My research would be to design a management process in a dairy company. In this project, I will explain the tools and facilities used by different departments, such as control projects, Engineering- marketing- product- - R&D, and HR. My goal is to make a new product line(s) due to what all participants, from employees to consumers as our expert product designers, would say and do. I'll try to use their explicit to latent knowledge to grow the company and increase revenue and loyal customers.

In this management process, Stakeholders, as our expert product designers, including Different internal departments of the company and our end consumers, use tools and facilities to make a new product Idea and reach the vision and mission of the company.

TERM PROJECT SUBCATEGORIES:

All of the following subcategories must be addressed in the project solution concept:

• Facility: housing, accessibility, structure, layout, etc.

• Materials: appropriate for creativity, concept work, and novice users.

• Tools: physical/digital as appropriate for novice users as well as expert.

• Equipment: non-tool requirements.

• Furniture: tables, chairs, stools, storage, etc.

• Location: best geographical/physical place/space.

• Processes: for both products and services development.

• Management: philosophy, personnel, instructions, processes, and protocols for facilitation/coaching/engagement/innovation.

The term "simulations" for this project means the various visual representations of the appropriate subcategory items for the assignment midterm and finals submissions for the term project concept solution. In most cases these will be images of facilities, materials, tools, equipment, and furniture.

DESIGN THINKING PROCESS. Students will develop their term project design concept solution using the design thinking process—Research, Definition, Ideation, Making, and Testing. The design thinking process will be further explained during the course. The following process will be executed by each student for their course term project:

1. Choice of Product-Service System Category/Area—choose from the previous list a choice of category/area of personal interest for the UCI/UAD project concept development.

2. Contextual Need-Finding Research—includes notes, images, media, sketches, etc., of user situations, existing products/services, components, users and customers, related issues, and data.

3. Concept Definition—after proper research development and need-finding, create a summary of the project direction.

4. Concept Ideation/Innovation—includes deep-dive brainstorming and idea-sketching of concepts, ideas, processes, charts, diagrams, graphs, etc., based on context research findings of issues and needs, and the project direction definition.

5. Concept Simulations—visual and verbal ideas and concepts in photo, physical, digital, CAD, or graphic form for possible solutions to overall design, elements, features, issues, and needs for each subcategory.

6. Concept Testing and Validation—testing and validation of project solution concepts and ideas using appropriate simulations with users and relevant stakeholders to get responses, feedback, and critique for concept design refinement.

7. Final Refinement—combination/synthesis/integration of best ideas and concepts based on testing/validation research and a finalization of the design solution in 2D and 3D simulation media in a final presentation slide set.

8. Finals—preparation of a final design concept solution including summarized research, ideas, sketches, simulations, process, and results via a finals presentation.

1. Midterm Presentation Content—design thinking project status of Research, Definition, and Ideation.

2. Final Presentation—design thinking status of Making (simulations), Validation, and whole Final System Design summary.

TOOLS, TACTICS & TALENT  
✦Non-threatening engagement of users.  
✦Provide positive creative environment.  
✦Stimulate ideation and creativity.  
✦Encourage users to explore freely.  
✦There are no failures or mistakes.  
✦Provide extensive simulation exercises.  
RESULTS & BENEFITS  
✦Direct engagement of user as product designer.  
✦Optimized design for usability.  
✦Improved product marketability and sales.  
✦Best-in-class product features.  
✦Avoidance of product feature errors.  
✦Competitive market edge in innovation.

**Project scop** (The scope management plan, essentially contains three parts which detail how the scope will be planned, executed, and controlled): **New line product in dairy manufacture**:

Concept: **Bringing innovatives ideas from inside and out side of the company**

**Research**:

Data gathering

1. Brainstorming

-internal brainstorming between stakeholders from diff departments (Engineering- marketing- product- procurement- R&D- human resource)

Machines that need how to solve the problem. R&D will make some shallot yogurt to see if the manufacturer has the capacity to bring a new product line or not

1. Interviews:
2. Market research: tools are taste panel &…
3. Questionnaires and surveys

*the goal for 2-3 and 4 is to see if the end user (customer) will like this product or not and if the product is attractive enough for users, and if the market has the potential to accept new products regarding inflation*

1. SWOT (Strength- weaknesses- opportunity- Threats) Strength- weaknesses is related to internal and opportunity- Threats are external

Threads: It tastes sour, and the market has inflation

Opportunities: it is a new product

SWOT, in the end, will help organizations develop a full awareness of all the factors involved in making a business decision.

I have to write a Business plan to clarify if we are investing on the correct path and if the product is profitable or not.

Probably stage:

Project Management Group (PMG)

Marketing Engineering Procurement R&D Production Human resource

**Project Management Group (PMG):**

* use communication management tools like **meetings** or **reports** on a regular basis from other departments
* Cost management (It has its tools)
* Time management (It has its tools)
* Risk management (It has its tools)

**Marketing Department**: doing Market research by tools like **taste panels**, **surveys** & … and informing the PMG through meetings or reports

According to company rules, if the Procurement group meets the tools and materials required by the marketing group, a list of these materials and tools must be provided to the Procurement group.

**Engineering Department:** They will plan and design a new production line and inform PMG whether the company can launch a new production line and what facilities are needed to launch a new line, considering the existing space and facilities.

They will also inform Procurement Department about their needs like valves, space, cold storage, machinery, and plumbing for the new production line and prioritizes the input of materials

**Procurement Department:** use resource management tools like RAM, RACI, and WBS (work break down structure) to provide the necessary program and equipment to do the work and prioritizes the input of materials

**R&D Department:** research and data gathering on the desired product and creating a new formula using lessons, and learning, inside or outside the organization.

R&D inform Procurement Dep about their needs like Glasses, raw materials, aluminum foil and ...

Then the product enters the test panel stage. After surveying inside and outside the organization, the final formula is determined, the **PMG** is informed, and the **marketing group** begins its work in the next stage.

4- We should provide a place for people of all ages to paint in the parks and ask them to paint advertising billboards for us or write advertising slogans on a screen and give prizes to the best painting and slogan chosen by the people themselves.

ما میتوانیم یک واحد جدید به نام واحد نوآوری در سیستم تعریف کنیم و وظیفه آن جمع آوری تمام ایده های خلاقانه باشد. بخشی از آن برای محصول و بخش دیگر آن برای انجام کل فعالیت هایی باشد که در سازمان انجام میشود. همه افراد میتوانند ایده های خود برای محصول، فرایند های سازمان و سیستم یا همان کسب و کار جدید را ثبت کند.

میتوانیم وبسایت را به عنوان ورودی قسمت نوآوری تعریف کنیم. همه افراد میتوانند در این وبسایت ثبت نام کنند و در صورت پرسنل بودن شماره پرسنلی خود را وارد میکنند. در ازای ثبت هر ایده هزینه ای به افراد پرداخت میشود. اگر ایده ها به نتیجه برسند، بر اساس سودآوری آن جوایز مختلفی در نظر گرفته میشود. اگر ایده منجربه فروش با سود آوری بالا شود، بخشی از سودآوری به آن شخص داده میشود که در واقع یک جایزه ی خیلی بزرگ محسوب میشود. پس نوع ایده و نتیجه در میزان جایزه بسیار مهم است که این بخصوص میتواند همه ی افراد سازمان را مشتاق به دادن ایده های خوب کند.

هفته ای یکبار این داده ها جمع آوری میشود و به بخش مربوطه داده میشود. مثلا برای محصول جدید، ایده ها به بخش بازاریابی میرود که یکی از وظایف آنها تولید محصول جدید میباشد. بخش های مربوطه باید موظف به وارد کردن حداقل دو ایده ی جدید در سال باشند. مثلا بخش بازاریابی باید حداقل در سال دو محصول جدید را در هر خط تولیدلانچ کند. از این دو ایده یکی باید محصول خلق ایده ی اعضای داخلی تیم باشد و ایده ی دوم باید از مصرف کنندگان گرفته شود.

اعضای داخلی ایده های داخلی خود را از طریق ریسرچ و بهترین پرکتیس هایی که در دنیا وجود دارد می آورند. مثلا یک محصول را قبلا در کشورهای دیگر تولید کردند و آن محصول بازار موفقی را داشته است.

ایده های خلق شده به واحد آر ان دی داده میشود تا واحد آر ان دی امکان سنجی تولید انجام دهد.

واحد آر ان دی اعلام میکند که آیا میتواند با خطوط تولیدی موجود آن محصول را تولید کند یا نه و در صورت نیاز به سرمایه گزاری ماشین ها و مواد اولیه مورد نیازش به بخش تدارکات و مهندسی اعلام میکند و شروطش را اعلام میکند. این بخش محصول نمونه را تولید میکند و در صورت تایید بخش بازاریابی و تعیین بودجه این محصول وارد خط تولید میشود.

بخش مهندسی با توجه به فضای موجود در کارخانه مقدار زمین و نوع وسایل را به بخش تدارکات اعلام میکند.

برای گرفتن ایده از مصرف کنندگان باید یوزج و اتیتود مصرف کنندگان مشخص شود. برای این کار خصوصیات هوی یوزر های محصول به عنوان تارگت مشخص و به شرکت های تحقیقاتی داده میشود. مثلا مصرف کنندگان ۲۰ تا ۵۰ ساله، با سطح تحصیلات دیپلم تا فوق لیسانس. شرکت های تحقیقاتی فوکس گروپ هایی تشکیل میدهند و محصول را عمیقا بررسی میکنند و نیازها و خواسته های مصرف کننده را مشخص میکنند. آین ایده ها و خواسته ها به واحد بازاریابی داده میشود و آنها پس از غربال سازی آنها ایده هایی که فراوانی بالاتری دارند را انتخاب و امکان سنجی تولید و نمونه ی تستی آن ارزیابی میشود و در صورت داشتن پتانسیل تولید تبدیل به ایده ای میشود که بعد از تهیه شکل بسته بندی توسط گروه دیزاین وارد بازار میشود.

تعداد فوکس گروپ های شرکت های تحقیقات بازار یک عدد نیست. آنها بر اساس پراکندگی تارکت گروه ها را تشکیل میدهند. مثلا اگر افراد ۲۰ تا ۵۰ سال تارگت ما باشند آنها بر اساس اصول روانشناسی افراد را به سه گروه ۲۰ تا۳۰ ، ۳۰ تا۴۰ و ۴۰تا۵۰ ساله تقسیم میکنند.

In this management process, Stakeholders, as our expert product designers, including Different internal departments of the company and our end consumers, use tools and facilities to make a new product Idea and reach the vision and mission of the company.

We can define a new Dep. called the innovation Dep. in the system, whose task is to collect all creative ideas. The new product is one part, and the other part is for all the activities that are done in the organization. Everyone can register ideas for products, organization processes, and new business.

We can define the website as the input of innovation. Everyone can register on the website and enter their personnel number if they are employees. People are paid for registering each idea. If the ideas come to fruition, various prizes are considered based on their profitability. If the idea leads to a high-profit sale, a part of the profit is given to that person, which is considered a big prize. So, the type of idea and the result are critical in the amount of the award, which can make all the people eager to give good ideas.

This data is collected once a week and given to the relevant department. For example, for a new product, ideas go to the product department.

Each department supposes to bring at least two ideas a year. For example, the Production department should introduce at least two ideas for new products per year. Out of these two ideas, one should result from the creation of ideas by internal team members, and the second should be taken from consumers.

Production department members should bring their ideas through research and best practices worldwide. For example, a product was previously produced in other countries and has had a successful market.

The created ideas are given to the R&D Dep. so that the R&D Dep. can carry out production feasibility studies. The R&D Dep. announces whether it can produce that product with the existing production lines. R&D announces its conditions and notifies the procurement and engineering department If it needs to invest in machinery and raw materials. This department produces the sample product, and if the production department approves and the budget is determined, this product enters the production line.

According to the available space in the factory, the engineering department informs the procurement department about the amount of land and the type of equipment.

Preparing a room full of equipment and allocating time to generate new ideas is highly recommended

To get ideas from consumers, the purpose and attitude of the target consumers about the product must be determined—for example, consumers aged 20 to 50 with a diploma to a master's degree.

Research companies form focus groups. They deeply examine the product features (Product type, packaging size, taste, flavor, etc. ) and determine the consumer's needs. Thus, the ideas and market demands are given to the Product Dep, and the ideas with a higher frequency are selected after sifting them. The feasibility of production and its test sample is evaluated. If it has production potential, it becomes an idea that enters the market from the design group's preparation of the packaging shape.

The number of focus groups of market research companies is not one. They form groups based on target distribution. For example, if our target is people aged 20 to 50, they divide people into three groups of 20 to 30, 30 to 40, and 40 to 50 years old based on the principles of psychology.

Using data from market research companies, we can hold workshops for our loyal customers. We let them have fun, create professional brainstorming by usung tools such as colored pencils, toys, etc., and let everyone creatively express their new ideas. We prepare a series of psychological questions and games based on the data we get from R&D and Lesson & Learn.

Using people of different ages and with different education levels as R&D consultants:

1-provide the possibility for the general public to visit the factory (even indirectly and behind the glass). At the end of the visit, using products from the bottom of production pots (which are usually thrown away), hold competitions among the participants, aske them to choose their favorot product, give them some kits including different kind of that brand+different flavors and spices, and ask them to produce new flavors with the help of production department specialists, or tell the difference between the current product and the best product in the market. We can give a pack of our products as a gift to the winner.(R&D)

2- we can write the consumers name or comments on our product with their own style with the help of design group specialists.(design group)

3- we can Do market research on Instagram or any other social media pages and ask the consumers ideas in polls or questions form

For example, we can ask people whether they like the old packaging more or the new packaging

4- We should provide a place for people of all ages to paint in the parks and ask them to paint advertising billboards for us or write advertising slogans on a screen and give prizes to the best painting and slogan chosen by the people themselves.

Final

We can define a new Dep. called the innovation Dep. in the system, whose task is to collect all creative ideas. The new product is one part, and the other part is for all the activities that are done in the organization.

This data is collected once a week and given to the relevant department. For example, for a new product, ideas go to the product department.