A Systematic Literature Review of Success Factors and Barriers of Agile Software Development

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Abstract—**Motivator and demotivator plays an important role in software industry. It encompasses software performance and productivity which are necessary for projects of Agile software development (ASD). Existing studies comprise of motivators and demotivators of ASD, which exist in dispersed form. That is why there is a need of a detailed systematic literature review to review the factors and sub-factors effecting motivators and demotivators in ASD. A comprehensive review is executed to gather the critical success factors of motivator and demotivator of Agile software development. Thus, the ongoing study classifies motivator and demotivator factors into four classes, i.e., people, organization, technical and process. However, sub-classification is also executed to clarify more of the motivators of agile. Along with this, motivator and demotivator of scrum process is also categorized to overview a clear vision.**

Keywords—Agile methods; systematic literature review; motivator; demotivator; success factors; barriers; scrum; ASD

I. INTRODUCTION

A. Motivation

Agile Software development (ASD) provides an iterative way to make effective and efficient software development. It contains set of rules and principle with self-organizing teams. In Software development, motivator plays an important role to enhance the personal and technical skills. Motivator is a critical factor in achieving project scope by clarifying the business goals. McHugh et al. [1] has analysed the effect of motivator and demotivator on core three agile practices. Qualitative analysis has been performed to fulfil this purpose. This systemic literature review will gather the existing knowledge of motivator and demotivator.

In ASD, due to its iterative nature ratio of failure projects are less than SDLC but when it comes to individual personal and technical skills, there is need of motivator and demotivator factors effecting ASD. These motivators and demotivators works as an umbrella activities throughout the project that's why there is need to control the demotivator factors to increase the motivator factors afterward. The literature depicts that effective management is the backbone of project success and can reduce the failure ratio up to 70% of their total cost. ASD has multiple methods which follow the one agile manifesto for continuous development throughout the life cycle.

B. Need of Systematic Literature Review

From the previous 10 to 15 years, ASD showed great boom in software industry and it bypass the existing SDLC technique due to its more success stories that's why there is a revival of agile industry all over the world and sooner or later it will become the best adopted technique to its flexible environment. Existing literature depicts, that is, it lacks a detailed systematic literature of ASD and there is a need of systematic literature review to cover this gap. This study encounters the existing studies on motivator and demotivator factor to make the detailed list. The data is present in dispersed format and needs to gather for systematic literature review.

This SLR will help in managing the self-organizing teams by providing them confidence and support for help in work done. Cockburn and Highsmith [2] proposed rewards and incentives as most common motivating factor. The literature encompasses the people factor in which stress is a demotivating factor. ASD works on software development that yields success as well as stakeholder satisfaction.

Motivator and demotivator factors are challenging work that they need to be identified and must be noted. Secondly, our main contribution is to categorize the motivator and demotivator factor into people, technical and organization background. For this purpose, we have done a detail study of relevant papers of motivators and demotivators and classified, respectively.

The structure of remaining paper is: Section 2 describes the Literature Review. Section 3 explains methodology of the research. Sections 4 to 7 illustrate the output and findings, classification and quality Assessment. Section 8 encompasses discussion, then finally conclusion in Section 9.

II. LITERATURE REVIEW

The current section emphasises on the studies which are very close to the research of this study.

Several factors of motivators in ASD are focused in [3]. They propose model of motivation of software Engineering (MOCC) in which different factors of software engineering is been identified. To proof his domain study they have done factors with respect to technical aspects. The primary fellow of agile give brief view of how agile can be implemented against

traditional software development [2]. Akhtar et al. [4] find the scrum critical factors in native software industry. As a result, the authors provide different recommendations to increase the productivity of software. Author in [5] has provided scrum adoption and implementation challenges in Pakistan due to its novice adoption in this area. In another study, [6] has focused on success factors of ASD. For this purpose they do a detail study of agile methods. The important contribution of Wagener is the division of the extracted elements in four classes, i.e., process, organizational, technical and people classes. An empirical study along with SLR has been conducted by [7] have on different agile projects. Regression analysis is used to evaluate result of 109 agile teams. Baddoo and Hall [8] describe the rewarding as most motivating factor. Another study on motivators and demotivators were conducted on software industry of Pakistan by [9]. To evaluate the literature regarding motivator and demotivator a systematic literature review is done. They propose an extension in hosted 5D's model by adding culture in it.

III. RESEARCH METHOD

A. Systematic Literature Review

It comprises of snowballing process for the assessment of relevant literature [10]. An evaluation process is used to accomplish the review. After that the output will describe the detailed list of motivators and demotivators, and classification and sub-classification of motivators and demotivators has been done.

B. Planning of Mapping

Current systematic literature review is done for the evaluation of the relevant data comprising motivator and demotivator of agile software development. The data exist in dispersed form and there is a need of complete literature review to collect all such distributed data.

C. Research Questions

There are three research questions of current research as shown in Table I.

D. Search Strings

The search strings used for the extraction of relevant studies are:

((({MOTIVATOR} OR {MOTIVATORS}) OR {DEMOTIVATOR} OR {DEMOTIVATOR} OR {DEMOTIVATOR} OR {DEMOTIVATORS}) OR {SUCCESS}) OR {BARRIER}) OR {AGILE} OR {AGILE SOFTWARE DEVELOPMENT} OR {ASD}

E. Databases

We have targeted every search engine and find out maximum no research papers. Mostly papers are extracted by IEEE, ACM and Springer. Paper must publish in between 2000 to 2018.

F. Factor Mining

In order to elaborate the maximum number of motivators and demotivators factors, a selection procedure described in Table II is followed to find relevant papers according to string.

G. Selection of Primary Study

To select any paper title, abstract and conclusion has been explored. Those papers that have ambiguity and unclear objectives have been discarded.

1) Inclusion Criteria
Following points are examined to inclusion criteria:

- Must be published in Conference or Journal.

- Medium of language is English.

- Studies can solid accessible link.

- Paper must publish after 2000.

2) Exclusion Criteria
The exclusion criterion comprises of following points:

- "Tutorials", "slides", "editorials", "posters", keynotes and other non-peer reviews are excluded.

- Peer reviewed, but blog and books are not acceptable.

- Non-English language publications.

- All the studies which are unable to E-access.

H. Performing SLR

All the studies which have a solid background related to agile is been selected as shown in Table III. Conference and Journal papers are selected to give solid background. Selected primary studies are 39. However, the following papers are extracted which are most suitable against our research string.

I. Quality Assessment

Research papers having score in between 1 and 3 are been selected and those who have less than 1 are neglected (Table IV).

J. Selected Paper Description

All the research papers selected after applying the quality assessment criteria are summarized critically in Table V.

TABLE I. QUESTIONS OF THE RESEARCH

S. No.	RQs	Motivation
RQ.1	What are the motivator and demotivator factors in ASD?	It intended to provide a detailed list of motivators and demotivators of agile.
RQ.2	How could motivators and demotivators be mapped with common factors?	RQ2 aims to deliver the mapping of motivator factor into procedural, stakeholders, and firm's factors.
RQ.3	How could motivators and demotivators be sub-factorization?	RQ3 emphases on the sub-factorization.

TABLE II.   DOCUMENT SELECTION PROCEDURE

Step 1.1	Read all the title and abstract and extract relevant paper.
Step 1.2	Intro and conclusion based selection.
Step 1.3	Thoroughly read all the papers to remove any duplication in studies
Step 1.4	Quality Assessment form is made according to compile better result.

TABLE III.   FILTRATION OF PAPERS

Databases	Papers	Title Filtration	Abstract Filtration	Selected	Ref.
IEEE Xplore	915	54	24	11	[11][12][13][14][15][16][17][18][19][20][21]
ACM Digital Library	37	17	10	03	[22][23][24]
Science Direct	36	15	07	03	[25][26][27]
Research Gate	32	25	10	06	[28][29][30][31][32][33]
Scopus	07	05	02	03	[7][34][35]
Springer	97	51	11	04	[36][37][38][39]
Google Scholar	300	90	35	05	[40][41][42][1][43]
Others	223	60	30	03	[44][45] [46]
Total	2422	381	226	38	

TABLE IV.   QUALITY ASSESSMENT OF PAPERS

Sr. No	Paper	RQ # 1	RQ # 2	RQ #3	Total
1	[47]	0.5	1	0	1.5
2	[48]	0.5	0.5	0	1
3	[49]	0.5	0	0	0.5
4	[15]	1	0.5	0	1.5
5	[46]	0.5	0.5	0.5	1.5
6	[50]	0.5	1	0.5	2
7	[51]	0	0.5	0	0.5
8	[52]	0.5	0	0	0.5
9	[16]	1	0.5	0	1.5
10	[53]	0	0.5	0.5	1
11	[54]	1	1	0.5	2.5
12	[17]	1	1	0.5	2.5
13	[55]	1	0.5	1	2.5
14	[22]	1	0.5	0.5	2.5
15	[23]	1	1	0	2
16	[56]	1	0	0	1
17	[57]	1	1	0.5	2.5
18	[58]	1	1	0.5	2.5
19	[29]	1	0.5	1	2.5
20	[59]	0.5	0.5	0	1
21	[60]	1	1	1	3
22	[61]	0.5	0.5	0	1
23	[40]	1	1	0.5	2.5
24	[62]	1	1	0.5	2.5
25	[63]	1	0.5	0	1.5
26	[14]	0.5	0.5	0.5	1.5
27	[1]	1	0.5	0	1.5
28	[64]	1	0.5	1	2.5
29	[37]	1	1	0.5	2.5
30	[65]	1	0.5	0	1.5
31	[33]	1	1	1	3
32	[66]	0.5	0	0	0.5
33	[67]	1	0	0	1
34	[68]	0.5	0.5	0	1
35	[69]	1	0	0	1
36	[7]	1	1	0.5	2.5
37	[6]	1	0.5	0	1.5
38	[2]	0.5	0.5	0	1
39	[36]	1	0.5	0.5	2
40	[70]	0.5	0	0	0.5
41	[71]	1	1	0.5	2.5
42	[72]	0.5	0	0	0.5
43	[17]	1	0.5	0.5	2
44	[39]	1	1	0.5	2.5

45	[73]	0.5	0	0	**0.5**
46	[74]	0.5	0.5	0	**1**
47	[75]	0.5	0	0	**0.5**
48	[45]	1	1	0.5	**2.5**
49	[20]	1	1	0.5	**2.5**
50	[57]	1	0.5	0.5	**2**
51	[76]	1	0.5	0	**1.5**
52	[77]	1	1	0	**2**
53	[78]	1	0.5	0	**1.5**
54	[38]	1	1	0.5	**2.5**
55	[26]	1	1	0.5	**2.5**
56	[43]	1	1	1	**3**

TABLE V. Detail Description of Selected Papers

Sr. No	Type: Conference/ Journal	Technique/ Empirical / Survey	Objectives	Results	Contribution	Limitation	Ref.
1	(CHASE) 2013 6th International Workshop	Empirical Analysis	To made a model to minimize software engineer workload	Proposed motivation factors of organization.	Complex interplay among motivational factor.	Systematic cross case analyses of the result is less reported	[47]
2	(CHASE), 2017 10th International Workshop	Statistical and thematic analysis	To identified three groups of factors motivating the self-assignment: task-based, developer-based, and opinion-based factors	Majority of the participants preferred self-assignment	Precedence to task-based and developer-based factors	Developers may deviate from their usual practice	[15]
3	(APSEC) 2012 19th International conference	Regression model	To check the relationship between the software Project team features and team performance	Administration should pay more consideration Team encouragement within the project teams so that an improved strategy Presentation can be accomplished	The results demonstrated the association among project team features and presentation could be affected with players' inspiration.	The association among software project team features and its presentation is still to gauge.	[46]
4	(ESEM) 2011	Qualitative research	To Update Motivators factors of software Engineers	About the information It's good to work and going 'Man' is important, but this 'obstacle' is really soft The power of software engineers	'Work' (personal interest) You need a fix Screw out.	Focus on working to work Research on Psychological and Social Studies	[50]
5	(CESI) 2017 5th IEEE/ ACM	An industry experiment with experienced programmers at the Universidad de las Fuerzas Armadas ESPE of Ecuador was performed	To Identify the circumstances that explain why some experimental subjects exhibit poor or null participation during experimental sessions.	Several experienced professionals were found to live a two, mixed-factors reality: old age and technological lapse.	A high percentage of older experienced programmers did not perform meaningful work in their task	Further research is required to better understand this phenomenon, which has several interesting ramifications.	[16]
6	Proceedings of EASE (2011)	This is based on the principles of specific guidance We copied the initial research program.	This work has been updated 2006 encouraged an encouraging result Software Engineering	Manual search and automatic search 6,534 collection 53 papers were selected for extracting figures And studying many solutions to solving excitement Despite quantities scenes and methods	In order to increase future research, research should be more focused on further deep research	Analyse the relationship between the motivation and the results, To provide more reliable results.	[54]
7	SBES 26th conference (2012)	Qualitative and Quantitative analysis	This article discusses how to practice XP Software	Ask for the advice of five adult X teams Consider whether this feature is the indicator	Got the XP team There is a proper process in our research to support	The XP situation is at odds with other motivational needs	[79]

			developers' excitement requirements.	The XP environment exists	many operations One developer needs to be encouraged Traditional Heavyweight Software Development The environment		
8	JSA (2016)	Semi-structured interview was held four times Use monthly rules to analyse data Program	To examine contextualized and the interpretation principle needs to be explained Different	We provide connection statement, Understanding Associate and Related Articles The main story of the company's motivation.	The need for learning and development is the most powerful driver Movement, which increases the turnout of turn Conditions for generating better performance for engineers.	Features of personality as personalities and personality Style, but elements can appear in future reports.	[80]
9	CHASE 2014 7th International Workshop	Statistical and thematic analysis	To compare the team's business-related results (productivity and quality) to two published sources of industry averages.	We identify four factors that potentially impact the outcome of industrial case studies: availability of data, tool support, cooperative personnel and project status. Recognizing and planning for these factors is essential to conducting industrial case studies	We discuss our experience in conducting this case study, including specifics of how data was collected, the rationale behind our process of data collection, and what obstacles were encountered during the case study.	The presence of CASE tools, including automated build tools, integration environments, and defect tracking systems, may alleviate much of the overhead associated with collecting these metrics.	[22]
10	ACM SIGSOFT (SEN) 2005	Quantitative method	Investigate the organization to investigate the impact of the customer developer's discussion	The nature of XP provides itself strong psychology Participants and their pressure have a positive effect Interaction and thus motivated	Creating a specific attitude of personal follow-up control, So in our case, motivate, and investigate Evaluating the main reasons for these behaviour Follow current social psychological ideas.	Their effect Customer and manufacturer interactions are not properly monitored And lower it	[23]
11	IST 2008	Qualitative analysis	To find Low requirements for low quality software Compressed timeline is born and the number is low.	This article will show two Successful industrial software projects are completely different Aspect; However, both of them still use abundant methods to solve social issues Factors	The thesis It will also provide lessons and tips Retro view reviews and observations.	Organization factors are also need to be address.	[81]
12	IST 2008	Systematic Literature review	Review a systematic movement of motion movement in software engineering. The purpose of this review How encourages developers and encourages developers and how to find current reporting knowledge The model encourages.	Our key It has come to know that the concern model released in software engineering is completely different and does not reflect the complex needs of the software. Engineers are in their professional stage, cultural and environmental settings.	Literature on the promotion of software engineering suggests controversial and local explanation in this field. Very clear Depending on the encouraging context and the engineer is different from the engineer.	Our survey results show that there is no clear understanding of the work of software engineers, how software engineers encourage them, and how they encourage them. Promote, or encourage the results and advantages of software engineer.	[82]
13	KMIS	Regression	To implement the	MPS	We will discuss the	The	[29]

	2009	analysis	filter method, possible scores of motivation	Affects positive work like work performance and development of system quality The project does not affect the duration of the project,	actual importance Based on this experience.	Reduction of job performance measurements The purpose and stability is because it is completely According to the theme's opinion	
14	5th Internationa (IRWITPM 2010)	Qualitative analysis	This research is a stimulus study to study using three investigative methods - daily daily, Enhanced and radical planning and initial reviews	The results show the practices of these two countries The team can contribute and motivate the excitement of the team One another	Research in areas of encouragement and development of angel's software development by identifying the auxiliary factors And on the promotion of angels'	Development teams of the Angels, the ban is related to the formation of the team. Even trouble The procedure in a team is only implemented recently. Both teams are well-established and familiar	[60]
15	KAU (2013), Karlstad Business School.	Systematic Literature Review	Determine the importance and encouragement of the report Participants use partial methods in project participants	A list of research paper on project management has been reported.	There exist a detail list of motivator and demotivator from Systematic literature review with respect to project management.	The ability to study is limited to harmony journal arts. Initial examination search Some databases, including conference papers, made a large number of results.	[83]
16	Management Prudence Journal (2010)	Statistical analysis	The impact of job conversions is even more pronounced. This area is relatively new Lack of value and encouragement for her caravan.	Compared with the low Protestant Ec Group, the High Group encourages high interviews, which means that there is a high interest in high technology, more interest/enjoyment, qualifications, choice of choice, but pressure/stress is lower than the low outlook job.	Having chosen it will receive the highest level of encouragement, which will have an effective impact on their profession.	Work value training should be part of the plan, which will help improve the performance of new jobs.	[41]
17	PROFES 2014	Qualitative analysis	Investigates our research factors that lead to software testing professionals Work, choice and stay in the duties and customs practices	This career path can help the results During the recruitment process the company runs on a traditionally transit Encouraged entrepreneurs encourage internal and their examinations, which will improve Job satisfaction and productivity.	We provide a series of factors that have negative and positive effects on daily life. Software tester activities and other types have been included Software published in the field of engineering and published.	Our research plan presents this study into further content Besides checking the company and exam properties and more Relationship with colleagues	[84]
18	38th Euromicro Conference (SEAA) 2012	Systematic literature review	Our research What is motivated is designed to better understand Software developers in imagination environments.	Our research results show that in spite of trouble The background and motivation overall approach is slightly different In general software development.	We have done three cases The fireplace company to confirm our results and to collect new information	To increase confidence factors, we use it very well Created in established investigative methods and early dates By orientation with organizational culture Early visit	[3]
19	SJIS 2011	Qualitative analysis	It is an investigation study of the Swedish and Irish IT Project Team Investigate the three duties, will stand daily	The results of both cases show that in germing methods can occur The team encourages	Encourages the team to encourage and contribute significantly to the field of floor project management. Identifying the factors that help in	Project team study is limited Because only two APM teams have been examined. There are two teams Get acquainted and familiar with each other.	[85]

			Planning and revised reviews can motivate or encourage harm in an active team.		encouraging IT and prevent IT	
20	SPI 2006	Qualitative Analysis	Especially how to encourage the development to influence growth Work in software engineering.	Our main result is that good software developers Active, flexible and applicable to share and follow knowledge with the team Exercises, such as recording work.	We found According to technical capabilities, mutual expertise and good practices, compliance with all positive effects are related About the success of software projects..	Looking at the current trend Software development, which will be helpful Compare the results of this study with the same study In a delicate environment	[64]
21	APSEEP 2007	Qualitative analysis	This study finds different aspects of team planning Attached, positively related to psychological events Traditional management, out of the era of organization And software engineering research.	Results include profound understanding Relationships between responsibilities and active team results, such as Motivation and harmony.	Looks very strong Add operations and effects	A deeper knowledge of socio knowledge is still need to explore.	[86]
22	In Proceedings of 15th international conference, XP(2014)	Qualitative analysis	Several case design issues have been introduced In three different instant software organizations.	We lie The organization created a culture that supports communication and discussion There is less agility than alternative two organizations to design decisions.	Our theory is that Gulf Environment generates more open communication among developers, which can lead developers to challenge each other's design solutions and to enhance their likeness accordingly.	Review the effect of long-term experimental study design decisions.	[87]
23	Agile Times 2004	Qualitative analysis	This research is contribution towards motivator factor of agile software development to increase the productivity and morale.	Their role in the use of processes and equipment that influence	The most important elements of processing and encouragement is still very important because they are accustomed to it. Focus on all repetitive tasks and focus on what developers are really focused on: the need for things Customers through the production of valuable software	Motivators should also be find against the Non-functional requirements.	[33]
24	Journal of Systems and Software 2008	Statistical analysis	Afterwards, an analysis of reliability and elemental analysis was performed in the initial list to reinforce the 12 potential key endpoint sets. The type of success for each of the four projects - quality factors, scope, time, and success	The results showed that only 10 of the 48 governors were supported and identified the three major success factors of the fire. Software development projects: (a) delivery strategy, (b) Elevail software engineering technology, and (c) team capabilities.	The main part of this study is to obtain the key success factors of the three factors in this incident. According to survey data analysis.	To ensure the success of their project, managers To focus on high-quality team teams, follow the ferrous metal process technology and the above delivery strategies.	[7]

			factors for each cost.				
25	PHD Thesis 2012	Qualitative and Quantitative analysis	This study has investigated the factors of major success involved in the pilot system Development plans of different system development methods and projects Tracking their basic principles and benefits to management practices	And the weaknesses show their results that actually are 16 Key-success factors that have directly impacted the financial system success Development project	Institutions should encourage these important successes The effect of implementing ASDM when this project has a positive impact	Findings of major success factors in the responsibilities system Extensive development projects, including the largest number Project	[6]
26	(XP 2007)	Qualitative analysis	Autonomy, multiple factors, The importance of completing the importance, opinion, and completion of work is very important Ensure factors of satisfaction and encouragement among workers.	Maintain software agility With the development of software and developer team development, it is slowly increasing Like biology, both of them are constantly considering management Business value and encouragement questions about motivation and decision-making Change our independence, variety	The importance of completing the entire mission, opinions and abilities are essential In this project.	A Quantitative analysis is needed to find in-depth results.	[36]
27	IEEE Software (Volume: 28, Issue: 4, July-Aug. 2011)	Qualitative analysis	They apply the angels' implementation in an advanced form In cross organizations or at least business entities.	It is difficult to measure all the methods According to respondents, steps taken in at least one organization have been taken: In every case.	They found out different challenges from literature and give recommendation accordingly.	Some concerns were considered by institutes, people, technical and process is need to explore.	[18]
28	Proceedings - IEEE AGILE 2007	Qualitative analysis	Five adult team consultations Consider whether this feature is the indicator The XP environment exists.	We found that the XP Team has entered There is a proper process in our research to support many operations One developer needs to be encouraged Traditional Heavyweight Software Development The environment	In our research, five XT teams are already under process Supports many encouraging needs Traditional, Heavy Weight software development environment.	The XP environment is contrary to it Other motivation is needed	[17]
29	(XP 2006) 7th international Conference	Statistical analysis	How and how to increase employee satisfaction with the development process Identify widely used teams and employee satisfaction Area and staff.	This one The three most powerful relationships have the ability to influence decisions Affect people and add interesting items	How much trouble does the team member have with the user/customer twice? His job satisfaction (compared to non-dynamic teams).	Analyse perceived desirability of movement and work stress.	[39]
30	Crosstalk Technology 2004	Qualitative analysis	Identify potential risks, problems and strategies Help your project	Learn More efficient through service methods Development and	Emotionally emotional emotions often appear Cause of basic	Agent does not violate effective project management, but what happens in practice	[45]

			and organization succeed.	communication measurement technology.	damage Communication.	Not all project management provides Need to be successful.	
31	IEEE Software 2005	Qualitative analysis	Identify screenshots instead of technology and some of the obstacles to dynamic the traditional approach.	Learning lessons can help more Enhances high speed integration Disadvantaged methods and methods and experiences across the organization	And the entire community's data is important for the return on investment verification and integration activities.	Research There are many areas where new methods and uniforms need to be provided.	[20]
32	Computer 2001	Qualitative analysis	Exploratory problem areas are extremely, complex, highly variable	The project's ability to work, cooperates and works best on people Culture.	Detailed discussion of factor that influence agile with people, organization and technical.	Systematic literature review is needed to gauge more factors influencing Agile	[21]
33	International Journal of Quality & Reliability Management 2012	Systematic literature review	Researchers need to investigate trust, confidentiality, and security issues associated with them ASD.	Concepts and principles ASD, history and evolution, and criticism of different users Software development community	Generic view of ASD is briefly described.	Researchers also want to deal with success factors and make necessary changes Challenges in adjusting ASD in Outsourcing / Outside Sensing	[76]
34	DOI 2015	Qualitative analysis	What separates successful agility?	Software Project and Minimum Team Successful and busy team and team leader Follow different strategies. They - obviously or (rarely) are obviously intentional Software development is a multi-domain Take questions and related tasks.	When different people or groups People are involved and we are generally dealing with complex (adaptive) systems.	There is no "perfect size" According to procedures and actions, the problem lies in this issue.	[28]
35	CROSSTALK The Journal of Defence Software Engineering 2004	Qualitative analysis	To provide awareness about risk management and to provide a vision for developing the appropriate risk management strategy	, we identified six risks. The potential factors according to our experience There is also a significant impact on success Software programs and projects failed.	By following these points, you can reduce the possibility of a program or project failure.	This article does not intend to provide a complete list of risk factors for a specific program / project - it requires more Space.	[44]
36	XP 2002	Qualitative analysis	To support the selection of the procedure Experience based on submitting and analysing the applicable methods And get background experience.	This experience is once again Ability to support and guide future projects to select the most appropriate assets Hand job	Carefully check and challenge future plans and when they maintain the environment When they should not be caught	A detail cross talk is needed to explore more challenges that effect Agile.	[38]
37	IJPOM 2012	Statistical analysis	We have an integrated development idea The model affects the project manager's encouragement, "Movement Factor Inventory" (MFI).	A clear, interesting task is working with a supportive and objective based team to get the necessary information The possibility of influencing financial and human resources and important decisions	The Governments can positively influence the encouragement of project managers.	Future These important issues related to research need to be solved Personal, situations and active variables Project Manager encourages	[26]

				has been identified as the most important concern Project Manager working in Switzerland			
38	(IJACSA) 2017	Qualitative analysis	To find the detailed list of motivator and demotivator factors	Detailed list of motivators and demotivators is elaborated and classified into people technical and organization factors.	Providing an categorization of motivators with respect to people, organization and technical and sub-categorization accordingly.	There is need of model of motivators for ASD.	[43]

IV. MOTIVATORS AND DEMOTIVATORS IN RQ1

In order to answer the RQ 1, SLR was done by which detailed list of motivator and demotivator has been extracted and list in Table VI.

A. Common DeMotivators Mined from SLR

Specific collective demotivators mined from SLR are presented in Table VII.

TABLE VI. COMMON MOTIVATORS EXTRACTED FROM SELECTED PAPERS

Sr. No	Motivator Factors	No. of Existing Studies
1	High quality Performance	[9][79]
2	Adherence to budget	[79] [57] [72] [4] [6] [88] [82] [9] [19]
3	Identify work balance	[6]
4	Personal interest	[82] [9] [19]
5	Quality work	[7]
6	Follow process life cycle	[32] [82] [9] [19]
7	Feasibility studies	[82] [9]
8	Recognition of good work	[82] [19]
9	Teamwork	[32] [82] [9] [19]
10	Task Identification	[82]
11	Clear domain knowledge	[82] [9] [19]
12	Reduced work repetition	[82]
13	Rapid Feedback	[32] [2] [8] [82] [9] [19]
14	Change interaction	[32] [82] [19] [33]
15	Autonomy	[4] [8] [82] [9] [19]
16	Follow rules and regulations	[33][89]
17	Tolerance to work	[6] [88] [82] [9]
18	Intime and accurate	[82] [19]
19	Rapid communication	[32] [82] [19] [79]
20	Training	[82] [9]
21	Minimize risk	[82] [9] [19]
22	Simple code/ Simplicity	[90]
23	Cooperative organization culture	[8]
24	Face to face communication	[4] [8]
25	Expertise of team members	[6] [8]

TABLE VII.   COMMON DEMOTIVATORS EXTRACTED FROM SELECTED PAPERS

Sr. No	Demotivators factors	No. Of existing studies
1	Work location	[4][82] [19] [79] [91]
2	Low Incentives	[6] [7] [82] [9]
3	Large documentation	[82] [9] [19]
4	Uncertain working environment	[82]
5	Change in prioritization	[82] [19]
6	Poor commitment	[8] [92]
7	Low sense of ownership	[82] [9] [19]
8	Less resources	[9]
9	Lack of executive sponsorship	[82] [9] [19]
10	Lack of agile logistic	[82] [9] [19]
11	Lack of necessary skills set	[9]
12	Poorly defined scope	[9] [19]
13	Lack of project tracking mechanism	[4] [82] [9] [19]
14	Partially following Agile practices	[9]

V.   CATEGORIZATION OF MOTIVATORS AND DEMOTIVATORS (RQ2)

We have classified motivators and demotivators factors into procedural, stakeholders and firm's factors as shown in Fig. 1. Following figure shows the general motivators and their classification in which organization of general factors include customer oriented, judgment based, team dissemination and scope, overall culture and organization and mechanism. Stakeholders technical features includes ability, individual features, announcement and conciliation, civilization culture and keeping fit and knowledge while procedural features include individual features, inherent, extrinsic and some overall aspects.
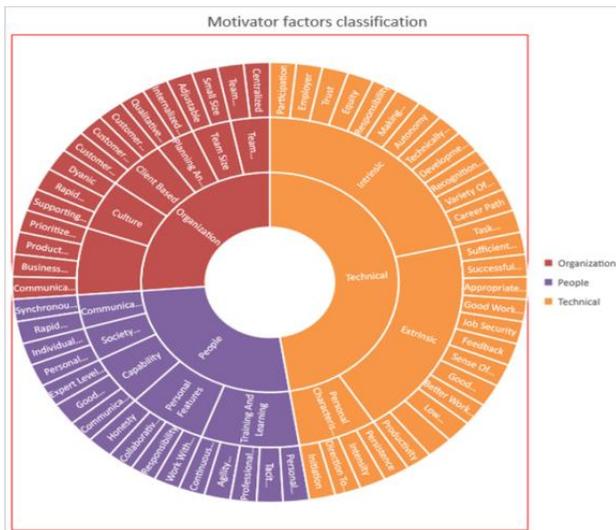

Fig. 1.   Classification of motivators.

Classification of demotivators has also been performed to find more precise results (Fig. 2). In organization, the most common factors are: unclear requirement, scope and kind of modification, deadlines, early decision making, current political situation, low productivity, lack of face to face communication, large team size, informal communication,

trusting people, tool process, nature of organization. In people factor, less domain experience, critical communication, time zone, native culture, geographical condition and linguistic difficulty are evaluated.
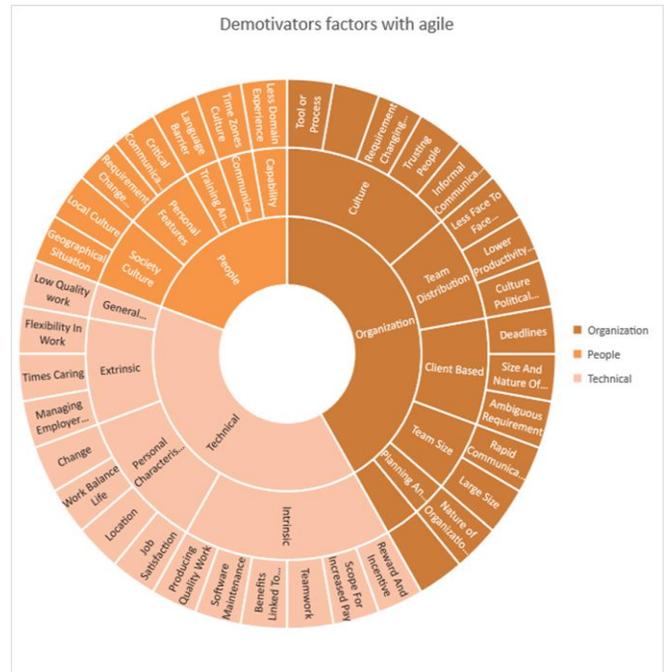

Fig. 2.   Classification of demotivator factors.

VI.   FACTORIZATION OF MOTIVATORS (RQ3)

This section addresses the answer of RQ3. Subcategorization was done on motivators (Fig. 3). We have done categorization of motivating factors such as diversity of effort which was categorized as individual and marketplace desires. Considering the sense of belonging aspects are categorised as intrinsic and extrinsic. Recognition of work can be classified as reward and incentive. In employee participation individual and team participation are core motivating factors while clear identification with task has motivating factors such as clear goals and stick with plans.
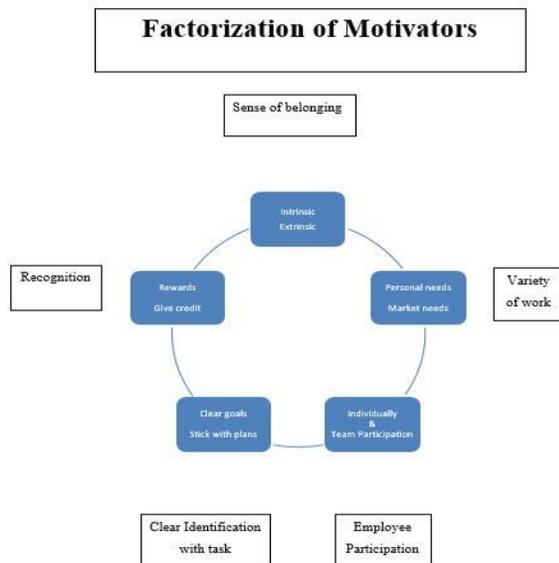
Factorization of Motivators

Fig. 3. Factorization of motivator factors.

VII. THREAT TO VALIDITY

There are three systematic steps for threat to validity perspectives.

A. Primary Studies Risk Identification

The motivation is the core domain to motivate someone to enhance their capability that is why it is a tuff task to separate concept of motivation accordingly. For this purpose we have selected the word software to differentiate the concept of motivator from other domains.

B. Threats to Selection and Consistency

Due to selection of research question from the domain of agile their might be possibility of containing magazine contributions and thesis because the data exist in dispersed form.

C. Threats to Data Fusion and Results

This result is evaluated against given string. If a keyword is added or remove against string it might be better filtering result. This snowballing process is to explore what has been done in the field of motivator in ASD.

VIII. DISCUSSION

Current research focused a systematic literature review of motivator and demotivator factor of ASD. For this purpose we have explore against the string and evaluate the result accordingly. The detailed list of motivator and demotivator has been evaluated and classification of motivator and demotivator has done on organization, people and technical level. Then these levels are explored more against general factors, such as client based, decision time, team distribution, team size, general culture, planning and controlling, capability to do work, personal feature, training and learning and intrinsic and extrinsic.

IX. CONCLUSION

This systematic literature describes the synthesis of data available on success and barrier of Agile software development. These success and barrier are also referred as motivator and demotivator factors. For this purpose we have provided a detailed list of motivators and demotivators. Classification is also been performed on the basis of people, technical and organization perspective to give comprehensive detail accordingly. A Quality Assessment has been performed to find the best possible paper according to string. Brief introduction of selected papers has also been described. Along with this, the sub categorization has also been performed to find more brief detail of motivator and demotivator factors. The plan behind this research is described and keywords that support are also been discussed. Literature lacks the open question on challenge and motivator factor of agile software development.

X. FUTURE WORK

In future we will do empirical analysis on motivator and demotivator of Agile Software Development to find more accurate results. Further plans are to provide a demotivation effect model for Agile practitioners which will be helpful in increasing productivity.

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