SOFTWARE ENGINEERING CASE STUDY– 1: AGILE & SCRUM

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1. Answer the following questions based on your understanding in not more than 10 sentences
    a. Identify from the observations, where all would you think Service Inc. did not meet the intent of the Agile Manifesto
        i. Individuals and Interaction : General Managers running Service Inc.'s engineering centers had around 200 teams reporting to them directly and indirectly which limited the amount of interaction
        ii. Working software is more important than Comprehensive Documentation. : Service Inc.. cannot be relied upon for the delivery of the product in spite of having quality professionals with certifications working for them.
        iii. Customer collaboration is more Important than Contract negotiation. : The SVP of Service Inc. is more into negotiating the contract with Product Inc. rather than feedback or GO/No GO decisions in order to increase his revenue by 25% and profits by 40%.The maintenance project that Service Inc was willing to take up is only witnessing the customer issues. Rather it would be better if they conduct a survey with customers and then process the change.
        iv. Responding to change is more important than Following a Plan : Service Inc. was simply not agile enough for an agile product where uncertainty and constant change are the only truth and relying on volumes of documentation is just a waste of time that a fast-growing product cannot afford.
    b. Identify from the observations, where all would you think Service Inc. deviated from what is expected from a SCRUM implementation.
        i. Here, the project manager who is the Scrum Master is deciding and assigning various tasks among the team members. The project manager is also making a commitment on behalf of the team,

ii. Unlike a typical SCRUM, there has not been any interaction between the customer and the Product Owners ever since the centers have been set up. Due to which, there has not been any proper review.
iii. In SCRUM there are discussions with the Scrum Master and the Development Team about backlogs. The same is not happening here as the team members are dealing with the emergency issues with the product.
iv. In SCRUM, there is always good planning and good use of resources. But in this case – the 4-week sprints, quality engineers joined after 2 weeks as they rotated among projects and there was nothing ready for testing till the end of 3rd week. The test engineers wrote test cases in the 3rd week and tested in the 4th week. Due to this, there is a wastage of resources.
v. SCRUM involves a prioritized list of requirements to focus on, such that they can concentrate on important things first and be able to deliver them. In this case, 'in terms of metric, the backlog at the beginning of the scrum is more ambitious than the average velocity of the scrum teams recorded so far as the teams prefer to take ambitious targets. They were encouraged to do so.

c. Discuss each of the findings in the table and indicate whether the finding contributed positively or negatively in go/no go recommendation and indicate with ~5 sentences why it is so.
i. Key finding 1 - Positive Impact : All the daily scrum meetings,sprint review meetings that happened without fail contributed positively as it helped to get feedback from Product Owners and set the sprint backlogs accordingly. Each sprint team had sufficient members to work on the projects in each area. Scrum Master and Product Owners were rotated across sprints to blend well with the teams.
ii. Key finding 2 - Negative Impact : The duration of each sprint was a 4 week period but quality engineers joined only after 2 weeks. The Test engineers wrote test cases in the 3rd week and the product was tested in the 4th week which left no time for post-testing improvements.
iii. Key finding 3 - Positive Impact : As the project manager was trained to take the new role of Scrum Master, he facilitated the meetings and took commitment on behalf of the teams, kept track of assigned tasks and ensured that the commitments were fulfilled and hence improved the efficiency of the team.
iv. Key finding 4 - Negative Impact : The sprint backlog changes went till 3rd week as the team members were also responsible for emergency product issues. This resulted in deviations from the commitments made and set the project deliverables.
v. Key finding 5 - Positive Impact : The stakeholders and the General managers were constantly updated on the progress of the work.Collecting

constant feedback from all the team members helped in rectifying the fallacies so that they could be resolved in the upcoming sprints.

vi. Key finding 6 - Negative Impact : Neither the sprint backlog nor the task list were decided in the sprint planning meeting. The task list was finalized by the end of 1st week whereas the backlog was finalized by the end of 3rd week which didn't serve the purpose of following Scrum practices at all.

vii. Key finding 7 - Negative Impact : Overload of work would result in reduced efficiency of team members leading to a delay in the delivery timeline which would be a major issue.

viii. Key finding 8 - Negative Impact : Customer Acceptance test is one of the important aspects of Agile methodologies. Clear understanding of the needs of the customer/client and the recent trends in the market are essential for the development of a sustainable product.

2. How can Service Inc. achieve a 40% growth in margin while achieving only a 25% growth in revenue?
    a. The Rule of 40 is a principle that states a software company's combined revenue growth rate and profit margin should equal or exceed 40%. SaaS companies above 40% are generating profit at a sustainable rate, whereas companies below 40% may face cash flow or liquidity issues.Currently, Service Inc. maintains a healthy market share and a steady increase in revenue of 12% and an increase in margin at a rate of 10%, both on a Y-O-Y basis.
    b. To increase its revenue and margins, the company decided to enter high-margin sectors such as the Consulting sector. But as the consulting sector did not scale well,even though it increased its billings. So 5 years ago, they got into the Productengineering space as they believed it would greatly increase their profit margins. In a Period of 5 years, they have set up multiple engineering centers with many Software Product companies. Using these centers. Services Inc. handled customer support,Sustaining EOL and discontinued products for its clients which allowed them to increase their billings. thus increasing their margins without a comparable increase in their overall revenue growth.
    c. Although this was not enough as the company couldn't bill at the same premium price as they could if they offered Product engineering services as well. A new SVP 35was appointed to head a Product Engineering division to increase revenue by 25% and margins by 40% for engineering services in the next 3 years.

3. What are the cultural differences between Service Inc. and Product Inc. that you think is a challenge for successful scrum implementation that would satisfy Product Inc.?

a. Culturally Service Inc. and Product Inc. are poles apart. As an example, Product Inc. is a flat organization with open offices, where engineers and managers Including VPs and SVPs share open cubicles, with the senior managers having offices in corners where engineers do not need to go often, and are designed with dedicated conference rooms for meetings.
b. On the contrary, in the Service Inc.., one can make out the seniority of a manager in the organization by the size of his desk and room that he has been allocated.
c. Service Inc, is bureaucratic and hierarchical whereas in Product Inc. even Senior program Directors like Stan talk with the junior developers directly.
d. Service Inc, Focused on elaborate processes and extensive documentation; unreliable for product development whereas Product Inc. did not focus on extensive documentation.
e. Service Inc: Freezes requirements & resources at beginning; change management could get expensive whereas Product Inc. Includes all the circumstances and responds to change at any level.