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أولا بيانات الطالب (تملاً بمعرفة الطالب)

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رقم الموضوع (إن وجد): 3

ثالثاً تقييم البحث بمعرفة لجنة الممتحنين

هل البحث منقول؟ ☐ نعم ☐ لا

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2	يحقق المتطلبات العلمية المطلوبة	70		
3	يذكر المصادر والمراجع العلمية	10		
4	الصياغة اللغوية واسلوب الكتابة جيد	10		

رابعا نتيجة التقييم النهائي

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**Faculty of Computers &  
Informatics**



**Zagazig University**

## **Methodologies of Project Management**

*A research project submitted  
in partial fulfillment of the requirements for passing  
the 2<sup>nd</sup> semester 2020 evaluation*

**In**

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**by**

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## **1. Abstract**

Project management is a practice that is growing rapidly as businesses are expanding worldwide, both nationally and globally. With a view to effectively introducing modern approaches, companies are confronted with the option of project managers to incorporate creative goods, programs, applications, and processes in order to achieve a strategic advantage in the sector. But it's not enough to literally pick a band. Managers are confronted with the use of innovative capabilities to deliver quality outcomes in record time. Project management methodologies have been developed over the last century to help organizations consider all the essential components of a project and implement processes to improve existing systems or market new products or services. A literature review that discusses some of the most relevant project management methodologies may help project managers make evidence-based choices on the advantages of a successful project management approach and choose the project management methodology that better matches the goals and priorities that they try to accomplish.

## **2. Introduction**

The history of project management starts with the conception of the term project. Although companies rely on creating goods and services for their clients in their day-to-day company, there are occasions where they participate in a temporary task to check the feasibility of a new concept to decide if it will be beneficial to the agency or entity. The initiative does not run forever, but rather has time limits and focuses on creating a commodity, function, program, or outcome that is unique to the company. The individuality of a project varies from a plan that will run forever, or a portfolio that is a series of programs. This uniqueness captivated the pioneer in project management, Henry Gantt, an engineer at the turn of the twentieth century. Gantt led the way in inventing tools to

facilitate his team of engineers as they managed projects and contacted big corporations such as Westinghouse, Canadian Pacific Railways, and Union Typewriter. Gantt's most prominent invention was the Gantt map, which started with a day-to-day progress chart representing the everyday job cycle. This map was key to a transition in the preparation process. Rather of quantities, the map concentrated on time and description. The graphic, although remarkably basic, was totally groundbreaking for the time span. Gantt's work has led many other engineers and managers to examine projects in a completely new light, centered around timeliness, attention to detail, and productivity, and how these components can be captured on a large scale. The idea of project management was in full flow and executives followed effective project management techniques to give their companies a strategic advantage in the industry while evaluating potential opportunities. Unlike in the middle to late twentieth century, where projects were growing and new to the organizational landscape, Edmonds argues that it is virtually impossible to find a business today where no projects are being used.

Project management is now an increasingly increasing area and is characterized as the ability to identify an objective, prepare to accomplish it, and then implement a plan with commitment and control. If performing every mission, whether immediate or continuing, experts accept that the concept of the ultimate goal is crucial to accomplishment and that it is only realistic to formulate a strategy to get from start to finish. However, for temporary projects, it is much more critical that the time expended on the initiative is utilized in the most productive way, because this saves the company fewer funds and energy dedicated to the services needed by the mission. Since Gantt, managers have become more committed to project management skills and associations have been established to help project management professionals understand the global standards that make project management successful in today's businesses.

### 3. Content

#### **Project Management Methodologies:**

The project management approach is a collection of concepts and procedures that direct you in the organization of your projects to ensure their optimal efficiency. It's essentially a system that lets you handle your project in the best possible way. Project management is so important to organizations and teams, but in order to be effective, you need to ensure that your project management methodology is correctly mapped to your team type, project, organization, and objectives.

No two tasks are precisely the same, so it makes sense that there is no one-size-fits-all solution to project management as you take in the various priorities so development processes of not only specific styles of teams but also various types of industries. What works best for one type of team could be a complete nightmare for another.

So that there are so many different project management methodologies like:

#### ***1. Waterfall methodology:***

Waterfall is a traditional approach to project management. The tasks and phases are completed in a linear, sequential manner, and each stage of the project must be completed before the next stage begins. Like a real waterfall, however, this may easily turn deadly. Since everything is mapped out at the beginning, there's a lot of room for error if expectations don't match reality. And there's no way to go back to the previous stage once it's over. There's no pleasure running toward the waterfall.

## ***2. Agile methodology:***

The agile project management methodology stemmed from a growing dissatisfaction with the linear approach of traditional project management methodologies. Frustrated by the drawbacks of project management approaches that could not be tailored to the project as it advanced, the emphasis started to move to more iterative models that enabled teams to update their project if required during the process, instead of trying to wait for the end to revisit and modify.

## ***3. Scrum methodology:***

Scrum is a kind of agile project management. You can think of it more as a framework than as a project management methodology in itself. With Scrum, research is split into brief periods known as sprints, which typically last around 1-2 weeks. Work is taken from the backlog for each iteration of the sprint, The small teams will be guided by the Scrum Master-who is not the same as the project manager for the length of the sprint, during which they will assess their results in a sprint evaluation and make the required improvements before beginning the next sprint.

## ***4. Kanban methodology:***

Kanban is another method of agile project management. Originating from the manufacturing sector, the term kanban has evolved to denote a framework in which tasks are visually represented as they progress through columns on a kanban board. Work is drawn from the predefined backlog on a continuous basis as the team has the capacity to move through the columns on the board, with each column representing the stage of the process.

### **5. Prince2 methodology:**

The PRINCE2 project management methodology refers to Projects IN Controlled Environments 2012 and was founded in 1989. It is the project management framework for the UK Government's IT ventures, but it is also commonly used in both the public and private sectors. Prince2 is defined as a systematic approach to project management and focuses on eight hallmark strategies for effective project management and control.

### **6. Six Sigma methodology:**

The technique is better defined by researchers as a data-driven organized problem-solving methodology for tackling persistent market issues. Six Sigma is recognized and utilized by companies across the globe because of its effectiveness in helping them achieve a comparative edge in their sectors. Six Sigma 's objectives are tenfold: to improve customer satisfaction, to gain process knowledge, to reduce defects, to improve yields, to achieve higher operating incomes, to target Six Sigma standards, to improve process capability, to defeat the competition, to gain market share and to bring about continuous improvement. The approach is very systematic and has been revised several times.

### **Selecting the Right Project Management Methodology:**

The right project management methodology can enhance your project and help the project manager to get the best out of each team. If you choose agile approaches preferred in IT project management or more conventional waterfall project management and critical route approach employed in building and manufacturing, there is a project management technique for each squad.



However, whatever methodology you use, you need a collaborative, flexible, and easy-to-use project management tool to support every step of the way.

Choosing a project management tool that supports multiple methodologies means that every team in your organization has the freedom to work the way they work without sacrificing features or complexity.

## 4. Conclusion

Project management methodologies will only continue to develop in the global marketplace. Project managers must, therefore, have a thorough understanding of the needs of their clients, their current processes, and the techniques that can help them improve their processes for competitive advantage in today's world.

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