Ministry of Education and Science of Ukraine
Sumy State University

DEPARTMENT OF ECONOMICS, ENTREPRENEURSHIP
AND BUSINESS ADMINISTRATION

MASTER THESIS

Topic *Improving the business administration approaches in the context of digital*

transformation

Specialty 073 "Management"
Study program 8.073.00.09 "Business Administration"

Head of the Department: _____/O. Karintseva/

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DEPARTMENT OF ECONOMICS, ENTREPRENEURSHIP AND BUSINESS ADMINISTRATION

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Head of the Department
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ASSIGNMENT
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List of illustrations
1) Comparison of the Scrum and Kanban methodology
2) Kanban board of business project in Trello
3) Survey responds: Business area of a company and Type of business activities
4) Survey responds: The types of task management system used in the company
5) Results of the self-assessment of use of the task management systems

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Master Thesis supervisor Associate Professor Bohdan Kovalov
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Student signature

Notes:
1. This Assignment is to be attached to the clarification summary of Master Thesis.
2. Apart from Assignment, student is expected to receive from the supervisor the time schedule on preparing Master Thesis during project period with indication of terms of accomplishment and workload for each stage.

SUMMARY

The master thesis consists of an introduction, three sections, conclusions, and a list of references (28 sources).

The total volume of scientific work is 45 pages; main text – 37 pages; 11 figures, 1 table.

The graduation project is devoted to the study of economic approaches to digitization using a design agency as an example.

The senior thesis is devoted to the investigation of modern digitization models' approaches, digitization concepts, and digital transformation.

Based on the critical analysis, the second chapter describes in detail the benefits of digitalization as a tool for transforming the organization at various levels, as well as approaches to modeling the digitalization of modern business processes.

The third chapter provides a general description of the company's activities and considers the current work model and its optimization with the help of the CRM system's implementation.

The author's generalized legislative and regulatory acts that regulate enterprise communication activities, scientific works by domestic and foreign authors, statistical information, and primary documentation of industrial enterprises comprise the information base.

The work's practical significance is that considered approaches to the digitalization of the enterprise or transformation of existing business models in digital economy conditions are fundamental decisions that affect the success of the enterprise as a whole unit and its future competitiveness, potential success, and potential risks.

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1 THEORETICAL ANALYSIS OF BUSINESS MANAGEMENT AND BUSINESS ADMINISTRATION

1.1 Analysis of the business management and business administration theory

According to [1], "Management is a distinct process consisting of planning, organizing, actuating and controlling, performed to determine and accomplish stated objective by the use of human beings and other resources".

According to [2], the father of scientific Management, defined Management as the art of "knowing what you want to do" and then seeing that it is done "in the best and cheapest way".

In [3] management is defined as the art of following things done through and with informally organized groups.

As a process, management consists of three aspects:

Management is a social process – because the human factor is the most important among the other factors, management is concerned with developing interpersonal relationships. It is the responsibility of management to make human interaction productive and useful for achieving organizational goals.

Management is an integrating process – management is responsible for bringing together human, physical, and financial resources in order to achieve the organizational goal. As a result, is an important function for bringing various factors into harmony.

Management is a never-ending process of continuous improvement. It is concerned with identifying problems and resolving them by taking appropriate steps. It is a continuous process.

As per Henri Fayol's [4] theory of business administration, along with organizing, monitoring, and controlling, coordinating is one of the central

functions the management. The term 'coordination ' in this theory implies that the managers must harmonize the rules and the activities performed by the organization. This in turn means that every activity of each unit of the organization should complement and enrich the work of the other. In an operational sense, coordination is defined as "the arrangement of the various elements of a complex body or activity to enable them to work effectively together."

It was seen a lot of similarities between the coordination skill in business management and the passing skill in soccer. If we dig a little deeper, we discover that coordination is the most common thread that runs through all managerial and supervisory functions. The more Managers and Supervisors master the coordination skill, the better their performance or output, and thus the superior performance of the organization. Coordination, like communication, is an embedded aspect of day-to-day business management that, if ignored, can lead to trouble. An effective and well-defined coordination process lends credibility to employee roles and predictability to the organization's operation. The following text attempts to convey the practical details of the coordination skill through three specific examples for Managers and Supervisors to emphasize its significance.

It explained and described what administration theory is, so let's take a look at the five main management theories [5].

Frederick W. Taylor (1856-1915) was one of the first to investigate worker productivity and how to improve it. Taylor, who had a background in mechanical engineering, conducted controlled experiments that led to the development of four scientific management principles known as "Taylorism," which recommends that the scientific method be used to determine the most efficient way to perform a task in the workplace rather than relying on workers' judgment or personal discretion [6].

Taylor promoted standardization and specialization by recommending that workplace tasks be divided into smaller steps. He came to the conclusion that managers should assign workers to jobs that best matched their abilities, thoroughly train them, and supervise them to ensure that they worked efficiently.

Taylor's emphasis on achieving workplace efficiency, on the other hand, ignored the humanity of the individual in favor of determining the best way to complete any given task. Taylor's theory, in its purest form, isn't widely used today; however, it did shed light on workplace efficiency, the importance of training procedures, and the importance of worker-manager cooperation.

Henri Fayol (1841-1925), a French mining engineer and executive, is regarded as one of the most influential contributors to modern management theory. Fayol took a top-down approach, as opposed to Taylor, who improved productivity by analyzing workers' actions.

Fayol examined an organization through the managers' eyes and the situations they might face. He considered management to have six primary functions: forecasting, planning, organizing, command, coordination, and control. Fayol developed 14 administrative principles that outline how managers should organize and interact with employees.

His comprehensive principles, which have become foundational guidelines in many of today's workplaces, cover topics ranging from the value of promoting employee initiative and teamwork to the importance of maintaining an orderly and clean facility.

Max Weber (1864-1920) was a German sociologist who developed bureaucratic management theory, which focuses on structuring organizations hierarchically with clear governance rules. A clear division of labor, a hierarchical chain of command, separation of the owner's personal and organizational assets, meticulous record keeping and documentation, strict and consistent regulations and

rules, and the selection and promotion of employees based on qualifications rather than personal relationships or personalities are among Weber's principles for creating an ideal bureaucratic system [7].

Despite his recognition that bureaucracy was a threat to individual liberties, Weber saw it as the most efficient and rational method of establishing organizations. The bureaucracy management approach is often perceived as impersonal and overburdened by red tape today, but it played a critical role in universalizing the establishment of standards and procedures, which are at the heart of most modern organizations [8].

Elton Mayo (1880-1949) was a Harvard researcher and psychologist of Australian origin who helped lay the groundwork for the human relations movement. In the 1920s, Mayo conducted experiments at the Hawthorne plant in Chicago to improve productivity among disgruntled employees.

He changed working conditions such as lighting, temperature, break times, and workday length but found that regardless of the change, productivity increased. This led Mayo and his colleagues to conclude that increases in workers' performance were not the result of changes in their environment, but rather of the researchers paying attention to them and making them feel valued as part of a unified group collaborating on the study [9].

Mayo's work helped to establish the significance of psychological and social factors in the development of productive organizations. This gave rise to the Human Relations Theory, which concluded that factors such as group membership and personal attention motivate employees more than money or even working conditions. This people-oriented management approach necessitates managers acknowledging the complexities of human nature as well as the importance of social ties in the workplace.

Although the validity of the Hawthorne experiments has been called into question in recent years, Mayo's contributions to management theory serve as the foundation for today's emphasis on group dynamics and the use of team-building activities to strengthen work cultures.

Douglas McGregor (1906-1964) was an American social psychologist who published "The Human Side of Enterprise" in 1960, which introduced his X and Y theories. He came to the conclusion that there are two fundamentally different management styles that are guided by managers' perceptions of their team members' motivations. Theory X is authoritarian in nature and is used by managers who believe their employees are dissatisfied with their jobs. Theory Y is a participative management style employed by managers who believe that their employees are self-motivated, accountable, and committed to taking ownership of their work [10].

While Theory X promotes micromanagement, Theory Y promotes a more collaborative and decentralized workplace. Theory Y, which McGregor favors, is typically adopted by smaller businesses and startups where employees at all levels are involved in decision-making and where creativity is encouraged. Larger organizations or those with a large number of employees may rely more on Theory X to keep everyone focused on meeting organizational goals.

1.2 Analysis of the impact of digitalization on the business administration

Business must meet global social, economic and environmental[29,30,31,33,36,38,40,41,42] trends to be competitive and efficient[32,34,35,37,39,].

Customers today prefer social media to interact with brands because they receive immediate attention. According to research, 42% of consumers expect a

response on social media within 60 minutes. Social media is a powerful channel for engaging customers who contact you via various social media channels such as Facebook, Twitter, LinkedIn, Instagram, and Whatsapp in order to provide a seamless omnichannel messaging experience [11], [12], [13].

A company's ability to provide omnichannel customer service is critical. However, it is even more critical to use the right tools and systems to assist your company in delivering an omnichannel experience across the customer lifecycle. Certain tools can be used to provide omnichannel customer service. REVE Chat, a multi-channel live chat platform that streamlines customer conversations across the website, social, mobile, and messaging apps to deliver great customer service and increase team productivity, is one such tool. Consider social media customer service. Nike has implemented a fantastic customer service strategy. It has one of the most active Twitter customer service accounts. They have a dedicated Twitter account, Team Nike that offers assistance seven days a week in seven languages [14].

When a customer mentions Nike's main Twitter handle, @teamnike immediately responds. This demonstrates how committed the brand is to resolving their customers' issues.

Best practices include:

- Pay attention to all customer service issues and treat them with respect in all situations. Unresolved passive complaints can easily cause a schism between the vendor and the customer.

- Manage your social conversations quickly in order to provide excellent customer service.

- Improve your customer experience by being available at all touch points where customers prefer to contact you for immediate assistance.

Almost 90% of marketers say their social marketing efforts have increased their company's exposure, and 75% say it has increased traffic. It is an excellent way to raise brand awareness and stay in touch with your customers. People are increasingly turning to social media platforms to learn more about businesses, including the most recent information about new products, services, advertisements, deals, and promotions.

Here are some ideas for getting your brand in front of a larger audience.

- Segment your audience – before going up to the social platforms, check to see if your target audience is already on the platform. It is not advisable to blindly follow other brands.

- Use visuals – once you've segmented your audience, use appealing visuals alongside content to pique their interest and increase engagement.

- Start conversations – involve yourself in social platforms not only by listening but also by tagging or mentioning others and starting great conversations.

- Measure your efforts – it is critical to track your social activity using external tools. Gain insights, channel your efforts, and strengthen the image of your brand.

Social media platforms enable the sharing of business news as well as the posting of related photos or links to stories/studies in their industry. It also fosters customer trust and introduces itself to a new demographic of potential customers. You can also use them to subtly add value to your guerrilla marketing examples.

Social media does, in fact, aid in spreading the word about your company. The patterns, role, and impact of word of mouth have changed since the advent of interactive and social media. As a result, new online communities emerge. Such changes influenced how businesses can use word of mouth for marketing purposes, as well as the impact of word of mouth on businesses. According to research, 72%

of people regard online reviews in the same light as personal recommendations from friends and family.

Threadless is an excellent example of word-of-mouth marketing. Threadless is an online T-shirt designer community and platform where they can submit and vote on T-shirt designs. The designers received 20% royalties in the form of Threadless gift cards or cash. The members were delighted to spread the word about their designs and bring more people to the site.

Best Practice: Provide an incentive to your customers, such as a discount, a free product, or an extended service, so that they will take the time to promote your business.

Many companies are jumping on the Social Media Marketing (SMM) bandwagon because it has a positive impact on brands and promises profitable success when done correctly. To spread brand awareness, social media marketing techniques target social networks and applications.

Because social media marketing is perceived as a more targeted form of advertising, it is very effective in raising brand awareness. Social media engagement campaigns generate a lot of shares, more views, and publicity for your company - all for a one-time fee.

- Establishing a social media presence on major platforms is usually the focus of social media marketing campaigns.
- Making shareable content and advertise mentorials.
- Using surveys and contests to solicit customer feedback throughout the campaign.

A single person sharing or retweeting a message from your company can reach hundreds or even thousands of people for free! Businesses that miss out on this with ineffective social media strategies are passing up a huge opportunity.

Good practice:

If you are a startup or a small business, you can use social media marketing to promote your company and save money.

Social media platforms enable the collection of first-hand feedback from customers in order to improve brand image, reputation, and customer relationships. The customer must feel heard and valued in order to be satisfied.

So, respond to every post, comment, and suggestion and make the best use of it for the development of your brand. Businesses that respond to customer service requests through social media earn 20% to 40% more revenue per customer.

This allows you to demonstrate how much you care about providing a memorable experience and ensures that no customer feedback is overlooked. You can also drive real business results by monitoring social media for customer feedback and responding to it.

Best practices include:

- Even if the user has not directly tweeted at you or asked for assistance, respond. Responding to brand mentions or comments demonstrates that you are paying attention.

- Retweet a happily resolved support interaction to promote your customers. It's like saying a big thank you to your customers.

- Give your customer service representatives a public face. Use a team photo or a spotlight on an agent. It's nice to connect the brand's face with the names behind it.

- "How is everything?" try to follow up on a successful interaction.

Customers follow businesses' social media accounts every day, whether they are on social media or not. With the average person spending just under two hours per day on social media, social media engagement is critical to ensuring your brand receives adequate attention. Setting up a social media presence, and building and

engaging with quality content takes time and effort. The most important advantage of investing in social media is the ability to reach out to potential customers wherever they may be found around the world.

Social media engagement is beneficial because of the reputation it creates for your brand; however, a single negative tweet can bring negative publicity overnight, which is difficult to reverse. The following are some best practices for engaging users.

Best practices:

- Post witty and engaging content on a regular basis to keep your brand at the top of the newsfeed.
- Utilize images to increase interaction rates.
- Make an effort to connect with your audience on a personal level. Make them believe that there are actual people behind the brand.

Providing excellent customer service is almost certainly already a top priority for every company. However, in addition to providing two-way communication, social media provides a unique opportunity to step up your customer service game and provide instant gratification to your target audience.

WhatsApp, for example, is the most popular global customer service channel. According to the statistics, there are more than 1.5 billion monthly active users who share more than 60 billion messages per day, representing a massive amount of on-platform activity. Whatsapp's WhatsApp Business app allows business users to "interact with customers easily by using tools to automate, sort, and quickly respond to messages" [15].

Hellmen is one of the best examples of the impact of social media on business. Hellman wanted more Brazilians to cook with their mayonnaise, so they devised an intriguing WhatsApp campaign [16].

The campaign included the option to communicate with a chef via WhatsApp. They only had to share a picture of their fridge after connecting with the chef. Now, the chef would create a recipe from it and cook the meal with the help of WhatsApp.

Best practices for social media:

You should respond to online reviews as soon as possible. Customers post both positive and negative feedback on social media. Respond to social media comments as soon as possible. You must respond to them as soon as possible or your brand's image will suffer.

Because of the interaction that brands have with customers on social media, brands can increase conversions. When a company opts for proactive social media marketing, it strengthens its marketing strategy.

According to Hubspot, social media marketing has a 100 percent higher lead-to-close rate than outbound marketing. This data demonstrates the importance of social media marketing for all brands, large and small, and especially those looking to increase sales revenue.

Twitter is an excellent example of this. 67% of Twitter users are more likely to buy from brands they follow, according to MediaBistro. Furthermore, 42% of consumers learn about products and services they are interested in via Twitter [17]. This kind of outreach cannot be overlooked.

Best practices include:

- Use targeted social media listening to learn about what's going on in your industry.
- Participate in social selling (social selling combines the elements of social listening, social media lead generation, and sales practices).

"A brand is nothing more than a manifestation of a customer's loyalty and trust."

Building and maintaining brand loyalty is a central theme in all businesses. Through social media, you can build relationships with your customers, which increases loyalty and advocacy.

Brand loyalty is important for the following reasons:

- Resistance to competition – brand loyalty is difficult to come by in this competitive market. Customers have so many options available to them that they can easily become dissatisfied. Your brand's perception attracts new customers, but loyal customers add real value.

- Loyal social media followers are more likely to interact with your posts and start meaningful conversations. Genuine engagement is more beneficial to your online image.

- Brand advocacy – loyal social media followers have a high likelihood of becoming brand advocates. Even if they are not persuaded, they are very likely to talk positively about your brand.

Creating brand loyalty ensures long-term social media engagement. According to research, 66% of users between the ages of 18 and 24 are more loyal to the brands they follow on social media.

Best practices include:

- To keep up with your competition, you should develop a smart social media strategy that includes a cohesive plan.

- Share high-quality content to build brand loyalty. Visual content is easily recognized. So, to make content more appealing, use info graphics, videos, screenshots, graphs, and so on.

- Make certain that you are not ignoring interactions, as followers prefer humanized interactions over bots or automated content.

2 METHODOLOGICAL APPROACHES TO BUSINESS ANDIMISTRATION

2.1 Waterfall methodology of the project management

The Waterfall methodology, also known as the Waterfall model, is a sequential development process that flows like a waterfall through all phases of a project (for example, analysis, design, development, and testing), with each phase completely wrapping up before moving on to the next. The Waterfall methodology is said to adhere to the adage "measure twice, cut once." The Waterfall method's success is determined by the amount and quality of work done on the front end, including the user interface, user stories, and all feature variations and outcomes [18].

With the majority of the research completed ahead of time, estimates of the time required for each requirement are more accurate, allowing for a more predictable release date. If parameters change during a Waterfall project, it is more difficult to change course than it is with agile methodology.

To learn more about waterfall methodology, let's look at what is waterfall software.

Waterfall software assists project managers in managing tasks. Waterfalls require close attention and coordination because they are a relatively complex, phased approach.

Waterfall software can be installed on a desktop or in the cloud. It can help you with:

- Organize your processes
- Tasks should be organized.
- Create Gantt charts and schedules.

- Keep track of project progress.

As previously stated, waterfall methodology requires various phases and steps to be completed. What are the five common stages of the waterfall methodology process?

The Waterfall methodology is a sequential process that works with fixed dates, requirements, and outcomes. Individual execution teams are not required to be in constant communication with this method and are usually self-contained unless specific integrations are required. Team members also work independently and are not required to provide status reports as frequently as in the Agile approach. Typically, one phase does not begin until the previous one has been completed. Using a software development project as an example, the Waterfall process usually includes stages that look like this [18]:

The Waterfall methodology is based on the assumption that all project requirements can be gathered and understood in advance. The project manager makes every effort to gain a thorough understanding of the project sponsor's requirements. Written requirements, which are typically contained in a single document, are used to describe each stage of the project, including costs, assumptions, risks, dependencies, success metrics, and completion timelines.

Here, software developers create a technical solution to the problems outlined in the product specifications, such as scenarios, layouts, and data models. First, a higher-level or logical design that describes the project's purpose and scope, the general traffic flow of each component, and the integration points are created. After that, it is converted into a physical design using specific hardware and software technologies.

When the design is finished, technical implementation begins. Because meticulous research and design have already been completed, this may be the shortest phase of the Waterfall process. During this phase, programmers write applications based on project requirements and specifications, with some testing and implementation thrown in for good measure. If significant changes are required during this stage, it may be necessary to return to the design phase.

Before a product is released to customers, it must be tested to ensure that there are no errors and that all requirements have been met, resulting in a good user experience with the software. The testing team will create test cases using the design documents, personas, and user case scenarios provided by the product manager.

The maintenance phase begins once the software has been deployed in the market or released to customers. As bugs are discovered and user requests for changes are received, a team will be formed to handle updates and the release of new versions of the software.

In this section, it was discussed that the benefits of a waterfall methodology are as follows.

The Waterfall methodology is a simple, well-defined project management methodology with a track record of success. Because the requirements are clearly defined from the start, each contributor understands what needs to be done and when and can effectively plan their time for the duration of the project.

The Waterfall method also has the following advantages:

- Detecting design errors during the analysis and design stages allows developers to avoid writing faulty code during the implementation phase.
- After the requirements have been defined, the total cost of the project, as well as the timeline, can be accurately estimated.

- The structured approach makes it easier to track progress against clearly defined milestones.
- Developers who join an ongoing project can quickly catch up because everything they need to know is in the requirements document.
- Customers do not always add new requirements to projects, which delays production.

Here are some drawbacks to waterfall methodology as well.

As with any development process, strengths in one area may indicate weaknesses in another. Because of the Waterfall methodology's emphasis on upfront project planning and commitment to a specific defined progress, it is less flexible, or agile, later in the game. Changes made later in the process can be time-consuming, painful, and expensive.

Other reasons why the Waterfall methodology might not work are:
- With this chronological approach, projects may take longer to complete than with an iterative approach, such as the Agile method.
- Clients frequently don't fully understand what they want up front, which opens the door to requests for changes and new features later in the process, when they're more difficult to accommodate.
- Clients are excluded from the design and implementation phases.
- Deadline creep occurs when one phase of a process is delayed, and all subsequent phases are also delayed.

2.2 Use of Agile methodology in business administration

The Agile methodology is a method of project management that divides a project into phases. It entails ongoing collaboration with stakeholders as well as continuous improvement at each stage. When the work begins, teams go through a

cycle of planning, execution, and evaluation. Collaboration is essential, both with team members and project stakeholders [19].

So, what exactly is agile project management methodology? It is a project management method that entails constant collaboration and working in iterations. Agile project management is based on the idea that a project can be improved continuously throughout its life cycle, with changes made quickly and responsively [20].

Because of its flexibility, adaptability to change, and high level of customer input, agile is one of the most popular approaches to project management.

Agile project management is not a single framework, but rather an umbrella term for many different frameworks. Scrum, Kanban, and other acronyms can be used to describe agile project management.

Scrum is a project management methodology that emphasizes efficient planning, collaborative execution, and continuous improvement. This Scrum guide will help you better understand this Agile framework, including roles, ceremonies, and necessary Scrum software. The need for rapid, iterative development necessitates a commitment to creating and maintaining an effective Scrum environment for the majority of Scrum teams. This entails following standardized processes and best practices. Scrum, like any other project management framework or methodology, has its challenges. Scrum teams can face challenges and roadblocks when executing at scale [21].

While scrum can benefit a wide range of businesses and projects, the following are the most likely beneficiaries:

Scrum methodology is ideal for complex projects that require teams to complete a backlog. Scrum divides each process into bite-sized chunks, which can make a complex project easier to manage [22].

Companies that value results: Scrum is also beneficial to companies that value results over process documentation. This is because, rather than a detailed, rigid process, scrum is focused on efficiency and innovation to drive results.

Companies that cater to customers: Scrum can assist businesses that develop products based on customer preferences and specifications. Scrum is changeable, which is important when responding to customer requests.

While discussing who benefits from scrum methodology, let us also discuss what the benefits of scrum methodology are.

- Flexibility and adaptability
- Creativity and innovation
- Lower costs
- Quality improvement
- Organizational synergy
- Employee satisfaction
- Customer satisfaction

The most significant advantage of agile scrum methodology is its adaptability. After each sprint in the sprint-based model, the scrum team typically receives feedback from stakeholders. If problems or changes arise, the scrum team can easily and quickly adjust product goals during subsequent sprints to provide more valuable iterations. Stakeholders are happier this way because they get exactly what they want after being involved at every step of the process.

When compared to traditional project management systems, stakeholders do not provide frequent feedback, and time is wasted making changes to the product halfway through development - or worse, the teams must start from scratch after the product has already been built.

To implement agile scrum methodology, either an in-house scrum expert or an outside consultant must be present to ensure that scrum principles are correctly applied. Agile scrum methodology requires precise execution and, if not done correctly, can lead to serious problems.

Despite the benefits of scrum methodology that we have discussed, there are various roles in scrum methodology, which are as follows. Agile scrum methodology is divided into two groups of roles: core roles (known as "pigs") and ancillary roles (known as "chickens"). The three primary roles are scrum master, product owner, and scrum team. All of these individuals are dedicated to the scrum project [21].

Scrum master: The scrum master is the person in charge of facilitating the scrum development process. The scrum master ensures that scrum rules are enforced and applied correctly, in addition to holding daily meetings with the scrum team. The scrum master is also responsible for coaching and motivating the team, removing roadblocks to sprints, and ensuring that the team has the best possible conditions to meet its goals and produce deliverable products [21].

The product owner represents stakeholders, who are usually customers. The product owner determines product expectations, records product changes, and administers a scrum backlog, a detailed and constantly updated to-do list for the scrum project, to ensure the scrum team is always delivering value to stakeholders and the business. The product owner is also in charge of prioritizing sprint goals based on their importance to stakeholders, so that the most important and deliverable features are built in each iteration.

Scrum team: A scrum team is a self-organized group of three to nine people with business, design, analytical, and development skills who carry out actual work, solve problems [21] and produce deliverable products. The scrum team

members self-administer tasks and are jointly responsible for meeting the sprint goals.

Ancillary roles, on the other hand, are other stakeholders who are involved in the scrum project but are not committed to it. Customers, management, and members of the executive team are typically involved in ancillary roles to consult, report progress, and gather feedback in order to better work toward delivering the highest value possible.

Kanban is a well-known framework for implementing agile and DevOps software development. It necessitates real-time capacity communication and complete transparency of work. Work items are visually represented on a kanban board, allowing team members to see the status of all work at any time.

Kanban is widely used in today's agile and DevOps software teams, but the kanban work methodology dates back more than 50 years. Toyota began optimizing its engineering processes in the late 1940s using the same model that supermarkets used to stock their shelves. Supermarkets stock only enough product to meet consumer demand, which improves the flow between the supermarket and the consumer. Because inventory levels correspond to consumption patterns, the supermarket gains significant inventory management efficiency by reducing the amount of excess stock it must hold at any given time. Meanwhile, the supermarket can still ensure that the product a customer requires is always available.

Toyota used this same system on its factory floors to better align their massive inventory levels with actual material consumption. Workers would pass a card, or "kanban," between teams to communicate capacity levels in real-time on the factory floor (and to suppliers). When a bin of materials used on the production line was emptied, a kanban was sent to the warehouse describing what material was required, how much of this material was needed, and so on. The warehouse would have a new bin of this material ready, which they would then send to the

factory floor, and the supplier would receive their own kanban. The supplier would also have a bin of this specific material ready to ship to the warehouse. While the process's signaling technology has evolved since the 1940s, the same "just in time" (or JIT) manufacturing process remains at its core.

Today's agile software development teams can apply the same JIT principles by matching the amount of work in progress (WIP) to the team's capacity. This provides teams with more flexible planning options, faster output, sharper focus, and greater transparency throughout the development cycle. While the framework's core principles are timeless and applicable to almost any industry, software development teams have found particular success with agile. This is due, in part, to the fact that once software teams understand the fundamental principles, they can begin practicing with little to no overhead. Unlike implementing kanban on a factory floor, which would require changes to physical processes and the addition of significant materials, software teams only need a board and cards, and even those can be virtual.

All kanban teams' work revolves around a kanban board, a tool used to visualize work and optimize the flow of work among the team members. While physical boards are popular among some teams, virtual boards are an essential component of any agile software development tool due to their traceability, ease of collaboration, and accessibility from multiple locations. Whether a team's board is physical or digital, its function is to ensure that the team's work is visualized, their workflow is standardized, and all blockers and dependencies are identified and resolved as soon as possible. A simple kanban board has three stages: To Do, In Progress, and done. However, depending on the size, structure, and objectives of a team, the workflow can be tailored to meet the specific needs of that team. The kanban methodology is based on complete transparency of work and real-time

capacity communication. As a result, the kanban board should be regarded as the single source of truth for the work of the team.

But what is a Kanban card? Kanban literally translates to "visual signal" in Japanese. Every work item is represented on the kanban board by a separate card.

The main reason for representing work as a card on the kanban board is to allow team members to visually track the progress of work through its workflow. Kanban cards include critical information about that specific work item, allowing the entire team to see who is responsible for that item of work, a brief description of the job being done, how long that piece of work is expected to take, and so on. Cards on virtual kanban boards frequently include screenshots and other technical details that are useful to the assignee. Allowing team members to see the status of every work item at any given time, as well as all associated details, ensures increased focus, full traceability, and quick identification of bottlenecks and dependencies.

As was seen in all of the explanations for Scrum methodology and Kanban methodology. All of these methods are applicable to the agile methodology; however, the differences between them are shown in the table below.

Table 1 – Comparison of the Scrum and Kanban methodology

Criteria	Scrum	Kanban
Origin	Software development	Lean manufacturing
Ideology	Learn through experiences, self-organize and prioritize, and reflect on wins and losses to continuously improve.	Use visuals to improve work-in-progress
Cadence	Regular, fixed-length sprints (example two weeks)	Continuous flow
Practices	Sprint planning, sprint, daily scrum, sprint review, sprint retrospective	Visualize the flow of work, limit work-in-progress, manage flow, incorporate feedback loops
Roles	Product owner, scrum master, development team	No required roles

Source: created by author.

3 IMPROVING THE BUSINESS ADMINISTRATION APPROACHES USING THE DIGITAL TOOLS

3.1 Use of the digital tools in business administration

Jira is a project management tool that allows you to organize, discuss, and track work in one location. Our project management software guides teams through each stage of their project's timeline. The tool name is derived from the second and third syllables of the Japanese word Gojira, which means "Godzilla" in Japanese. The name is derived from a nickname given by Atlassian developers to Bugzilla, which was previously used internally for bug tracking [23].

Jira is used for issue tracking and project management by over 180,000 customers in 190 countries, according to Atlassian. Fedora Commons Hibernate, and the Apache Software Foundation, which uses both Jira and Bugzilla, are among the organizations that have used Jira for bug tracking and project management at some point. Jira includes tools for transferring data from competitor Bugzilla.

Jira is available in four different packages:

- Jira Work Management is designed to be used for general project management.
- Jira Software contains the base software as well as agile project management features (previously a separate product: Jira Agile).
- Jira Service Management is aimed at IT operations and business service desks.
- Jira Align is designed to help with strategic product and portfolio management.

The pros of Using Jira.

Jira is ideal for projects of all sizes and comes with a plethora of pre-built templates for various categories, teams, and departments. Its boards are simple to set up and change as needed, thanks to easy Scrum and Kanban board templates to choose from. Needless to say, it can be used for both of these agile frameworks or a combination of the two, such as Scrumban.

Jira also provides a lot of leeway for those who want to tailor it to their specific needs. Workflows can be as simple or as complex as you need to keep things moving. Want even more flexibility? The impressive number of add-ons, plug-ins, and integrations available to extend the app's already exceptional usefulness should satisfy that itch.

Jira's roadmaps are invaluable for setting goals and tracking progress across multiple teams. Jira's time-tested issue-tracking capabilities are another brilliant way to keep track of your progress—essential for software development. This enables teams to quickly identify, assign, and prioritize large tasks as well as smaller issues such as bugs, ensuring that your team always progresses more smoothly. These can be imported or exported from Excel files as well.

Increase the visibility of your project even further with Jira's reporting feature, which allows you to run regular reports to see insights from throughout the project as well as estimates on the work still to be done.

Jira comes in a variety of "flavors" that cater to different teams. Jira Service Management, for helpdesk-based teams, or Jira Work Management, for lower-tech teams, combine Jira's issue-based power with a less intimidating setup curve and additional views, such as a timeline view.

The cons of using Jira.

Outside of Jira Work Management, the learning curve can be steep due to the enormous amount of features, functionality, and customisation Jira has; its

roots as a software development tool can sometimes be seen, despite its wider adoption by non-engineering teams. While teams of ten or fewer members are free, teams larger than this must pay per user.

Trello is a web-based, Kanban-style list-making application developed by Trello Enterprise, an Atlassian subsidiary. Glitch founded it in 2011, and it was spun off to form the basis of a separate company in New York City in 2014. And was acquired by Atlassian in January 2017. Trello derives its name from the word "trellis," which was a code name for the project in its early stages. Fog Creek founder Joel Spolsky announced Trello at a TechCrunch event [24].

The following are the pros of using Trello

Trello's simplicity is ideal for projects that are not overly complex, have short durations, or require less comprehensive project management. In comparison to Asana and Jira, it is difficult for users to overcomplicate things.

This same user-friendliness and ease of use make it a favorite among various types of businesses with a wide range of requirements. It's especially useful for startups because the free version allows for an unlimited number of users. Trello's Butler allows you to easily automate tasks without doing any heavy lifting, making your life easier. There are also free and paid add-ons (called Power-Ups) available to expand Trello's capabilities.

Trello, like Asana, has very high security standards and uses the same level of encryption as banks. Two-factor authentication is also available, allowing you to sleep even better at night.

We've already discussed some of Trello's advantages; now let's look at some of its disadvantages.

Unfortunately, Trello's most powerful asset is also its greatest weakness. If you have more complex projects that require a large amount of work to be done concurrently over a long period of time, Asana or Jira would be a better choice.

Trello's simplicity cannot serve a project as well. As a Kanban board, it cannot provide much support for other types of agile frameworks.

Asana is a web and mobile "work management" platform that assists teams in organizing, tracking, and managing their work. It is produced by the same-named San Francisco-based company [25]. Dustin Moskovitz and Justin Rosenstein founded the company in 2008. The product went on sale in April 2012. Following its direct listing in September 2020, the company was valued at $5.5 billion. The co-founders met at Facebook, where Moskovitz, the company's co-founder and vice president of engineering, and his colleague Rosenstein developed Tasks, a productivity tool. The co-founders left Facebook in 2008 to launch Asana. Asana was released from beta in November 2011 and commercially in April 2012 [26].

The following are the pros of using Asana

Asana's interface is much friendlier than Jira's, with ease of use being a prominent feature. There are numerous management and planning features to delve into, many of which are not available in Jira, such as brainstorming, file management, contact management, content management, calendar management, discussion boards, real-time editing, and more. Because projects can be highly confidential, Asana has extremely stringent security protocols in place for your peace of mind.

Asana is useful for more than just project managers. Because of its bug tracking and fixing capabilities, sprint plants, and product roadmaps, it is appropriate for agile teams of all sizes.

Asana's customization is also superior to Jira's, allowing you to create useful projects, workspaces, tasks, notes, rules, workflows, forms, and tags. There's also a customizable dashboard that intelligently updates itself with real-time data and supports group chats.

We've already discussed some of Asana's advantages; now let's look at some of its disadvantages.

This additional level of tooling that Jira lacks comes at a cost. Asana is more expensive, but its additional features make it worthwhile. It is, however, free for up to 15 users, so it will not be an issue for small teams. It is less focused on agile working than Jira, so teams that use this methodology are more likely to prefer Jira.

Trello is a web-based, Kanban-style list-making application developed by Trello Enterprise, an Atlassian subsidiary. Glitch founded it in 2011, and it was spun off to form the basis of a separate company in New York City in 2014. And was acquired by Atlassian in January 2017. Trello derives its name from the word "trellis," which was a code name for the project in its early stages. Fog Creek founder Joel Spolsky announced Trello at a TechCrunch event [24]

3.2 Use of Trello for project management: a case study

This section, it was discussed the company and how Trello was used to manage it on a daily basis. Trello assisted in keeping track of daily activities and reminded the manager of what he/she needed to do, what is going on, and what was completed on time. With this management tool, it was easy to determine what is and is not required in a business. Trello is a useful management tool that assists many business owners and project managers in streamlining their daily operations [27].

Figure 1 shows a list of activities completed in a business as well as what else needs to be done to improve it.

Trello is an easy-to-use project management tool. It aids in the reduction of day-to-day activities, which aids in the achievement of long-term objectives. The

steps below show how Trello was used and how any business manager can use Trello as a product management tool.

Step 1. To learn more about Trello, YouTube videos were analyzed, and it was discovered that signing up is required in order to open an account. Trello is a very useful tool for many businesses because it simplifies many activities.

Step 2. It was discovered that a board needed to be created after signing up for Trello. A Trello board is a tool for organizing projects and all of their components. A Trello board has several features. For example, on the Trello board, the title "what to do?" was chosen, and what was supposed to be done in the business, such as opening a sports lounge for sports fans, was written under that title. This is referred to as a Trello card under the title. Trello cards are small units that are used to display tasks and ideas. A card can be something that needs to be finished. It was further explained why it was done after the purpose was written on the board. There are many other features on the Trello board that can help to describe your goal for example labels, dates, checklists, attachments and cover.
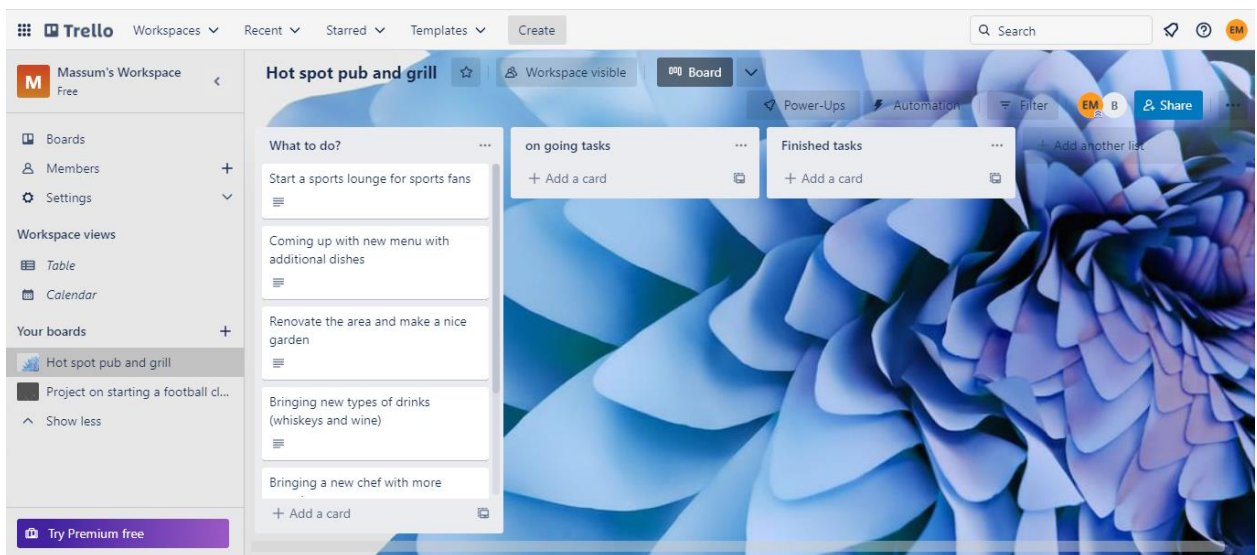

Figure 1 – Trello Kanban board. Source: created by author
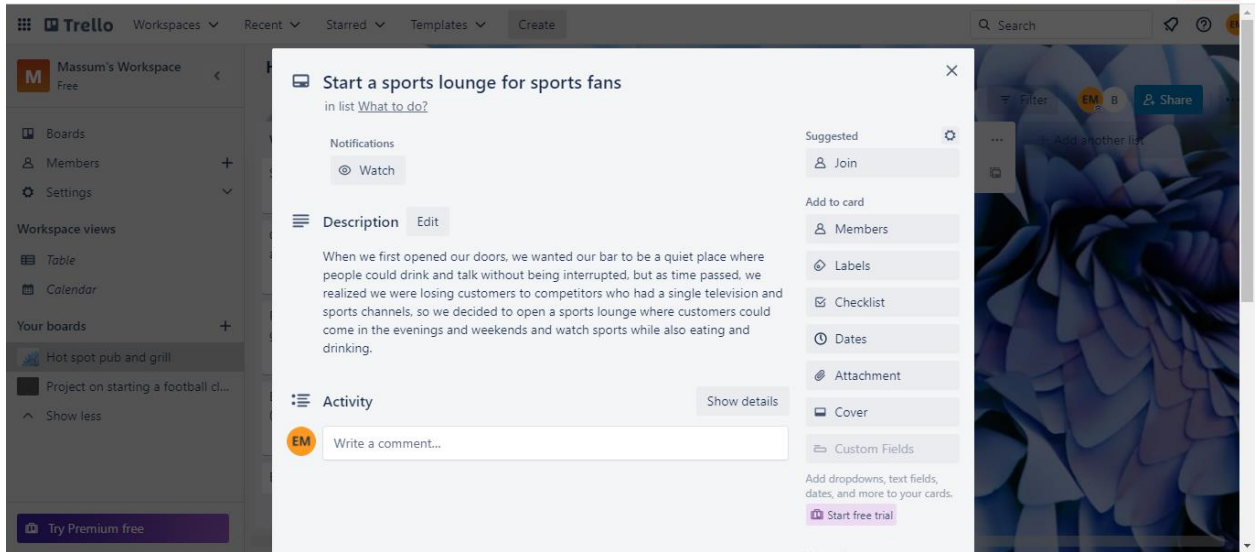
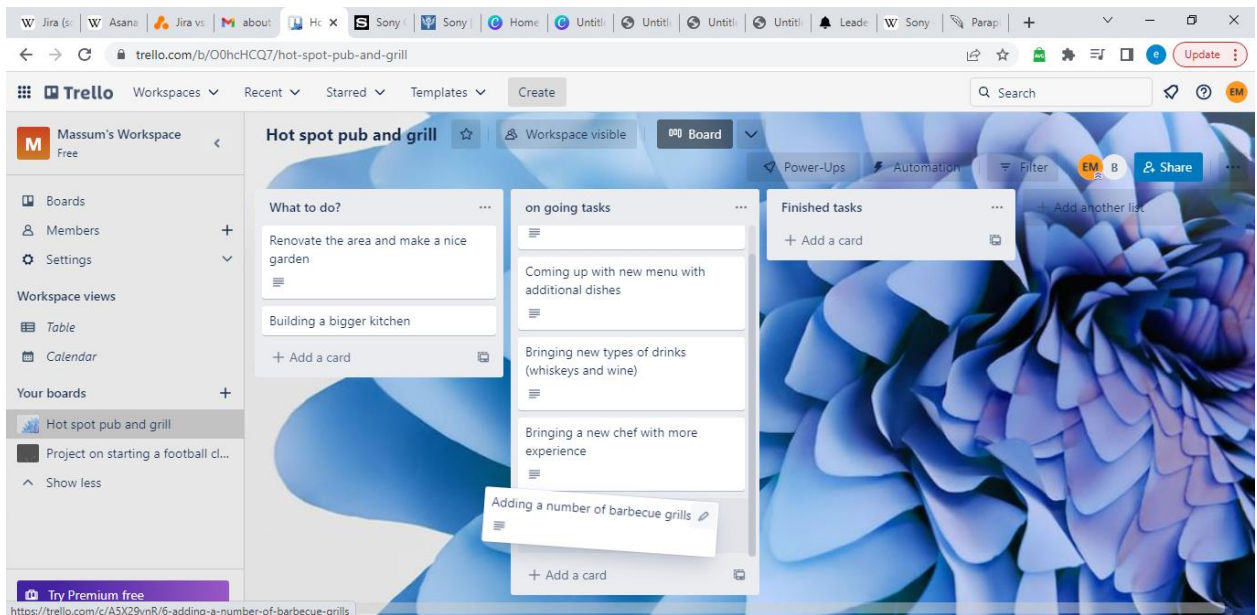Figure 2 – Creating a task. Source: created by author

Figure 3 – Changing a status of a task. Source: created by author

Step 3. After opening a board with various tasks, Trello allows a user to move these tasks from one board to another in order to transfer the task for tracking purposes, which means a user can know what to do and what is an ongoing task after transferring it to another board. For example, a task from the

"what to do" board was dragged to the "ongoing tasks board" to remind the user of what is currently being done.

Step 4. After opening an ongoing task board, a "completed task board" was opened. This board contained all of the completed tasks that the user was still working on from the ongoing task board. That is, this task concludes tasks in the business. For example On the screenshot of a Trello board below, the task that was on the ongoing board was dragged directly to finished tasks (completed tasks) to show that this task is done and complete.
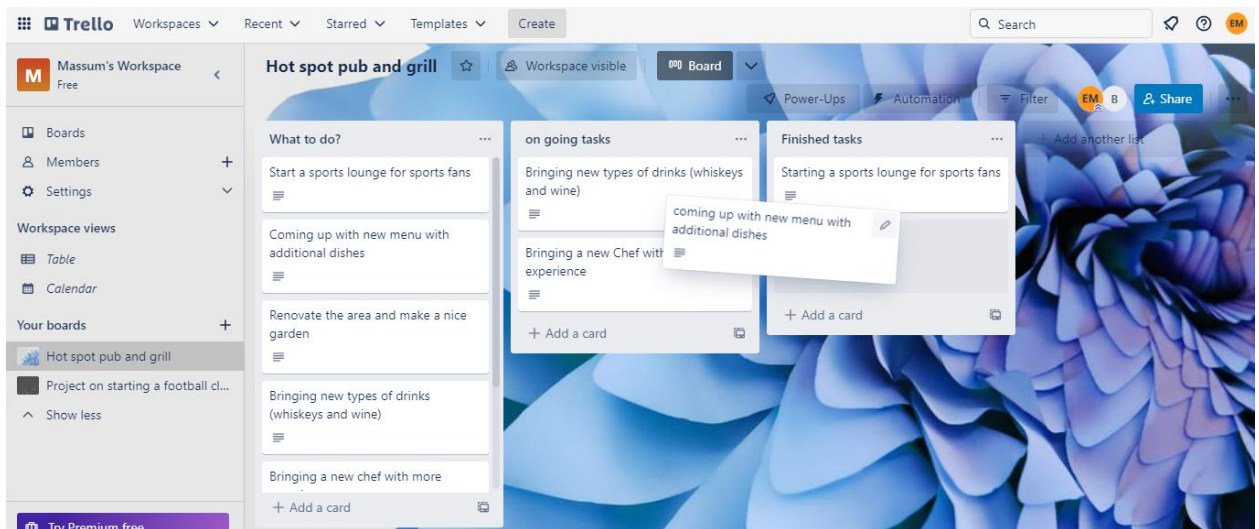
Figure 4 – Changing a task status to "Completed". Source: created by author

Step 5. After all of those steps that help to manage a business and track activities, there was one more thing that was needed to be done, and that was to invite members to the Trello board. Inviting members is a critical step in the business management process, particularly when using Trello. Members can comment on your tasks, which means they can be close friends, coworkers, mentors, or even customers, and the goal of inviting these members is to ensure they comment on your task description and offer advice on what to add and

possibly eliminate in your business. For example, it was seen that Professor Bohdan was invited because he is a teacher he can help with advice and also because he has extensive experience and knowledge in business management, as well as other business men/women. Even if you can make your Trello private, it is important to add members because they can be of assistance through constructive criticism and knowledge addition. The screenshots below show how a member is invited, as well as a number of members who have been invited to the Trello workspace.
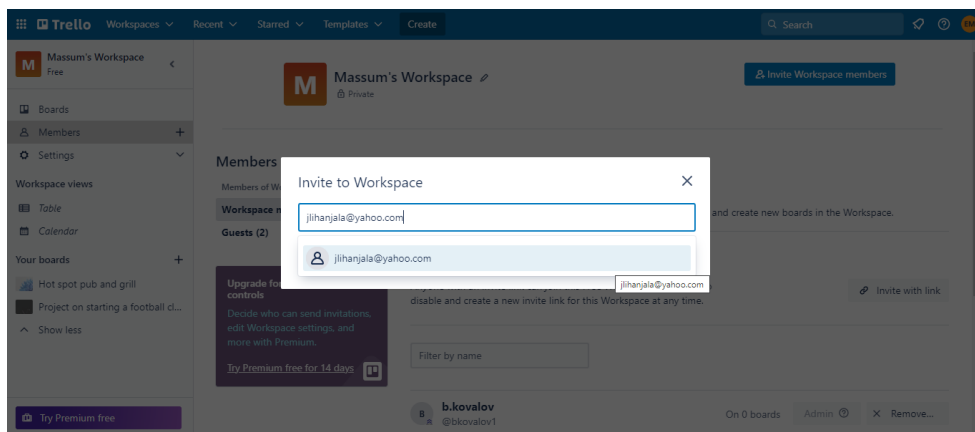

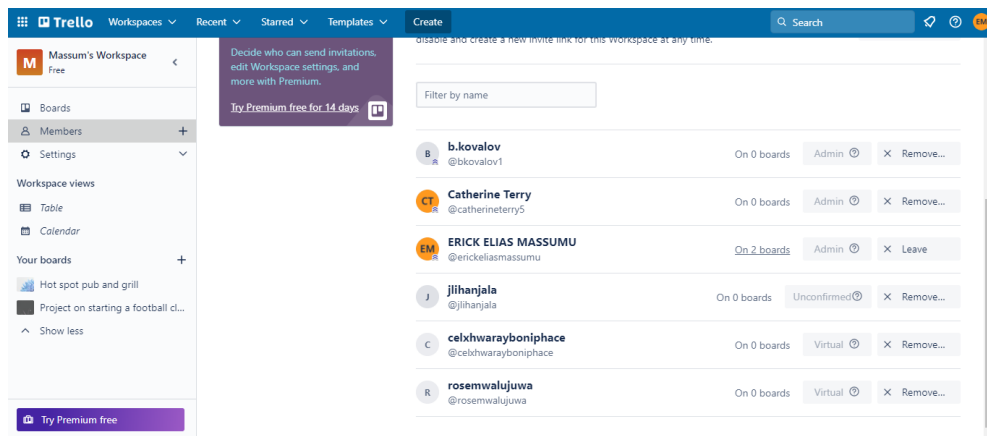Figure 6 – Inviting of teammates to a project workspace. Source: created by author

Figure 7 – List of teammates. Source: created by author

3.3 Use of business management tools in a local business: case study of Tanzania

Data was collected using objective questions with the goal of observing how task management system is useful to small business owners in Tanzania. After it was observed how Trello was created and how useful it was in a business. It was time to see the views of a sample of small scale businessmen who use these task management systems such as Trello, Asana, Jira, and others. These questions focused on various topics, such as the company's business area and what the company sells. What method of task management was used? Was the task management system effective? These questions were thoroughly explained and analyzed using graphs based on the statistics in each question. Tanzania was chosen as the source of these samples [28].
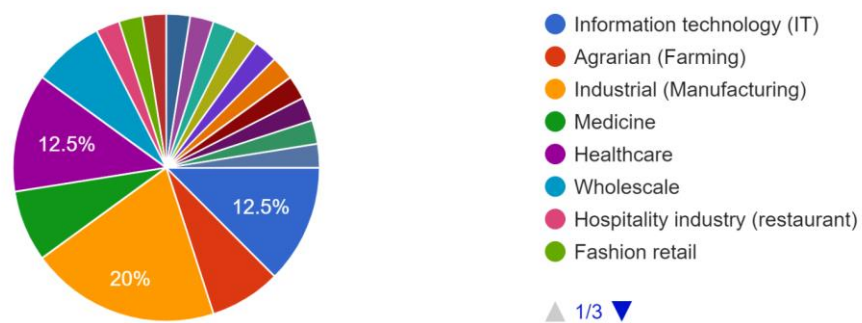
The following questions were examined:

Figure 8 – Business area of a company. Source: created by author

In this question, it was determined that there were various types of business areas, as indicated on the top right of the chart. The industrial (manufacturing) of various products employed 20% of Tanzanian business personnel; this was the highest number of people involved in a specific business. It was followed by healthcare at 12.5% and information technology at 12.5%, indicating which business dominates in Tanzania, particularly for small business owners. Because Tanzania relies more on agriculture and manufacturing, it was suggested that the government provide more loans to small businessmen and encourage them to do more manufacturing and agrarian business in order to increase the production and sales of these goods in quantity for internal use and exportation.

Does the company sell goods or provide the services?
40 responses

- Manufacture and sell goods
- Resell goods
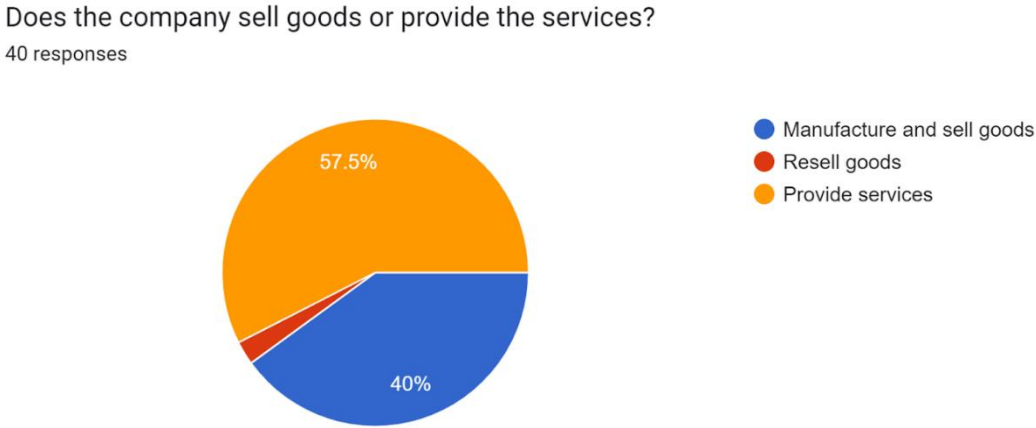- Provide services

57.5%

40%

Figure 9 – Type of business activities. Source: created by author

In this question, it was determined that small businesses that provide services dominated with 57.5%, while small businesses that manufacture and sell goods came in second with 40%. This shows that industries such as information technology, healthcare, and hospitality have dominated compared to small businesses that sell products such as manufacturing, medicine, and fashion retail.

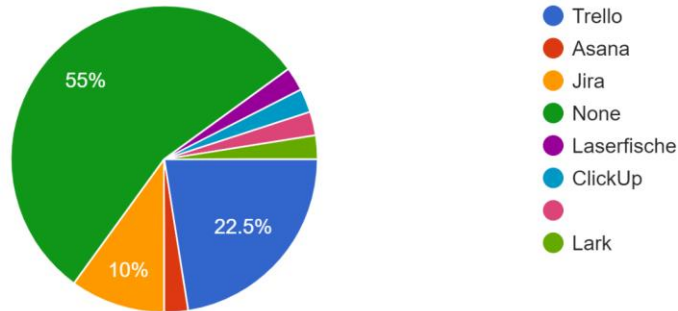What task management systems are used in your company?
40 responses

Figure 10 – The types of task management system used in the company.

Source: created by author

Trello, Asana, and Jira were the three task management systems mentioned in the question, but some others were added by respondents. In this question, it was discovered that people who do not use any of these task management systems dominated with 55%, followed by Trello users with 22.5% and Jira users with 10%. The remaining 12.5% went to other task management systems like laserfische, Click up, Lark, and others. This reflects the fact that many small business owners in Tanzania are unaware of these task management systems and are forced to manage their activities on their own. It is believed that more education should be provided on how to use these task management tools, particularly in universities, so that knowledge can be widely disseminated from many intellectuals to people who have no understanding of it.

Do you agree that this task management system improves the business management of your company?
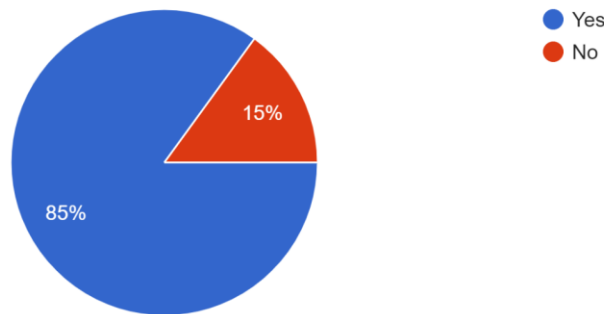
40 responses

● Yes
● No

Figure 11 – Results of the self-assessment of use of the task management systems. Source: created by author

In the final question, it was discussed whether the task management system used by these small business owners was helpful in improving their business management or not, and the majority of them answered "Yes," with 85% agreeing and 15% disagreeing. This demonstrates that, even in a country like Tanzania, where the majority of businessmen do not use task management systems, but still there those who do find them useful. It was suggested that more people be made aware of these management tools in order to help them improve their business management.

CONCLUSIONS

The purpose of this study was to improve business administration approaches in the context of digital transformation. Based on this master's thesis, it is possible to conclude that improving business administration approaches in digital transformation is beneficial to various types of businesses. It simplifies management and allows for easy tracking of various business activities. Companies can reduce labor power and use digital tools to get the job done with fewer employees instead of a large number of people. It was discovered that administration approaches in the context of digital transformation are the best approaches to take in order to improve a business's performance.

The thesis was chosen so that people could learn how business management can be improved to produce better results in a company by utilizing digital platforms. Business management in and of itself is an act to ensure that the business does not fall apart and stays on track, but adding up the digital transformation and using various digital tools in business management gets better by the day.

Furthermore, it was determined that there are various methodological approaches to business administration, and these approaches are systematic ways that show the way a business is supposed to be run. For example, in waterfall methodology, a business must have a sequential development process through the phases of the business, similar to waterfall. However, the agile methodology also includes a project management method that divides a project into phases. Continuous collaboration with stakeholders is required, as is a continuous improvement at each stage. The project can change quickly and responsively with this methodology.

Finally, the thesis expected to see how Tanzania, as a case study, uses these digital management tools in various businesses and how it improves the business in

general. A Google survey form was distributed to managers of various businesses in various parts of the country. And the results revealed that a greater percentage of business managers did not use these digital tools to conduct and improve their businesses; instead, they used manual methods of conducting their businesses, and the majority of these business managers were unaware of these digital tools that could make their daily activities easier. However, Trello and Jira, followed by the percentage of usage in various businesses in Tanzania, have proven to be successful.

Based on the findings of this study, practitioners should consider other digital tools for business management and how they can be used in Tanzania or their country of origin. Additionally, the Tanzanian government should provide a course in universities for business students on how to use different digital tools in managing a business or a specific project to raise awareness among most upcoming businessmen, which most businessmen do not have in the country right now.

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