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## An appraisal of agile DSDM approach

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### ABSTRACT

*In current generations, software development has been the biggest problem while developing large-scale applications considering the resourced and dynamic changes of client requirement. Scrum software development, when moving forward took the written format as the agile framework was introduced to overcome the problems caused by the conventional software development life cycle (SDLC). Considering the limitations in Business Process (BP) and Xtreme Programming (XP) this paper will focus on Dynamic System Development methodologies (DSDM) which will help to develop the software at a regular pace accepting dynamic changes in client requirements which will help to better planning, optimizing costs, managing, executing and scaling agile process and iterative software development projects.*

**Keywords:** Agile, Software development, Scrum, DSDM, Short-Term Goals.

### 1. INTRODUCTION

In recent years, software is running the real world at a rapid pace and the major challenge arrives to deliver the software with increase in demand at point which the conventional SDLC methods are not compatible with rapid stride, because of which the agile framework is born with a ladder mechanism dividing the tasks into smaller pieces making it feasible to deliver at regular intervals.

In the past decades, significant changes took place in software development methodologies to improve software quality welcoming rapid changes in place. Agile is more process driven framework which encompasses various methodologies includes XP and DSDM. DSDM is a generic approach for a wide range of projects which follows iterative and incremental approach.

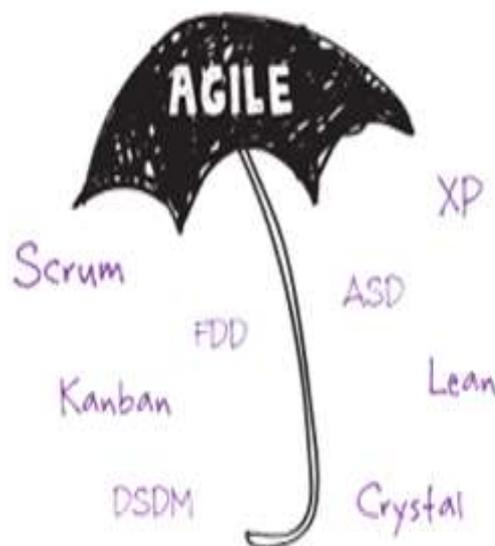


Figure 1 Agile framework and its varied methodologies

## 2. LITERATURE REVIEW

Agile is defined well with respect to agile principles and methodologies about their incremental model, quality focus, by Surbhi and Ritesh [1] with a set of problems about success factors of agile, lean development method and the combination of agile with traditional plan-based methods.

Mike McLaughlin [2] has given a brief note about a different type of agile framework methodologies and much about scrum management techniques with different management practices, which sustained with the problems of resource management and understandability of scope of project and budget management. DSDM atern was introduced in agile with 8 independent principles with the incremental delivery approach. In this approach, agile framework include DSDM atern for better delivery of working modules of software. DSDM is costly to implement considering the training and resource involvement and not feasible to small-scale projects and applications so it is better to have short-term goals, feasible deadlines.

## 3. DSDM

Following are approaches and principles:

### 3.1 DSDM Approach

This is an abstraction of DSDM atern which complements agile framework methodology. DSDM is addressed to overcome the common problems such as late delivery, over cost. This approach is evolved through RAD application development methodology and mainly based on nine key principles. The DSDM approach will concentrate much on strategic goals, incremental delivery, while keeping control of time, cost, risk, and quality. DSDM has three sequential phases pre-project, lifecycle, and post-project.

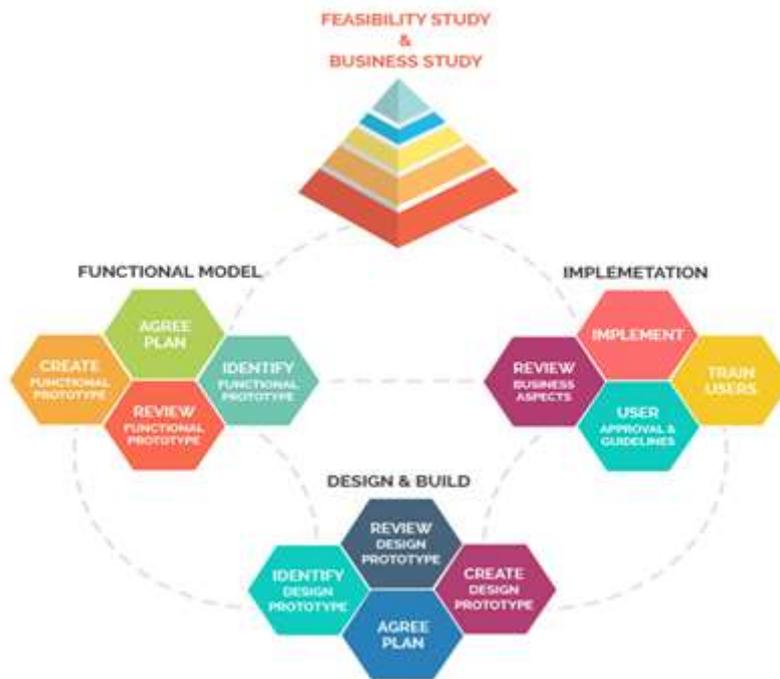


Figure 2 DSDM approach

### 3.2 DSDM atern principles

There are eight principles underpinning DSDM Atern. These principles direct the team in the attitude they must take and the mindset they must adopt to deliver consistently focus on the business need. Decisions taken should be viewed from project goal, to deliver based on the business needs, time and should be intact with the end goal. To full fill this principle, teams need to understand the priorities and commitment thorough the project.

#### 3.2.1. Deliver on time

As agile followed DSDM is based on the iterative approach, delivering and working module on time is an expected outcome of the project. To achieve this team needs to concentrate on hitting the deadlines and shorter sprints with 2-4 weeks of timeframe to deliver an impactable solution.

#### 3.2.2. Collaborate

The team needs to work together to deliver or outperform those which works in individuals, as collaboration increases greater speed, quality and shared ownership. The scrum master is responsible for better collaboration between team and product owner.

### 3.2.3. Never compromise quality

If the story meets its acceptance, then the solutions is good enough. The quality should not be less as compromised at the start. A minimum usable solution needs to be provided on every iteration which will be subset of actual end goal.

### 3.2.4. Build incrementally from firm foundations

Delivering a basic working model in the given time will encourages stake holder confidence on subsequent releases and understanding the scope of business problem and scope of proposed solution. To achieve best working base model best design is needed which internally requires feasibility and scalability. for the providing a door for change of requirements and improvisations of existing modules.

### 3.2.5. Develop iteratively

It is exceedingly rare anything is built perfectly for the first time in current fast-growing world where always new challenge is inevitable. DSDM allows the happening change with iterative incremental model improvising of existing modules.

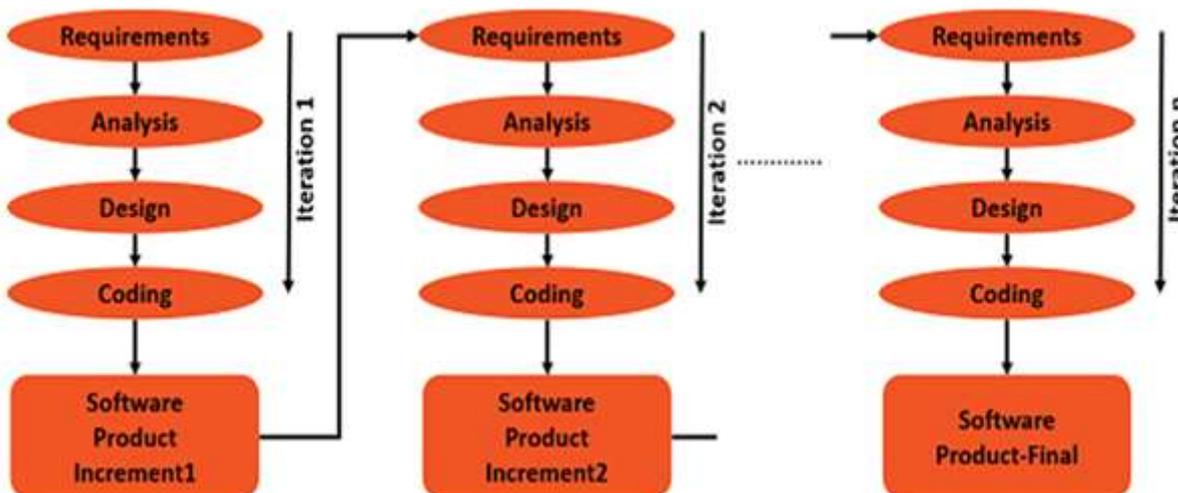


Figure 3 Iterative implementation towards final product

### 3.2.6. Communicate continuously and clearly

Agile techniques are the best based with proper communication. Holding scrums, sprint meetings and retrospective meetings will support for better communication between team and individuals. Clear communication with stake holder on requirements gathering will help better understanding of scope of the project and business to provide better increments on each iteration.

### 3.2.7. Demonstrate control

Project manager and team leader should make plans for visible progress. Team needs to be more pro-active to achieve the given and agreed deadlines. Using appropriate reporting and tracking will make sure the stakeholder confidence for further releases.

## 4. METHODOLOGY

In this paper the time, quality and cost are defined at the beginning of the project later which is divided into modules to satisfy the agile framework. In the pre-project phase set priorities, understanding the business scope and requirements with client involvement. DSDM works on incremental model by having the end goal in scope which might cause delay in deliveries considering the quality and set deadlines.

Implementing short-term goals as discussed earlier, in pre-project phase and set deadlines for specific modules will help paving the way to optimize the cost which adds life to the project.

## 5. CONCLUSION

In this paper, the Dynamic System Development Method (DSDM) attern with an agile framework to overcome problems with Rapid Application Development (RAD) and the backlog of DSDM which is costly, requires more training involving the personnel and not user-friendly as it has several principles which we need to implement using the agile framework.

This paper focused and tried in introducing short-term goals and short-term implementations to optimize the cost and make it user-friendly, understanding the scope of the business and encouraging quick improvisations. Henceforth improving the quality of the product outcome. Further discussions can be carried out on cost control and working with small-scale applications making DSDM more effective in terms of software development.

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