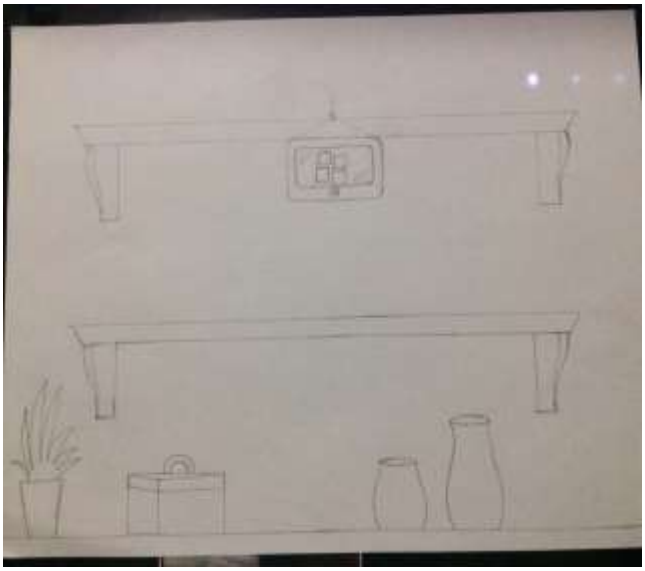
TOPIC

HOME AUTOMATION

PITCHING TOPIC

SMART SHELVES



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Group Name: Think Tank

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EXECUTIVE SUMMARY

In this busy life, we all would probably not get time for the basic necessity of the home. Like, every day we cannot remember and walk to the stores to the grocery. On the other hand, another major problem these days is the wastage of food caused because of the negligence of people. So, as to come over these two major problems, this report gives an idea about the new innovative technology that is being proposed. This report goes through the idea generation for the problem observed in the day to day. Further, a detailed case study related to the technology that will be used for the "Smart shelf" is done. The case study will be telling about why this technology can be used for this innovative idea, based on the previous successful implementation of the same technology. For the "Smart Shelf", the technology we will be using are RFID and Artificial Intelligence. The Framework for this "Smart shelf" goes as Innovation, Sustainability, Scalability and Mobility where all of these talks about what innovation the "Smart shelf" actually has. Sustainability will be explaining how long the product will live in the market. The Scalability and Mobility will be explaining how compatible the product is. The metric access is the next step in this report which comes with SWOT analysis as the access method to be used. Later the report will go to the financial aspects of the product where the calculation of Net present value will be done so as to see if the product will be profitable for the investors and how much profit the product will be making in the given product life cycle. The report will be also focusing on the benefits and the contribution of the product to the society and the environment.

PROJECT PROPOSAL

49016 Assignment 2 Proposal

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Group Number: 2 Group Name: Think Tank

Topic: Home Automation

Problem:

In this world of rising economy and technological evolution, the working-class people are increasing rapidly worldwide and confronting an issue of having a bustling life. So, to make their life easy, we expect to make home appliances smarter. Most of the home appliances require manual intervention in its operation, especially in kitchen. Hence to solve this problem, there is a need to minimize the manual intervention in operation of these appliances by different innovative ideas.

The major problem in the kitchen is the wastage of food items because of the ignorance of the user to check the expiry date. The other problem is that the people has to walk to the stores to buy the groceries and probably it's not possible for them to remember which all things are going to get over and go out to purchase. Also, family members might be allergic to some of the ingredients in the packaged food, which is difficult to analyse and keep a track of. In order to overcome these problems, we propose the idea of smart shelves which helps the user with grocery management and sends notification to the user, as described.

Ideas:

Smart home can be achieved by using internet technology which connects and enables the devices to be controlled by computers and mobile devices. The major problem which we are focusing on is in the kitchen section of the house. Smart shelf is the main idea that we are proposing.

Smart Shelves

- Shelves that can track the quantity and expiration date of the groceries.
- Sends a notification message to the user when the quantity of the grocery item goes below the set limit.
- Sends a notification message to the user when the expiry date of the grocery item is nearing.
- Allergen analyser which analyses the ingredients list of the packaged food for the tagged allergen and notifies the user when the allergen is determined.
- Shelves are internet-enabled, which connects to e-commerce portal to order the grocery item once it goes below the default level.
- Smart Shelf gives an estimate on calorie intake, based on the calorie table mentioned on the package of the food items.
- Smart Shelf has an in-built voice assistant, which can interact with users' voice-based commands. It can also be integrated with google home or apple home kit.

Two Major Innovation Failures:

1. **Security:**

   Security is one of the concerns of the customers while adopting home automation product.

This is especially important given the number of vendors that insist consumers push their live feeds to the cloud for processing, increasing the avenues by which hackers and others can access private data.

2. **Standards Protocol:**

Standards are the languages the machines speaks. In smart homes those languages are standards such as Apple's HomeKit, Google's Weave and Samsung's SmartThings, and unfortunately those standards aren't compatible with one another. If you have an iPhone and you want to control your smart home with Siri. None of the major smart thermostats currently on sale in the UK - Heat Genius, Hive, Honeywell Ecohome, Nest, Tado and Heat

Miser – are compatible with Apple's HomeKit, so Siri can't control them. You need a separate app for each system, and sometimes separate hardware too: for example, Hue bulbs

communicate via a wireless technology called ZigBee, which requires adding a hub to your Wi-Fi router.

Benefit and value of the idea to society and community:

The main motive behind innovating home appliances is to develop a system providing remote access to home appliances, when the user is not at home. In brief, the benefits and the value of the idea behind smart shelves:

- Helps user with lowering the food wastage in terms of keeping a tab on product expiry.
- Provide with healthy measures with help of allergen analyser is the key value to the user.
- Direct reliability over ecommerce helps user in reducing the stress over frequent grocery shopping and time consumption.
- Default features of Smart Shelves enable user to live up to the smartest technology, since the design is user friendly and super convenient.

This makes user's life a little easier providing with greater peace of mind and control over the

kitchen activities.

INTRODUCTION

What if all the devices in your life could connect to the Internet? What if your kitchen shelf could talk to you, help you manage your groceries and entertain you? Not just that, but can analyse your health profile and alert allergen present in the product that you bought, helps you reduce food wastage by alerting when they are about to expire. It's not science fiction; it's the “Smart Shelf” and it will be a key component of your future home automation and smart homes.

We are clearly just at the beginning of the smart home revolution. The new generation is heading towards a smart and efficient systems which interacts with humans in natural ways like voice and touch. The smart shelf is right one at the spot for making dumb old kitchen smart and interactive.

The Smart Shelf runs on open Innovation platform and integrates with Amazon’s Alexa or Google Assistant (digital personal assistant), and will do things like play music and tell you the weather. It can place orders from the Ecommerce site of your choice, like groceries, using Alexa or add items to a shopping list. But you can incorporate any number of Alexa or Google home skills into the “Smart Self”, and set kitchen timers, and more.

RESEARCH ARTICLES SUMMARY

Article 1: Modularization of Mobile Shopping Assistance Systems

Author- Denise Paradowski, Antonio Kruger

This paper presents an overview of the possible solutions in the field of Mobile Interaction that can be applied to perform these tasks. These applications are based on current and open innovated communication and interaction technologies, in particular, the detail use of NFC (Near Field Communication) and RFID (Radio Frequency Identification) in assisting user with shopping systems at finger tips (Paradowski & Krüger 2013). Here, RFID works with barcodes which mainly concerns in investigating products independently, this modules in retail infrastructure. In simple words, this article describes these two implemented technologies and illustrates how these two can be combined to handle specific needs of market.

They have used 6 main mobile interaction technologies to implement the shopping tasks which are as follows:

1. 1D barcode: Mostly printed on every product, thus are commonly available at every store.
2. OR Code: Have Higher data capacity than 1D code depending on the size of code (numbers of rows and columns) (Paradowski & Krüger 2013).

3. RFID: Provides with unique identifier, also works in range of meters and easy scanning process.
4. NFC: Extension of RFID technology which limits the range till few centimetres. NFC allows precise detection of scanned product. This also helps up with lots of opportunities in payment security and transaction mode.
5. Wireless Network: W-LAN, Bluetooth or 3G services are mainly used in shopping scenarios and various payment modes.
6. Image Recognition: Used for product identification with comparing various images.

They have explained the shopping tasks with seven different modules. These modules encompass:

-Shopping list management: Extremely critical part of shopping is making a list of grocery and other products. There are two different scenarios in shopping list; first one is mobile phone assistance and second is mobile shopping assistance. This assistance helps user to create his own shopping list and edit it as per his wish easily.

-Orientation: Making it easy for user in assisting and arranging rarely purchased products is what orientation helps. Also, the location of searched product can be found on the map, with various suggestion of nearest store and fastest route to that store.

-Product information procurement: User can make use of various features like scanning the barcode, or NFC in the retail market for proper guidance for product purchasing. It makes sure your previous product matches to the same you picked.

-Shopping basket management: Works and assist with the information received from Product information procurement which helps in managing the basket overall with total billing amount and items.

-Customer loyalty reward and coupon redemption: Name itself explains that, following the mobile assistance adds rewards to your account, which can be redeemed with help of NFC at time of payment.

-Payment: Payment being a secondary part of shopping process, these technologies still provide with certain wallets; Google Wallet or similar kind of cash less and wireless payment.

Article 2: Implementing Open Innovation: The Case of Natura, IBM and Siemens

Authors- Cely Ades, Aline Figlioli, Roberto Sbragia, Geciane Porto, Guilherme Ary Plonski, Kleber Celadon

This paper investigations three case firms viz Natura, IBM (Brazilian Subsidiary) and Siemens, whose advancement administration forms have been combined and analysed. The study tells us the reason for breaking down the usage of OI, considering following aspects:

(a) Tie ups with existing corporate methodology.

(b) Their prerequisites such as, culture, expertise and inspiration.

(c) The procedure and its execution.

(d) The outcomes accomplished.

(e) The present obstructions and other empowering influences.

The result obtained by utilizing a strategy called "Collective Subject Speech" explains the implementation of OI and their effects on community.

For betterment of the business open innovation approach allows companies to take advantage from ideas that would not be generated internally, whereas other expectations of the company were developed outside the company which perfectly fulfil their needs.

Basic flow followed by the companies goes from Research to Development and ends at Commercialization shown in Figure 1(Ades et al. 2013). Here, Research involves the basic research and idea generation methodologies followed by development from available as well as licensed in and out third-party resources. Later, in commercialisation sector, companies keep a focus on target audience and third parties take the hold of activities outside of firm's boundaries.

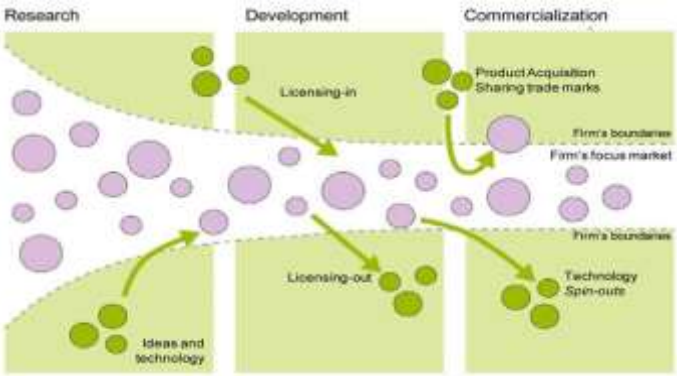

Figure 1 (Flow Diagram)

In the case of IBM, the internal R&D structure and its production of knowledge has served as the basis in the process of innovation (Ades et al. 2013). Siemens, with its corporate university, is concerned with training and the dissemination of knowledge within the firm (Ades et al. 2013). A research-oriented career can be considered as a motivator at IBM and Natura (Ades et al. 2013).

CASE STUDY AND EVIDENCE

Case Study

Leading companies embrace open innovation to keep competitiveness. As shown in Figure 2, According to Chesbrough open innovation (OI) is combining internal and external ideas to accelerate internal innovation, and expand the markets for external use of innovation (H. Chesbrough 2006).

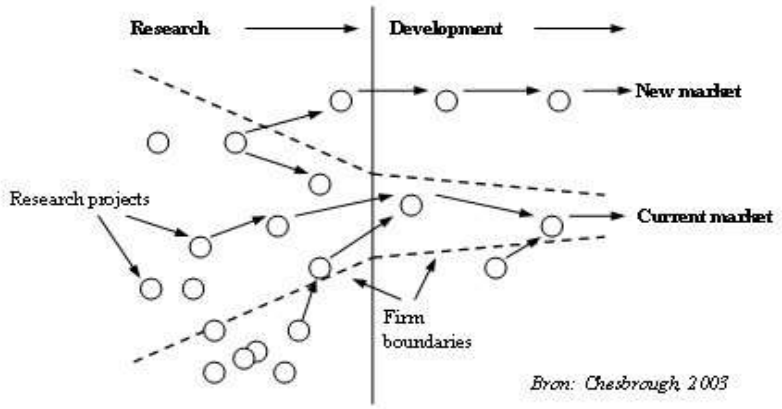

Figure 2 (Open innovation)

Samsung, one of the world's leading electronics companies, specialized in digital appliances and media, semiconductors, memory, and system integration. The company today has 206 offices and facilities in 68 countries globally, and it is recognized as one of the world's top 20 brands (KIM 2013). The journey started in 1969 and they are keeping the vision till 2020 in current year. So, it's not easy for any company to obtain such vision with existing high competency without open innovations. The real-time example from Samsung with powerful implementation of open innovation is Samsung Refrigerator T9000.

They adopted the following open-innovation techniques over the years:

- Partnerships: For example, collaboration of Samsung with start-ups in Silicon Valley.
- Global R&D Network shown in Figure 3 (Samsung 2015) and they also invest in start-ups for keeping the product updated with latest features and for solving compatibility issues.
- M&A team: consisting of entrepreneurs, engineers, inventors, strategist, business developers and experts work together to empower innovators across the world.

- Conducting Innovation Competitions:
    - Samsung Accelerator Program which takes place in Palo Alto and New York City helps in giving a platform to start-ups to empower their innovative ideas.
    - Accenture Samsung's innovation contest where nearly 500 developers took part to contribute ideas for future IOT platform products.

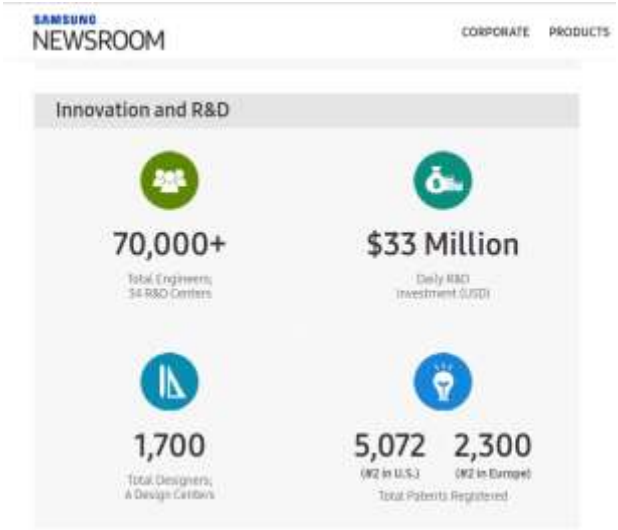

Figure 3 (Global R&D Network of Samsung)

Evidence

Before adoption of open innovation, Samsung's growth was not developing consecutively it was rather stagnant shown in Figure 4 (Morningstar 2017) but rather the opposition developed incrementally. Hence to compete in the market it had to adopt open-innovation. Samsung from early 90's started investing in R&D but initial steps towards open innovation started in 2010 when 'Samsung set up a small consumer-focused innovation team in London to come up with new products for the European market' (Miller 2014). In 2011, they started the most important R&D centre in Europe. Samsung accelerated open innovation in February 2013 by opening The open innovation Center(OIC) to identify and grow the technologies and infrastructure of the future(Samsung 2017a). Figure 5 (Samsung 2017b) and Figure 6 (Samsung 2015) shows that Samsung adopted open innovation successfully to compete with the others in market like apple.

Below are some facts and figures to support open innovation in Samsung:

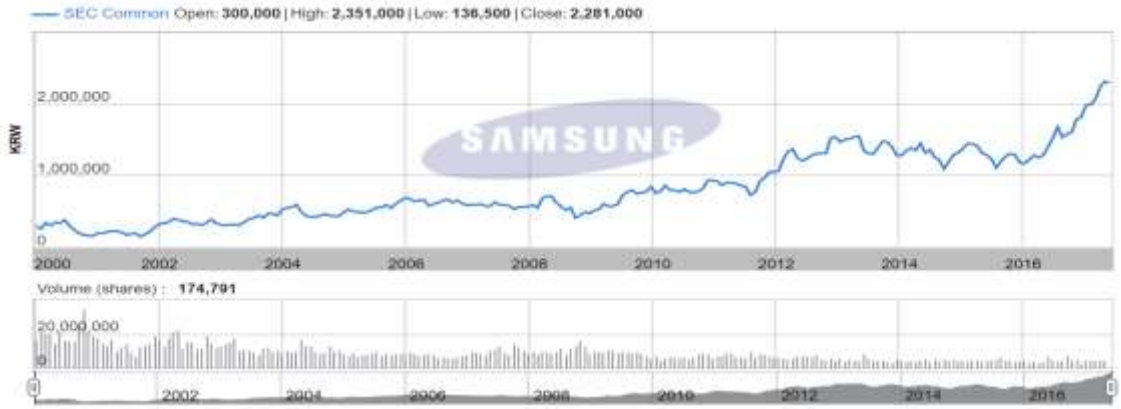

Figure 4 (The incremental growth of Samsung after the major steps taken in 2011)

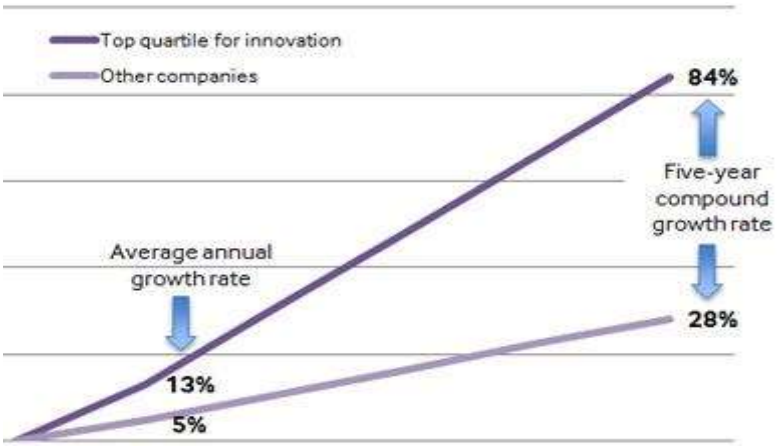

Figure 5 (Samsung's annual growth rate of innovation compared to other companies)

Figure 6 (Samsung Rankings)

EVALUATE IDEA FROM FOUR CONTEXTS: SUSTAINABILITY, INNOVATION, SCALABILITY AND MOBILITY

We have evaluated "Smart Shelf" based on the four aspects - Sustainability, Innovation, Scalability and Mobility as shown in Figure 6. Smart Shelf is a solution that is more effective, efficient and

sustainable. This product has long-term prospects and can be scaled to any form factor and accommodate various customer needs, as explained below.

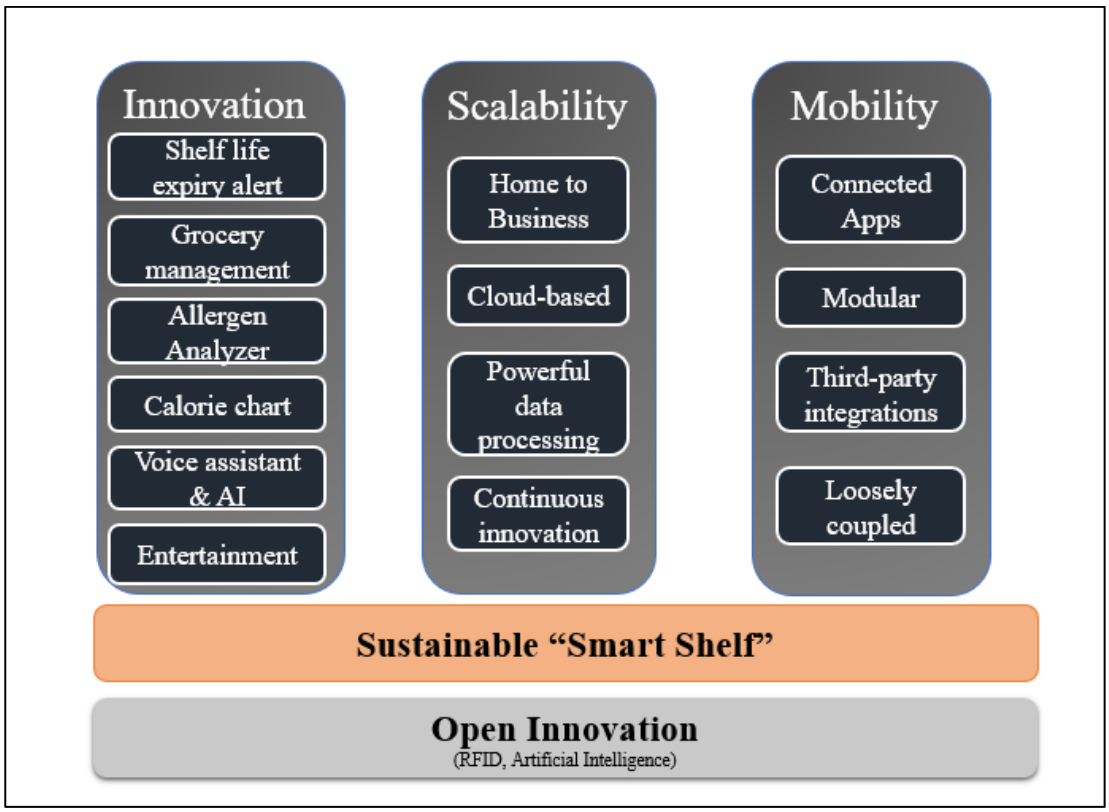

Figure 6 (Idea Framework: Sustainability, Innovation, Scalability and Mobility)

Sustainability:

We are clearly just at the beginning of the smart home revolution. The new generation is heading towards a smart and efficient systems which interacts with humans in natural ways like voice and touch. The smart shelf is right one at the spot for making dumb old kitchen smart and interactive. This type of disruption drives development by forcing the big companies back to the drawing board to hopefully come up with even better products — ones that will save consumers even more money, use even less energy and lead us towards greater sustainability. Nowhere is this more relevant right now than in the smart home space.

In recent years' home automation systems are gaining traction. But the force behind real change lies with the consumer. This idea of being able to see and control your house via a smartphone makes sense because people are already connected to everything else in their life. The smart shelf is

created to solve some of the key issues in every household. The smart shelf RFI sensors scans the items on the shelf and gives various details about the product including ingredients, allergens that can cause discomfort to you and your family, it is personalized to do that. The idea of placing the order when the product is getting empty is a neat trick and can attract working class families who does not have sufficient time to track all the items and go buy them.

The hardware prices have decreased dramatically over the last few years, making home control goods far more affordable. Retailers are eager to be a sales channel for these products and related services, rather than technology companies. So, turning the smart shelf idea into a platform/product seems to be sustainable since the future is heading towards smart things, Artificial Intelligence (AI) and machine learning where AI and machine learning can complement Smart shelf, making it more intelligent and can help in natural interaction with people. Smart shelf will be incremental upgrade, in future the voice assistants and AI based contents will be made available.

Innovation:

The smart shelf is one of its kind product and at present, there is no such product or system existing that is available for mass market. There are lot of home automation systems in the market but none of them are integrated and works on a common platform. Also, they don't follow similar protocol.

The existing smart homes products/platforms such as Apple's HomeKit, Google's Weave and Samsung's SmartThings aren't compatible with one another. Smart shelf idea not only monitors your shelf and places order on your behalf, it proposes the idea of establishing a common platform to all smart devices running in one place.

These are the areas that smart shelf is having innovative edge:

1. AI’s Will Watch Health

Advances in AI will fuel smart home technology. Information in the smart shelf will be sent to the cloud and analyzed by neural networks to determine the smartest settings. It monitors the health profile of the users by analyzing the ingredients for the allergens and calorie content present in the groceries.

2. Macro Actions Will Be Called By Voice

Smart shelf can be controlled by a voice-activated assistant, at home or remotely, we will have

access to any task we want to achieve through sensors and control devices. It can also work with popular devices like amazon Alexa or google home. So, overall the idea itself has a lot of potential and makes lot of sense at this point in time. This idea is very innovative on its own, since there are no competitors for the product in the current market.

3. Reduction in wastage of food

The major problem in the kitchen is the wastage of food items because of the ignorance of the user to check the expiry date. Smart shelf allows the user to manage the food items by sending alerts when the food items are about to expire. The Radio Frequency Identification (RFID) will scan the product labels for the expiry date and will notify the user.

4. Direct Integration with e-commerce

Smart Shelves are internet-enabled, which connects to e-commerce portal to order the groceries when the quantity of the grocery item goes below the default set level or the when its expiry date is reached.

Scalability:

The smart shelf idea proposed is not just for homes or for closed set up. The whole idea is modular and can be scaled to any form factor or settings and to customer needs. The same system can be used in business or stores with different configurations. This can be used in office environment, with lot of items on the shelf, the computer on board is powerful enough to process the local data. Most of the computations and AI or machine learning processes will be done on cloud which can be scalable to any bandwidth. It is capable of handling huge data and process the multiple systems at a time.

Mobility:

The smart shelf is loosely coupled product with any systems, can be very mobile and agile. The systems are not restricted to one place or one type of settings. This can be used on multiple environments from houses, offices or business. Smart shelf can be controlled by various devices like iPhone, android or the web portal making it accessible to all type of users.

The system itself will run on an open platform and can be integrated with existing AI or Home automation systems. Also, smart home is futuristic and it can support integration with any device

that runs on an open platform. The system itself is very flexible and the idea is to create a platform and allow 3rd party developers and Original Equipment Manufacturers' (OEM) to come up with accessories and enhancements.

NPV CALCULATIONS

To analyse an investment decision and give company management a clear way to tell if the investment will add value to the company, NPV is used. Typically, if an investment has a positive NPV, it will surely add value for the company and benefit company shareholders. NPV is one of the most used technique. Finding out NPV is more correct from the mathematical point of view and is more correct and reliable than IRR (Internal rate of return).

Let assume the Rate of return on investment is **20%** is found to be an appropriate rate of return as it will effectively reduce future cash-flow to an equivalent present-day value. The Design, development and tooling cost is assumed to be**$1,75,000** as the research on allergy analyser and push-message alert would be the major part of the investment. And the marketing cost for the launch of the product is **$29,000** because a good marketing is required which could give the customers an idea about the features of the "Smart Shelves". The product life cycle is of **3** years. The cost of each unit of the "smart shelf" is assumed to be **$2500** as the cost of manufacturing each unit is **$1000** so as to make profit the selling price of each unit is made **$2500**. The expected units of sale is **1000** as we are considering the product life cycle of 3 years and so we would be looking for the profit gained by a smaller number of units over this period of time.

The annual costs are given in the below table. All the initial costs occur at one time.

Years	3
Initial capital investment (Design+ marketing cost)	$2,04,000
Ongoing project overheads	$1,00,000
Cost of manufacturing each unit	$800
Cost of sales for each unit	$200
Revenue from each unit	$2500
Rate of return	20%
Expected volume of sales	1000

The NPV for this smart shelf is calculated as shown below. For the calculation of NPV, the formula used is

$$NPV = \sum_{n=0}^{N} \frac{C_n}{(1+r)^n}$$

The below Cash Flows gives the negative and positive cashflows:

Cash Flows In (Negative cashflows):

Cash Flows Out (Positive cashflows):

This table gives the exact values of the calculations and the NPV value as well.

Year	0	1	2	3
Initial Investment	$-1,49,000.00			
Overheads		$-83,333.33	$-69,444.44	$-57,870.37
Cost of manufacturing and sales		$-8,33,333.33	$ -6,94,444.44	$-5,78,703.70
Sales Revenue		$ 20,83,333.33	$17,36,111.11	$14,46,759.26

Total		$11,66,666.67	$9,72,222.22	$ 8,10,185.19
NPV	$28,00,074.07			

ASSESSMENT METHOD FOR THE IDEA

Justification for metric chosen to assess your idea

We have chosen SWOT analysis over House of Quality and Porter's 5 forces. The reason House of Quality is not chosen for our idea is that it is useful only when measured against competition. As we are the first movers in this field this is idea is obsolete for us at this stage. Porter's 5 forces focus on competitive power in a business situation.

Explanation of why the quality metric is chosen

SWOT analysis helps in deciding if the idea is worth the pursuit. It enlists the strengths, weakness of our idea on which we could act and take proper decisions. Opportunities combined with strength can help achieve the desired result. Threats and weakness can be worked upon and dodged before it affects the organisation.

How the idea was assessed

Strength:

First movers in smart shelves for home. In-built allergen analyser to help customers.

Saves money and time. Voice based assistant and AI integration for smooth run.

It also gives users information about calorie intake according to the nutrition table mentioned on the product wrapper.

Weakness:

In case the e-commerce site goes down, the customer might not be able to order grocery.

The product is expensive and this won't be able to sell throughout the world.

Opportunities:

Turning smart shelf into a platform or as a standard for future shelves.

Internet of Things is an emerging market in the tech industry and with smart shelves we can create good name for our start up.

Threats:

The introduction of a better alternative and cheaper products which can compete our standard.

3 CONTRIBUTIONS AND 3 BENEFITS FOR THE SOCIETY AND IMPROVE ENVIRONMENTAL SUSTAINABILITY

3 BENEFITS:

Reduction in wastage of food:

The smart shelf helps to lower the wastage of the food by keeping the tab on the expiry date and notifying the users with the same prior to the date of expiry so that the user can use it and subsequently lower the wastage of the food. Wastage of food is one of the major problems our society is facing.

Real-time grocery management:

The use of "smart shelf" on day to day basis would make life easier for everyone. The use of "smart shelf" reduces the efforts of person to walk down to the stores as the shelf itself would place an order of an item as and when it gets over.

Remote monitoring provision:

The "Smart shelf" can be connected to your mobile phones. This makes easy for you to peek in your kitchen anytime and from anywhere.

3 CONTRIBUTIONS:

Considers Health measure:

The features like Allergen analyser, calories intake tracker of the "smart shelf" benefits the users providing them with the healthy measure. The "Smart shelf "helps the user to know the total intake

of calories based on the calorie table. An alert given to the user if the product contains any substance which is allergic to the user is of great use for the user.

Integration with other devices:

The “Smart shelf” opens a platform for integration with a lot of other devices such as speaker, Wifi Routers, Phones and other kitchen devices. The integration with other devices would give the “Smart shelf” mobility and accessibility from anywhere and everywhere.

Eco-friendly Material:

The inner cabinet of the “Smart shelf” is made up of sheet metal and the outer cabinet is made up of the tough fibre. No wood or other such materials are used which would reduce the environment sustainability.

CONTRIBUTION, PARTICIPATION, COLLABORATION, CHALLENGES AND INSIGHT

MAYURI KALMEGH (12738290)

For this assignment, we, as a team contributed our ideas and then we came up a topic which will be innovative in its own way. We participated actively for this assignment and gave valuable inputs as a team. We all collaborated our idea and tried to work on one same idea. While working on this topic, we faced few challenges such as which analysis method to use, how to look for the case study relevant to our topic etc. As a whole, this activity made us all think out of the box and made us work through the challenges. We learnt a lot regarding the idea generation, innovation evaluation and analysis from this activity.

PAWAN PATIL (12740585)

This assignment has taught me extra ordinarily amazing methods of thinking over a general topic. In short, reaching and collecting innovative ideas and presenting it in your words and in your own way. This whole process headed me towards smart thinking and giving a proper shape to it. This has helped me not only in this assignment but also other assignments and will be helpful in upcoming project works. Being in group and handling the project importance at same level was

tough, but each one of us contributed the same as expected. Overall it was like a technological roller coaster ride for all of us.

PRANAV PUNJANI (12654149)

From the formation of a group to understanding each of the member's ideas and thinking and acting to accomplish a single task was one big hurdle on its own. But we as a team achieved it. I learned a lot from the classes, group tasks and from my fellow members. I was intimated at first by the experience they have but as time passed they proved to be a great support for learning. Brainstorming was probably the best part where I could see what others thought about innovation and could see their innovative ideas. Apart from the learning experience and fun we had, I hope smart shelves become a thing soon.

RICHA VYAS (12640304)

This assignment helped me in thinking out of the box and brainstormed us as a team to think about an innovative idea. It gave a practical platform to execute our learning of Technology and Innovation Management into real-world. We learned about finding real-world business problems, open innovation, idea generation, idea evaluation by SWOT analysis, financial needs of the idea by calculating NPV and last but not the least about how our idea would contribute and benefit the society. It also taught about team work, communication skills, academic writing and presentation skills. I enjoyed this journey of learning.

SUMA SHAMBULINGA RAVI (12770133)

The pitch and investigate activity of assignment 2 was challenging and an interesting one. This activity enabled me to apply the innovation concepts taught in the class and come up with an innovative idea. The concepts such as design thinking and brain storming was utilized to generate the ideas and the idea was evaluated based on SWOT analysis. NPV calculation was done to

understand the financial aspects of our idea. As a team, each one of them gave their inputs which was valuable and this helped us to refine the idea. Overall, this was a thought provoking activity which gave me confidence that idea can be generated by following and applying strategic thinking.

APPENDIX

Group Name: Think Tank

Meeting Date 05/05/2017

Apologies: _____

Attendees	SIGNATURE
Mayuri	
Pawan	
Pranav	
Richa	
Suma	

Discussion

Meeting Content	**Action**	**Due Date**
Topic Conflict with another group	Talk to Bee Bee	08/05/2017
Know what to write in the assignment	Consult with Basim	08/05/2017
Come up with multiple ideas or a novel idea	Group members need to come up with ideas to present during the consultation time with Basim	08/05/2017
Learn more about general failures in home automation	Research about the topic	08/05/2017

Next Meeting: Face to Face/ Virtual / Email

Next meeting schedule: 08/05/2017

Prepared by: Pranav Punjani

Group Name: Think Tank

Meeting Date 08/05/2017

Apologies: _____

Attendees	SIGNATURE
Mayuri	
Pawan	
Pranav	
Richa	

Suma	

Discussion

Meeting Content	**Action**	**Due Date**
Choose a single idea from multiple ideas	Swot analysis on each idea	10/05/2017
Research about open innovation	Everyone should read articles about open innovation	15/05/2017

Next Meeting: Face to Face/ Virtual / Email

Next meeting schedule: 15/05/2017

Prepared by: Pranav Punjani

Group Name: Think Tank

Meeting Date 15/05/2017

Apologies: _____

Attendees SIGNATURE

Mayuri	
Pawan	
Pranav	
Richa	
Suma	

Discussion

Meeting Content	**Action**	**Due Date**
Working on individual sections	Work on your chosen section of the report and show the draft on 22nd May.	22/05/2017
Writing about personal reflection	Everyone should write about their thoughts on the subject and their experience for the same	22/05/2017

Next Meeting: Face to Face/ Virtual / Email

Next meeting schedule: 22/05/2017

Prepared by: Pranav Punjani

Group Name: Think Tank

Meeting Date 22/05/2017

Apologies: _____

Attendees	SIGNATURE
Mayuri	
Pawan	
Pranav	
Richa	
Suma	

Discussion

Meeting Content	**Action**	**Due Date**
Edit the report	As discussed in our meeting, there are certain changes that needs to be made.	29/05/2017
Rehearse our pitch	We will meet at Pawan's place to rehearse our presentation that's due on the 29th May	28/05/2017

Next Meeting: Face to Face/ Virtual / Email

Next meeting schedule: No more meetings.

Prepared by: Pranav Punjani

CONCLUSION

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