

THE EFFICIENCY OF PROJECT MANAGEMENT IN IT INDUSTRY IN ROMANIA

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ABSTRACT

Due to the digitization of the companies, the complexity of the IT projects has increased. The term "IT projects" usually refers to large and elaborate projects that take longer to be completed. They also have a lot of phases and are usually harder to deliver. This paper aims to study the various aspects of project management in the IT industry in Romania and how it can help to improve the success of these complex projects. In addition to focusing on the major IT projects, this paper also covers the various aspects of project management. The main objective of this paper is to find how project management helps in the success and deliverability of IT projects. A basic understanding of the project management process will be required since it's used on a daily basis by those who are actively engaged in these IT projects. Having the right tools and resources is very important to ensure that the projects are completed successfully. A systematic literature review has been followed to select out the appropriate existing aspects of the project management in the IT industry in Romania.

KEYWORDS: *agile, efficiency, IT projects, project management, software.*

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1. INTRODUCTION

The rapid pace of technology has drastically changed the way the business world is conducted. Due to the increasing complexity of the tasks and the various crises that occurred during the global expansion, such as the banking crisis of 2001 or mortgage one in 2007, many companies are now faced with the challenge of maintaining their market share and providing the best possible service, adopting new management methods and philosophies. The rapid growth of international trade has resulted in the need for more sophisticated management strategies and procedures.

Another important aspect is that most business leaders are expected to focus on post-pandemic growth. Instead, they are now also grappling with the threat of recession and the impact of persistent inflation along with the challenges of digital skills and supply chain management.

Despite the uncertainty of the future, many business leaders still need to identify and implement strategies and initiatives to improve their company's performance.

Technology is a vital part of any organisation's operations, and it should be used to its fullest potential. This is why it is important that they continuously develop and implement effective IT solutions. Even though the size of their company and the country they are operating in are not the same, many IT projects are carried out every year to provide each organisation with competitive advantages.

Having these new approaches taken into consideration, companies are forced to rely more and more on digitalization and develop effective strategies and procedures. This will allow them to continue

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developing their products and services. One of the most important factors that a company can consider when it comes to implementing its IT projects is the management and the efficiency of these projects. These processes can help minimise the risk of failure and ensure that the project is completed on time and on budget, meeting the business objectives, and improve the efficiency of their project at the same time. Modern IT Project management tools make it easier for companies to manage their large projects.

In this article, we'll explore some of the most popular project management methods and how efficient they are in the IT industry in Romania.

The Romanian IT industry is one of the most efficient and effective. The country has a strong track record in delivering successful projects. Romania is home to some of the world's leading IT companies, such as Microsoft, Oracle, IBM, and SAP. These companies have invested heavily in the country's infrastructure and human resources, and they are reaping the benefits of a well-educated workforce and a business-friendly environment.

The Romanian government has also been supportive of the IT industry, with a number of initiatives aimed at making the country an attractive destination for foreign investors. As a result, Romania has become one of the leading destinations for outsourcing in Europe.

The combination of a skilled workforce, favourable government policies, and a business-friendly environment has made Romania an attractive destination for foreign investors and a leading player in the global IT industry.

2. METHODOLOGY

As Marinescu and Cicea (2018) are stating, there are two categories of bibliometric analyses:

- "bibliometric analyses which aim is to study a particular concept throughout time or its development in accordance with other specific term";
- "bibliometric analyses applied on articles published by journals or in conference proceedings".

This paper aims to provide a systematic literature review to select out the appropriate existing aspects of scientific research to highlight the importance of collaboration, helping to promote the dissemination of scientific results.

The terms efficiency and project management were used in the search engines to find the most relevant scientific papers. These terms were also included in the paper's keywords and title.

3. PROJECT MANAGEMENT IN IT INDUSTRY IN ROMANIA

3.1 Key concepts

Information Technologies (IT) is crucial in helping companies when it comes to sustainability and also the development of the organisation. Projects are a great way of structuring the various activities needed to improve and support the technology. An IT project can be defined as a temporary endeavour undertaken to create a unique product, service, or result, (PMI, 2017) such as the development of a company website, a software application, setting up of a network, the migration of a database, the improvement of any IT infrastructure, etc.

IT project management is a process that involves planning, scheduling, implementation and monitoring the various activities related to an organisation's IT projects. While IT is typically the focus of most companies, it is also a component of many other industries.

Although there are many project management techniques that can be used to prevent problems, none of them can completely solve every project. Instead, they can be tailored to specific requirements and implemented in a way that will allow them to effectively manage the project. The most common reason why project methodologies are used is because they affect the entire process of project management. Each phase of a project has its own set of tasks and activities that are designed to take place in a specific manner.

The various project methodologies affect the entire process of project management. They can be used to create a variety of measures and actions that are designed to improve the efficiency of the project.

There are two main methods that are commonly used in project management: the waterfall method and the agile method. The traditional method of project management is known as the waterfall method, which is a more document-centric approach that follows a predefined sequence of steps. On the other hand, the agile method is more flexible and allows companies to adopt a more iterative process.

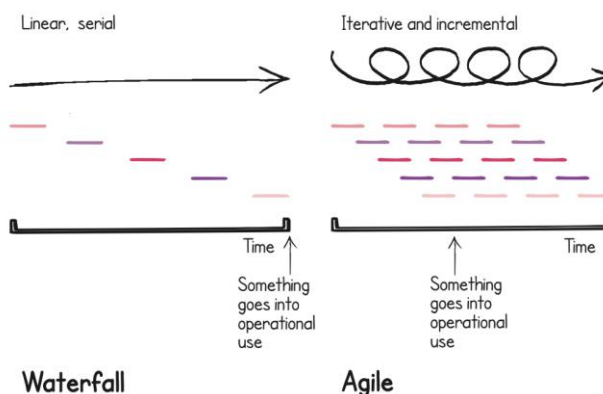


Figure 1. The contrast between waterfall and agile phases

Source: Prince2 Agile (2018, p. 9)

The term agile was first introduced in 2001 (www.agilemanifesto.org) by a group of independent software developers to describe an alternative to the traditional process of project management, and was designed to help companies avoid the complexity of their projects by developing a more efficient and effective approach. Since 2001, the concept of agile has changed a lot, as it now includes situations that are complex and involve different types of activities. Although it is still not widely used in all organisations, it is important that every company has a strategy in place to adopt it. For many years, the term agile was regarded as a niche area, but it has now become a mainstream practice.

The most adopted agile methodology is Scrum (Schwaber & Sutherland, 2017). Scrum is an Agile project management method. The names in Scrum are chosen in such a way that you realise that Scrum is something different from other project methodologies. Scrum is an iterative and incremental process that offers an advantage where requirements change rapidly. At the end of each iteration, the project team produces a product (software) with a partial set of functionalities (called increment), but which can be delivered to the customer.

Project managers are responsible for various key areas of a project. These responsibilities are tied directly to the project's methodology.

According to Charvat (2003), project managers are responsible for ensuring that the project is approved by the appropriate authorities, that the necessary resources are allocated, and that the project is planned to meet the requirements of the business. They also monitor the project's progress and quality to ensure the project is on track. Project managers also provide the necessary reports and leadership to the team and ensure that the project's goals are met.

3.2 The growth of IT industry in Romania

Whether we are discussing the development priorities of public services or the business environment, employment opportunities for highly qualified human capital (students, employees), foreign market demand or topics of interest for foreign investors, digitization remains undoubtedly a constant and a basic premise for the future evolution of the economy. However, more than 20 years

ago, the software and IT services industry was only a niche economic branch with strong potential for development. Thus, at the beginning of the 2000s, this industry received a vote of confidence from the political decision-makers by assuming a fiscal stimulus, more precisely the exemption of directly productive employees from paying income tax from wages. From then until now, the IT industry has followed a strongly upward growth trajectory, with an increasingly visible footprint in the Romanian economy.

If at a qualitative level, the studies and sectoral reports circulated in the public space tend to recognize the economic importance of the software and IT services industry, at a quantitative level, the achievements recorded by this industry show a pronounced variability between different studies. Moreover, in recent years, both the magnitude of the industry's footprint in the Romanian economy and the budgetary impact associated with the fiscal incentive for highly qualified human capital engaged in software production activities, have been the subject of contradictory debates.

In this direction, the Employers' Association of the Software and Services Industry (ANIS, 2021) comes with a Study on the impact of the software and IT services industry in the Romanian economy.

In the last 5 years, the software and IT services industry has grown almost 3 times faster than the national economy. Every €10 of gross value added created directly by the software and IT services industry contributes with another €5 to the national economy through indirect and induced impact.

Approximately 270 thousand employees supported in total by the software and IT services industry are enough to cover all the employees who exist, on average, at the level of two counties in Romania. Every 10 employees in the software and IT services industry supports another 10.5 jobs in the rest of the Romanian economy.

The software and IT services industry recorded in the period 2015-2020 the highest growth rate in the number of employees compared to other industries in Romania, being in the Top 5 employing industries. IT services have the second largest contribution to Romania's total service exports (first being the transport) – The negative balance of the current account would be 25% higher without the contribution of IT services.

All these elements make the software and IT services industry an important contributor to the labour market in Romania and an industry with significant growth potential in the future.

The IT industry in Romania is growing really fast, and with that growth comes the need for a more efficient project management. Project managers in the IT industry have to be able to juggle a lot of different areas - they need to be able to keep track of deadlines, budget restrictions, and the ever-changing needs of their clients. Fortunately, there are a few project management techniques that can help make things run more smoothly.

3.3 The role and the benefits of project management in the IT industry

Project management is a critical function in the IT industry. It ensures that projects are completed on time and within budget and scope. It also helps to coordinate the activities of all the different teams involved in a project.

The involvement of project management has turned out to be even more important in recent years as the IT industry has become more complex. With the rise of new technologies, there are more moving parts to manage and coordinating all these different elements can be a challenge.

That is where project managers come in. A good project manager will have a strong understanding of all the different aspects of a project and be able to keep everything on track. They will also be able to communicate effectively with all the team members and stakeholders involved.

Also, due to the increasing popularity of agile project management techniques, research has shown that many successful projects are being carried out due to the method's flexibility and ability to allow changes to be made at any time (Schatz & Abdelschafi, 2005). One of the main advantages of this type of project management is that it allows the team to continuously evaluate the project's results. Unlike the traditional method of project management, agile methods are not focused on

comparing the project's progress with the original plan. Instead, it is designed to provide the necessary information to help the team make informed decisions regarding the project's future (Schwaber, 2004). This type of project management is commonly used in software development as it allows the team to deliver a complete package at the end of every cycle.

Having these said, project management is essential for the success of any IT project. It helps to ensure that all the different pieces come together smoothly and that the final product meets all the requirements. The benefits of project management in the IT industry are manifold. By coordinating and managing different aspects of an IT project, from conception to delivery, a project manager can ensure that a project is completed on time, within budget, and to the required specification.

In addition, effective project management can help to improve communication and collaboration between different team members, fostering a more cohesive working environment. By streamlining processes and procedures, a project manager can also help to improve overall efficiency and productivity within an IT organisation.

Finally, by implementing best practices in project management, an IT organisation can improve its chances of success when delivering complex projects. In today's competitive marketplace, the ability to successfully deliver complex IT projects can be a major differentiator for businesses.

3.4 The challenges of project management in the IT industry

The IT industry is constantly evolving and changing, which can make project management a challenge. There are new technologies and trends emerging all the time, which can make it difficult to keep up with the latest developments. Additionally, the IT industry is globalised and projects often span multiple time zones, which can make coordination and communication challenging.

Another extremely important challenge of project management in the IT industry is dealing with employee turnover. Due to the high demand for skilled IT workers, employees often change jobs frequently. This can make it difficult to maintain continuity on a project, as well as build long-term relationships with team members. The quality of a project depends on the availability of its resources. In order to effectively carry out their duties, project managers must ensure that the resources they have are adequately allocated. Unfortunately, this can happen when they try to cut expenses in order to fund the project (Ogunde et al., 2017). The lack of resources can affect the project's delivery and cause it to fail before the deadline. This can also lead to the failure of the whole project, as well as waste of the time and resources. In addition to this, it can affect the efficiency of the project by making it difficult to implement effective strategies.

One of the most effective ways to avoid this issue is by having a clear understanding of the project's needs and requirements, which can be easily obtained through the approval process. This can help minimise the risk of delays and ensure that the resources are well-positioned during the project's development. Another good way to reduce the cost of the project is by reusing and recycling the materials.

Finally, budget constraints are always a challenge in any industry, but can be particularly challenging in the IT industry where technology costs can be high. Project managers need to be creative in how they allocate resources and find ways to get the most out of their budgets.

3.5 How to overcome the challenges of project management in the IT industry

In today's business world, the IT industry is one of the most rapidly changing and complex industries. As a result, project management in the IT industry can be challenging. Here are some tips on how to overcome the challenges of project management in the IT industry:

- Understand the nature of the IT industry: the IT industry is constantly changing, which can make it difficult to keep up with new technologies and trends. It's important to stay up-to-date on changes in the IT industry so you can be prepared for anything that might come up during a project.

- Have a clear vision for your project: when managing a project in the IT industry, it's important to have a clear vision for what you want to achieve. This will help you stay focused and on track when things get chaotic.
- Build a strong team of experts: one of the keys to successful project management in the IT industry is to build a strong team of experts who can help you navigate through complex projects. Make sure to choose team members who are knowledgeable about different aspects of the IT industry so they can offer valuable insights throughout the project.
- Be prepared for changes: since the IT industry is constantly changing, you need to be prepared for changes that might occur during a project. Anticipate potential problems and have contingency plans in place so you can quickly adapt if something unexpected comes up.
- Stay flexible

4. CONCLUSIONS

The complexity of information technology projects is a high risk that companies face. Due to the various factors that affect the development and implementation of new technology, it is important that the project managers are constantly looking for ways to minimise the risk of errors and improve the efficiency of their projects. This can be done through the use of effective strategies and procedures.

The ability to manage projects efficiently is very important for any organisation as it allows them to achieve their goals and objectives while using the available resources. Before implementing this method, a project manager must first understand the various constraints that affect the project's efficiency. These include resources, the scope of the project, quality of the work, cost, and time. These factors can affect the efficiency of a project, which is why it is important that the agile project management team is aware of these issues before they start a project. With the help of agile project management, a team can improve its efficiency by ensuring that the project is on track, has the necessary resources, and is on budget. There are also many factors that can affect the efficiency of a project, such as the scope changes that could lead to the project's off-course, poor communication, un-defined goals, and inadequate resources. A project manager should always be aware of these issues before they start a project, and they should take immediate action to address them.

Project management is a critical component of the IT industry in Romania. Implementing these best practices, the IT industry in Romania can continue to grow and thrive.

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