

**Empirical research on Agile Methodologies:  
Practices and implementations of Software Companies in Bangladesh**

**BY**

**Abhijit Barua  
ID: 211-17-457**

**This Report Presented in Partial Fulfillment of the Requirements for the Degree of  
Master of Science in Management Information Systems**

**Supervised By**

**Dr. Sheak Rashed Haider Noori  
Associate Professor & Associate Head  
Department of CSE  
Daffodil International University**



**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

**JANUARY 2022**

## APPROVAL

This Project titled “**Empirical research on Agile Methodologies: Practices and implementations of Software Companies in Bangladesh**”, submitted by **Abhijit Barua** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of MS in Management Information Systems and approved as to its style and contents. The presentation has been held on **20.01.2022**

## BOARD OF EXAMINERS



**Professor Dr. Touhid Bhuiyan**  
**Professor and Head**  
Department of CSE  
Faculty of Science & Information Technology  
Daffodil International University

**Chairman**



**Dr. Fizar Ahmed**  
**Assitant Professor**  
Department of CSE  
Faculty of Science & Information Technology  
Daffodil International University

**Internal Examiner**



---

**Naznin Sultana**  
**Assistant Professor**  
Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
Daffodil International University

**Internal Examiner**



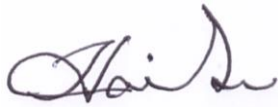
**Dr. Mohammad Shorif Uddin**  
**Professor**  
Department of CSE  
Jahangirnagar University

**External Examiner**

## DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Dr. Sheak Rashed Haider Noori, Associate Professor & Associate Head, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

**Supervised by:**



---

**Dr. Sheak Rashed Haider Noori**  
**Associate Professor & Associate Head**  
Department of CSE  
Daffodil International University

**Submitted by:**



---

**Abhijit Barua**  
ID: 211-17-457  
MS in MIS  
Daffodil International University

## Acknowledgement

First I express my heartiest thanks and gratefulness to almighty God for His divine blessing makes me possible to complete the final year research/thesis successfully.

I'm really grateful and wish my profound my indebtedness to **Dr. Sheak Rashed Haider Noori, Associate Professor & Associate Head**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of my supervisor in the field of “*Software Development Methodology*” to carry out this research. His endless patience ,scholarly guidance ,continual encouragement , constant and energetic supervision, constructive criticism , valuable advice ,reading many inferior draft and correcting them at all stage have made it possible to complete this project.

I would like to express my heartiest gratitude to Dr. Touhid Bhuiyan, Professor and Head, Department of CSE, for his kind help to finish my research and also to other faculty member and the staff of CSE department of Daffodil International University.

I would like to thank my entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patients of my parents.

## **ABSTRACT**

With the command of light-weight operating practices, iterative development, client joint effort and gradual conveyance of business esteems, Agile software development methods have turned into the accepted norm for business software development, around the world. Thusly, this exploration plans to empirically examine the readiness and the reception of agile practices in the notable software organizations in Bangladesh. To accomplish this objective, an empirical study with multiple well-known software companies in Bangladesh whose focuses are mainly based on Banks and Financial institutions is being completed. Results display that the DSDM agile procedure is the most noteworthy polished one. Close by, generally these software organizations have the availability to viably take on the DSDM technique.

# TABLE OF CONTENTS

<b>CONTENTS</b>	<b>PAGE</b>
Board of examiners	i
Declaration	ii
Acknowledgements	iii
Abstract	iv
<b>CHAPTER 1: INTRODUCTION</b>	9-10
<b>CHAPTER 2: BACKGROUND</b>	11-12
<b>CHAPTER 3: RESEARCH FOCUS</b>	13
<b>CHAPTER 4: RESEARCH PROCEDURE</b>	14-16
4.1 Survey development	14
4.2 Survey implementation	15
4.3 Survey appraisal procedure	15
4.4 Survey authenticity	16
<b>CHAPTER 5: ANALYSIS AND SYNTHESIS</b>	17-25
5.1 Brief profiling of the companies	17
5.2 Practices and Implementations of Agile Methodologies	20
5.3 DSDM as a software development method	21
<b>CHAPTER 6: OVERALL EVALUATION</b>	26-27
<b>CHAPTER 7: CONCLUSION</b>	28
<b>REFERENCES</b>	29
<b>PLAGIARISM REPORT</b>	30

## LIST OF FIGURES

<b>FIGURES</b>	<b>PAGE NO</b>
Figure 4.1.1: DSDM survey questionnaire	14
Figure 5.1.1: Software solutions provided by the selected firms	17
Figure 5.1.2: An estimated timeline of a project completion	17
Figure 5.1.3: Variant job positions within in the selected companies	18
Figure 5.1.4: Languages and frameworks being used in the companies	19
Figure 5.2.1: Team size in each average projects	21
Figure 5.2.2: Effectiveness of the roles in a facilitated workshop	22
Figure 5.2.3: DSDM Structured Time-box	23
Figure 5.2.4: Developed system presentation	24
Figure 6.1: DSDM practices and implementations of the surveyed software companies.	25



# CHAPTER 1

## Introduction

---

For the beyond twenty years, agile software development methods have turning into the accepted standard worldwide for creating cutting age software frameworks. A few varieties of this agile technique, e.g., DSDM, Extreme Programming, Scrum, FDD, Crystal, and others have drawn in a ton of thoughtfulness regarding the software designing and exploration networks.

Before Agile came to fruition, software companies (especially those in the product, development, services) would recognize issues and plan an answer. They would then attempt to foster that arrangement and put up it for sale to the public completely. In particular, most companies utilized the Waterfall approach, an improvement methodology that follows a set way

Today, Agile is a notable improvement methodology and the approach of decision for some, advancement groups, particularly those attempting to establish a climate of constant conveyance.

At the point when we consider Agile, we frequently consider significant degrees of joint effort and adaptability well as an iterative climate in which prerequisites advance close by evolving needs. Thus, we likewise will generally conceptualize Agile as an approach that helps advancement groups across different enterprises convey new elements quicker.

A gathering of agile specialists, inexactly known as Agile Alliance figures out the agile standards in 2001 [1]. These standards, prevalently named as Agile Manifesto, help to optimize the product advancement cycle and increment productivity with more noteworthy consumer loyalty [2]. The Agile Manifesto gives the four basic beliefs to programming development projects specifically, (a) Individuals and connections over tools and processes, (b) Working products/services over exhaustive documentation, (c) Customer cooperation over agreement negotiation, and (d) Responding to change over sticking to the script. Accordingly, agile standards moves the product improvement worldview from plan-headed to esteem driven interaction models.

Bangladesh being an arising economy is quickly broadening the quality on the international software industry with a current market worth of around USD 700 million [3]. In ongoing decade, a few of the product organizations has achieved various reevaluated projects and accordingly acquiring notoriety. Regarding this, the product organizations in Bangladesh should show the bona fide reception and practice of Agile principles, standards, and practices to convince their global customers and broaden their portion of the overall industry considerably further.

The objective of this empirical research is to discover the degree to how the well-known software companies in Bangladesh follow the Agile principles. Thusly, the essential contributions of this research is as per the following: (a) empirically research into the Agile Manifesto rehearses with regards to conventional software companies that mainly focuses on developing banking and financial solutions in Bangladesh, (b) dissect and fathom the wellness of these companies corresponding to Agile practices, and (c) offer rules/extent of upgrades dependent on the principles characterized by Agile statement. Close by, this revealing additionally help the abroad participates to settle on re-appropriating projects in Bangladesh.

## CHAPTER 2

### Background

---

Agile Alliance, which were grouped by 17 developers initially proposed and promoted the principles named as Agile Manifesto [4]. They expressed principles, standards, and practices for a bunch of lightweight software development techniques as Agile Manifesto. From there on, a few Agile strategies have been developed and tried. From which, at that point, DSDM, Scrum, Feature Driven Development (FDD), Extreme Programming (XP), Crystal, and Kanban, are the most well-known strategies in the software market.

Agile strategies follow transparent working practices, continuous development and conveyance, reconciliation of changing necessities and client coordinated effort all through the development process, over long-arranging, awkward documentation, and rigid development stages. In this way, these strategies guarantee high consumer loyalty through the conveyance of business esteems in short emphases and steadily with the choice of obliging changing requirements even late inside the development cycle.

Since development of the Manifesto, agile methods are utilized by more than 71% organizations in the software developments [5]. Consequently, research connected with the reception and practice of agile systems in programming organizations has been the middle worry in computer programming research. In a study based research was directed to discover the most famous agile approaches rehearsed in the businesses. And result proposes higher notoriety of DSDM than that of Scrum and Extreme Programming (XP). Close by, the materialness and ramifications of agile advancement methods were explored in.

In a way to deal with viably embrace agile methods, exceptionally, DSDM is demonstrated. An empirical research was directed in to figure out the difficulties for undertakings to take on agile methods. Detailed outcomes featured that there is no single agile method that can be generally applied, and must be custom fitted to coordinate into existing cycles. On the track, a framework

named Agile Software Solution Framework were proposed and observationally confirmed to help the organizations in characterizing and presenting deftness in the improvement interaction [6].

## **CHAPTER 3**

### **Research focus**

---

The essential focal point of this research is three crease: (a) empirically research into the Agile manifesto rehearses with regards to set up programming organizations situated in Bangladesh, (b) break down and fathom the wellness of these software firms according to Agile practices, and (c) offer rules/extent of upgrades for these organizations dependent on the principles characterized by Agile declaration. Close by this revealing additionally support the abroad collaborates to settle on re-appropriating activities to Bangladesh.

Be that as it may, apparently, no comprehensive study has been accounted for to confirm the degree to which companies embrace and practice the agile principles, exceptionally concerning the country market of Bangladesh.

## **CHAPTER 4**

### **Research Procedure**

---

To direct this exploration, a broad survey is being accomplished with the well-known software companies that mainly focuses on core financial solution development in Bangladesh. The Survey Research Method is the most appropriate for an exploration of this nature, since, it is a thorough method for gathering data to portray, analyze or clarify information, perspectives, and conduct on a given area [7].

The interest group of this survey is the software development experts of various positions who are at present utilized in different noticeable software companies in Bangladesh developing financial solutions for Banks and Financial Institutions. A sum of 14 experts along with 2 of their clients partook in the survey from two distinct companies.

4.1) Survey development: To build the survey, four agile methods that are generally rehearsed in software companies overall are chosen and they are, DSDM, Scrum, XP, FDD. From there on, in light of the command and practices of every one of the methods, explicit arrangement of surveys are planned. These inquiries further gathered into zeroed in spaces to more readily fathom on the genuine acknowledgment of the methods inside the organizations. The poll for DSDM method is definite in Chapter 5. For other different methods the polls are discarded as they are not that famous as per our survey discoveries. Close by, to get the organization and worker profiling, a typical arrangement of inquiries are likewise planned.

The inquiries have both close finished and open finished choices to react. The nearby finished choices are created in recurrence scales, rather than just Yes or no scale. The usage of recurrence scale has empowered to quantify how often an occasion happens when following a particular agile method. Moreover, it assists with directing measurable investigation from the information. The response choices for which recurrence scale is utilized contained four choices, they are: none, seldom, here and there, constantly. The discretionary open finished part, permits

the interviewee to supplement their response through the account articulation. The inquiries are kept forthright, short and unambiguous. Each inquiries centers around one part of the Agile method as it were. In forming the inquiries, standard terms explicit to every one of the methods are utilized for more noteworthy clearness and comprehension. Furthermore, each question is related with legends to additionally clarify the substance of the inquiries.

Project:							Name:
Date:							Position:
		Indicate the closest collective opinion					Where appropriate, comment on issues or risks related to a more negative response to this aspect of the DSDM approach
Ref	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
1	All members of the project understand and accept the DSDM approach (Philosophy, Principles and Practices)						
2	The Business Sponsor and the Business Visionary demonstrate clear and proactive ownership of the project.						
3	The business vision driving the project is clearly stated and understood by all members of the project team						
4	All project participants understand and accept that on-time delivery of an acceptable solution is the primary measure of success for the project						
5	The requirements can be prioritised and there is confidence that cost and time commitments can be met by flexing the scope of what's delivered.						
6	All members of the project team accept that requirements should only be defined at a high level in the early phases of the project and that detail will emerge as development progresses.						
7	All members of the project team accept that change in requirements is inevitable and that it is only by embracing change that the right solution will be delivered.						
8	The Business Sponsor and Business Visionary understand that active business involvement is essential and have the willingness and authority to commit appropriate business resources to the project.						
9	It is possible for the business and solution development members of the Solution Development Team to work collaboratively throughout the project.						
10	Empowerment of all members of the Solution Development Team is appropriate and sufficient to support the day-to-day decision-making needed to rapidly evolve the solution in short, focussed Timeboxes						
11	The DSDM roles and responsibilities are appropriately allocated and all role holders understand and accept the responsibilities associated with their role.						
12	The Solution Development team has the appropriate collective knowledge and skills (soft skills and technical skills) to collaboratively evolve an optimal business solution.						
13	Solution Development Team members are allocated to the project at an appropriate and consistent level sufficient to fully support the DSDM timeboxing practice						
14	Tools and collaborative working practices within the Solution Development Team are sufficient to allow effective Iterative Development of the solution.						
15	All necessary review and testing activity is fully integrated within the Iterative Development practice.						
16	Project progress is measured primarily through the incremental, demonstrable delivery of business value.						
17	There are no mandatory standards or other constraints in place that will prevent the application of the DSDM Philosophy and Practices on this project.						
General comments on suitability or risk associated with the DSDM approach:							

Figure 4.1.1: DSDM survey questionnaire

4.2) Survey implementation: To implement this survey, an intuitive Google form is planned with the poll. This form is went with the detail rules to help the interviewees and explore through the poll meeting. The form starts with a typical segment to record organization profile followed by four explicit choices for the four chosen methods. In light of the interviewee choice of the method, the comparing method related poll segment is opened. Reaction is recorded in Google sheet completely which is then extricated and dissected. To finish the survey, roughly 15 to 20 minutes of devoted time is required.

The plan of this survey is parallelepiped and are focused on a proper place of time. Every one of the organizations are reached well prior to directing the survey officially, and a Non-Disclosure Agreement (NDA) was endorsed to keep up with the mystery and anonymity of the organization explicit information. The NDA additionally assurance somewhat the precision of reactions as the interviewee feels certain of not getting dis-shut. Then, at that point, the contact information (official messages and telephone quantities) of the interviewees from every one of the organizations are gathered. The survey form is sent over the email with clear rules and a subsequent telephone discussion is completed if there should be an occurrence of any explanation is needed by the member.

4.3) Survey appraisal procedure: The survey mechanism as recommended above upholds both qualitative and quantitative examination on the gathered information. The initial segment of the response permitted to get a conventional viewpoint on a given perspective (e.g., All members of the project understand and accept the DSDM approach (Philosophy, Principles and Practices)?) through quantitative examination. To accomplish this, related information are collected, assembled and outlines are produced. The second piece of the response is investigated, fathomed and planned with the comparing diagrams to draw basic thinking on the general reaction. When done, this evaluation is checked against the standard acts of the methods to determine recommendations.

4.4) Survey authenticity: To guarantee the unwavering quality of the survey implementation, the alleged retesting approach is being utilized. That is, similar respondents are surveyed indeed at various place of time to notice the minor departure from the reaction.



## **CHAPTER 5**

### **Analysis and Synthesis**

---

This research is being managed among two re-known software companies situated in Dhaka city. An aggregate of 14 highly experts presently utilized in these organizations at various positions along with their 2 respective clients have taken part in this survey. In the accompanying areas the record of assessment is introduced.

5.1) Brief profiling of the companies: The initial segment of the survey poll is intended to get a general arrangement of the software companies, particularly zeroing in on their task center, accomplished standardization, innovation ability, representative and venture profiling. This scientific categorization of organization portfolio is needed to survey the general readiness of the organizations to complete agile turn of events while keep up with every one of the critical boundaries to fulfill guideline and quality.

These companies have a normal functional experience of 7.5 years with a minimum of 10 years and at least 5 years, subsequently having a long path of fruitful project accomplishment achievement. Their customer base incorporates both international and local corporate. During their administration life, the greater part of these organizations fostered their skill on both item advancement just as administration conveyance on different classifications. As shown at Figure 5.1.1, Core Banking Solutions and Enterprise Resource Management are their main focus followed by Payroll, Accounting solutions. This perception is in accordance with the market interest.

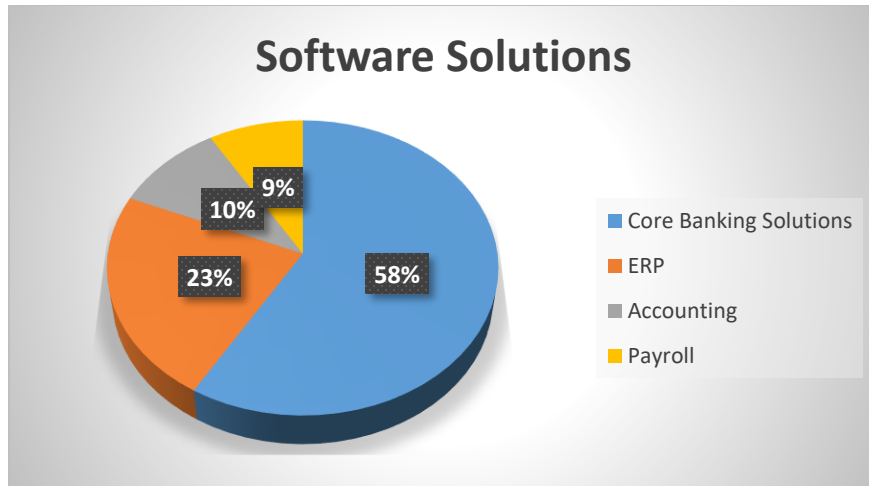


Figure 5.1.1: Software solutions provided by the selected firms

Achieved projects have an improvement lifetime of one or the other 4 to a half year (extremely short to brief term), or 1/2 to 1 year (medium length) or over an extended (span), contingent upon the prerequisites. A dispersion of the ventures along this life expectancy uncovers that 80% of the undertakings have a place with medium and long term with just 20% are from brief span.

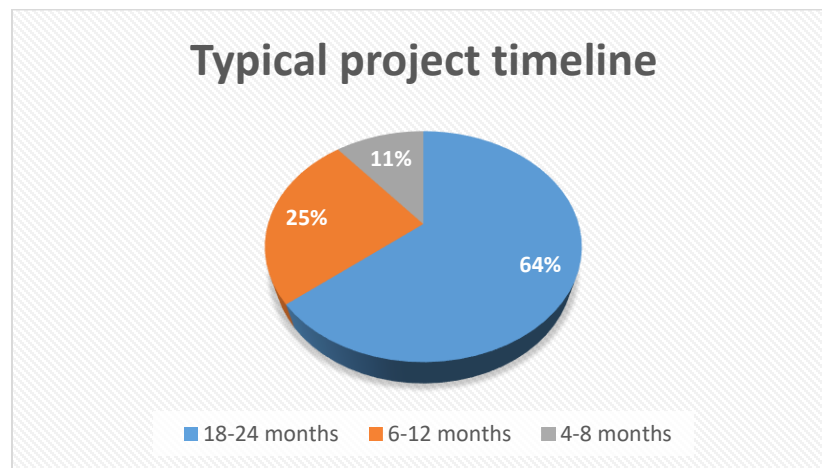


Figure 5.1.2: An estimated timeline of a project completion

Both the companies have kind of similar job positions in regards to software developments categorizing into Management, development and operations. Figure 5.1.3 demonstrate a visual

representation of the company organogram. Management board, executive sponsor and project steering committee mainly steers up the company where the development team focus on finding and developing the solutions gathered from user requirements and operation team involve both users and developers for making the project successful.

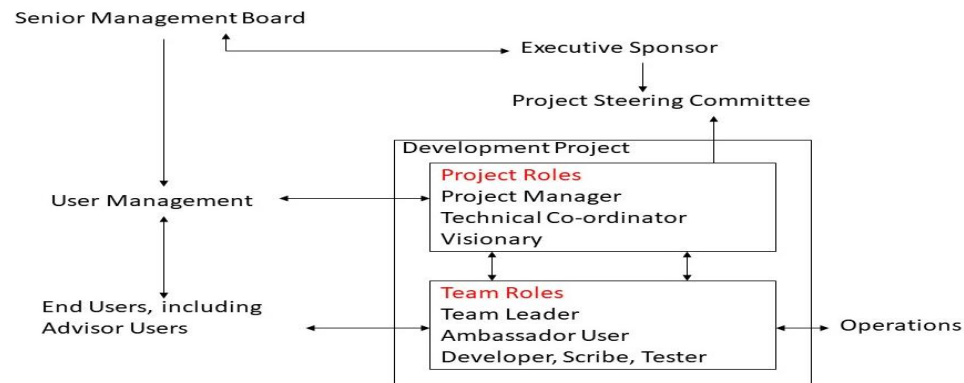


Figure 5.1.3: Variant job positions within in the selected companies

Close by, the formation of the team of development regarding number of individuals associated with a project, sticks to the standard of agile practices. According to the organization insights, 7 projects had 5-9 individuals which is the standard for activities of medium term, and 9 projects had either 10-15 individuals or 15+ individuals which is the ordinary decision for enormous tasks [8]. Along these lines, the organizations are regularly directed by the standards with regards to the question of including sufficient labor to the meriting projects. This is one of center worry in project the executives to guarantee quality item improvement.

At long last, the determination and utilization of contemporary instruments and procedures assume a significant part in rehearsing agile methodologies and guaranteeing the quality item improvement. With the developing reception of agile practices over the recent many years, various instruments become the true indispensable piece of them. This incorporates, for example, the variant control frameworks (for example GitHub, Git), project management software (e.g., Asana, Trello) and project explicit innovations (e.g., structures and dialects), among others. The study outline on this review is displayed in Fig. 4 that 60% of the companies use GitHub as a variant control framework, and 40% of them use UML as an apparatus for specialized plan. Among the

web structures, PHP and python along with other languages are utilized. This result is likewise in line with the project focal point of the companies. Nonetheless, proficient project management and following tools are not utilized that oftentimes.

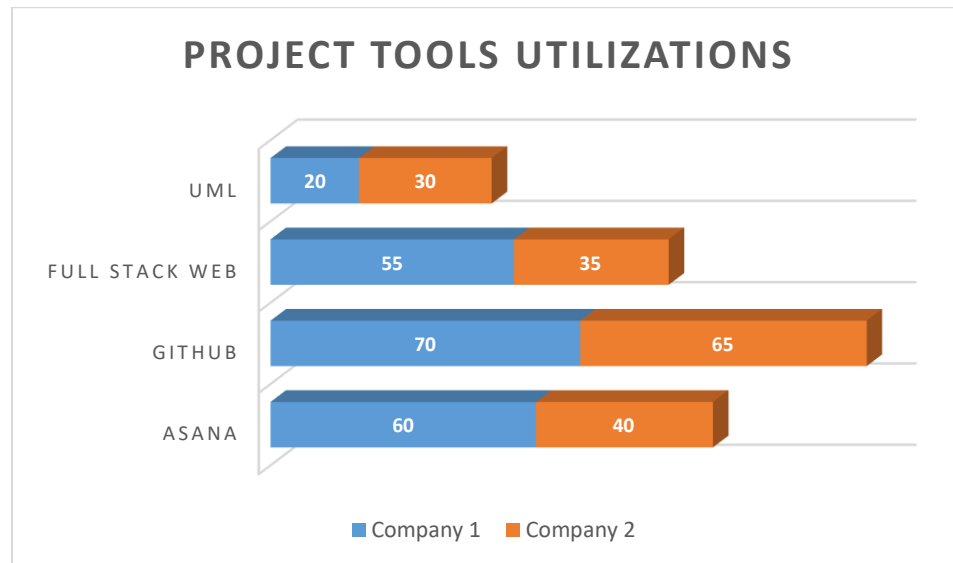


Figure 5.1.4: Languages and frameworks being used in the companies

**5.2) Practices and Implementations of Agile Methodologies:** This study chosen four Agile techniques for the research, in particular DSDM, Scrum, XP, and FDD. These techniques are chosen dependent on their prevalence being used. Be that as it may, as per the overview reaction none of the organizations at any point involved FDD technique for their undertakings, in this way, disposed of from the conversation. Among the other three strategies, DSDM is accounted for as the most elevated rehearsed technique with XP and Scrum having use level of 4% each. Again because of exceptionally low reaction for XP and FDD, this exploration needs adequate experimental information to exhaustively survey the reception of these two techniques. Thusly, excluded from additional conversation. In the accompanying segment a detail assessment of the Scrum technique is introduced corresponding to its reception and practice inside the chose programming organizations.

Furthermore, gained confirmations and insights are analyzed against the technique to follow the followings, (a) the degree to which current practices takes after the norms, and (b) check the readiness of the organizations in completing the tasks by utilizing the strategy.

5.3) DSDM as a software development method: DSDM as an agile method is the most famous development method as indicated by this study. 82% of the overviewed organizations have embraced this method to carry out their development projects. To acquire greatest understanding on the theme, 17 inquiries concerning the DSDM method are being inquired. Figure 4.1.1. subtleties this inquiry set.

The DSDM Team ought to be evaluated by their actual area and the team size for individual undertakings. As expressed in the DSDM principles [9], active user involvement is imperative, therefore the DSDM team ought to be situated in similar actual premises to amplify the successful correspondence among the team individuals for fast turn of events. Nonetheless, in unavoidable conditions, team individuals can be topographically conveyed and working together over on the web. The overview detailed that larger part of the product firms are well inside this suggestion.

In the team size, DSDM practice recommended the standard ought to associate with five to eleven. This number incorporates the Business Sponsor, Project Manager, Team leader and the solution developers. A team more modest than this proposal might think that it is laborious to achieve enough in each run, though for bigger teams correspondence becomes perplexing and lumbering. This empirical research detailed that one of the company keep up with the prescribed team size of 5 to 11 team members as shown in Figure 5.2.1 and the other have either small or curiously large team. In this way, the company should rethink their team development with legitimate support of execution and result delivered.

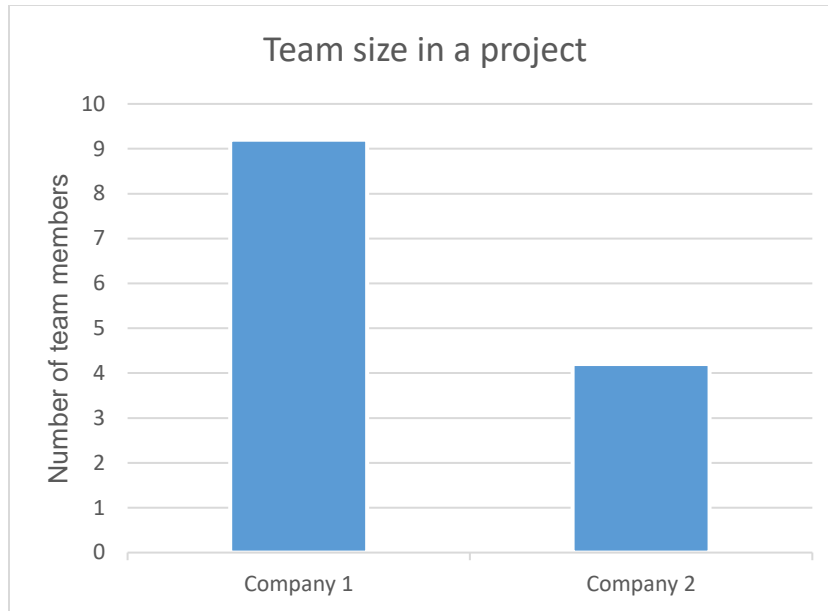


Figure 5.2.1: Team size in each average projects

Inside the DSDM practices, Facilitated Workshops have been utilized in business and frameworks improvement specifically for quite a long time. They are a center procedure in DSDM for speed and effectiveness as a method of settling on excellent group based choices in short timescales. As per DSDM standard, the Workshop Facilitator deals with the interaction and dynamic of the Workshop, empowering the Participants to focus on the substance and the expectations. The Workshop Facilitator ought to be nonpartisan to the Workshop destinations, the expectations (result) of the Workshop and the Participants.

It is seen that if there should arise an occurrence of 78% of the time in an organization, the Workshop Facilitator is answerable for holding the everyday workshop though in 18% and 3% cases held by the Workshop Owner and participants, individually (Figure 5.2.2). It is the obligation of the Workshop Facilitator to plan, plan and alter the interaction, related to the Workshop Owner, to help the gathering in accomplishing its target. The Workshop Owner is normally the individual who requested that the Workshop Facilitator run the Workshop and who has a solid interest in its result.



Figure 5.2.2: Effectiveness of the roles in a facilitated workshop

As earlier mentioned that this research is being conducted with 14 software development professionals along with their two respective clients therefore as per DSDM principle, there is a collaborative and co-operative approach between the stakeholders and solution providers.

In order to develop the core banking solutions, each of the companies has been gone through the following process as per DSDM lifecycle:-

- Pre-Project Phase: Both the companies are being ensured that they are going to develop financial solutions as per their policy.
- Feasibility Phase: The Feasibility phase is expected fundamentally to build up whether the proposed project is probably going to be plausible according to the company's specialization and whether it seems savvy according to a business viewpoint.
- Foundation Phase: The point of Foundations is to comprehend the extent of work, how it will be completed, by whom, when and where. The Foundations phase additionally decides the task lifecycle by concurring how the DSDM interaction will be applied to the particular necessities of this undertaking.
- Development Phase: Once the aim of the project is clear and visible those 14 developers as per the survey here being asked to proceed with the development.

- **Deployment Phase:** The deployment phase is pursued at least one transformative advancement phases to place the most recent augmentation into creation. The delivery that is sent might be the last arrangement, or a subset of the last arrangement.
- **Post-Project Phase:** Once the developers are done with the deployment successfully, those two clients are asked to cross check their requirements against the solution being built up. If all the criteria is being met successfully then the project may formally get closed else the cycle goes to deployment phase again if there's any issue found.

Here at DSDM, each of the deliverables are time-boxed which is a vital part of DSDM projects. Without compelling time boxing, prototyping groups can lose their concentration and run out of control. In Figure 5.2.3, it is being shown that the professionals took around 1-3 hours in an average to kick-off a project for a 2-3 weeks time-box, 10%-20% of the total time-box being taken for investigation, approximately 60%-80% time is being slotted for the refinement where the developers includes the majority of the turn of events, tending to necessities and testing (specialized and business) the Time-box items, in accordance with concurred needs, consolidation took around 10%-20% of the time-box and finally the close-out which took 1-3 hours.

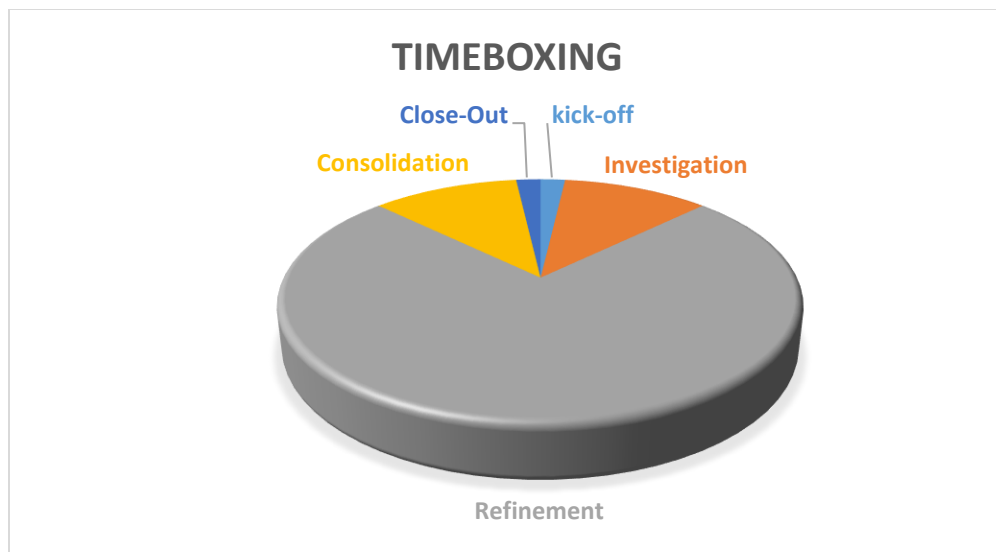


Figure 5.2.3: DSDM Structured Time-box



DSDM methodology like other agile practices depends on Prototyping in light of the fact that prototypes give the component through which clients can guarantee that the detail of the necessities is right. However, the survey outcome shows a large deviation with this standard practice. As from this survey, only few of time companies adheres to proceed with prototyping while rest of the time they move on live project.

At last, developed system is exhibited for all intents and purposes by executing it, rather utilizing any method for formal introductions (Figure 5.2.4) (e.g., oral, power-points or perception). As per the overview reaction both the organizations follow the show of exhibiting the framework basically, while others utilize unfortunate techniques.

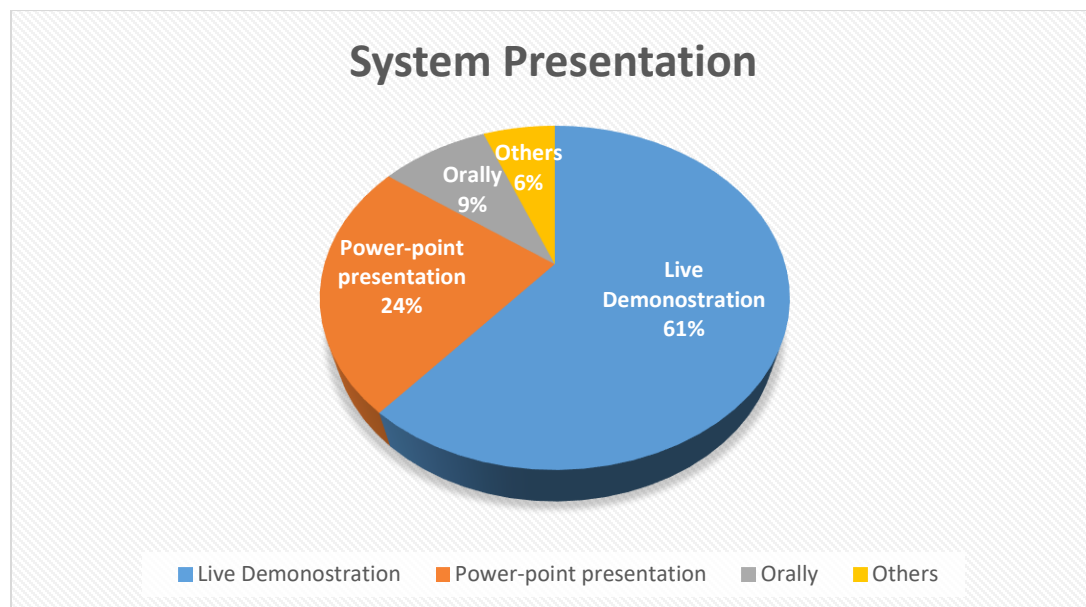


Figure 5.2.4: Developed system presentation

## CHAPTER 6

### Overall Evaluation

The overall evaluation of the study result high-lights the two skills and shortcomings of the product organizations corresponding to Agile practices. The scientific classification of the organization portfolio uncovers solid capabilities to take on and practice coordinated improvement strategies. The in general functional experience, scope of programming item advancement and administration conveyance skill, the arrangement of the improvement group, the choice and utilization of contemporary instruments and strategies, firmly support this case.

Consequently, it tends to be certified that generally the software firms in Bangladesh have the preparation to adequately rehearse DSDM methodology.

Among the Agile techniques, the DSDM strategy has overpowering use in the software firms (75%) in Bangladesh. This choice mirrors the most predominant decision around the world, as 65% software companies goes by the DSDM technique. Nonetheless, the basic appraisal of the study measurements on the real reception of DSDM rehearses uncovers that.

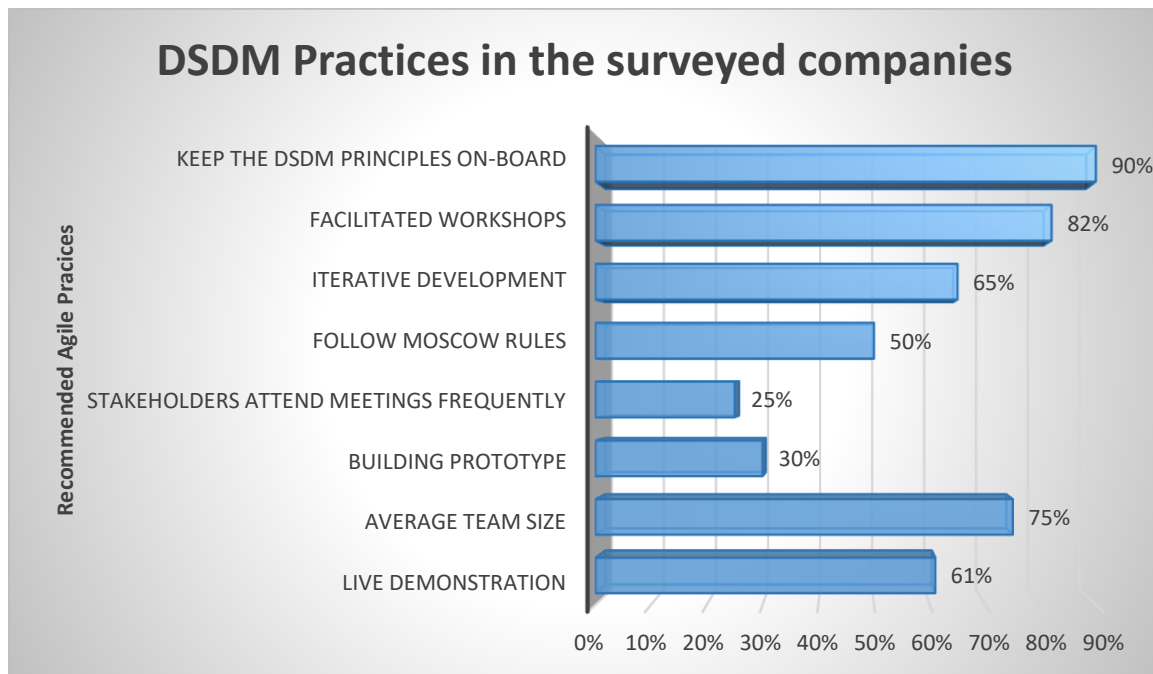


Figure 6.1: DSDM practices and implementations of the surveyed software companies.

As per the synopsis report in Figure 6.1, the rate is around half or below for the vast majority of the critical acts of DSDM. For certain practices the rate is basically low which is worrying. For example, incorporating the stakeholder in the facilitated workshops is just 25% which actually is one of the greatest need practices to be embraced. For different practices alongside the over two, the reception rate should be improved. This review recommences the organizations to utilize deft specialists outer to the organization to research into the issues, recognize center areas of progress and a commonsense course of activities to satisfy the DSDM guideline.

## **CHAPTER 7**

### **Conclusion**

---

This empirical research did an experimentally study on the agile software development practices inside the setting of set up software firms in Bangladesh to (a) characterize the practices and implementations of these firms comparable to Agile practices, and (b) form the extent of enhancements dependent on the agile principles. It is accounted for that the DSDM agile technique is the most noteworthy polished one among the four, which is a declaration of the common choice around the world. Close by, the overall result uncovers that the firms have the readiness in rehearsing the DSDM technique in fullest. How-ever, as to rehearsing DSDM standards, they miss the mark seriously in many key elements. Consequently, the future examination should delved profound into the reason for these deficiencies and figure out rules as needs be for the interaction improvement.

## References:

---

- [1] L. Apke, Understanding The Agile Manifesto: A Brief & Bold Guide to Agile, 2014.
- [2] R. Emerich, Agile Manifesto: Guidelines For Effectively Implementing A Business, 2021.
- [3] "Embassy of the People's Republic of Bangladesh," 2013. [Online]. Available: <https://bangladesh.uz/software-industry#:~:text=IT%20sector%20was%20declared%20a,mostly%20IT%20graduates%2C%20are%20employed..>
- [4] S. Duncan, Understanding Agile Values & Principles: An Examination of the Agile Manifesto, 2019.
- [5] A. Djurovic, "Agile Adoption Statistics for 2020," 2020. [Online]. Available: <https://goremotely.net/blog/agile-adoption/>.
- [6] J. Berman, "Agile Frameworks," 2020. [Online]. Available: <https://www.planview.com/resources/guide/what-is-agile-program-management/agile-frameworks/>.
- [7] J. P. Guyer, An Introduction to Survey Methods and Techniques, 2015.
- [8] P. Juneja, "Manpower Planning," 2015. [Online]. Available: <https://www.managementstudyguide.com/manpower-planning.htm>.
- [9] T. A. B. Consortium, "The Eight Principles," [Online]. Available: <https://www.agilebusiness.org/page/whatisdsm>.

ORIGINALITY REPORT

---

12%

SIMILARITY INDEX

10%

INTERNET SOURCES

2%

PUBLICATIONS

11%

STUDENT PAPERS

---

PRIMARY SOURCES

---

1

[dspace.daffodilvarsity.edu.bd:8080](https://dspace.daffodilvarsity.edu.bd:8080)

Internet Source

6%

2

Submitted to Daffodil International University

Student Paper

4%

3

Submitted to University of West London

Student Paper

1%

4

Submitted to University of Wales Institute,  
Cardiff

Student Paper

1%

5

Submitted to The Shah Noorani Institute of  
Technology (SNIT)

Student Paper

<1%

6

Submitted to Queensland University of  
Technology

Student Paper

<1%

7

[era.gv.at](http://era.gv.at)

Internet Source

<1%

8

Dave Centeno. "Sweet Spot", Asian Journal of  
Social Science, 2020

Publication

<1%

---

---

Exclude quotes      On

Exclude matches

< 10 words

Exclude bibliography      On