

**Answer of Question1:**

This project can help with brand remodeling and expansion, support e-commerce activities, increase sales, reduce waste, eliminate the manual process, and contribute to the environment by using digital receipts.

**Answer of Question2:**

First, this project will have a cost limit because Trisha has a 30w loan, she needs to be wise to allocate the money to all expenditures related to expansion. However, Trisha has very high requirements for the project and requires a customized solution, so the cost of the project will be relatively high.

Secondly, this project will also be limited in time. Because Trisha's requirements are very specific and require customized solutions, the time and cost required are high, but the first phase of the project requires completion within 9 months.

**Answer of Question3:**

First, this project requires a very large database is a challenge. Because Trisha requires storage and analysis of customers' five-year consumption patterns, users' one-year consumption history, and much information of customers.

Secondly, this project requires many different technologies and tools to be a challenge. Because Trisha requires the system to support multiple payment modes, and to support both Android and Apple platforms. At the same time, this project also requires the use of machine learning algorithms to analyze customer shopping trends to increase sales.

**Answer of Question4:**

First, because this project is too unique, there may be a risk of low market acceptance. Considering the cost reasons, did not choose the current popular solutions on the market, Trisha has unique requirements for the project. And she is a very assertive, optimistic and confident person, she may put forward more unique needs.

Second, because the user's ID name is the user's email ID, there may be a risk of user privacy leakage, which indirectly affects the platform. Because the user's ID name is the user's email ID, which means the user's email ID is equivalent to a public message. If the malicious network sends the virus email to user's mailbox, causes the platform user to suffer the damage, for the software platform also will have the very big impact.

Third, because of some unreasonable designs, it may lead to unfriendly user experience. Because this project design requires that the user's address is not stored, this means that the user needs to re-enter the address every time they purchase a product. If the address name is very long, it may make the user feel that this is a very cumbersome thing. And users cannot use their Normal Customer Profile login to participate in each special event, they need to use the one-time special login mechanism to use in the new mobile application.

Fourth, if the amount of data is not enough, the machine learning algorithm might be inaccurate, which may affect Trisha's judgment and decision-making.

#### **Answer of Question5:**

This is a time-bound project, and the project must be completed within nine months. At the same time, Trisha has a 300,000 loan that needs to be used for all expenditures related to expansion and system design and development. Although Trisha indicated that low cost is a key consideration for this system, the specific budget is still unclear. Here we discuss the following two situations. If the time and cost of the project are very strict, and because Trisha is an optimistic and confident person who has a strong sense of participation in the project, she may often make suggestions for revisions, and the software requirements may change. At this time, choose Incremental model would be a more reasonable choice. If the cost of the project accounts for a relatively small part of the total expansion expenditure, but the cost is still sufficient for the project development, Trisha is particularly proactive and willing to participate and propose amendments, and the software development team is very experienced. Agile model In this case, it is also a good choice.

The Agile model is a popular development model in recent years. This development model is widely used in projects with relatively unstable requirements. [1] It has popular virtues like

enhanced flexibility to incorporate evolving requirements, low bug rate, incremental delivery, quick time to market and ability to keep pace with market trends. [2] Because Trisha did not use ready-made popular solutions, completely customized, in the design process, there may be constant modification and adjustment, and the agile model caters to the needs of the project very well.

However, the Agile model relies heavily on tacit knowledge, and the requirements for the team are relatively high. Testers are required to fully master various scripting language programming and be able to unit test. [3] In addition, the Agile model does not have sufficient testing for mission/safety-critical projects, and is not suitable for highly stable projects and large-scale projects. [4] The development team of this project has a lot of experience. The project itself is not very big, and there is no need for a large number of tests, so the Agile model is an option when the cost is relatively abundant. However, Agile models lack documentation during project development, making it difficult for project managers to control progress. If the project is tight on time, it is difficult for new developers to join because they do not know the progress and overall development situation.

Incremental models can spread the risk in smaller increments instead of focusing on a large development. The lessons learned at the end of each incremental delivery can lead to positive revisions to the next incremental. In addition, the initial product delivery of the incremental model is fast, and the customer has acquired important functions early and has the opportunity to respond to each build. At the same time, it can also reduce the risk of failure and changing requirements. [5] This gives the project a very tight time and must be completed within nine months. After subdividing the project according to modules, the main functions can be completed first, and Trisha's feedback can be obtained as soon as possible, so that the project can be completed on time in accordance with Trisha's expectations.

However, the incremental model requires good planning and design. A complete and fully functional system needs to be defined early to allow incremental definition, otherwise the project will be difficult to divide and integrate. In addition, resources also need to be allocated reasonably. The model does not allow iteration in each increment. [6] Trisha's requirements for

this project are very clear and detailed. As long as the project team and Trisha clarify the details of the project before the project starts, the incremental model can also meet the needs of the project.

### **Answer of Question6:**

The incremental model would be a better choice in this project. Because the time constraints of this project are very strict, after the incremental model subdivides the project, each incremental can be delivered after completion. After seeing the delivered increment, Trisha can give feedback on the implementation part in time. Trisha has a detailed and specific plan for the project, and the development team is experienced, so it will be clearer when the project is subdivided. Even if Trisha proposes a modification after seeing the delivery of a certain stage, the modified part will not be very large, and it will not delay a lot of time and cost. The incremental model will be documented during the development process, so the project manager can better control the progress of the project. If the project time is tight, new developers can be added, and they can quickly keep up with the project progress based on these documents. Finally, the splicing of incremental model projects is not a problem for a team with rich development experience, and they can overcome this difficulty well. Most importantly, Trisha made it clear that this project is very strict in cost control, and the incremental model is very cost-effective. It can meet customer needs and deliver on time at a lower cost.

### **Reference**

- [1] “ISSUES AND CHALLENGES OF AGILE SOFTWARE DEVELOPMENT WITH SCRUM,” *Issues In Information Systems*, 2008, doi: 10.48009/2\_iis\_2008\_188-195.
- [2] K. Kaur, A. Jajoo, and Manisha, “Applying agile methodologies in industry projects: Benefits and challenges,” in *Proceedings - 1st International Conference on Computing, Communication, Control and Automation, ICCUBEA 2015*, Jul. 2015, pp. 832–836. doi: 10.1109/ICCUBEA.2015.166.
- [3] Z. A. Masood, “The Benefits and Key Challenges of Agile Project Management under Recent Research Opportunities The Benefits and Key Challenges of Agile Project

Management under Recent Research Opportunities View project,” 2017. [Online].  
Available: <http://www.irjmsjournal.com>

- [4] U. DigitalCommons, U. All Graduate Theses, J. Joey Cho, and J. Joey, “An Exploratory Study on Issues and Challenges of Agile Software Development with Scrum Development with Scrum Recommended Citation Recommended Citation,” 2010. [Online]. Available: <https://digitalcommons.usu.edu/etd/599>
- [5] B. Shahzad, I. Ullah, and N. Khan, “Software risk identification and mitigation in incremental model,” in *2009 International Conference on Information and Multimedia Technology, ICIMT 2009*, 2009, pp. 366–370. doi: 10.1109/ICIMT.2009.104.
- [6] A. Alshamrani and A. Bahattab, “A Comparison Between Three SDLC Models Waterfall Model, Spiral Model, and Incremental/Iterative Model.” [Online]. Available: [www.IJCSI.org](http://www.IJCSI.org)