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Abstract—Effective work and deliverables are made through a well planned and maintained team collaboration. Roughly 75% [7]of employees regard collaboration and teamwork as important. Collaboration is in the top four important skills for employees' future success This paper explores the opportunities and challenges in crafting an effective team through collaboration and planning and proposes a preferable mode of working in an agile environment.It goes further to use GDSC(Google Developer Students Club) Moi University as a case study.

Keywords—*agile team, scrum, kanban, Solutions driven team*

I. INTRODUCTION

Team collaboration and building includes a wide scope of exercises, intended for further developing group execution. Its point is to draw out the best in a group to guarantee self turn of events, positive correspondence, authority abilities and the capacity to work intently all together to meet set deliverables. This paper audits current writing in groups trying to lay out a portion of the attractions and difficulties in achieving deliverables in order to give a reasonable view of what can be accomplished through collaboration. The writing shows that the impacts of cooperation (both positive and negative) are dependent upon numerous components, including the associations' way of life and environment, viability of group administration, representative responsibility, the arrangement of pay and compensations, and the degree of worker self-rule. This paper focuses on: clear objectives; dynamic position; responsibility and obligation; powerful administration; preparing and improvement; arrangement of assets; hierarchical help; and awards for group achievement.

II. EFFICACY OF AGILE METHODOLOGY OF WORKING

Overview of Agile Methods

Agile methodology processes is an iterative and incremental based development, where requirements are changeable according to customer needs. It helps in adaptive planning, iterative development and time boxing. It is a theoretical framework that promotes foreseen interactions throughout the development cycle.Ever since work collaboration started, the method involved in team and project management was the waterfall approach in the 1970s to cater to the requirements of the day.

Software teams that embrace agile project management methodologies increase their development speed, expand collaboration, and foster the ability to better respond to market trends.

The Concept of Team building

Effective team building is an important issue of human resource management (HRM). In order to keep up with technological improvements and changes, selecting the right person for the right job position is very important.

Although selection is a key part of team building, it must be known that team building is a process and not a one time event, various stages are involved. For a team to be considered an 'A' team, it has to go through conflicts and competition which with time and guidance from the leader builds good communication among the members and growth of trust among each other and their capabilities. All this then leads to a team with efficient working strategies, collaboration and group decision making. [7]

Communication actually stays a center piece of group building. In the event that groups communicate better, the more proficient they become. Customarily groups are matched by their range of abilities or capacities yet a superior methodology would zero in on the characters and

personalities. Matching personalities equals better communication which in turn propels the team forward. Team building should begin with human associations.

Good teamwork is essential in today's organizations at all levels, yet evidence suggests that dysfunctional teams occur in far too many situations. The cost of dysfunctional teams is significant, leading to improper strategic direction, inappropriate execution, operational inefficiencies, and potential organizational failure. A study by [1] examines the process of team building, specifically how human capital and social capital help teams function effectively. The cardinal virtues—moderation, courage, justice, and wisdom—are posited as essential individual characteristics of effective team members and seven propositions are offered relating these virtues to good team functioning. Finally, four recommendations are provided regarding virtue education in business schools to prepare business graduates more effectively for team participation and personal flourishing in organizations.

Building Effective Teams

A team is a group of specialists with a typical mental expression that incorporates having a common expectation, the knowledge of group membership and of the group's capacities, and a collaborative frame of mind. [6] A review of significant writings reveals a few factors that favor the effectiveness of a team including having a clear purpose, expectations and goals, shared leadership, and self-assessment.[5]

The effectiveness of teams can be upgraded by the expansion of specialists specific to particular undertakings e.g. A tech community becomes more effective through the addition of a media personnel who focuses on publicizing events on various social media platforms. These specialists don't have to be of the same abilities and may be organized in a rank with assistants whose main work is bettering the performance of the team. Distributing tasks this way boosts the motivation of the team[6]. An effective team involves putting into consideration what each specialist has to offer and the presence of required assets to accomplish expressed expectations[5].

Setting a clear purpose for a team lays the foundation of an effective team and helps guide the team by providing clear directions. It entails providing a clear vision for the team which may be set by the team lead or jointly by the team[5].

Waterfall versus agile

Agile was first adopted by software teams, who moved from the traditional, sequential waterfall approach to a method that garnered consistent feedback and adjustment throughout the development lifecycle. The waterfall project management approach entails a clearly defined sequence of execution with project phases that do not advance until a phase receives final approval. Once a phase is completed, it can be difficult and costly to revisit a previous stage. Agile teams may follow a

similar sequence yet do so in smaller increments with regular feedback loops. The waterfall project management approach follows a linear, sequential formula. It works well for work that has predictable, recurring processes, yet it can leave development teams flat-footed and unable to adjust faster than a competitor.

Exploring different tools of Agile working

There are various tools and platforms to make team collaboration using agile become effective. In this context we will explore at least 5 of the top used Agile tools.

- Zepel
Is a project management software built for product development teams. Whether you're a scrum team or a team that prefers kanban, Zepel has all the constructs and features you need to effortlessly plan features and track its progress
- Jira
It was built for issue and bug tracking initially, but can be moulded to be used for software product development as well. Since JIRA software capabilities are nearly endless, it has become the default choice for most companies
- Trello
The entire tool is focussed around Kanban which makes it effortless to get started. Within each project, your board can have multiple columns known as lists and cards to represent a task. When you want to show progress being made, you move a card from one column to the other.
- Github Project management
With Github project management, your team can manage, track, and fix issues too. By linking issues with pull requests and code commits, your team members can track updates in your project without complicating your workflow.
- Pivotal Tracker
It is built to keep your agile team on track to hit their sprint goals. It's sprint planning guides you with breaking down and prioritizing projects into manageable, actionable chunks for your team to keep the momentum going.

Impact of Agile on GDSC Moi

As a case study, GDSC Moi University has witnessed a number of major benefits with the use of an agile and iterative team collaboration mechanism. Every project was segmented into several incremental steps that included regular feedback intervals. A project requirement was then segmented into smaller pieces, which we then prioritized by importance. This method formed a framework within which people could address complex adaptive problems, while productively and creatively delivering products of the highest possible value. These included crafting solid plans for our mentors and our mentees, internal audit of tasks and sustainability of the whole entire collaboration ecosystem. We were able to withstand COVID19 effects, being able to run smoothly. We managed to be the best Google Developer student's club in Kenya in terms of team work.

Recommendations for A Solutions driven Team

Moving to agile can be challenging, especially when a team or organization is rooted in a more traditional project management approach. Moving to agile practices may require a number of process changes, especially when adopting a DevOps approach, where development and operations teams work closely together to develop and maintain software or a team. When adopting agile principles, a team and the stakeholders must embrace two important concepts:

The product owner's focus is to optimize the value of the team's output. The team relies on the product owner to prioritize the most important work first.

The development team can only accept work that it has the capacity for. The product owner doesn't push work to the team or commit them to arbitrary deadlines. The development team pulls work from the program's backlog as it can accept new work.

Milestones for a Team Collaboration

The ability of teams to improve over time determines their overall performance. A high-performing team will foster greater understanding among its members, allowing members to develop in areas of performance that were previously lacking. There are some team elements that influence team performance namely: motivation, attitudes, personalities, team diversity, members' cognitive abilities, team atmosphere, cultural factors, team traits, expertise, team competency, and so forth[3]. Team collaboration also brings a few other key benefits to the table, such as brainstorming, equal partaking and providing value.

Why should team collaboration be encouraged? it broadens your scope of analysing things, leads to problem solving thus speeding up the solution, it teaches responsibility, trust, love and care among each other and increases efficiency towards achieving the set goals [4]

Impediments to check for while working in a team

Lack of well defined individual roles may cause confusion and laxity in the whole team.

For teams to maximize their potential and work well, every member has to perform their individual unique roles well. Without well defined goals, and roles, team members may not know what is expected of them. It is important to assign roles to everyone in the team because confusion hinders effective team collaboration.

Rigidity.

When team members are not open to changes in everyday life, team work may be frustrated. For a more efficient and productive output, team members should be open to experiment new solutions to challenges they face. Otherwise, their way of doing things may become too outdated to solve the challenges of the moment.

When meetings take much longer time than anticipated, team members may lose focus, engage less, become fatigued and fail to contribute. This decreases their productivity and frustrates the team work. Also, when the teams are too large there may not be time for everyone to contribute. This means that individual members are not given equal opportunities and this may cause a lot of division in the team.

Extra large teams are also somehow difficult to manage. The number of individuals in a team should be manageable so that the quality of work is not compromised.

If individual members do not get along well in a team, there may be frequent conflicts and misunderstandings that can not only frustrate what the rest of the team is trying to achieve but also frustrate individual strengths.

It is wise to always make sure that a team is made up of individuals that compliment each others strengths and energy. Also, in case of a misunderstanding, team members should all be willing to sit down and find an amicable solution.

III. CONCLUSION

Effective team Collaboration can be thought of as the lubricant that keeps teams together. Collaborative teams work together to create new ideas, finish large projects, and achieve their objectives in the workplace. A collaborative team, at its most basic level, accomplishes more together than the individual team members could do on their own. The need to build working effective teams is of essence. Agile methodology is therefore recommended and adopted in most organisations if not all, as it broadens the scope of problem solving. When you become accustomed to agile methodologies, you'll be able to devise and tune your own methodology. Growing businesses and teams must recognize the importance of collaboration and seek out ways to encourage it among their employees. Bring your teams together in an Agile collaborative spirit, and your work teams will become more productive.

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