the fields of agriculture, forestry, fishing, industry, and development, with an estimated annual number of workers involved in social security not exceeding one hundred and a total yearly turnover not exceeding 50 billion VND or a total capital not exceeding 20 billion VND, but not a micro-enterprise as stipulated in clause 1 of this section.

A small firm in the commercial and utility sector has an estimated annual number of workers involved in social security of no more than 50 persons and a total yearly income of no more than VND 100 billion or total capital of no more than 50 billion VND. Still, it is not a micro-enterprise as stipulated in clause 1 of this section.

3. Medium-sized companies in agriculture, forestry, fishing, and construction with an estimated annual number of workers involved in social security not exceeding 200 and a total yearly turnover not exceeding 200 billion VND or a complete capital source not exceeding 100 billion VND, but not small or micro-enterprise as stipulated in Clauses 1 and 2 of this section.

A medium-sized company in the commercial and service sector has an estimated annual number of social security workers not exceeding 100. The overall yearly income does not exceed 300 billion VND. The total capital source does not exceed 100 billion VND but is not a micro-enterprise or a small enterprise, as stipulated in Clauses 1 and 2 of this Section.

Determination of the field of activity of a small and medium enterprise

SME's scope of activity shall be defined based on the law provisions on the economic structure and specialized law provisions.

When being involved in many sectors, SME’s field is determined based on the highest income industry. If the sector with the most massive sales cannot be identified, small and medium-sized companies are calculated based on the most workers' sector.

Determination of the total capital of the small and medium-sized enterprise

To determine the overall capital of one firm to be SME, it shall be calculated in the balance sheet of the preceding year's financial statements in which the firm submits to the tax authority.

In the case that the company operates for less than one year. Then, the overall capital source shall be calculated in the enterprise's balance sheet at the end of the quarter immediately preceding the date of registration for the benefit of the supporting contents.

Determination of total revenue of small and medium enterprises

Net revenue for the year shall be the company's total revenue from selling goods and services. It shall be determined on the previous year's financial records, which the enterprise submitted to the tax authority.

Suppose the company has existed for less than one year or more than one year but has not produced any income. In that case, the enterprise shall base itself on the requirements of the comprehensive capital resources set out in Article 9 of this Decree on the small and medium-sized enterprise's determination.

2.6 Top 10 project management software ranked by Business2Community.com.

The top features of the best PM tools are listed in this web-based article "10 of the best project management software":

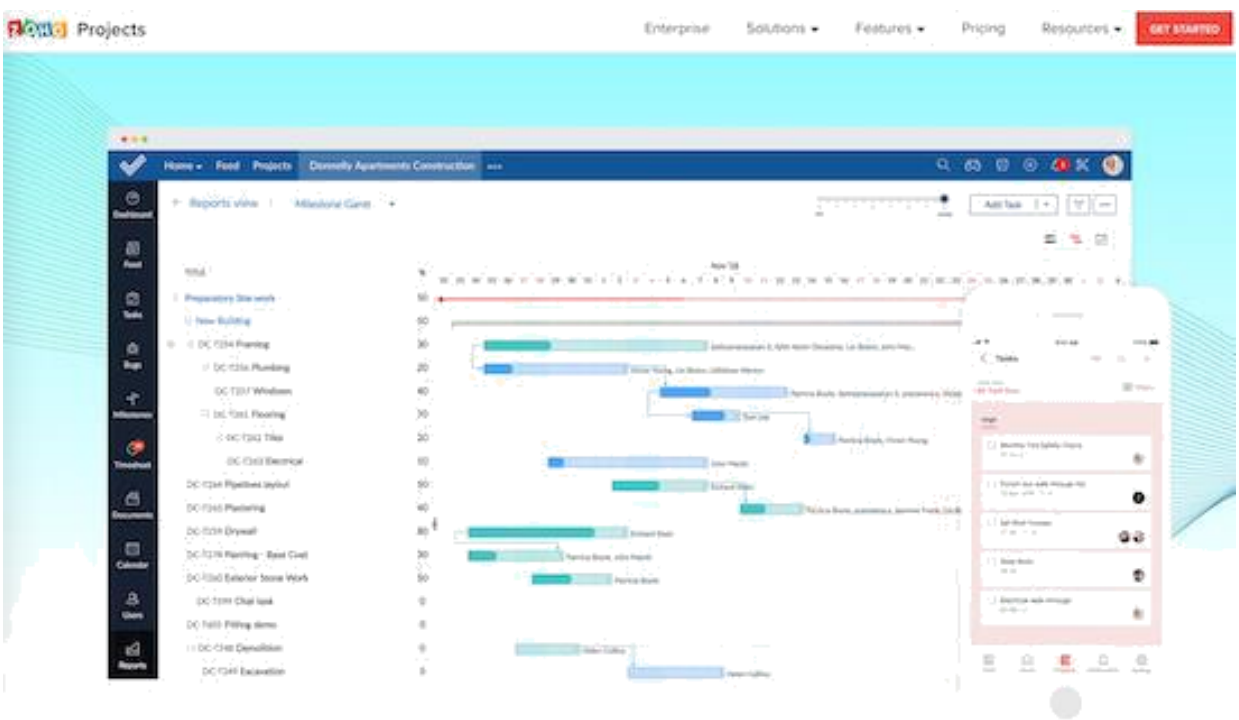
- Planning: The tasks and activities are gathered in one platform provided by most PMS. It helps project members/managers to assign and plan more efficiently.

- Collaboration: PMS enhances the abilities to comment on task files, review, and collaborate. It reduces the correspondences or drives around the workplace.

- Documentation: Files and documents management is vital in a cloud-based working environment. PMS is made easy with one source storage location to download, share, store documents and important files. Tracking: This feature is suitable for organizational systems or for managers who need to monitor for growth and performance in a project. (Lally 2020)

Furthermore, this article also says that "10 of the best tools and software for project management" are quite convincing with reasonable arguments:

Zoho Projects



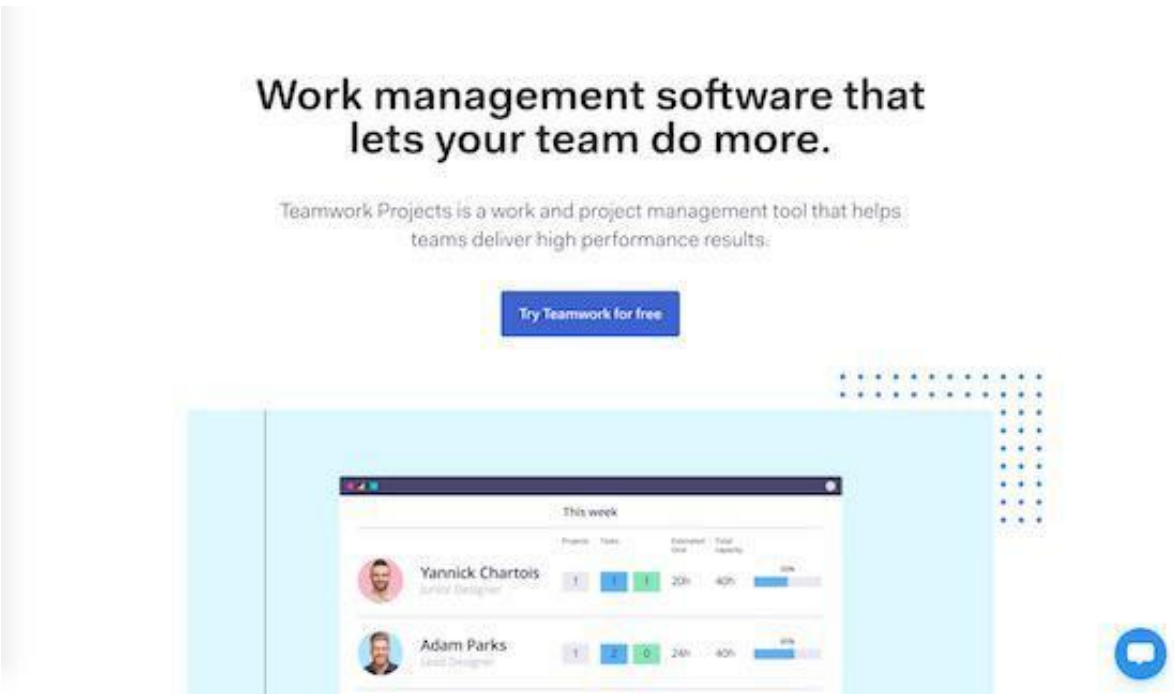
(Source: Business2Community.com)

Zoho Projects is PMS that allows users to schedule and executes activities conveniently. The users can communicate and share details, manage programs, and deliver outcomes with team members and customers via Zoho Business Suit.

All active projects are displayed and documented on a single central screen. The platform is cloud-based and can be linked and documented easily. Depending on the users' team's size, they can customize the design and add new functionality if needed.

The price begins at $18/month for Zoho Projects basic plans.

Teamwork



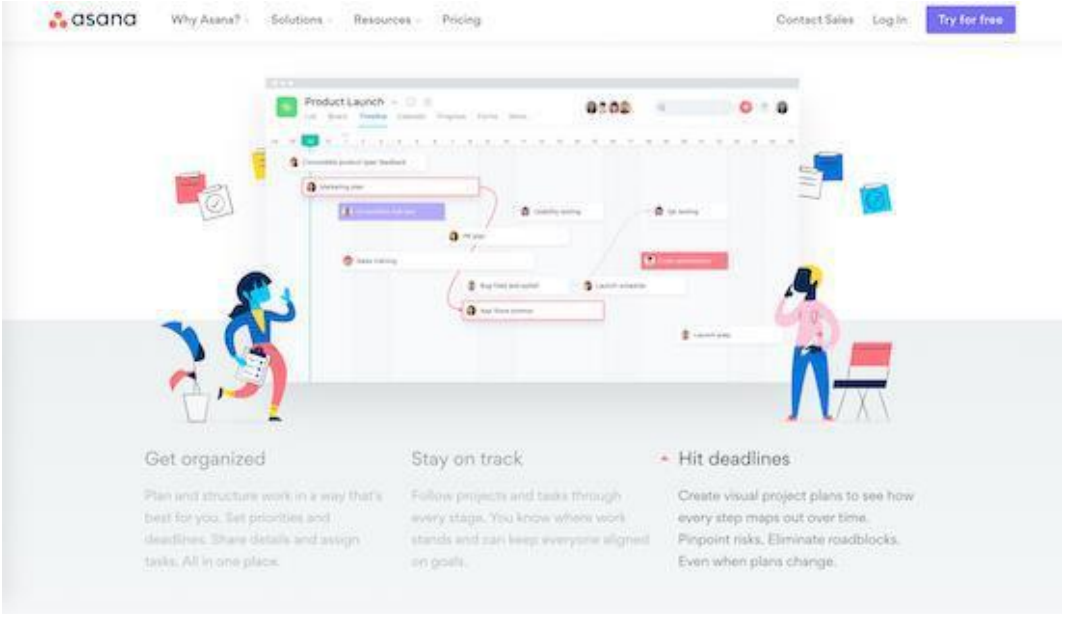
(Source: Business2Community.com)

Teamwork is a combination of three different PM applications that can collaborate or work independently to restructure PM.

Teamwork Projects is the PM app; the Teamwork chat is a communication module that helps team members to keep in touch during a project. By allocating duties, collaboration, and tracking, the users can increase the project in one position. The application suite "communicates" together to handle any part of the project without quitting the software.

Teamwork offers minimum options for a daily plan. At $45/month, the services continue.

Asana



(Source: Business2Community.com)

Asana is a cloud-based PMS that supplies several opportunities to improve productivity by its in-app tools.

It offers cross-platform apps such as mobile devices, laptops, and Android and iOS devices. Asana allows you to make lists and reminds you to keep track of the deadlines. The user can also add sponsors, fees, due dates, and comments.

Asana permits the freedom of exchanging pictures across other projects and records the whole team. The users can rely on the seamless and prompt running of the project. To quickly find completed tasks, Asana presents a list of groups and individuals that is available.

Price: Asana has a basic free plan. Premium plans start at $13.49/month.

Basecamp

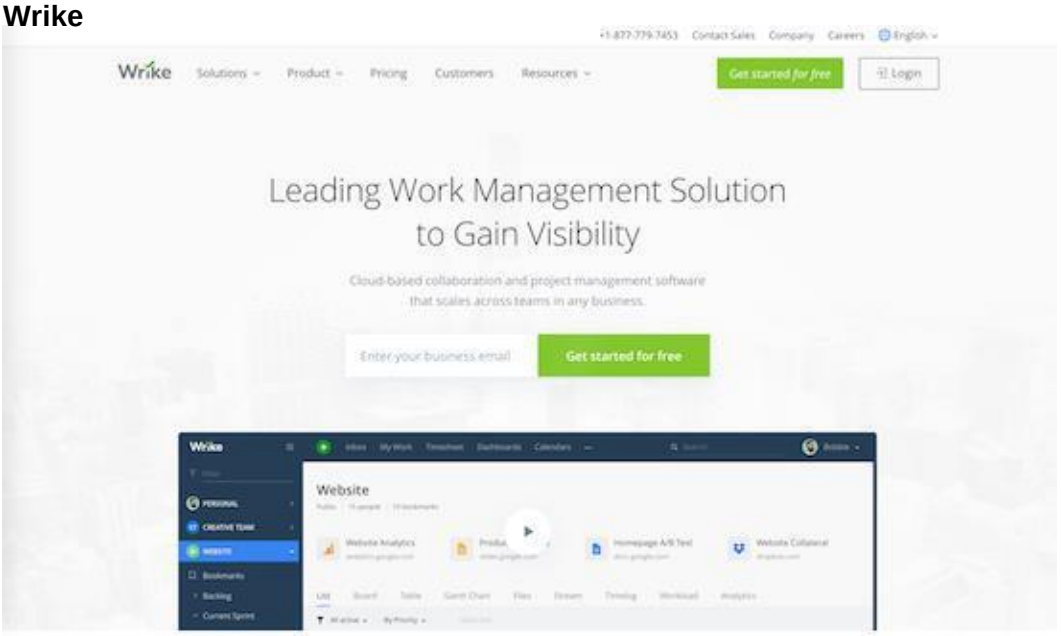
(Source: Business2Community.com)

Basecamp is a PMS to provide integrated information and timetables for connections, projects, and activities. Each part of the project can be monitored, structured, coherent, and transparent, and thus knows when and where actions are to be completed.

The users' dashboard will give them a rundown of all their activities. They will have a company-wide contact office, unique positions where workers work, and a private operation area. They will see the big picture, view-ins, and more on a single screen.

Price: $99/month for Basecamp's standard package. A free version of the software is also available for the beginner or those with minimal usage.

Wrike



(Source: Business2Community.com)

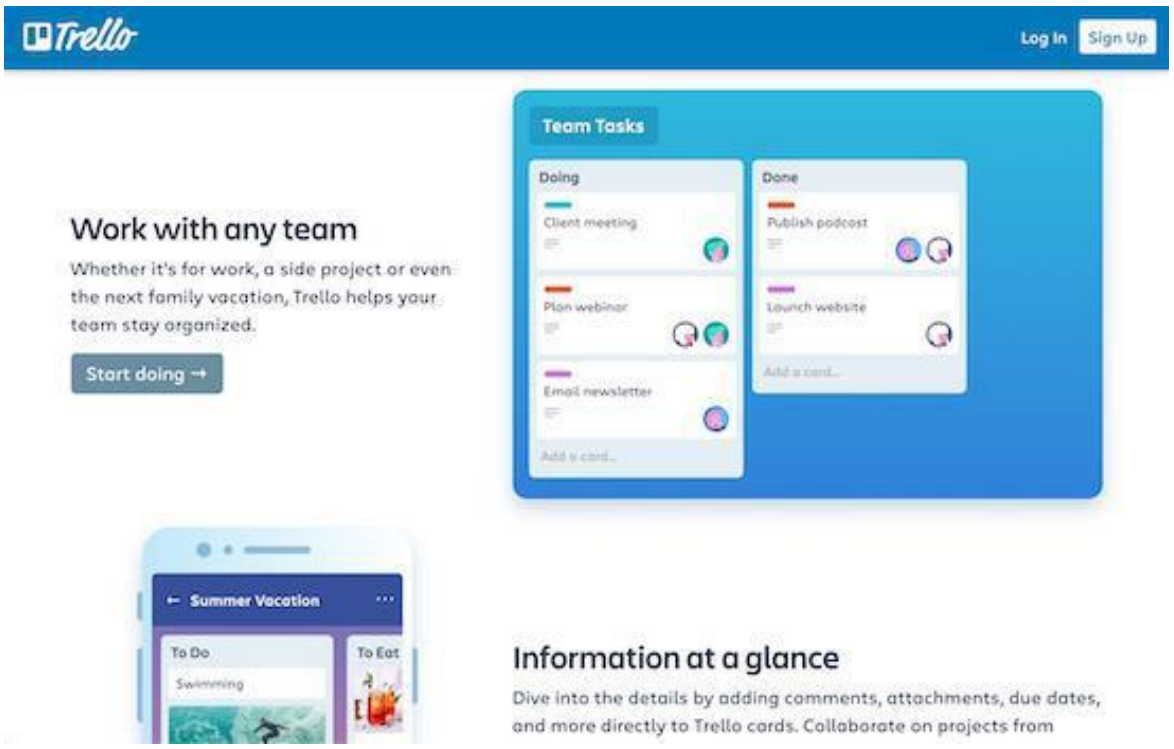
Wrike is a remarkable mix of request forms, custom dashboards, and automation capabilities on the PMS market.

The app has close monitoring and reporting functions. However, its goal is to ensure that teams are prepared to be successful and competitive at the same time. Consumers can use a pre-made version for the specifications. For example, Wrike provides software that enables marketing teams to integrate personalized workflows, sectors and data storage systems easily.

Wrike is often responsible for incorporating various CRM (Customer Relationship Management), interactive tools, or other applications.

Price: There is a free edition of Wrike. The paid options have been updated beginning from $9.80/month.

Trello



(Source: Business2Community.com)

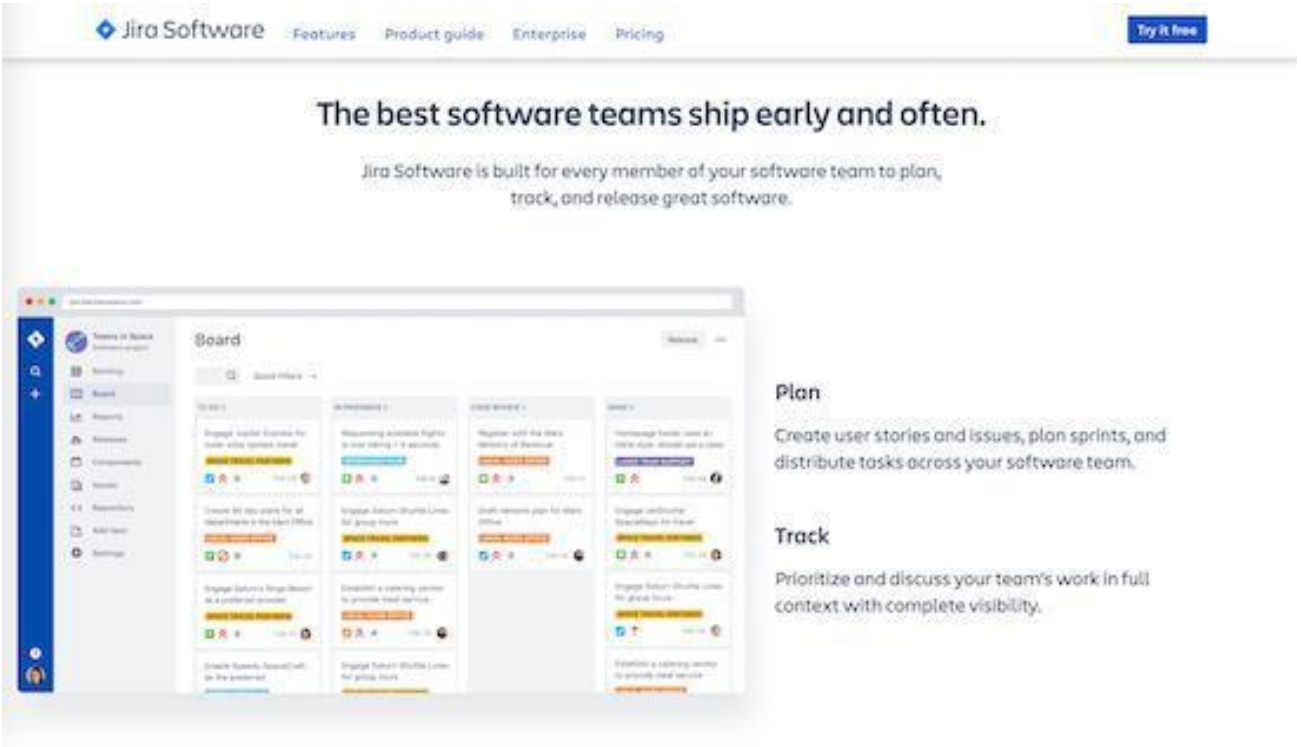
Trello is a multi-platform PM app that is cloud-based and Android-friendly. The application also has an upgraded version for the iPad Pro.

Trello is one of the most popular applications for project management that helps users arrange work activities with smartphones, tablets, and notebooks. Therefore, it is ideal for the Mobile-devices users. When upgraded to a paid kit, it includes a free update with added functionality.

To organize and carry out tasks in a scalable and satisfactory manner, Trello uses tables, lists, and cards. A project's specifics can be quickly dived in because user’s notes and attachments are available for the team from start to finish to work on the proposal. Both parties now provide seamless access to and execution on all devices. Trello can be integrated with users’ software.

Price: Trello has a free version. There is also a monthly subscription of $12.50 for premium use.

Jira



(Source: Business2Community.com)

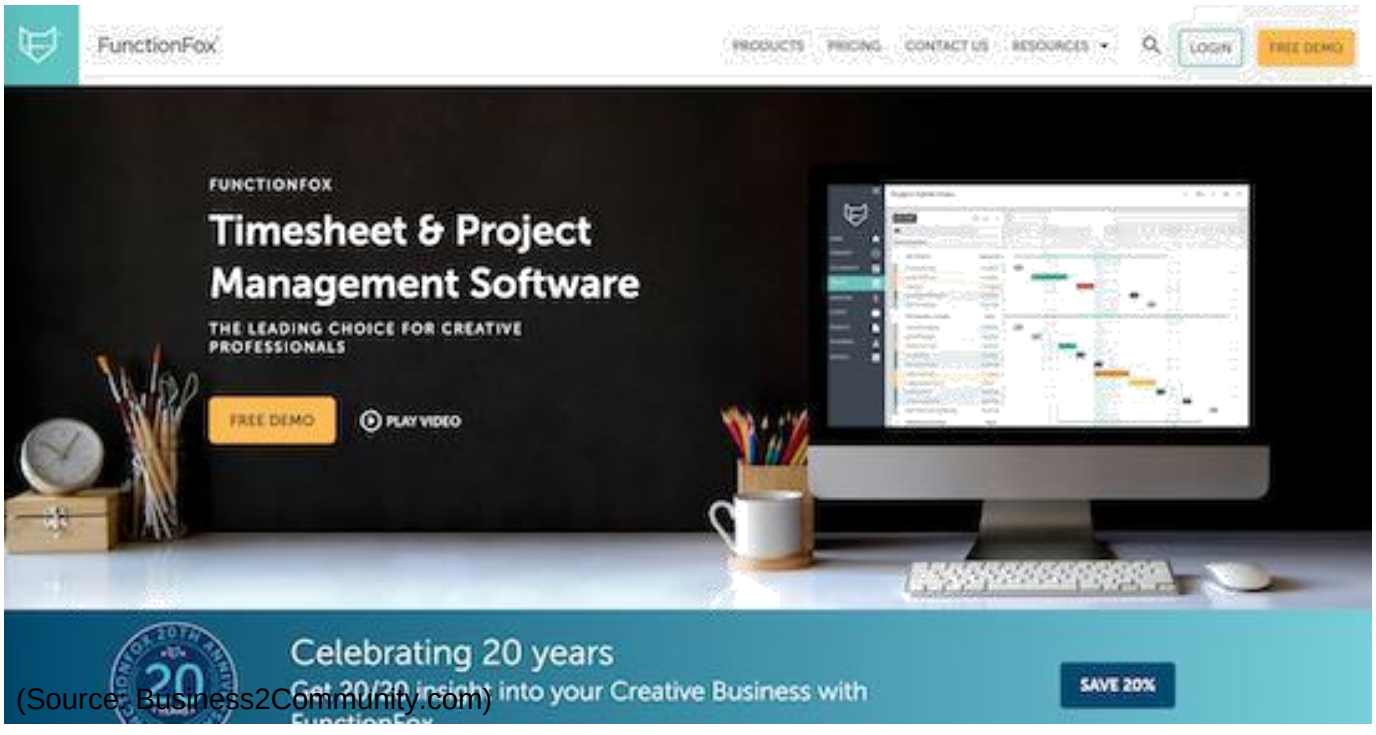
Jira is a product planning and control program from scratch to completion. For agile product creation or application, Scrum (flexible frameworks for extraordinarily complex projects) is ideally adapted.

Jira lets you schedule activities, appoint resources, and track the project's completion with full detail. Moreover, the tasks can be handled and observed in real-time for optimum visibility.

Jira works best in accurately planning, calculating, and valuing activities of project management.

Price: Jira concentrates on cloud services with schemes starting at $10 a month per user, in small teams, up to ten participants. It switches to $7 a month per user if it has more than ten users.

Function Fox



(Source: Business2Community.com)

Function Fox's project management software offers illustrative, immersive, and customizable dashboards for project reporting and efficiency increase.

With essential functions, including tracking progress and cost analyses, users can evaluate their jobs, efficiency, and competitiveness in depth. Users can track the time taken by an automated timesheet program to ensure each task is handled correctly.

Because its versatility is not as good as other software, Function Fox is more suitable for small and medium-sized teams.

Price: Plan for single-user use starts at $4 per month.

ProjectManager.com

(Source: Business2Community.com)

Projectmanager.com is a distributed cloud-based project management system that promotes the productivity of teams of all sizes. Using the ProjectManager.com program, PM teams that utilize Gantt map use can carry out basic and challenging projects.

Thanks to these features: online project timelines, task planning, prompt reporting, and time lists offered by Projectmanager.com, the project's preparation pressure will be relieved.

The software users can also schedule and manage several projects concurrently. The software also offers Suite functionality such as online data handling, email-sharing, and list-making.

Price: The cost starts from a minimum of $15 per month per device/ account.

Scoro

(Source: Business2Community.com)

Scoro’s services are designed to ease the workflow by managing emails, monitoring, and collaborative project work. The users can handle every task and event in a joint location with a streamlined design. In traditional enterprises, the approach is structured to boost teams' productivity, rather than a single one. Consequently, Scoro offers many services, including resource tracking, co-operating, customer feedbacking, and revenue and financing reporting. With Scoro, the users can schedule, track, and plan each member's whole workload in a PM team.

Price begins at $28/month for a single account. For the organization’s cost, please visit Scoro’s website.

Succeeding, for useful feedbacks of those mentioned PMS above, the reviews from experienced users will be presented. In the comparison table below, the readers can find quite exciting reviews from the user’s perspective. (Cook 22 February 2020)

Provider	Key features	Price	Best for
Monday.com	- Customisable workflows and dashboards - Different view forms - Colour-coded updates	Starting from £35 a month (billed annually)	Creative work
Smartsheet	- Real-time metrics - Project rollups - Collaborative functions (e.g. sharing, commenting, attachments)	Starting from £10.83 per month (billed annually)	Advanced use
Trello	- Completely free option available - Applicable across a range of settings - Easy to understand card system	Starting from £0 per user per month	Beginners

(Source: Startups.co.uk)

Furthermore, there is the fact that 72,5% of companies in Vietnam had used project management techniques and skills in earlier ventures. On the other hand, Vietnam's public corporations and companies also choose software tailored (SDCA) instead of other methods. (The response rate of table 5 is 80.4%). The SDCA is better at promoting the administration of activities, projects, and enterprises. It delivers important transactions (records) distributing and/or client satisfaction related knowledge. (Xuan, Moslehpour & Tien 2019, 290).

Table 9 (only common attributes are discussed) includes several points relating to the value of PTTs for use.

- Simple to operate and to register (42.90% extremely significant)
- Minimal expense (46% relatively large)
- No required formal training (45.10% quite crucial)
- Improved project efficiency (51,10% critical)
- Famous for the user (31.30% not so significant)

(Xuan & al. 2019, 291, Table 9).

Consequently, it is clear that the Gantt chart is the most common instrument in PTT. Hence, its efficiency in Vietnam's market must be proven to be able to use a PM application.

The Gantt chart is most common in Vietnam, according to some researches. The Gantt chart can be explained by design and provides the user with simple project knowledge quickly. It is called

"working tasks" by people. Organizations usually have no trained specialists to educate their staff, meaning that foreign consultants are included in the public budget to consider. (Xuan & al. 2019, 293).

The Gantt chart is a well-known project management tool. However, it is not called by its official name, but is considered as work tasks or checklists for the time being. Gantt maps are also understood and rooted in context and intent.

Additionally, Rebekah Peterman wrote his article from Project-Management.com, told "Top 3 Project Management Application" for Vietnam. (Peterman 10 December 2020). In his article, he mentioned "**Liquid Planner**," "**Jira,**" and "**Bridge 24**". He recommended that businesspeople pick tech-tool that create the most cohesive method possible for project management. The three mentioned applications above are recommendations for the Vietnamese market. In his reviews, **Liquid Planner** is an electronic project management program that is simple and inexpensive for project preparation. And, Teamwork is suitable for scheduling and time monitoring—a free trial for 30 days (about four and a half weeks).

In contrast, **Jira** offers quick and efficient means of tracking and handling problems. It deals with all kinds of issues (bugs, features, changes that tasks) and can be used for monitoring, production aid, project management, or community mission. And, for Aceproject and Asana, Basecamp and Trello, **Bridge24** provides powerful add-ons. Also, **Brigde24** adds tons of dynamic data flexibility by connecting to the most powerful and widely used applications. (Peterman 10 December 2020)

Finally, the standard theoretical framework of PM and PMS had been discussed. The abilities and features of some popular PMS had also been presented. Besides, the “best PMS" on the market in 2020 was also introduced from the sources. Moreover, we were aware of the top PM applications that are suitable for the Vietnamese market. The unique Vietnamese SME element is, however, missing from the big picture. Consequently, more results, statistics, and findings for the research from project workers in different project work fields are required.

3 Research plan

3.1 Phasing and timing of the work

1. Look for a thesis advisor (2-4 weeks)

    a. Requirement: The thesis advisor’s consultations will be needed.

    b. Find a suitable timetable for meetings between the author and the advisor.

2. Structure a set of survey questions for the interviewees' primary research (2 weeks).

3. Look for potential interviewees with work title as Project Manager/ Project Manager Assistant/ Head of IT in Project team among the SME in Vietnam (4-8 weeks (about two months))

    a. Find 40 contacts: work phone numbers, emails

    b. Write emails/ Direct contact via calls.

4. Discover additional sources for the research procedure (4 weeks)

    a. Reference three books

    b. Reference three theses

    c. Reference five online articles

5. Collect data for the research (2-4 weeks)

    a. Schedule the interviews

    b. Take the interviews

    c. Spreading the URL of the survey online via social media in SME groups in Vietnam targeted by quantitative research methods.

6. Analyze the data which was collected in different ways (2 weeks):

Google Form result’s graph for calculating the statistics gained – Google Trends - to analyze the data and present the analyzed data in charts and graphs.

7. Write the report (10-12 weeks (about three months))

3.2 Research methods

Primary research:

The mixed qualitative and quantitative methods will be used in this research. A qualitative approach is essential to interpret and explain the phenomena and meaning, which is not include quantitative one. (Petrescu & Lauer 2017). On the other hand, the qualitative method focuses on understanding the events or phenomenon profoundly, while the quantitative method counts and analysis the data statistically to take a board view of the population interests (Chrysochou 2017, 412)

In this research thesis, the qualitative method will be applied directly to SME's selected sample in Vietnam. Moreover, there will also be questionnaires about the evaluations of the current project work's performance and IT tools for the interviewees. Additionally, the quantitative research method will be used as internet keywords tracking for the search of PMS names and figure out the popularity of the keyword groups in Google search engine by Google Trends.

Secondary research:

Relevant reports, findings, and theses on the same or similar topic. These documents can be found online or offline in Haaga-Helia’s library or Helsinki’s public library.

4 Actual Research

4.1 Statistics about SME in Vietnam

From the Vietnam Investment Review, SME forms a broad entity of the domestic private sector, plays a vital role in the Vietnamese economy, according to the Vietnamese General Statistics Office. For the 518,000 businesses listed in 2017, about 500,000 were small and medium-sized firms. SME contribute about 47 percent of the country's GDP and 40% of the state budget, and SME have generated about nine million jobs. (Vietnam Investment Review 2019).

Nevertheless, given their economic and growing importance, SME has traditionally played a limited role in its integration and industrialization due to various contractual restrictions.

By Vietnam Briefing e-magazine, in one article named "Vietnam Issues Investment Incentives for SME" on April 29th, 2020, the problems SME in Vietnam continues to face are introduced. There is access to finance, market access, and competition with overseas companies, further discussed below. (Shira & Associates 2020)

Access to finance: For Vietnamese SME, credit access is a big concern. According to the banks, the critical reasons for not offering SME loans are higher default rates, lack of financial clarity, and a lack of mortgage reserves. Therefore, banks often provide business loans tend to devote their capital to larger businesses, not SME. To improve their chances of getting commercial loans, SME needs to increase transparency and implement new manufacturing technology, to reduce risks and increase productivity.

Global supply chains or market access: An analysis by the International Finance Corporation reveals that only 21% of Vietnamese SME, even less than 30% and 46% in Thailand and Malaysia, are related to global supply chains. Companies will handle competition, minimize risks, and reduce manufacturing costs by merging with global supply chains regarding sourcing, operations, and distribution.

R&D investments: In Vietnam, R&D is focused on larger businesses. Businesses in the private sector spend only about three percent of their budgets on research and development, resulting in decreased productivity and increased manufacturing costs. If they continue to compete with international businesses as the world economy shifts into Industry 4.0.0, domestic companies must concentrate on digitization and innovation. The Government must collaborate with organizations to improve small and medium-sized businesses' technology potential through research and technological growth support programs.

Therefore, in later subsections of this chapter, PMS's idea, also known as digitization and innovation, is put in place among the SME in Vietnam to compete in the global technology race.

4.2 The survey questions and the purpose of the approach

The survey questions:

- Respondent's current holding position?
- Respondent's field of work?
- How many members does your company currently have?
- Does your work relate to projects (plans, campaigns, etc.)?
- How many projects (plans, campaigns, etc.) do you work in each year?
- Do you use Project Management (PM) software for projects, plans, or campaigns? Specify that project management software.
- Does your company use ready-made software or SDCA or PTT?
- In your opinion, what are the benefits of using project management software? (select all that apply)
- In your opinion, what are the limitations of project management software? (select all that apply)

The options and their discussions on each question:

- Respondent's current holding position?
    - Project members/ Project Director/ General Manager

    Discussion: This set of options is to determine each survey's takers' role in a project. Are they the key members, or are they managers/ directors?

- Respondent's field of work?
    - Education & Training/ Retail agency/ Clothing manufacturers/ Event organization/ Media Production/ Real Estate/ Tele sales/ Information Technology/ Others

    Discussion: This set of options determines which field of work the survey's takers are in. The author initially displays some popular industries that might need PMS.

- How many members does your (respondent's) company currently have?
    - 1-10/ 10-50/ 50-100/ 100-200/ Others

    Discussion: This set of options for the number of employees in the enterprise will classify the survey's takers' company size. From there, we could see that they are from micro, small or medium enterprises.

- Does your work relate to projects (plans, campaigns, etc.)?
    - Yes/ No (if not, you can skip the rest of the question)

Discussion: These options to find out whether the respondents should continue to do the survey or not. Because if the survey takers' work does not include project management, they are out of the thesis's scope.

- How many projects (plans, campaigns, etc.) do you work in each year?
    - Less than 5/ 5-10/ More than 10/

    Discussion: These options to measure the level of projects that involve the respondents' companies in a year: light, medium, or heavy.

- Do you use Project Management (PM) software for projects, plans, or campaigns? Specify that project management software.
    - Yes, specify/ No.

    Discussion: Thanks to this Yes/No question, the survey maker can quickly categorize the respondents into two groups: those who use PMS and those who do not. If the answer was yes, the respondents were also encouraged to tell the name of the PMS. Owing to that, the survey maker can count the popularity of PMS in each field.

- Does your company use ready-made software or SDCA or PTT?
    - Ready-made software/ SDCA/ PTT

    Discussion: Following up on the earlier question, this question will offer three choices of answers for the respondents' enterprises' PM solution. They will either choose a ready-made software: which name they might specify in the previous response or SDCA and perhaps if they choose 'No' in the last answer, they will then select PTT.

    This question will significantly map out the PMS types currently used among SME in the Vietnamese market.

- In your opinion, what are the benefits of using project management software? (select all that apply)
    - Time saving/ Cost saving/ Update workflows promptly/ Communication quickly/ Total control of projects/ Others, please specify.

    Discussion: This set of options helps us evaluate PMS's performance better in the reality of SME's project work in Vietnam. It decides the advantages of PMS from the perspective of the project workers.

- In your opinion, what are the limitations of project management software? (select all that apply)

- Costly in general/ Personnel training costs/ Construction costs of IT facilities/ Harder to master than PTT/ Lack of disciplined management/ Others, please specify.

  Discussion: This set of options helps us to see from the project workers' points of view. It will tell what areas PMS needs more improvement when put into use. From then, we could learn better and apply the knowledge into practice.

The survey's approach, what info it aims for, how many people it targets to reach?

The survey aims to get respondents' ground information from all walks of life under the Vietnamese SME umbrella. It is to get to know about the survey takers' positions and their current organizations' work situations. Does it fit the size of an SME?

Besides, the thesis's survey is to figure out whether the role of project management among SME and does PM requires people to have some computer-based technology to solve those projects. Plus, it asks explicitly what kind of software or project management software is in use. The survey also wants to know what that software is; how well it works; its flaws in their organizations.

Target

The survey targets around 50 random SME workers in Vietnam for sample data. This number does not sound like a lot, but the number fits just the right amount for the sake of research and the sample data. For more details about the sample data, please see the following section 4.3.

4.3 Sample data versus the population of SME in Vietnam and their applications for the thesis

In this section, the idea of sample data, and the SME population in Vietnam will be introduced. Thanks to that, the readers will have a deeper understanding of the general terms of sample data and population. Next, putting in the SME's perspective, the thesis author presents the descriptions/ definitions of the sample data and population.

General definitions

The general definition of the population: A collection of all objects of interest to research. The numbers obtained when a population is used considered *parameters*. The population is difficult to describe and difficult to find.

General definition of sample data: The sample is a subset of the population, and the data collected by the sample is called *statistics*. The characteristics of sample data are that it guarantees the randomness and representativeness of the population's data. In addition, it is simpler to gather sample data. Therefore, it is less time-consuming and less expensive.

Definitions of the population and sample data about SME in Vietnam

Population: As we have discussed in the previous paragraphs, the population is a broad concept. For this research, the population covers:

- The whole number of SME in Vietnam in all industries and all organizations with live up to date.
- All the project management teams and their team members in all SME in Vietnam live up to date.
- All the PMS has been used among those teams for the PM work.
- Their evaluations for the software, also known as their feedbacks, after using the software for PM.

According to the Vietnamese General Statistics Office, over **518,000** businesses listed in 2017, about **500,000** were small and medium-sized firms. Consequently, the population of SME Vietnam will be approximately **500,000** included in all business fields as listed below as well as located in all **63** provinces and cities across Vietnam:

- Agriculture and forestry.
- Fishing
- Mining and quarrying
- Manufacturing machines and other equipment
- Manufacturing office accounting and computing machinery
- Manufacturing engines and other electrical equipment
- Manufacturing radio, television, and communicative equipment
- Media production
- Event Management
- Education and Training
- Manufacturing motor vehicles and trailers
- Electricity, gas, and water supply
- Construction industry, motor vehicles maintenance, and home products
- Tele-sale
- Wholesale trade and contract basics (Except for motor vehicles)
- Repair of clothing, footwear, and household goods
- Transport, storage, and communications intermediation
- Activities related to the real estate business.
- Information and Technology
- Retailing
- Law firm and legal consultations
- Finance and Banking

Hence, it is almost impossible to measure such information, and it is not recommended to do so. For the research, the author's job should gather the closest information of all PMS evaluations used by **all of the mentions SME** that matches the description above.

Action: Because we could hardly gather the correct numbers regarding the population, we strive to collect SME's most relevant sample data in Vietnam. That process is more convenient and practical for current research.

Sample data: It collects statistics that fulfill two major requirements: **randomness** and **representativeness** of the population. In other words, sample data is a light, easy-to-process, and convenient version of the population, without losing its characteristics. Thanks to the sample data, the readers can envision the whole population by judging the sample data.

Randomness & representativeness: data in terms of the choice of:

- The SME's types of organization (State-owned enterprise, Non-state enterprise, Cooperative, Sole proprietary, Partnership, Limited liability, Joint-stock company having State capital, Joint-stock company having no State capital, Foreign-invested enterprise, 100% foreign capital, Joint venture)

- The SME's types of industry (from all kinds of business industries according to the research scope of the thesis in section 1.2: Education and Training, Finance & Banking, Air Fares, Clothes Manufacturing, Event Management, Media Production, Telesales, Real Estate, Information Technology, Logistics, Renewable Energy)

- The SME's size-types vary from 10-300 people.

- The SME's locations are across Vietnam (in 63 provinces and cities)

- The survey takers: their roles in the PMS (project member, project manager, general manager)

4.4 Profile of the respondents

Respondent's position	Educational level	Company	Industry	Organization structure	Organization size	Type of project	Size of project team
Project Team member	Bachelor	-	Education and Training	National	50 people	Occasional	3 people
Project Team member	Bachelor	-	Education and Training	Franchise	50 people	Occasional	3 people
Director	Bachelor	-	Air Fares	National	20 people	Half-half	3 people
Project Secretary	High School graduate	-	Clothes Manufacturing	National	300 people	Full-term	100 people
Production Manager	Bachelor	-	Event Management	National	30 people	Full-term	30 people
Production Manager	Bachelor	-	Media Production	National	100 people	Full-term	50 people
Project Team Member	Bachelor	-	Telesales	National	200 people	Occasional	5 people
Project Team Member	Bachelor	-	IT	Joint Venture	100 people	Half-half	5 people
Project Team Member	-	-	Media Production	National	Over 10 people	Occasional	10 people
Project Manager	-	-	Media Production	National	50-100 people	Occasional	50 people
Project Team Member	-	-	Media Production	National	200 people	Occasional	-
Project Team Member	-	-	Media Production	National	10-50 people	Occasional	-
Project T-Member	-	-	IT	National	160 people	-	100 people

Project Team Member	Bachelor	-	Finance and Banking	National	200 people	Full-term	-
Project Team Member	Bachelor	-	Law firm	National	10-50 people	Full-term	None
Project Team Member	Bachelor	-	Event Organization	National	10-50 people	Full-term	10-50 people
Project Team Member	Bachelor	-	IT	National	10-50 people	Full-term	10-50 people
Project Manager	Bachelor	-	Media Production	National	Less than 10 people	Full-term	-
Project Manager	High School Graduate	-	Retail	National	100-200 people	Full-term	100-200 people
Project Team Member	-	-	Distribution of construction materials	National	10 people	Full-term	10 people
Project Team Member	High School Graduate	-	Education and Training	National	10 people	Full-term	10 people
Project Team Member	Bachelor	-	Media Production	National	10 people	Full-term	10 people
Project Team Member	Bachelor	-	Real Estate	National	10-50 people	Full-term	10-50 people
Project Team Member	High School Graduate	-	Media Production	National	10-50 people	Full-term	10-50 people
Project Team Member	High School Graduate	-	Clothes Manufacturing	National	10 people	Full-term	10 people
Project Team Member	Bachelor	-	IT	National	-	-	None
Project Team Member	Bachelor	-	Bancassurance	National	Over 100 people	Full-term	-

Project Team Member	Bachelor	-	Logistics	National	50-100 people	Full-term	-
Project Team Member	High School Graduate	-	Education and Training	National	10-50 people	Full-term	10-50 people
Project Team Member	Bachelor	-	Marketing	National	200 people	Full-term	Up to 200 people
Project Manager	-	-	Renewable energy	National	10-50 people	Full-term	10-50 people
Project Team Member	-	-	Education and Training	National	1-10 people	Full-term	1-10 people
Project Team Member	Bachelor	-	Marketing	National	10-50 people	Full-term	10-50 people
Project Team Member	Bachelor	-	IT	National	120 people	Full-term	Up to 120 people
Project Manager	-	-	-	National	1-10 people	Full-term	1-10 people
Project Team Member	Bachelor	-	IT	National	50-100 people	Full-term	50-100 people
Project Team Member	-	-	Sales B2B	National	200 people	Full-term	Up to 200 people
Project Team Member	Bachelor	-	IT	National	50-100 people	Full-term	50-100 people
Project Team Member	Bachelor	-	Education and Training	National	10-50 people	Full-term	10-50 people
Project Team Member	High School Graduate	-	Event Organization	National	10-50 people	Full-term	10-50 people
Project Team Member	High School Graduate	-	Education and Training	National	1-10 people	Full-term	1-10 people

General Manager	Bachelor	-	Education and Training	National	50-100 people	Full-term	50-100 people
Project Team Member	High School Graduate	-	Event Organization	National	10-50 people	Full-term	10-50 people
Project Team Member	High School Graduate	-	Education and Training	National	50-100 people	Full-term	50-100 people
Project Team Member	High School Graduate	-	IT	National	50-100 people	Full-term	50-100 people
Project Team Member	High School Graduate	-	IT	National	-	Full-term	-
Project Team Member	High School Graduate	-	Customer Service	National	200 people	Full-term	Up to 200 people
Project Manager	High School Graduate	-	Food and Beverages	National	Over 200 people	Full-term	Up to 200 people
General Manager	High School Graduate	-	Health and Beauty	National	1-10 people	Full-term	1-10 people
General Manager	High School Graduate	-	Sales B2C	National	1-10 people	Full-term	1-10 people
General Manager	High School Graduate	-	Retail	National	1-10 people	Full-term	None
General Manager	High School Graduate	-	Retail (airfare agency)	National	10-50 people	Full-term	10-50 people
Project Team Member	High School Graduate	-	Media Production	National	10 people	Full-term	10 people
Project Manager	High School Graduate	-	Education and Training	National	10-50 people	Full-term	10-50 people

4.5 The interviews with respondents from the sample data

Taken from the survey's respondents, the author randomly picked a few people to answer one set of questions that will take the research further. This set of questions is the research question from section 1.2 of the research thesis. It will now be presented once again below:

- What PMS is being used among Vietnamese SME (the interviewee's company)?
    - If PMS has not been used, what is the solution there among the SME for project management?

- What are the obstacles to the use of PMS among the interviewee's company?
    - Are there any difficulties when implementing the PMS into use?
    - Is training required for the use of PMS among the project staff?
    - What will be removed or replaced when installing a new software solution?

- What are the opportunities for the use of PMS in the interviewee's company?
    - What will be improved with the help of the new PMS?

The interviews were conducted remotely and in a discrete protocol that respected the interviewees' businesses and operations. The questions asked would not violate the interviewees' business secrets and such similar information. On the other hand, research has been taken to a deeper level. The interviews, more evaluations, and specific feedback on each PMS's pros and cons were revealed. The author saw the interviewees' perspectives towards PMS clearer. Moreover, in the findings, lots of interesting facts were presented.

The results have been gathered in the author's form of notes, also known as the interviewer. In some cases, the interviewees send the answers in the form of written passages via email. These particular actions help the author handle the information more efficiently and more accessible archive and refer to such facts.

From these interviews' results, the author will have much more profound arguments and discussions about the PMS efficiencies and productivity among the interviewees' companies. Thanks to the interviews, the answers will also be generalized and recapitulated in short written paragraphs for the thesis. For the outcomes, please see the following section, "Result."

4.6 Google Trends on keywords tracking and search engine optimizing

In this quantitative research method, the author will provide readers with some keywords related to the thesis topic. The author considers that if we understand these keywords' trends and popularity, we could comprehend PMS's tendencies or attitudes in the market.

In detail, several keywords will be optimized and tracked. The keywords are optimized through Google Trends, a website by Google that analyzes the prevalence across multiple regions and languages of top search queries in Google Search. The website uses charts to measure over time the search volumes of the numerous questions. On the other hand, the keywords are divided into two groups: general words of PM topic, while the other is about the top PMS name.

Keywords Group 1: "project management," "project management software," "quản lý dự án," "phần mềm quản lý dự án" – Since we were researching the Vietnamese market, we should include keywords in their language for more accurate findings. "quản lý dự án" and "phần mềm quản lý dự án" mean PM and PMS, respectively.

Keywords Group 2: "Teamwork," "Asana," "Trello," and "Jira" – This is the popular software that pops out from the thesis survey.

This quantitative research method is expected to ensure the readers a broad view of the topic and its outcome. Plus, these are the facts offered from Google Trends, which gains more validity and more majority. And it is also to balance with the qualitative research method, from the interviews and the survey, which involves only around 50 people. Google Trends' statistics involve thousands of searches in 5 years (from 2015 to 2020).

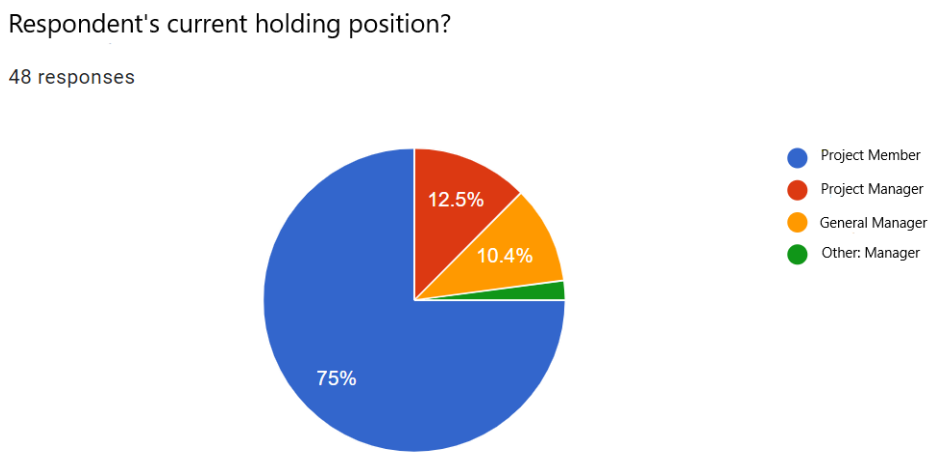
In the outcome, each keyword's popularity in the keywords group will be shown inline graphs compare with each other. Moreover, each keyword will also be displayed separately in bar charts for trends in each city of sub-region in Vietnam. The details about the outcome of this research method can be found in section 5.

5 Result

Presented below are the graphs (pie graphs, bar graphs) that illustrate the result of the survey questions mentioned in Section 4. The title and details of each graph will be attached accordingly. For your information, all the graphs are created 100% based on the input of the survey.

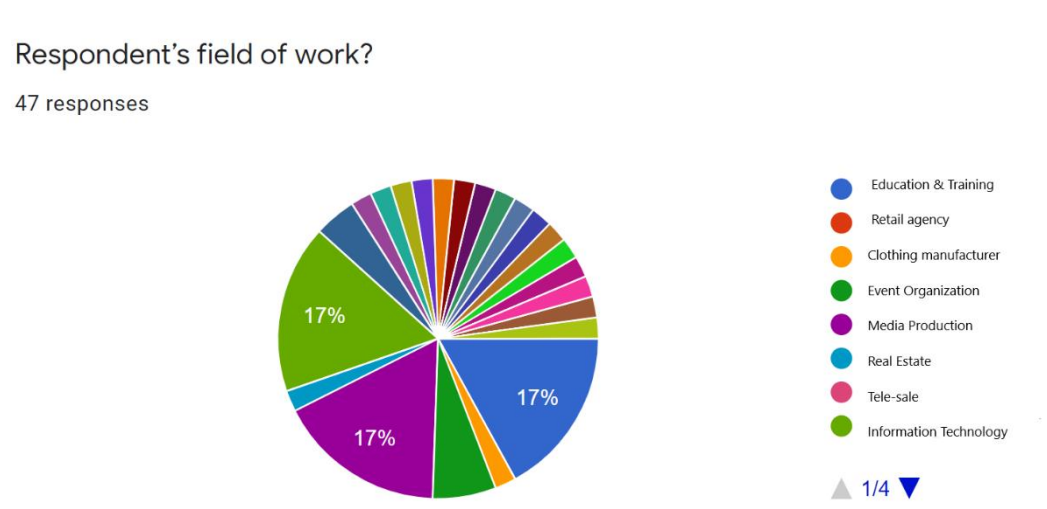
Statistics of the respondents:

Question 1:



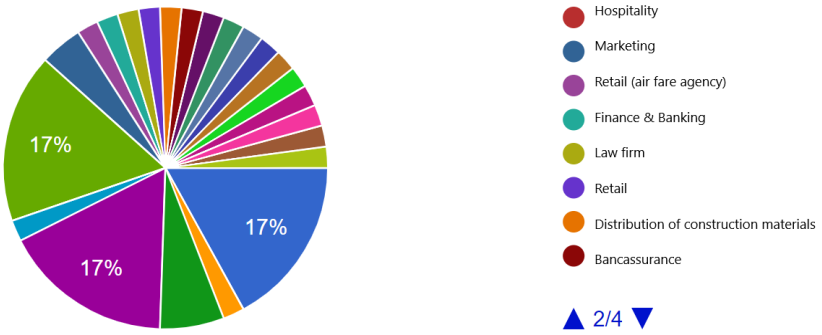
Question 2:

Statistics about the respondents' work:



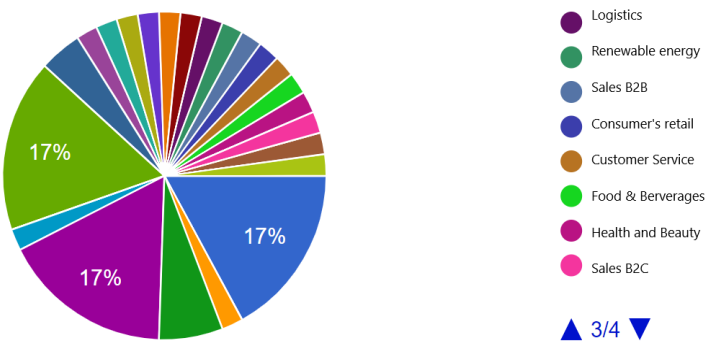
Respondent's field of work?

47 responses



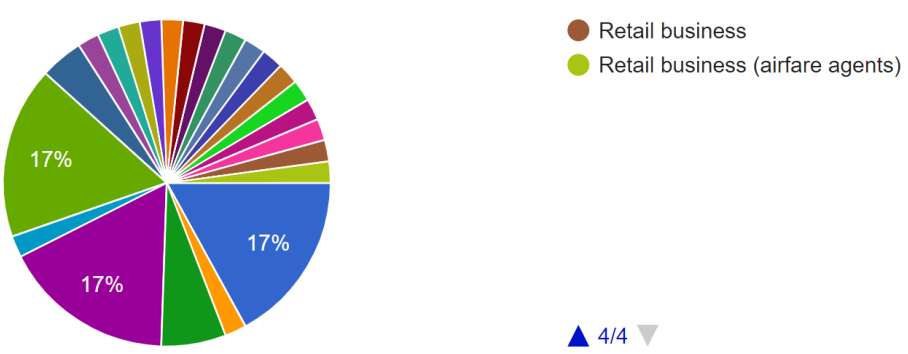
Respondent's field of work?

47 responses



Respondent's field of work?

47 responses

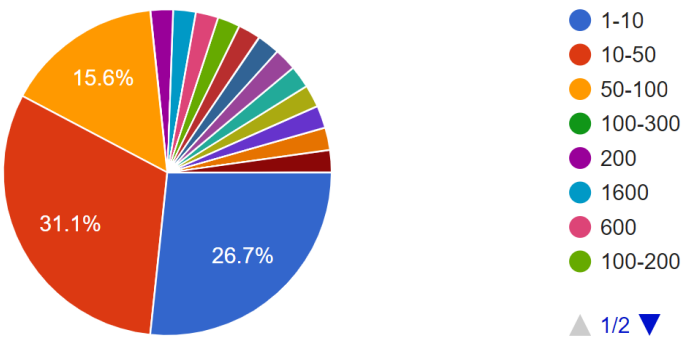


Question 3:

Statistics of the respondents' company:

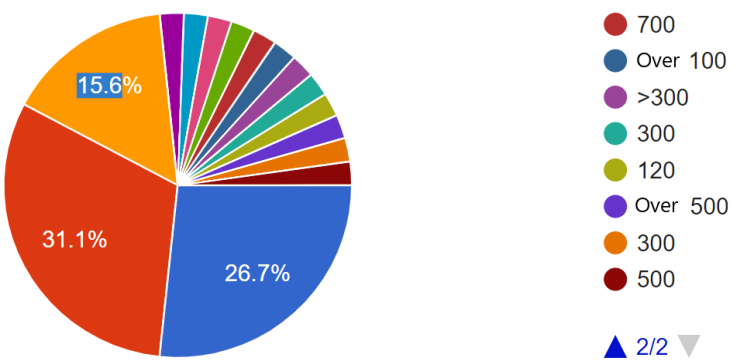
How many members does your company currently have ?

45 responses



How many members does your company currently have ?

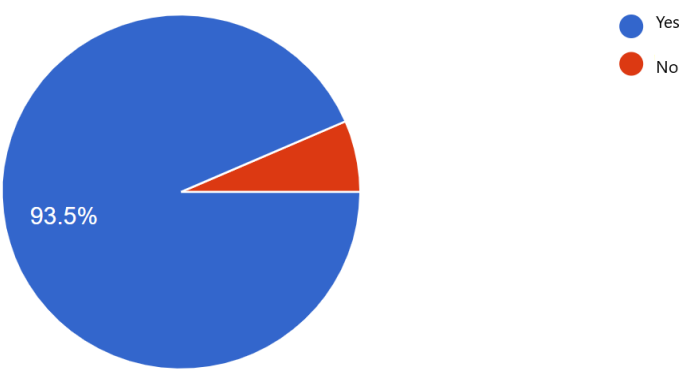
45 responses



Question 4:

Does your work relate to projects (plans, campaigns, etc.)?

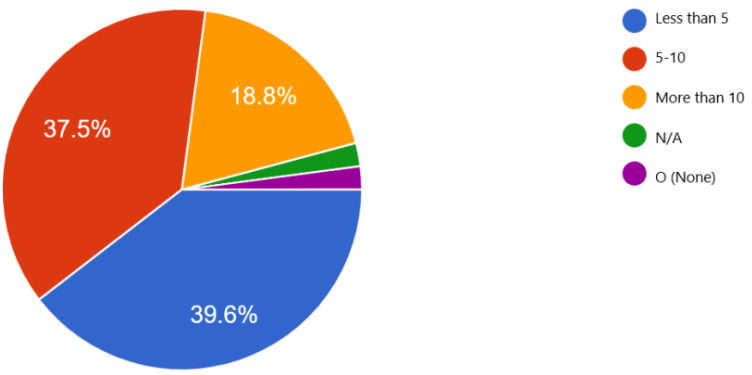
46 responses



Question 5:

How many projects (plans, campaigns, etc.) do you work in each year?

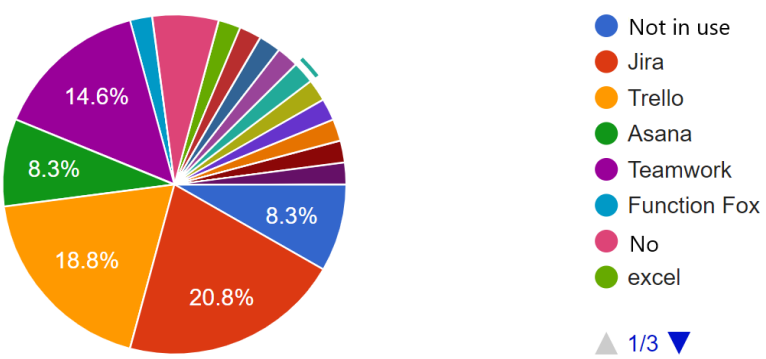
48 responses



Question 6:

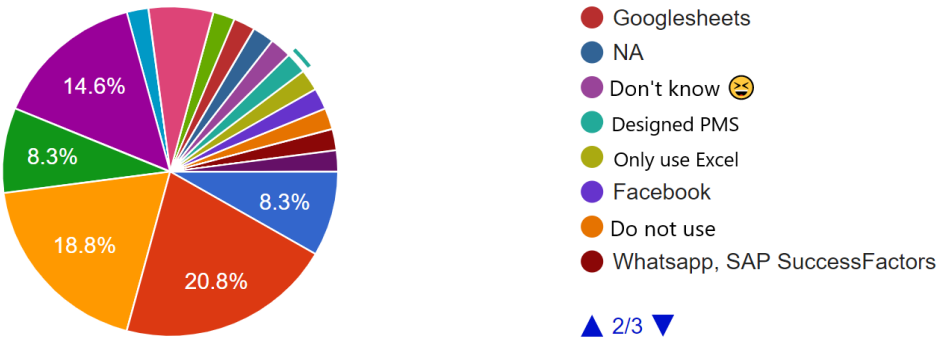
Do you use Project Management (PM) software for projects, plans, or campaigns? Specify that project management software.

48 responses



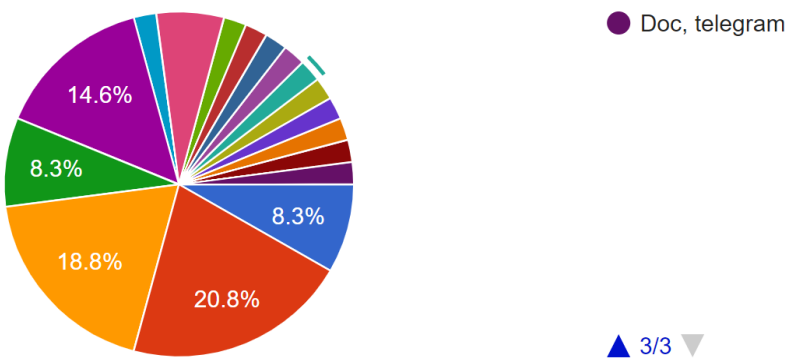
Do you use Project Management (PM) software for projects, plans, or campaigns? Specify that project management software.

48 responses



Do you use Project Management (PM) software for projects, plans, or campaigns? Specify that project management software.

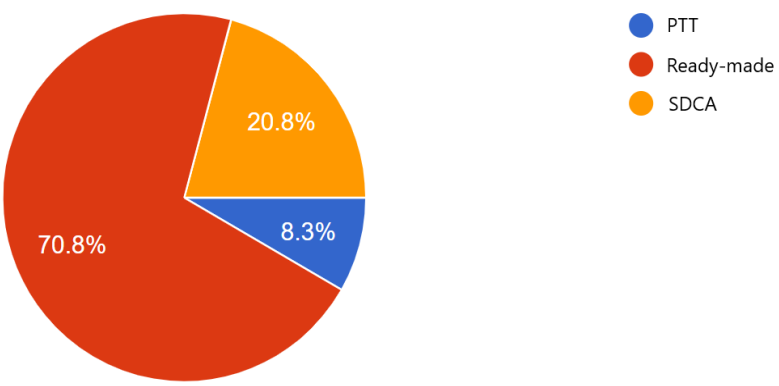
48 responses



Question 7:

Does your company use the ready-made software, or SDCA or PTT?

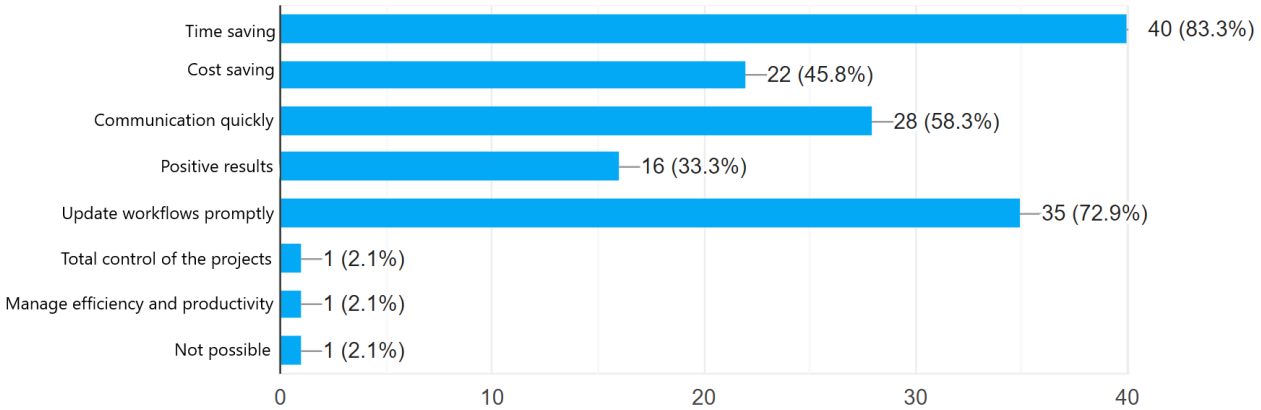
48 responses



Question 8:

In your opinion, what are the benefits of using project management software? (select all that apply)

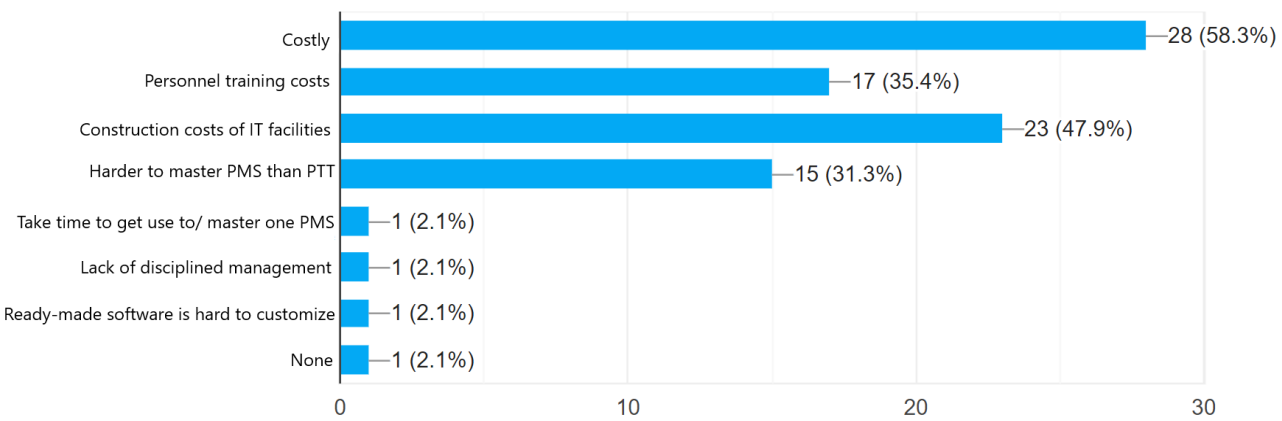
48 responses



Question 9:

In your opinion, what are the limitations of project management software? (select all that apply)

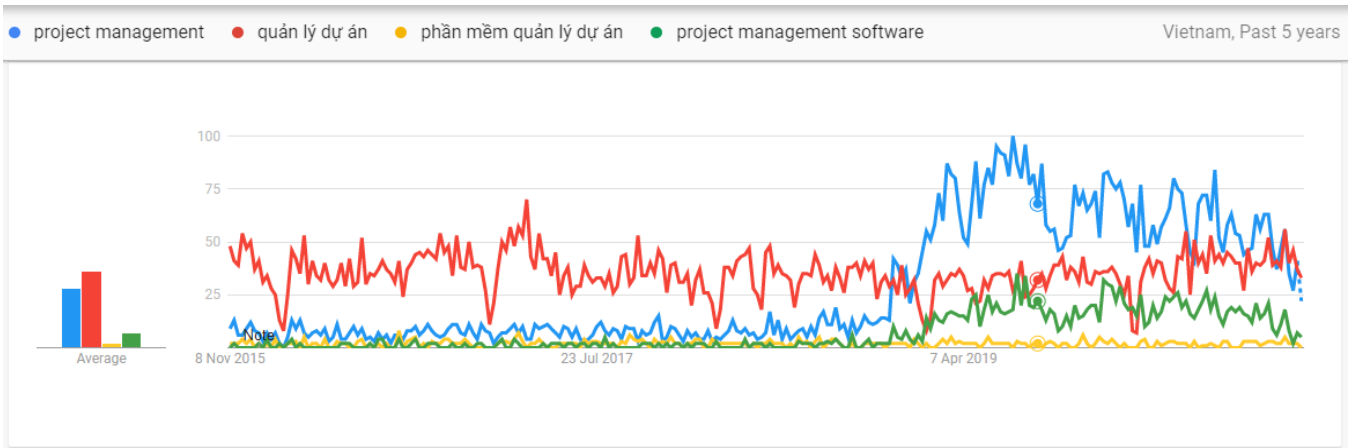
48 responses

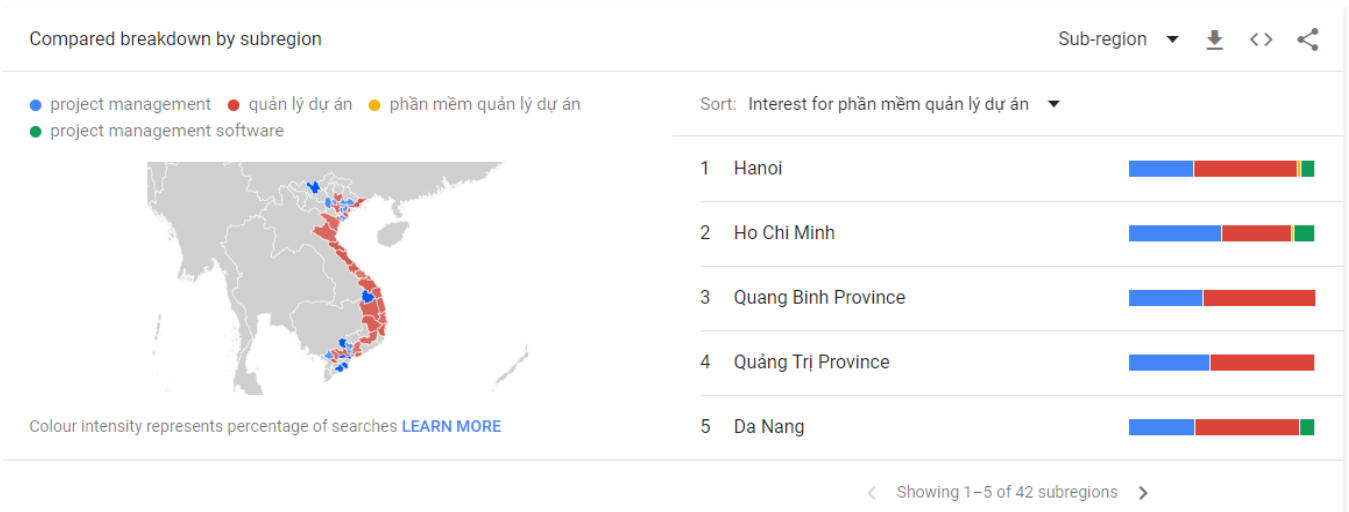


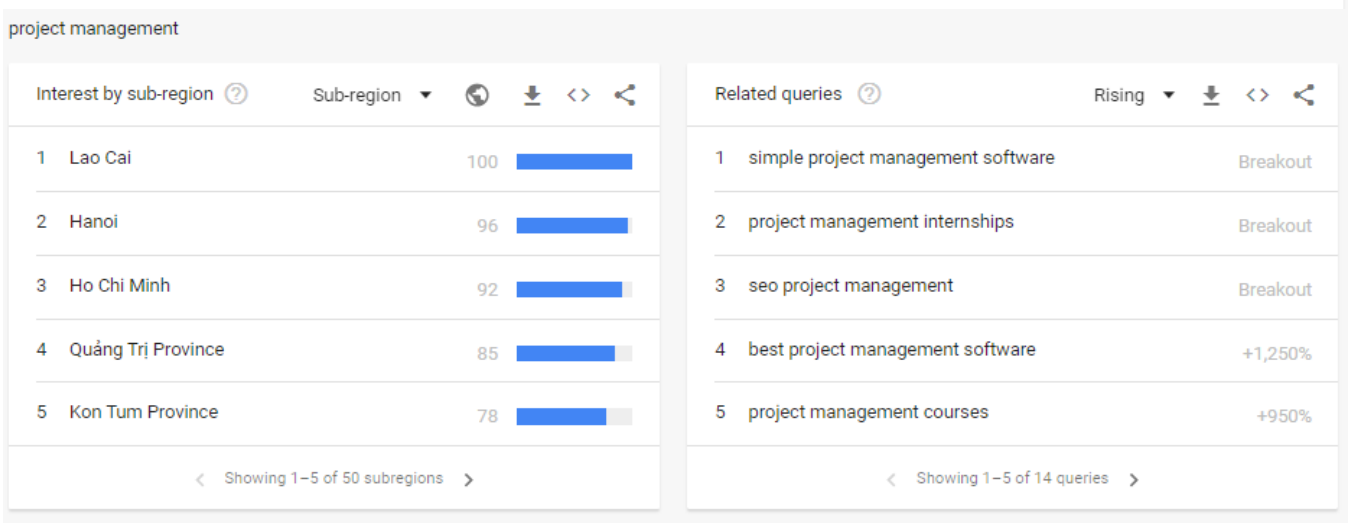
Next, in this "Result" section, the result of Google Trends analysis will be presented. The research (and its result) was conducted at the beginning of November 2020.

Here are the graphs and the details about that research provided by Google Trends.

<u>Keywords Group 1:</u>







quản lý dự án

Interest by sub-region	Sub-region	
1	Hanoi	100
2	Quang Binh Province	73
3	Quảng Trị Province	69
4	Da Nang	69
5	Quảng Ninh Province	64

Showing 1–5 of 36 subregions

Related queries	Rising	
1	ban quản lý dự án đầu tư xây dựng các công tr...	+800%
2	nghị định 59 về quản lý dự án	+650%
3	chứng chỉ hành nghề quản lý dự án	+250%
4	nghị định 59/2015/nđ-cp về quản lý dự án đầu ...	+200%
5	ban quản lý dự án đầu tư xây dựng	+190%

Showing 1–5 of 8 queries

phần mềm quản lý dự án

Interest by sub-region	Sub-region	
1	Hanoi	100
2	Ho Chi Minh	53

Related queries	Rising	
1	phần mềm quản lý dự án xây dựng	+50%

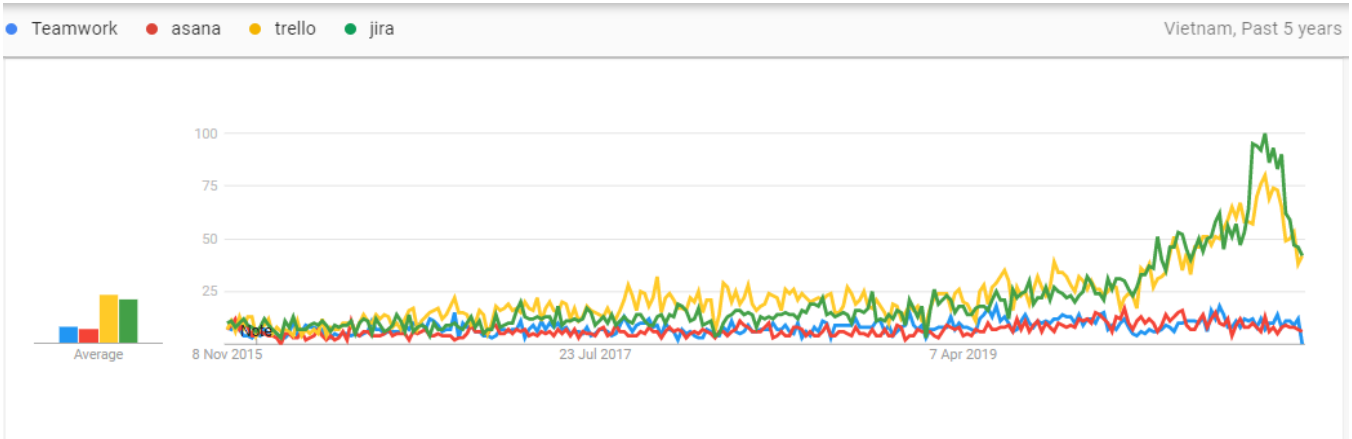
project management software

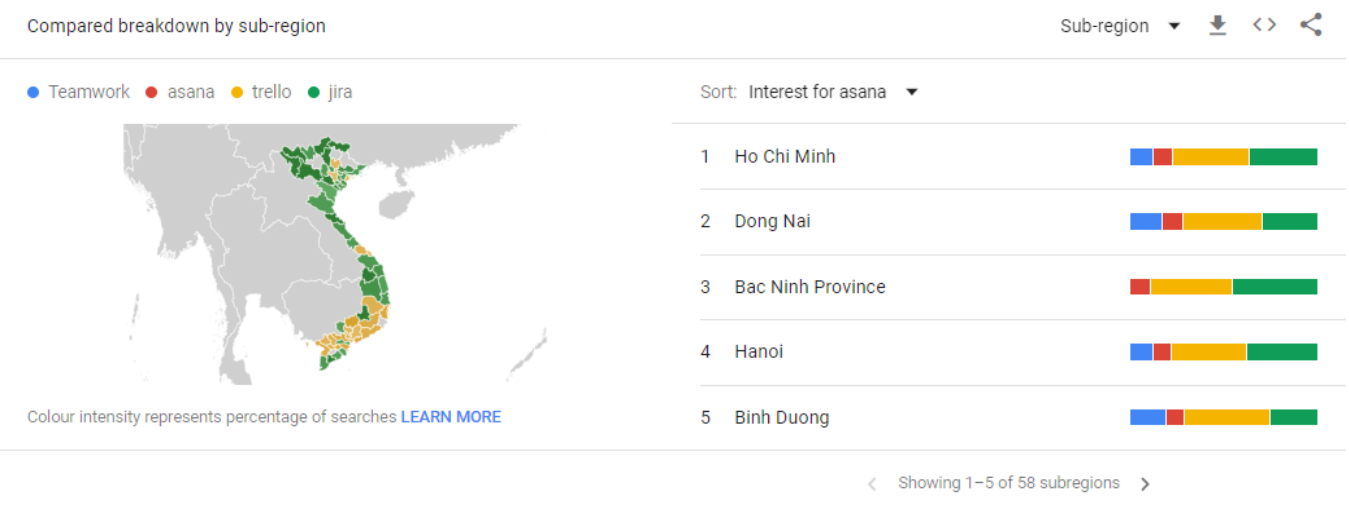
Interest by sub-region	Sub-region	
1	Vinh Phuc Province	100
2	Hanoi	90
3	Bac Ninh Province	88
4	Thanh Hoa	88
5	Nghe An	87

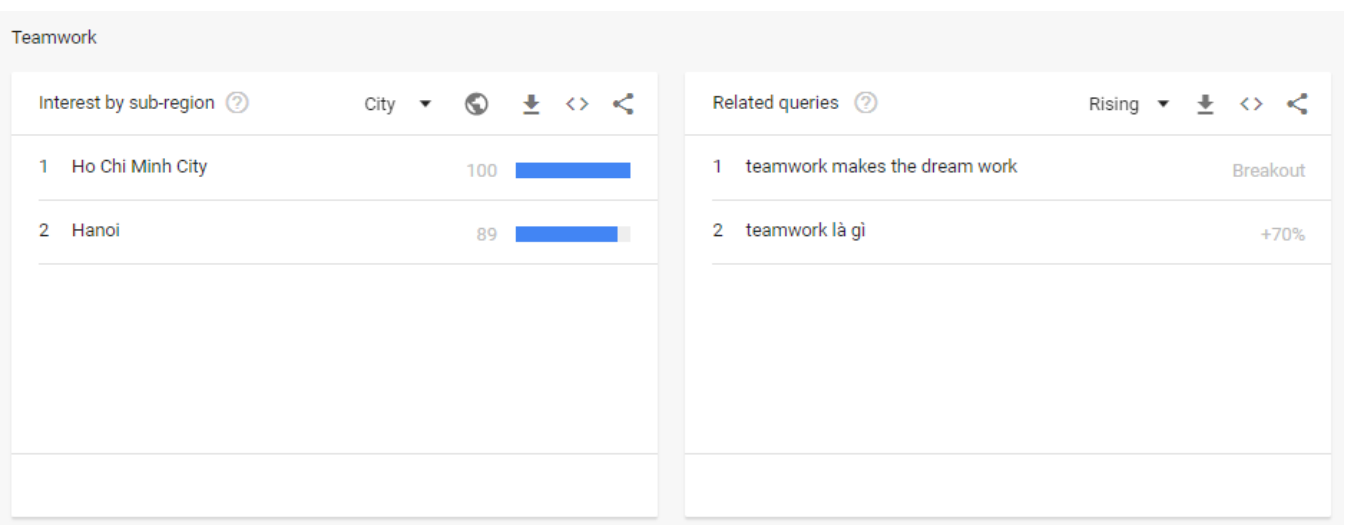
Showing 1–5 of 13 subregions

Related queries	Rising	
1	construction project management software	Breakout
2	simple project management software	Breakout
3	best project management software	+50%

Keywords Group 2:







asana

Interest by sub-region	City	
1	Ho Chi Minh City	100
2	Hanoi	76

Related queries	Rising	
1	asân	Breakout
2	asa	Breakout

trello

Interest by sub-region	Sub-region	
1	Ho Chi Minh	100
2	Hanoi	89
3	Da Nang	84
4	Binh Duong	47
5	Thua Thien Hue	38

Showing 1–5 of 46 subregions

Related queries	Rising	
1	project jojo trello	Breakout
2	trello a universal time	Breakout
3	a universal time	Breakout
4	a bizarre trello	Breakout
5	trello login	Breakout

Showing 1–5 of 25 queries

jira

Interest by sub-region	Sub-region	
1	Ho Chi Minh	100
2	Hanoi	99
3	Da Nang	85
4	Lao Cai	62
5	Quảng Trị Province	50

Showing 1–5 of 62 subregions

Related queries	Rising	
1	jira pricing	Breakout
2	jira fsoft	Breakout
3	jira align	Breakout
4	jira project planning	Breakout
5	jira service desk pricing	Breakout

Showing 1–5 of 12 queries

6 Discussion

Overall discussion:

Firstly, in general, the result is in good condition. About the collected data, there are next to no fraud answers in the survey. It helps the thesis author a lot when calculating and analyzing the data. The solutions and evaluations collected seem very logical to the big picture of the 1-on-1 interviews with randomly picked people from the survey takers. Besides, the responses are matching with the author's expectations as well.

Secondly, more people hold working titles as "project member" took part in the survey than those with "project manager" and "general manager" ones. They are majorly working in SME in IT, media production, and education & training. Besides, the majorities of the respondents are those from enterprises with under 100 workers. Most of their works are related to projects (or plans or campaigns). And they are almost all work around ten projects each year. On the other hand, over 50% of the respondents use PMS for their projects, and most of it is a ready-made one.

Thirdly, in the 1-on1 interview, the author took away the contributive responses of the project managers and project team members from multiple businesses. As far as project management is concerned, all the respondents are very skeptical of my questions. Why does this happen? They do not merely label projects as 'project.' It is widely known as "task," "duty," or just "job."

In this respect, in every department and team, the PM concept among Vietnam's SMEs is divided into smaller scales. Currently, software for SME in Viet Nam is relatively common in employment efficiency, company governance, and employee assignment. The program used in work is generally Fast, or Misa: for the work carried out by the accounting department. Plus, almost any small firms use Excel to track their performances. But most companies use software specializing in the incorporation and relation of state national associations.

Next, for production: The software used is typically SDCA for the evaluation of KPI output. Nevertheless, not many SME do, though, so the execution is very complicated.

Also, for business management: It is also SDCA in each business that suits its subject's assets. In Vietnam, several companies currently specialize in software production and perform surveys, consultancy, and development based on a standard management system for each business application. Nonetheless, not many SME submit because of the high costs and complexity of installation.

If one enterprise decided not to implement PMS, it was usually because of its size (small and medium). They are very likely unable to partake in big ventures or are merely subcontractors. Subcontracting large firms in ventures with large companies is also a chance to learn more about management perspectives. They must take the steps needed by the key entrepreneurs and investors.

Small and medium-sized companies use their expertise (not software) and learn from collaborators to apply for management only when handling development and staff management. IT is no longer a modern and luxurious topic in Vietnam, so it means a lot of SME use a specific program to fulfill their job requirements, but not necessarily PMS.

Lastly, the respondents agreed that PMS saves time, cost, improves communication, and promptly updates the workflow. Companies would also have top-down accountability in their roles and obligations for management, appointment, and decentralization. It also increases the productivity of personnel, employees in conducting the job with software efficiency assessment. Finally, efficient and comprehensive financial reporting would be strengthened. However, they were also decided that having such PMS implemented in their systems will be costly overall and high cost on building IT facilities and training their project members.

The validity of the result: high value.

The result comes from survey takers of sample data of SME in Vietnam. Because the sample data of SME meets requirements of both randomness and representativeness of the population of SME in Vietnam, therefore, the validity of the result is high and fair.

Furthermore, based on Google Trends analytics and graphs on the searches and popularity of the topic. It is, of course, one of the most reliable sources on the Internet. It is also accurate from the data range to the data's geographical location, from Vietnam to a small scale such as cities and sub-regions.

Evaluate sources:

The sources and references are also fair because it is thesis research on the evaluations of PMS in SME in Vietnam. Consequently, the thesis author has taken the PMS assessments from the people outside and inside the thesis scope consideration. Moreover, evaluation is a form of grading and giving feedback; it could vary from people to people and between different industries, types, and sizes of businesses and countries.

Additionally, to have a fair and useful evaluation, the readers or the people involved in PM in SME in Vietnam will take a lot of more in-depth research. So, the sources are at a medium and acceptable level for this particular thesis.

Evaluate method (& tool) selection. And the handling of methods:

The methods that were used in this research are a mix of quantitative and qualitative ones. They supplement, balance, and harmonize each other. Consequently, the outcome is sufficient and successfully covers the topic.

On the other hand, the handling of the methods is fair and useful. It obeys the rules and regulations according to the thesis writing standards of Haaga-Helia University of Applied Sciences and other universities in the world. If there were mistakes, perhaps that would be some actual evaluation scale from 1 to 5 of each PMS available in the Vietnamese market.

Evaluate project management:

In general, the project management of this research thesis was well-planned, well-structured, and well-done. There was little or no obstacle that prevented and caused the thesis project to be postponed during the whole period. And, as it had been so well-planned and well-structured, it had reached the correct amount of survey takers and interviewers. Also, all the research methods were handled nicely and throughout.

Next, in the thesis project team, there were the thesis author and his advisor. Throughout the length of the project, the team communicated successfully and virtually. There was next to no arguments between the members about the thesis's contents, only some details about the technical parts.

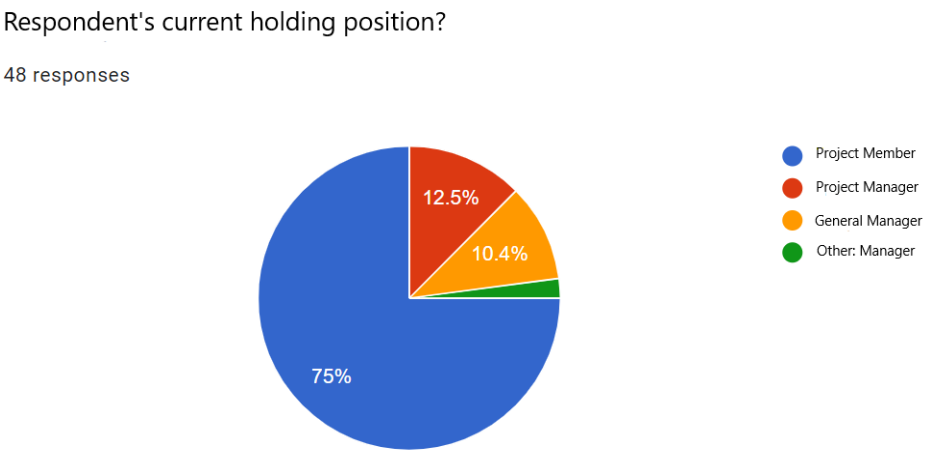
The project management was carried out efficiently and was about to meet its goal as planned. It might be a worthwhile project!

Evaluate learning:

Thanks to this thesis project, the author took away much of PMS's fundamental knowledge and its applications to the Vietnamese market, especially the SME's market. Also, he acquired knowledge about the definitions of SME from the decree provided by the Vietnamese Government. Moreover, he learned to arrange plans, set up meetings, and interviews. He also has to manage and analyze data collected to answer the critical questions of the thesis. Finally, he had made it to the end of the theory and took away lots of precious understanding.

Evaluations of results:

Question 1 (from the survey)

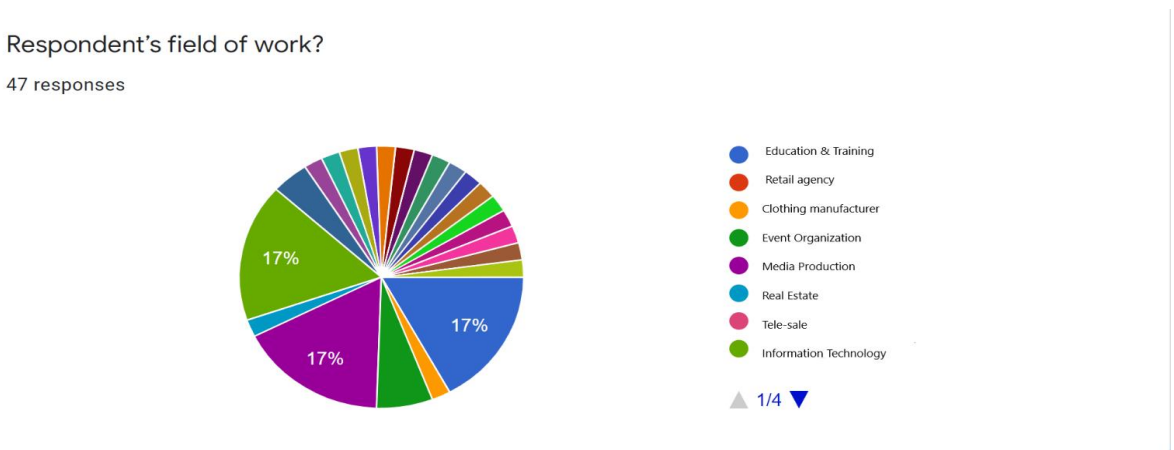


During the survey-period of the thesis, the author conducted some questions to determine the survey takers' background. Therefore, in the discussion, there will be comments on that topic.

Also, from the pie graph above, we can see that of 48 respondents, 75% of them are holding Project Members working titles. Moreover, about 12.5% of them are Project Managers, and the rest are General Managers.

According to section 4.4, "Profile of the respondents," some information on the respondents' deeper level is also collected. There are roughly 34.61% of the respondents have High School Diplomas. However, people with bachelor's degrees accumulate for 46.15%, and the rest is unknown. Plus, all the respondents work for a Nation enterprise while a few works for a franchisee or a joint venture.

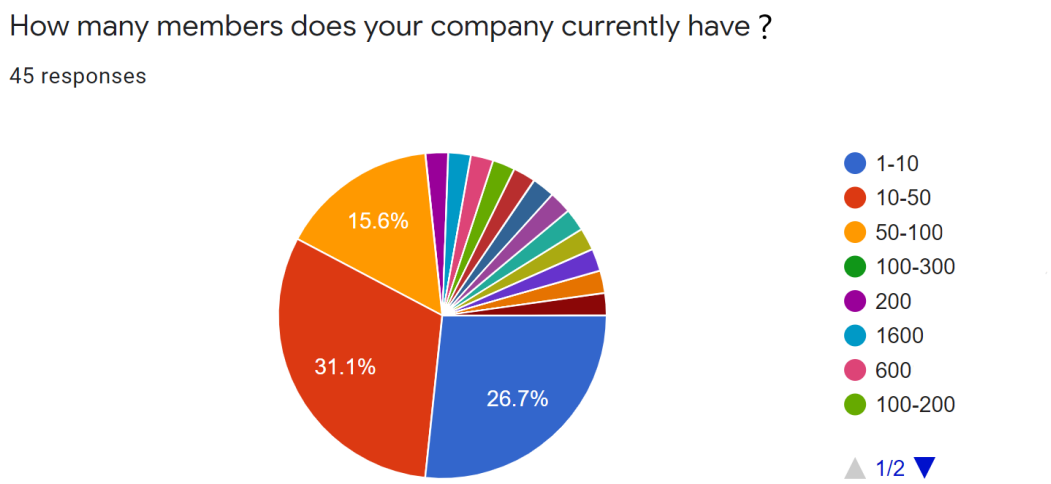
Question 2 (from the survey)



The graph above there showed the percentages of the fields that the respondents worked in. We could obviously tell from the graph that: Education & Training, IT and Media Production are the leading industries with more applicants. Following, there is a retail agency, clothing manufacturer, event organization, and so on.

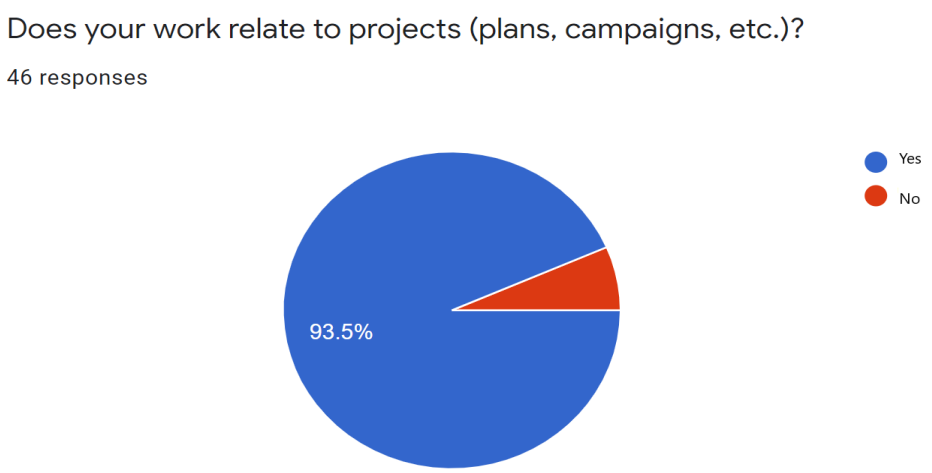
From then, the reader could have a better understanding and a more specific perspective to study this research's result.

Question 3 (from the survey)



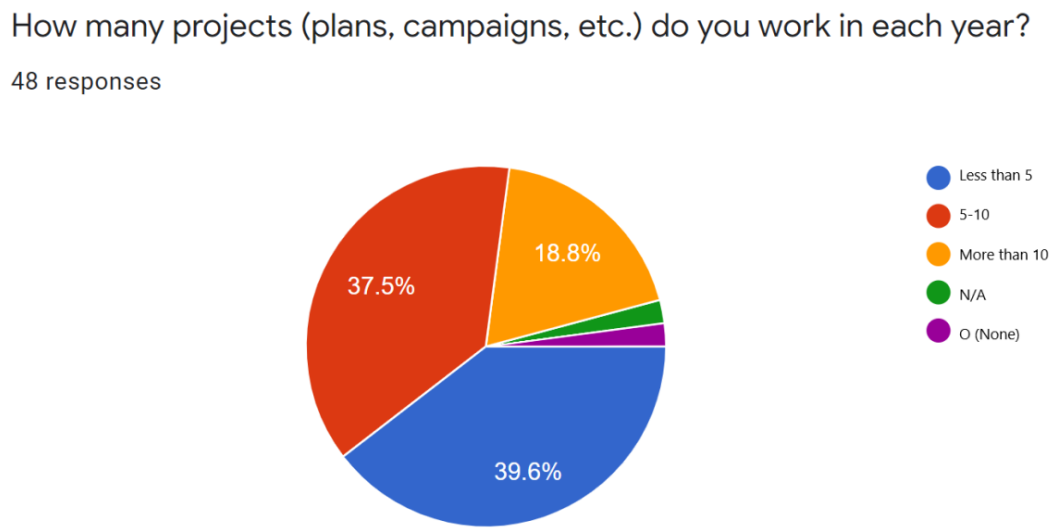
The majority of companies taking part in this survey had 1-10 or 10-50 employees from the pie chart. Following closely as those with 50-100 employees. And the rest of the respondents are from various companies with various amounts of workers. Most of them were qualified to be categorized as SME; only one with 1600 employees will not be counted for this research.

Question 4 (from the survey)



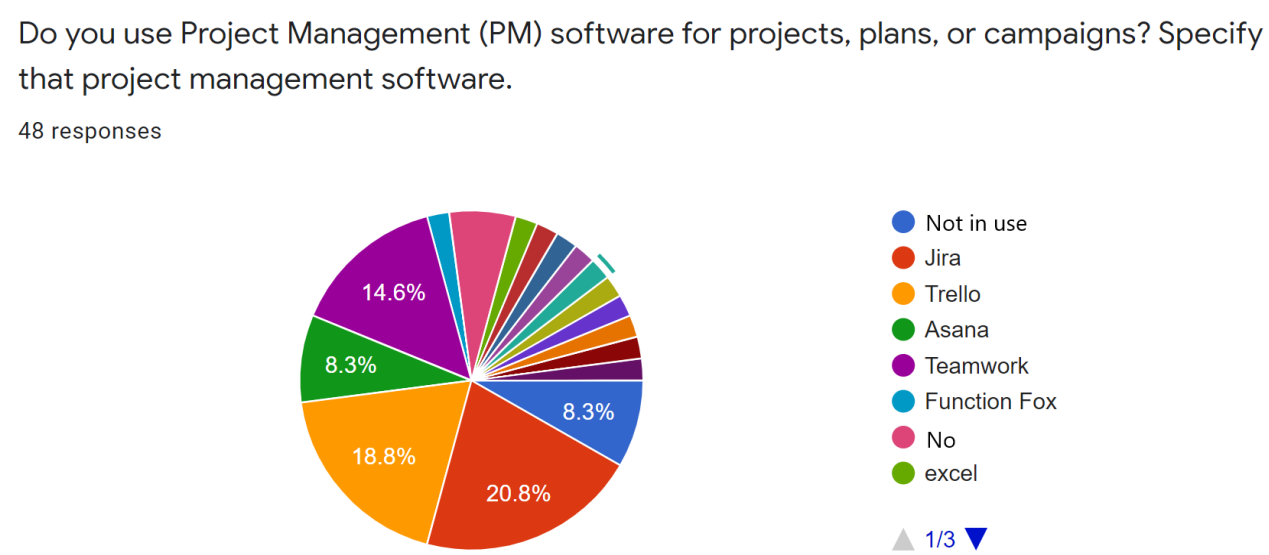
This pie graph showed the result of question 4. Among all of those who had taken part in this survey, 93.5% worked closely with projects. Only 6.5% of them do not. It is a simple but powerful graph to have.

Question 5: (from the survey)



From the graph that illustrated question 5, we could tell that most sample data work under ten projects each year. From a more profound understanding, we could tell that these are the big projects of the year. These yearly projects will then involve a lot of smaller projects. So ten projects may not sound like a lot, but it is quite a lot in reality.

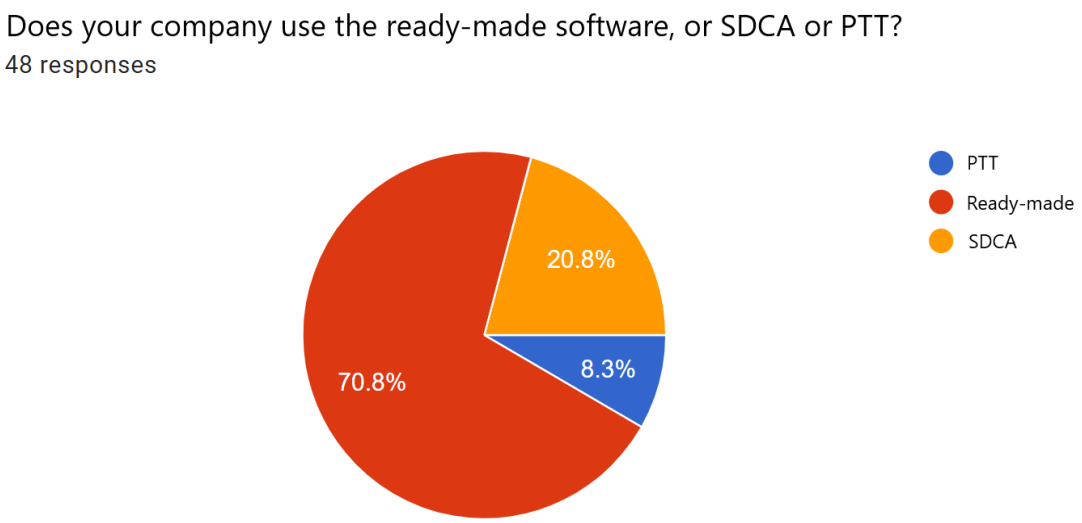
Question 6: (from the survey)



This question is when things get interesting. From this graph, we could see all the possible PMS used in the Vietnamese market. The reader may found some PMS similar; some do not. However, this is the PMS out there and relevant for PM use.

We have to say that the top applications that have been used are Jira, Trello, and Teamwork, with 20.8%, 18.8%, and 14.6% of the respondents voted, respectively. Following up very closely in percentage, there are Asana and Function Fox with the same 8.3%. Those coming next in popularity are GoogleDocs, Excel, or even instant-messaging apps like Whatsapp or Facebook or Facebook Messenger.

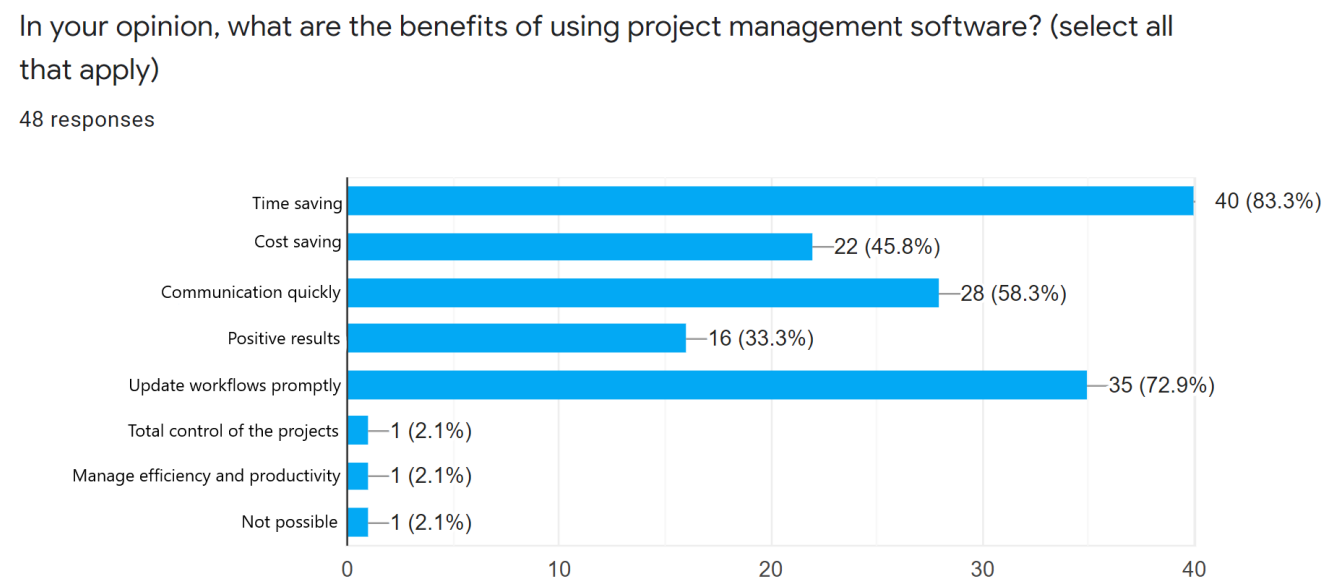
Question 7: (from the survey)



The pie chart above shows the outcome of the answer to question 7 of the survey. Ready-made software dominates the group with a large amount of 70.8% of the total. 20.8 is the percentage of the SDCA software that is used among the respondents' SME. PTT comes last in proportion with 8.3%. We can comment that people from these companies prefer ready-made software to other PM solutions from these numbers. It is very understandable for the practicality and convenience of ready-made software. It saves more cost of design and can be applied to the companies promptly. However, we could not disagree with the statement that other departments also go in different directions. Some of them prefer more details in their software and want to program to match their organizations perfectly. Some others prefer to have a more traditional way of approach to PM, still. This safe choice is because the PMS is not so popular with many old-fashioned business owners, who are not very technology-oriented.

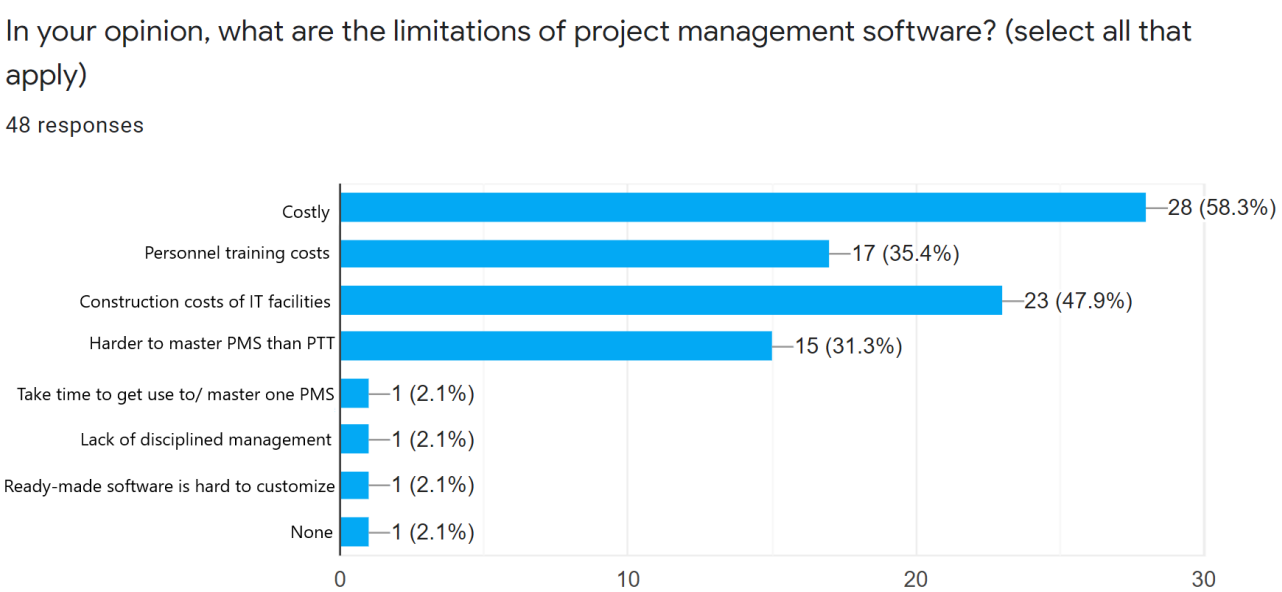
Overall, we can conclude that the market moves from traditional to more technological with a large amount of SME use PMS in their operations.

Question 8: (from the survey)



The bar graph of question 8 shows the most popular benefits of PMS voted by the respondents. In this chart, we got “time-saving” and “update workflows promptly” are the two most voted services with 40/48 and 35/48 votes, respectively. Communication quickly is also a remarkable benefit that the respondents chose to believe in PMS. In all three benefits, there is a critical value that they are sharing. It is “time.” We use PMS to save time; we use PMS to update workflow quickly, to save time. Also, PMS helps to communicate better; we also save time. And saving time, we could save a lot of workforces and money to spend on maintaining the projects or achieving the goals sooner.

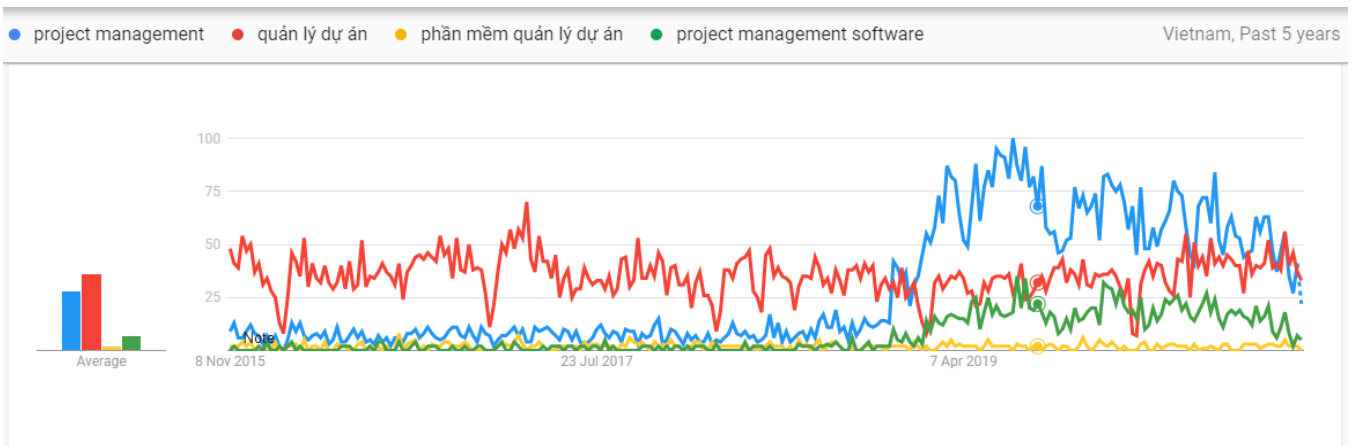
Question 9: (from the survey)



On the graph of question 9, we see the disadvantage of having implemented PMS into use. Most of the respondents chose “cost” for the main reason. Also, some voted that the construction costs of IT facilities are relatively high, as well. Besides, the personnel training costs are also mentioned with 17/48 votes. Therefore, we could tell that the theme for the limitations that prevent companies from using PMS is “cost.” The total cost to have a PMS in use, in the beginning, is relatively high. And, it requires the business managers and project managers to put lots of effort into implementing it. So, they instead to maintain the traditional way of management to avoid any risks.

Next, we will discuss the graphs that show details about the research provided by Google Trends.

Keywords Group 1: "project management," "project management software," "quản lý dự án," "phần mềm quản lý dự án"

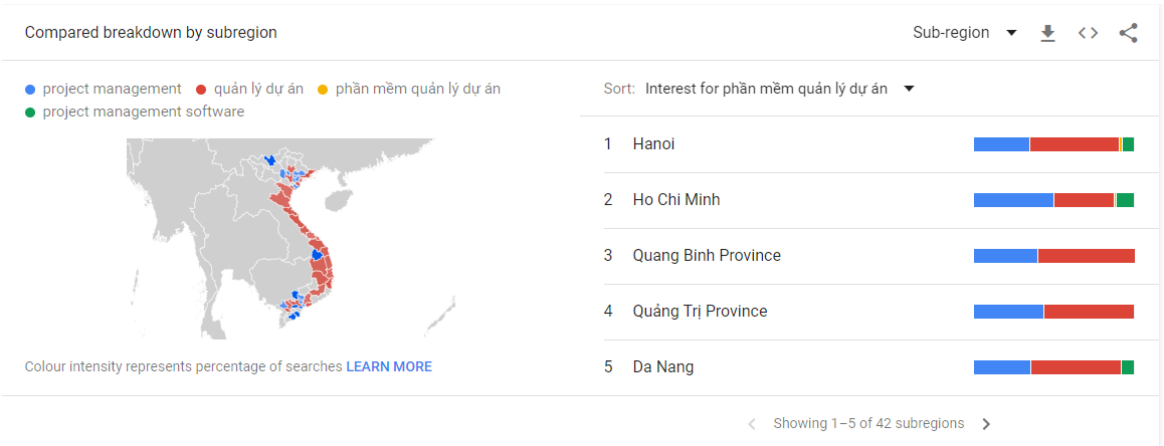


In this discussion, the results for "project management" and "quản lý dự án" will be combined since they have the same meaning. Similarly, the development of "project management software" and "phần mềm quản lý dự án" will be merged. For a simplification for the visual study, "project management" and "quản lý dự án" will also be referred to as blue and red since they are the colors that represent them in the graph. Consequently, green and yellow will be referred to as "project management software" and "phần mềm quản lý dự án."

As shown in the line graph above, green and yellow are the keywords referred to as PMS. For all the five-year-period, they were not so popular with very few searches. We can interpret that PMS and the use of PMS were not very widespread from 2015 to 2019. However, a small rise in the search number from April 2019 with the “project management software.” It could mean that we searchers cared more about PMS and went online to look for a solution from international sources.

In contrast, the keywords for blue and red, also known as PM, were more common. From 2015 to early 2019, red was dominating blue in the number of total searches. However, from April 2019, blue- keyword searches had risen significantly. It is proof of technology-boom in the

Vietnamese market. The intellectual standard of the people has grown up. They demand a solution to their PM and looking for a solution for a better project outcome.

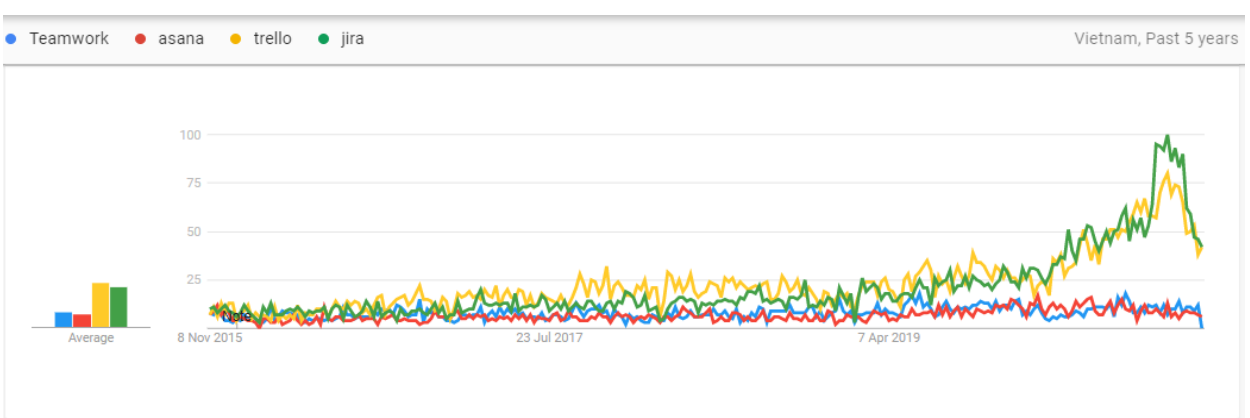


Next, we could see more details about these keyword searches' arrangement in the compared breakdown bar chart by sub-region. From the Vietnam map, it is easy to tell the geographical location that had popular searches.

On the map, we could conclude the same thing as the previous line chart. Blue and red keywords were leading the number of searches. Blue as “project management” is an English keyword and was mostly looked for from big cities like Hanoi, Ho Chi Minh, Quang Binh, Quang Tri, or Da Nang; where there are many people is foreign-educated. Otherwise, the red- keyword was searched across central Vietnam from North to South.

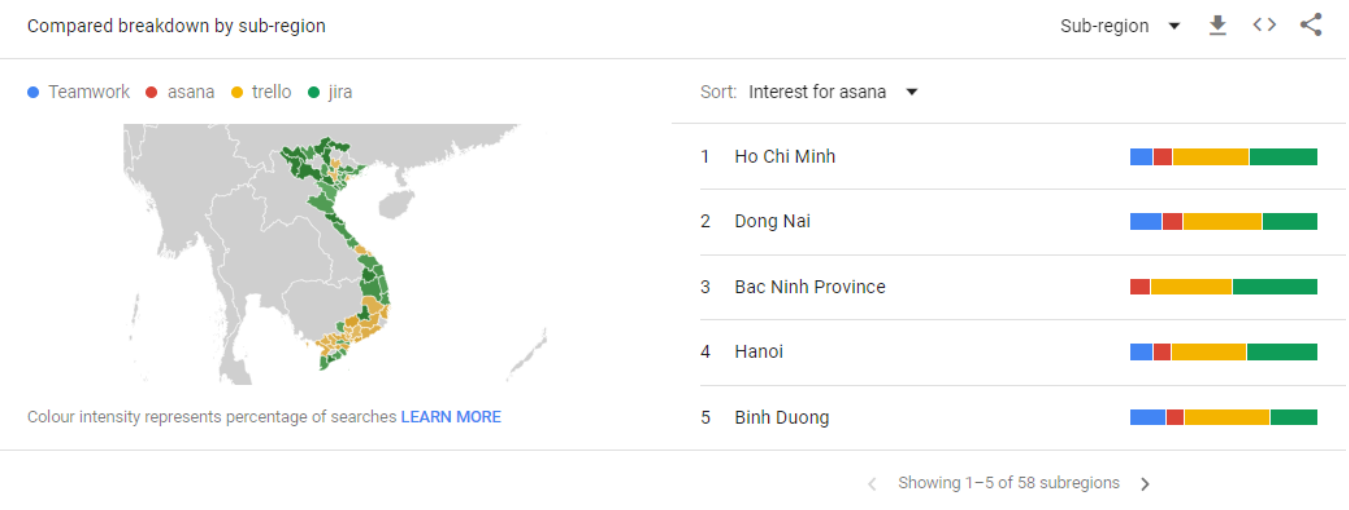
Hanoi, Ho Chi Minh, and Da Nang are the only cities with significant searches of all four keywords on the bar chart. It was because these are the biggest cities in Vietnam with many SME. Therefore, these searches and findings helped study PM better and found solutions to improve their projects.

Following, we will discuss the result of keywords group 2. These are the names of popular PMS that available for SME Vietnam.



The line graph shows the result of total searches of keyword group 2; we could see the significant expansion only in recent years. Of the whole five-year-period, all four keywords, represent four software, have minor searches. It implies that PMS was not very common for the Vietnamese market for a very long time. PMS was only known and put into use by a few numbers of bigger-sized enterprises.

Later, starting in late 2019, we experienced substantial growth in the searches of Trello and Jira PMS. The total of searches for Trello and Jira was almost identical. According to the survey, Jira and Trello were also the two most popular software among the choices. Subsequently, we could tell that Trello and Jira offer the software solution to PM with the features and applicabilities that support Vietnam's enterprises.



Then, on the compared breakdown by sub-region, we see the statistics with a map perspective. From Vietnam’s national map, we can mostly notice the searches that are green and yellow. Green represents Jira, and yellow represents Trello. Therefore, Jira was more prevalent in northern Vietnam than southern. On the other hand, Trello was more trendy only in South Vietnam.

Moreover, as we can observe from the side bar-chart, the top five Vietnamese cities with the most searches about this software are Ho Chi Minh, Dong Nai, Bac Ninh, Hanoi, and Binh Duong, respectively. Out of five cities, only Bac Ninh did not show any searches that included Teamwork software. Additionally, Teamwork was also the item with the lowest popularity in the software keywords group. Besides Bac Ninh, other cities seem to have a similar proportion of searches between Trello and Jira, with about 60% and 40%, respectively.

Interesting fact: despite having the second-lowest number of searches, Asana still appeared in all the top five cities.

7 Conclusion

Despite the current situation of PM in Vietnam, it is still preferred the traditional approach. Together, we found out that using IT-solution in managing business processes is overgrowing in the Vietnamese market. This research-based thesis discussed the evaluations of PMS among SME's usage in Vietnam.

This study provides knowledge on both the theoretical level and practical level of the topic. Theoretically, the framework of PMS's evaluation had been discussed. The definitions of the assessment, project management, and project management software had been explained. Plus, we talked about the term "SME" in Vietnamese nature, sourced by the Government of Vietnam. Later, we brought some up-to-date knowledge about the PMS in the market. The specifications and features of some popular software had been mentioned.

Next, after explained the theories, we moved on to planning the research. In this period, phasing and timing of the work were considered. Also, we discussed more in detail about the research methods. And, the chosen approach was a mixed qualitative and quantitative one. This hybrid method will successfully apply the power of both studies and offer multi-dimension results.

Later, in the actual research period, more practical information was gathered and analyzed. According to the Vietnamese General Statistics Office, approximately 500,000 of the 518,000 companies mentioned in 2017 were SME. Major and medium-sized enterprises contribute about 47% of the country's GDP and 40% of the state budget, while SME produce about 9 million workers. However, considering their economic and increasing significance, SME have historically played a limited role in their integration and industrialization due to numerous contractual constraints.

In Vietnam, R&D relies on more prominent companies. Businesses in the private sector spend only about 3% of their research and development expenditures, resulting in lost productivity and higher production costs. If they continue to compete with foreign firms as the global economy moves to Industry 4.0, domestic companies must rely on digitization and innovation. The Government must partner with organizations to boost SME's technological capacity through study to promote research and technological development. Next, we had discussed sample data versus the population of SME in Vietnam. And it is almost impossible to collect the population of SME in Vietnam. Therefore, we decided to take sample data that requires both representativeness and randomness of the population. Later on, the profile of the respondents had been built. Together with it, there were the survey questions for the interviewees.

These particular questions took the actual research to the next level: more profound questions about the respondent's background, project work-related questions, and their evaluations for the possible PMS. We also took the research level deeper by taking the interviews with random

respondents to answer the research questions. That was for the qualitative method. Next, we used Google Trends for two keyword groups for the quantitative research method.

Following the resulting period, we conducted the surveys, interviews, and analytics from the Google Trends of 2 keyword groups. Plus, we also came to conclusions about the evaluations that had been collected. The top PMS that has been used in this targeted market is Jira, Trello, Teamwork, and Asana. Otherwise, the project workers also use other tech-tool such as Google Docs, MS Excel, or even some instant messaging app like WhatsApp or Facebook Messenger. About the choice of PMS, the majority of the survey respondents preferred ready-made software to SDCA.

After that, it comes to the evaluations about the advantages and disadvantages of PMS. The majority of the interviewees voted the PMS benefits are time-saving, cost-saving, and promptly updating workflows. Project-related communications are also reported to be improved in efficiency and time. In contrast, according to the interviewees, PMS's limitations are the software's high cost, the training cost for personnel, and IT facilities' construction costs. Moreover, some reported that PMS is more challenging to master than regular PTT.

Subsequently, in the results of Google Trends analytics, of the two keyword groups, they were both only get popular in recent years, especially in late 2019. The terms of PM are searched more than those of PMS in Google Search queries. In addition, the hot keywords about PMS’s name were Jira and Trello. Therefore, Jira and Trello are the two most popular PMS in the Vietnamese market. SME should focus more on studying and implementing such software or similar to their business because of its relevance.

7.1 Further research

For further studies based on this particular research thesis, they should focus more on the evaluations of PMS performances implemented into the enterprises. It is suggested that the researchers emphasize in PMS: Jira and Trello because they are the most popular software solution for PM in this market.

Moreover, Jira and Trello’s performances need to be measured more carefully with various tests and feedbacks from the bigger user groups. Further research should also expand their scopes from minimum to all possible work fields in the Vietnamese market.

Lastly, the scope can be extended even more if the size of the enterprises is maximized. It means the studies will then cover all companies in Vietnam regarding their fields and dimensions. It will give the total picture of the PMS usage situation in Vietnam. From then, the business owners and game-changers could benefit much more from the studies and make game-changing decisions.

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