

Birla Institute of Technology & Science, Pilani
Work Integrated Learning Programmes Division
Second Semester 2022-2023

Mid-Semester Test
(EC-2 Make-up)

Course No. : SE ZG685
Course Title : Software Product Management
Nature of Exam : Open Book
Weightage : 30%
Duration : 2 Hours
Date of Exam : Mar 2023

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|------------------|-----|
| No. of Pages | = 2 |
| No. of Questions | = 7 |

Note to Students:

1. Please follow all the *Instructions to Candidates* given on the cover page of the answer book.
2. All parts of a question should be answered consecutively. Each answer should start from a fresh page.
3. Assumptions made if any, should be stated clearly at the beginning of your answer.

Q1. Set A. Which approach used by DBS inside – out or outside – in. Detail it out. [3]

Inside Out

Early on in 2013, CEO also realized that DBS needed to start thinking like big tech. "Our frame of reference had to be Amazon or Alibaba. We had to stop thinking about what others banks will do. We had to start thinking about what big tech will do. This has prompted a culture of pervasive experimentation and innovation at DBS, leading to it being named "one of the most transformed companies" of the last decade. In 2020, he led DBS to launch two new exchanges, and undertake two acquisitions.

1/ DBS digital assets ecosystem : By leveraging power of blockchain and digital assets, transforming banking.

2/ Partior: Cross border clearing and Settlement provider

Q1. Set B. Which approach was used by Apple iPod inside-out approach or outside-in approach? Why do you say that? [3]

Outside In

Sony Walkmann influenced Apple to develop iPod.

Portable MP3 players had existed since the mid-1990s, but Apple found existing digital music players "big and clunky or small and useless" with user interfaces that were "unbelievably awful". They also identified weaknesses in existing models' attempt to negotiate the trade-off between capacity and portability; flash memory-based players held too few songs, while the hard drive based models were too big and heavy. To address these deficits, the company decided to develop its own MP3 player. The first version was released on October 23, 2001

Q2. Set A. How do you describe ID Fresh Foods from the prism of Drucker's sources of innovation? [3]

Outside In

Batter Business is available in many forms prior to ID Fresh Food.

ID Fresh Food, a private limited company, was founded in 2005 by P.C Mustafa and his four cousins. Explaining the idea behind starting the brand, PC Musthafa, CEO and Co-founder, iD Fresh Food said, "Back in 2005, we used to get idly dosa batter in a plain pouch. This batter had all sorts of quality issues and service complaints. And that's when we thought of trying to fix the problem ourselves.

iD Fresh Food matches with below (highlighted) sources of innovation.

- Unexpected occurrences. These often include failures. ...
- Incongruities. ...
- **Process needs.** ...
- **Industry and market changes.** ...
- Demographic changes. ...
- Changes in perception. ...
- New knowledge.

Q2. Set B. Considering Peter Drucker's sources of innovation, which source of innovation led to Oracle DB? Justify your answer. [3]

Larry Ellison and his two friends and former co-workers, Bob Miner and Ed Oates, started a consultancy called Software Development Laboratories (SDL) in 1977. SDL developed the original version of the Oracle software. **Oracle Database** (commonly referred to as **Oracle DBMS**, **Oracle Autonomous Database**, or simply as **Oracle**) is a multi-model^[4] database management system produced and marketed by Oracle Corporation.

Oracle DB matches with below (highlighted) sources of innovation.

- Unexpected occurrences. These often include failures. ...
- Incongruities. ...
- **Process needs.** ...
- **Industry and market changes.** ...
- Demographic changes. ...
- Changes in perception. ...
- **New knowledge.**

Q3. Set A. Describe the bottom 3 layers of Product Market Fit for Slack.

[3]

For

Slack:

i) Target Customer: The target customers of slack was the people from IT Field. They started inviting teams in batches and watched what happened. Then we made some changes, watched what happened. Then we made some changes, watched what happened. Then they created materials to explain slack to individuals. what it was for, how it worked, what you are supposed to do-but we also built resources for team administrator.

ii) Underserved Needs: In slack, you can create channels to discuss diff topics. For a small group of people, those channels are relatively easy to manage and navigate. With a team that large, though everyone was creating channels, and there was no way for people.

iii) Value Proposition: Slack is pretty fastidious about tagging all of these incoming messages, collating and entering and retaining the data that people are sending us. The company keeps track of how many people are asking for a certain feature, or how many want a new kind of integration.

Q3. Set B. Illustrate the bottom 3 layers of product-market fit pyramid of Shopify offering. [3]

The bottom three layers of product-market fit pyramid of shopify offerings are:

Target the customer: The first layer of the pyramid in market layer. Shopify's target customer's are small or medium sized businesses who wants to create an online store or improve their existing e-commerce operations.

Underserved needs: Some of the underserved needs of shopify as easy to use platform, comprehensive e-commerce features and integration with other business tools. One more of the underserved need is responsive customer support

Value proposition: the third layer of the pyramid is the value proposition layer. This layer is to identify the unique value that shopify offers to its target market in addressing their pain points. Shopify's value proposition is to provide an all-in-one e-commerce platform that is easy to use,, offers a wide range of features and integrates with other business tools. By providing this value proposition, shopify helps its target market to overcome their pain points and achieve their e-commerce goals

Q4. Set A. Create a Startup Canvas and story board for an AI/ML based platform for employee recruitment that provides services like candidature suitability, capability evaluation and suitability, experience validation and continuity to name few. [3 + 3]

Startup Canvas:

Problem: Hiring candidates for suitable roles has become complex and time consuming process. Traditional process used to analyze every resume, latest profile to figure out suitable candidate.

Solution: Using AI/ML based platform, we can query resumes and seamlessly conduct multiple interviews and assessing the fitment of the candidate with the company requirements. The platform helps companies with selecting right candidate and ensures the continuity of the candidate's experience

Key Metrics:

- Number of companies involved
- number of candidates placements
- Time taken by organization
- Candidate retention rate

Unique value proposition:

Our AI/ML based platform uses advanced models/concepts to evaluate the candidates based on their experience/skills. This ensures company has right list of candidates selected for right role leading to higher retention rates and increased productivity

Unfair Advantage:

Lower the price of hiring and selection and effective time management.

Customer segments:

- small and medium sized companies
- large enterprises(MNCs)
- Recruitment Agencies

Channels:

- website
- Marketing via social media
- Email announcements
- Referrals

Cost structure:

- Employee salaries and benefits
- Marketing and advertising cost
- Legal Cost
- Technology development and maintenance cost

Revenue Streams:

- Subscription based model
- Commission based model(for recruitment agencies)

Solution:

Story Board:

1. A company facing difficulties in finding right candidates for role that they are looking for they can use this AI/ML based platform while performing search operations
2. AI/ML based platform can be used to query database for resumes to analyze the job requirement
3. Ability to create account on platform and post job vacancy

4. Platform shortlists right candidates based on their skills, experience
5. Company also receives resumes with skills, candidate performance or overall score in last few months
6. Company interviews and shortlists right candidate
7. Company offers job to selected candidates and our platform helps in ensuring the continuity of candidate experience
8. Candidate joins the company and platform monitors candidate's performance and provides feedback

Q4. Set B. Create a Lean canvas & Story map for a ATM money vending product that helps specially challenged users. [3+3]

ATM Money vending products:

Lean canvas:

Problem:

The existing ATM model are user - friendly, but it may be difficult for specially challenged persons to use it. For example, A blind person may have difficulty in typing the pin and amount details.

Solution:

A product designed for specially challenged users which can also be used by normal users. Audio feature to give the instructions and voice recognition feature to take the input command from user.

Customer Segment:

This product is mainly targeted for specially challenged users but can also be used by normal users.

Value Proposition:

Product Specially designed for differently abled users.

Key Metrics:

No. of differently abled customers who has opened account after launch of this product.
Collection of feedback from existing differently abled users.

Unfair Advantages:

User friendly. Voice recognition feature.

Channels:

This feature marketed through posters and advertisements.
Product feature can be explained and advertised to targeted customer by visiting specially challenged user homes.

Cost structure:

Product development cost.
Service and Maintenance cost.

Revenue stream:

A User- friendly product design would help bank attract more customers. Increase in customer would help in generating more revenue.

Early adopters:

Specailly challenged people who already have account and frequent users of ATM.

Existing Alternatives:

Use existing ATM with help of others for cash withdrawal and deposit.

Story Map:

| User Activities | User tasks | User Stories |
|-------------------|---------------------------------|---|
| Audio Command | Read out command | Release 1: <ul style="list-style-type: none">• Read the command displayed in the screen |
| Voice recognition | Capture Detail said by customer | Release 1: <ul style="list-style-type: none">• Voice recognition feature to capture the data said by user |
| Auto processing | Process commands | Release 1: <ul style="list-style-type: none">• Navigate forward and backward based on user command.• Capture the pin and amount detail said by user.• Cancel request incase if user commands to terminate the action. |

Q5. Set A. Define must – have’s and performance gainers for Alibaba.com when it was in startup stage. [3]

Must have features

- 1) Search Product by different categories
- 2) View Details of Product
- 3) View Price and delivery timeline of Product
- 4)Create User Account
- 5)Login/Logout feature for users
- 6) Add Product to cart
- 7) Buy Product using different payment modes

Performance gainers:

- 1) Support large number of concurrent users from from different regions

- 2) Scale as per increase in number of product inventory items
- 3) Monitor and notify for any outage in any region
- 4) Provide different payment method and integration with payment systems
- 5) Allow seller to upload inventory and provide features for seller
- 6) Provide best possible timeline for delivery considering different warehouses and store locations
- 7) Track delivery and notify store users and end users

Q5. Set B. Define must – have’s and performance gainers for Amazon.com when it was in startup stage. [3]

Using Kano model for Amazon:

Must have:

- Competitively less prices.
- Wide variety of product, Good and reliable products.
- Cash on Delivery as well as Online payment feature.
- Return/replace facility

Wants:

- Search product based on name.
- Sort and filter options to choose products within their budget.
- Track the order.
- Cancel order.

Delighters:

- Notify me option if a product is out of stock.
- Loyalty/reward points.
- EMI facility.
- Discount features/ promo codes to avail discounts.

Q6. Set A. Describe the value created by Twilio platform. [3]

The following is the value created by Twilio platform:

1. Customer problem / Pain point:
 - To perform programmable communications, application developers need to gain some telecommunication knowledge and build the tool from scratch.

- This is a repetitive task prone to errors.
- 2. How does it solve?
 - Twilio offers a simple set of programmable communications functions - "dial", "play" & "record". The application developers can incorporate these into their mobile or web applications and easily get voice and text messaging.
- 3. Benefit/Value proposition:
 - Developers can concentrate on their application and offload the messaging and calling implementation to Twilio.
 - The headache of acquiring private telephone numbers and validating users is handled by Twilio.
- 4. Differentiation from competition:
 - Twilio was early into this market segment and did not have any mentionable competition when it started to grow. However Avaya, Genesys and others are competing for now.
 - As of 2018, Twilio has customers like Facebook, WhatsApp, Uber, Netflix, etc. This gives an impression that it is efficient and reliable.

Q6. Set B. Describe the value created by Paytm platform.

[3]

Paytm is a financial technology company, that specializes in digital payments and financial services. Paytm offers a wide range of services that creates value for its users

1. **Digital Wallet:** Paytm digital wallet(one of the early digital wallet) allowed users to store and manage their money digitally and using that money to make payments, transfer and manage expenses. This reduced the need for physical cash and provided user greater flexibility. This came before UPI and revolutionized digital wallet.
2. **Rewards and Cashback:** In addition to the wallet, paytm also has a platform for users to make general purchases, make recharges, pay bills. Paytm provided value to the customers in terms of rewards and cashback to use their platform to do the transactions and purchases and in turn providing value to the customers.
3. **Cashless Transaction:** Paytm enables cashless transaction for a variety of services including mobile recharges, bill payment, online shopping, ticket booking to making payment to small vendors and hawkers. This has eliminated the need of carrying cash, card and making the payment process much simpler and faster and secure.
4. **Financial Services:** Paytm also offers a range of financial services including saving accounts, insurance, loans. These allow customers to have a single platform for all their financial needs.
5. **Merchant Services:** Paytm allow merchants/business to register to their platform to accept digital payments through their platform. This helps to promote cashless transactions and support growth of digital commerce in India. This was one of the biggest value I would say as it propelled Paytm forward during the COVID times where the requirement was going contactless.

Same for Set A and Set B

Q7. Set A and Set B

A web based platform that integrates with Govt portals and fetch covid affected, vaccination, parents' professional information of the families of the kids. This information to be organized by sections/classes/buses/sporting units. Using sprint technique

- a. Map the usage of product [3]
- b. How to make the solution effective for 2 MVPs [3]
- c. Sketch the UI for the solution [3]

a. Ans: The guide compares the district health information software . the surveillance outbreak response management and analysis system .
India government is given some portal facilities in covid time. if covid injection is not taken for anyone india person then first, register to government portal with aadhar number and phone number and apply, select injection date in our requirement. The gov portal is save our portal record and compare day wise day.

b. Ans: Various measurement were taken by the central ministries along with states /UTs in terms of strengthened community surveillance , quarantine, isolation wards , adequate PPEs, trained manpower , rapid response teams for management of covid 19.

Government to spread awareness about corona virus prevention.
=> Recommended self care guideline for preventive health measures and boosting immunity.
=> Released National clinical management protocol based on Ayurveda and yoga for management of covid 19.

c. Ans: the advisory on use of masks.
=> For health people were a mask only if you are taking care of a person with suspected covid-19 infection.
=> wear a mask if you are coughing or sneezing.
=> Masks are effective only if used in combination with frequent hand sanitizing with alcohols sanitizer or soap and water
=> all person are keep distance and always maintain keep distance.