Michigan Technological University

1885

Individual Research Essay (BA 5200)

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I.   Introduction

Now a days, it's very common for upcoming generations to switch the jobs and companies continuously and within each of those companies, employees often change jobs and responsibilities several times before moving ahead.

Every job transformation opens the door to many career opportunities such as promotion, better salary, new environment, and new work because it always adds another line to your resumes. Employer is also affected in many ways if any of its employee plan to leave or stay in the same company. To enhance and check the employee's growth, various tools are available with the use of which any company can prevent its employee from leaving by giving them alternative of their role.

The *main purpose* of this question is to investigate the reasons that how the *product distribution company* should face in the future when its loyal and experienced employee who are retiring shortly will leave the company because upcoming generations are less likely to stay with the product distribution company unlike the loyal and experienced labor of the company.

In addition to this, we are also going to look into the factors that how *technology* can help in supporting the business of the distribution company after this change. Few decades ago, business was done in absence of mobile phones, internet, and email. In current decade, Innovated technology has polished operations especially at smaller companies by converting it from small business to international one. Technologies always help business to expand rapidly and effectively.
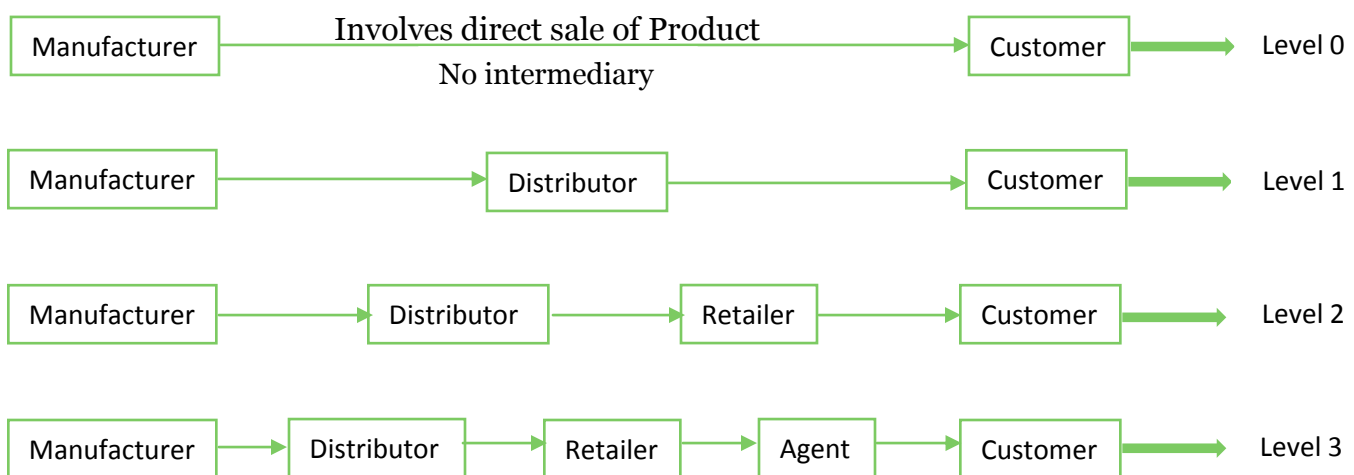
At the end, we will find the causes of leaving new employees soon and also suggest the ways of preventing great employees from leaving the distribution company.

II.   How this Product Distribution Company works?

This product distribution company buys products and resell them to gain profit, usually from business to business (B2B). Buying a product, storing them, and then sells that product through any distribution channel is named as *Distributor*. This Distribution Company may transfer huge amount of product in and out of company's warehouse, so it's really important for this company to correctly account for the *purchase*, and *inventory*.

Here, we tried to explain the possible channels of this company.

Types of Product Distribution channel:-

| Manufacturer | Involves direct sale of Product No intermediary | | Customer | Level 0 |

| Manufacturer | | Distributor | | Customer | Level 1 |

| Manufacturer | | Distributor | | Retailer | | Customer | Level 2 |

| Manufacturer | Distributor | Retailer | Agent | Customer | Level 3 |

There are mainly two types of channel in this company: *Direct channel* and *Indirect Channel*. Direct channel works without any intermediary directly with the consumer. E.g. *Level 0*. In indirect Channel intermediaries are included into the sales flow. *Level 1 to Level 3* are the example of this channel.

III. How to face the transition from highly loyal & experienced labor to less loyal & inexperienced labor?

Like this product distribution company, many organizations are facing the situation that older people are retiring from the company and newer generation is not yet ready. An experienced, skilled and loyal labor is the requirement of every employer. For the smooth transition, it is really important for this Product Distribution Company to focus the _Cross-Training of new employees & Alternative of old employees_. Cross training is really important for newer employees of Distribution Company when older skilled labor retires or leaves. This will give new labor a chance to gain practical experience in the departments they are not familiar of. _Some_ employee's wants to quiet their job soon & looks for retirement, but others want to continue their job in some way & doesn't wish for permanent retirement. _Distribution Company_ should look for some type of alternative jobs like consulting or training jobs for these type of workers. They should also try to hire people who are experienced and not too old in between the age of 45 & 52. An experience labor is always beneficial for the company's growth. Distribution Company also always needs to look the skilled employee's reasons of leaving the company. Usually, newer employee leave the company if they see the work is boring & not challenging, no bonus & recognition, unacceptable behavior of supervisor, lack of environment & values.

IV. How technology helps in supporting the distribution business?

With the use of modern distribution technology, this product distribution company can expand and operate their business in better way both before and after this transition. _Ecommerce & logistic software_ are the best technology to enhance company's distribution business. Now a days, many distributors launch new platforms that focuses on ecommerce. This distribution company can launch a website focused on ecommerce that can

give insight to the consumers about more products, more functionality, and technical info. Now a days, many distributors launch new platforms that focuses on ecommerce. With the use of this software, this distribution company can take important decisions regarding the transportation requirements of their products. Also, optimizing the logistics can make cost-effective transport solutions each day, and calculates the current shipping rates. Company can use good ERP software in managing its sales order, relationships, production, and finances. This software will make company's business more agile and effective.

## V. How should be Distributor/Vendor Relationship of this company?

To become successful in this business, it is really important for the Product distribution company to strengthen strong relationships with their customers and suppliers both. All distributors whether it is small or big try to make value proposition that meets the expectations and needs of its consumers. This company's relationship should be _Zero-Sum and Cooperative._ The main target of this relationship is to acquire the best deal that you can negotiate by considering needs, goals and desire of each entity. This relationship always refers to a condition where benefit or gain of one party is balanced by the loss of opposite party. It also requires joint action and effort to enable labor to work and run together so that everyone will gain the profit or suffer from the loss equally.

TRUST

Values ⟷ Values
Goals ⟷ Goals
Strategy ⟷ Strategy

Ideal Relationship
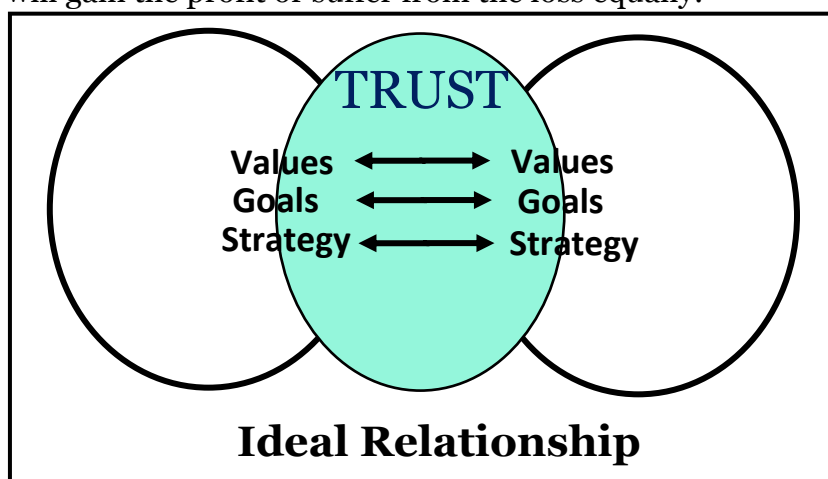
VI.   Inventory Control of the Company

How should be inventory control of this Distribution Company & what are the techniques to control?

The cost of goods purchased but not yet sold is recorded in the Inventory account of Distribution Company. Inventory is the current asset on distribution company balance sheet. The company need to be focus that Inventory should not be too much or too less. Both will result in cash flow problems & additional charges or lost sales & consumers.

Two types of *Inventory Systems*

Periodic Inventory System
Perpetual Inventory System
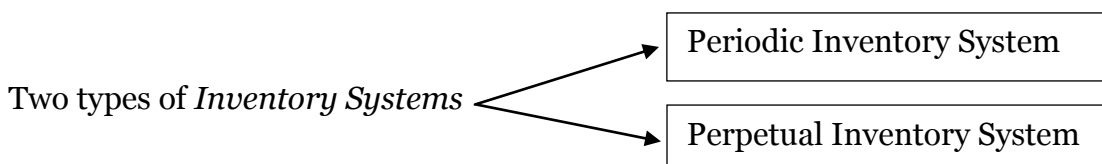
It is *advisable* to Distribution Company to use <u>*Perpetual Inventory System*</u>.

Inventory control Technique

The company really needs to focus on good inventory control to get maximum profit and efficiency. For the inventory control, it is recommendable to the managers of this distribution company to decide the highest and lowest level of merchandise and supplies that need to be hold in the warehouse across the warehouse locations. They should also set a safety stock lesser than which supply is not allowed to fall. This distribution company should have yearly inventory budget. It will prepare them in advance before inventory is created. Inventory turnover ratio of the company tells the company how rapidly inventory is used up or turned over for a given period of time. More turnover ratio results the shorter life of inventory. To calculate the turnover ratio, company should track demand patterns.

VII. Purchasing & Bull-Whip Effect in Distribution Company

Purchasing

While purchasing, this company needs to check the factors like availability & types of materials purchased, and dollar volume of purchases. Purchasing is really important to balance the quality and value of Distribution Company's product, in minimizing the cash tied up, and in balancing the flow of inputs and outputs. It also strengthens the company's competitive position and develops effective sources of supply.

Bull-Whip Effect

Distribution Company should also focus on Bull-Whip effect that occurs in the supply chain with the fluctuation in customer demand when companies order more products to meet the new demand. In other words, this could happen when consumer demands any product anytime with any quantity irrespective of fact how much quantity is available in distribution company. This generally happens due to delivery delays in between supply chain, order batching, and price fluctuation in products, communication gap, or behavior of decision makers in the supply chain. To avoid this effect, product Distribution Company really needs to do collaboration with consumers & suppliers, and should try to improve the forecast accuracy to avoid the delay of delivery. They should take quick decision and with the clear vision.

VIII. Recommendation

The Product Distribution Company should start preparing from now for the transition phase. They should focus on hiring new experienced employees who are not too old. And, they need to provide them excellent training so that they will learn quickly & make themselves ready for every situation. Training should not be limited to one department; it should cover other departments also so that employer can fit employees anywhere as per the requirement. If in case younger generation are leaving the company, then they should find the reason & needs to improve them. It is really important to give the current generation flexibility to work as per their interest and maintain the environment. If the newer employee needs a challenging role, then company should give him a chance before he leaves the company due to unchallenging work.

Company should also look for new advance automated technologies which can help them in business before and after this transition period. Use of current technology is also important for better processing and revenue of the company. Technology like ecommerce and ERP can help Distribution Company in taking quick decisions, increasing customers and will make the process faster and smoothen. With the help of good ERP software, there is no need to enter info manually; it provides work flexibility, cost saving & eliminates repetitive process.

Vendor relationships, inventory control, purchasing, and bull whip effect are other things that Distribution Company should look. It is very important for successful & long business to establish a healthy distributor vendor relationship. Secondly, this company should really focus on maintaining the required inventory to fulfill the demands of the consumer. And, the best way to avoid the bull-whip effect in the company is to understand & make a good relationship with consumers & suppliers.

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I.   Introduction || Business Process

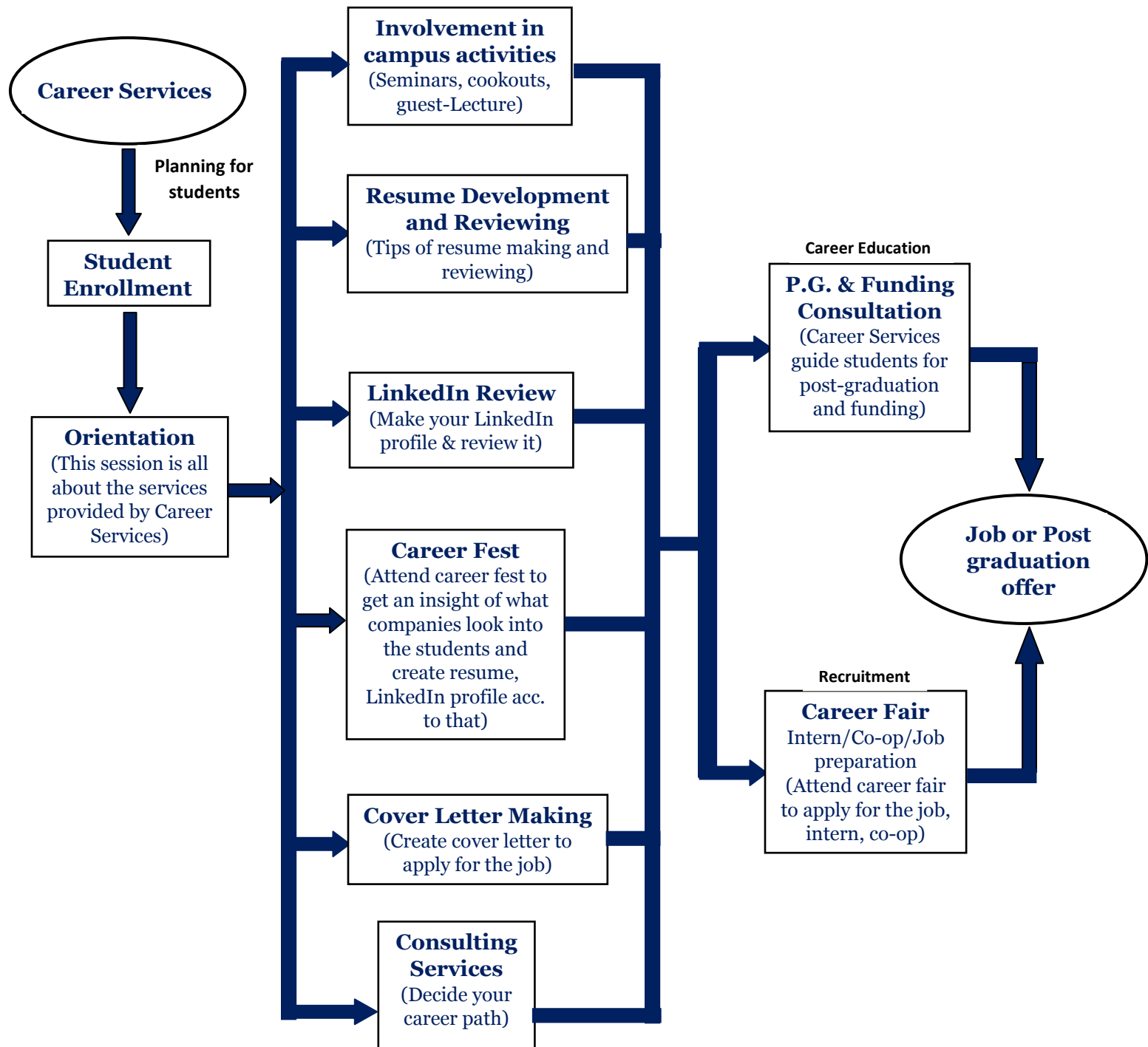**_Team Case_: - "Career Services-Michigan Tech"**

The main purpose of Career Services, Michigan Technological University is to promote the relation between corporate partners, students, staff/faculty and alumni. In career services, different team members work on different things and then come together for the smooth operation of Career Services. Career Services people are entirely involved in student lifecycle.

Career Services is providing distinct services as per the requirement of students starting from student enrollment, deciding career path, resume development and reviewing, cover letter making, LinkedIn profile review, Job/Intern/Co-op search, Interview preparation, Career fair preparation.
To help students in choosing their career path, they also started organizing info sessions of companies where company representatives talk to students about their company and projects. Cookouts and guest speaker presentations are few other services offered by career people.

Corporate people generally complain that students are not able to communicate properly about their career plans & projects. To reduce this problem, Career services have created the event career fest especially for attendees who don't have any prior experience of interacting with corporate people.

Maintaining corporate partnerships and alumni engagement is another important focus of career services. The ultimate goal is to help students in achieving their target towards success. For the career services, a key measure of success is 100% recruitment.

II.   Career Services Flow Chart

Career Services

Planning for students

Student Enrollment

Orientation
(This session is all about the services provided by Career Services)

Involvement in campus activities
(Seminars, cookouts, guest-Lecture)

Resume Development and Reviewing
(Tips of resume making and reviewing)

LinkedIn Review
(Make your LinkedIn profile & review it)

Career Fest
(Attend career fest to get an insight of what companies look into the students and create resume, LinkedIn profile acc. to that)

Cover Letter Making
(Create cover letter to apply for the job)

Consulting Services
(Decide your career path)

Career Education

P.G. & Funding Consultation
(Career Services guide students for post-graduation and funding)

Job or Post graduation offer

Recruitment

Career Fair
Intern/Co-op/Job preparation
(Attend career fair to apply for the job, intern, co-op)

III. How technology supports the above process Michigan Tech Career Services?

To enhance the engagement between students & corporate people, students & career services, and within the students, career services uses several technological platforms. They use MTU-built packages to accomplish these goals. Career Services people use technological platforms like people grove, Handshake, Brazen and Career cruising. These platforms fulfill the purpose of organizing the career fair, student-alumni interaction, career evaluation, company posting jobs, and employer registration for campus events like career fest. Most of the engagement is in between students, companies, and career services team member.

People grove is a medium for alumni to guide the current students, mentor them and help them professionally in any possible way. Alumni can shape the career path of students in a better way by helping them in exploring career paths, in interview preparation, and in understanding the benefits of different role.

Handshake, another medium started by Michigan Tech student, helps students in achieving the opportunities. We can apply for internships, jobs, on campus jobs, and can take the appointment if we need any help from career services.

Brazen is used in completely digital space. With the help of Brazen, students can interact directly to the company representatives for the limited time through webcam or instant message. Career fair is going to launch Brazen this semester.

IV.   Recommendations

Though Michigan Tech career services are improving the current services and adding new services every year for the successful future of students, still there are so many areas that need change. Here, we give suggestion to all these below questions which can make the career services process better and faster.

How Technology helps in improving the business process?
Why the particular technology is the best fit?
How could we successfully implement the solution?
Why we are implementing it in that way & what the implementation will look like?

Scrum, Six sigma and KPI are the ways for the better processing of career services. Currently, CS team is facing two major issues: Prioritization within the department & in between the projects and how to make student training programs better as per the expectation of corporate people.

"Prioritization is another departmental issue. Career Services is constantly trying to assess the value of projects and prioritize that will bring the most benefit to Michigan Tech." - Stephen Patchin (Career services director)

Scrum is the one of the best technique to resolve the problem of prioritization. Now, the question is how it minimizes the issue of prioritization. For instance, let's say career services people are planning a big project career fair for students with a new vision so that all students of distinct departments will be benefited. Now for this service, we get all the features from the corporate people, departments, and students or even from the team members. These features in Scrum is written for the benefit of end users i.e. students & known as the user story i.e. student stories here. The collection of all these stories is known as product backlog.

We can see product backlog as a wish list of users i.e. students on the basis of which we have to select those student stories that we are going to add in our new service. Selected student stories are named as release backlog. Scrum master (or project manager) job is to set up regular meeting & make sure that project is progressing smoothly & every team member is doing his work.

Now, the team will prioritize the student stories available in release backlog. They will split the work team wise and plan out several *sprints* to get work done. To monitor the progress of each sprint, we have burn down chart, one of the best project visibility tools. Burn down chart will tell us how smoothly career fair preparation & progress is going on, and how much work is remaining. This is how Scrum is helpful in reducing the problem of prioritization. Asana is another platform that we can use to resolve this issue. It is also helpful for smooth working & project management by tracking & distributing the team activities.

Key performance indicator (KPI) is another technology that will help career services to improve the process. It will check how effectively CS is achieving their objective of career fair, how many students (international, domestic, department wise) are now getting the jobs. It is very important to select the right KPI's depending on the goal & target of career services, and which part of career services needs to be track. Once we select the KPI's, key performance indicator software helps career services in creating, managing and analyzing data. This software will help career services in visualizing, giving immediate feedback on the performances & alerts when KPI is under achieving.

Scrum is the *best fit* for prioritization. This scrum methodology will help career services in analyzing the tasks that are very important for career services, and also helps in executing those tasks in short period of time. It will help career services in deciding the projects that need time and the

projects that doesn't require any changes so that they can provide things on time. Scrum will improve the collaboration within the career services and will maintain a healthy work environment.

It is really important to plan & prepare for the successful *implementation* of solution agile methodology – scrum. The more important the project, the more complete preparation & planning is needed to guarantee the success. Planning and preparation involves correct identification and recording of the actions required (deciding the goals, objective), time schedule, and the resources required (money, information, employees required).

The main reason of *implementing* this solution in the above fashion is to strengthen the decision making ability and to avoid the failure or end time overloading. Proper planning & preparation will not only help in time management but also gives time for modification by tracking and analyzing the performance.

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I.   Introduction of Business Case

Company: - Tahir Pizza Station

The Case: -

Michigan Technological University has experienced sudden growth of Indian students in past few years. Tahir is planning to open a pizza service that will focus especially on university area. There is no Indian pizza station or restaurant in the whole area of Houghton.

Currently, university's closest pizza center Domino's takes up to 35-40 minutes to deliver a pizza. During winter, it's really difficult for the DH Residents to go pizza center to eat or pick-up. Tahir's pizza station will cut this time to no more than 15-20 minutes.

Tahir will offer a better pizza service, at lesser prices and will deliver the hot & tasty pizza to the door faster than domino's.

Major Objective: -

- To establish the market and capture the whole area of business with in the area of MTU university (especially in the DH, Indian Residential Area).
- To maximize the revenue of business every year.
- To offer a customer better product and service in less time.

Financial Analysis

One Time Cost

Shops Setup					
	Fee for registrating the business	$ 350.00		Distribution vans cost	$ 500.00
	Setup/Costruction of whole shop (including kitchen)	$ 40,000.00		Website desining	$ 500.00
	Utility (including phone & Internet)	$ 1,500.00	Other Costs		
First time Inventory	Raw material	$ 12,500.00		Legal fees and Licenses & permits	$ 600.00
	Packaging material	$ 7,500.00		Signage	$ 500.00
				Technology & Software	$ 750.00
Material	Hardware (rack, shelves, food case)	$ 3,500.00		Miscellaneous	$ 5,000.00
	Equipment (Sink, ice machine)	$ 5,000.00			
	Other Equip. (Like pizza machine)	$ 5,000.00			
	Total Expenses	$ 83,200.00			

Monthly Cost

Monthly Rent					
	Monthly Rent	$ 3,000.00	Monthly Inventory	$ 15,000.00
	Insurance	$ 250.00	Employees Salary	$ 7,000.00
Marketing	Digital advertising	$ 500.00	Repairs & maintenance	$ 500.00
	Promotional materials	$ 500.00		
	Total Expenses	$ 26,750.00		

Discount rate = 0.15

Green = Payback period

ROI

Year	0	1	2	3	4	5	Total
Est. Operating Cost	$ 1,09,950.00	$ 28,500.00	$ 29,000.00	$ 30,500.00	$ 32,000.00	$ 33,000.00	$ 2,62,950.00
Est. Benefit	$ -	$ 60,000.00	$ 65,000.00	$ 75,000.00	$ 92,500.00	$ 1,05,000.00	$ 3,97,500.00
Running Total	$ (1,09,950.00)	$ (78,450.00)	$ (42,450.00)	$ 2,050.00	$ 62,550.00	$ 1,34,550.00	$ 1,34,550.00
Benefit-Cost	$ (1,09,950.00)	$ 31,500.00	$ 36,000.00	$ 44,500.00	$ 60,500.00	$ 72,000.00	IRR = 28.53%
							ROI = 51%

NPV Analysis

Year	0	1	2	3	4	5	Total
Est. NPV Cost	$ 1,09,950.00	$ 24,782.61	$ 21,928.17	$ 20,054.25	$ 18,296.10	$ 16,406.83	$ 2,11,417.96
Est. NPV Benefit	$ -	$ 52,173.91	$ 49,149.34	$ 49,313.72	$ 52,887.18	$ 52,203.56	$ 2,55,727.70
Running Total	$ (1,09,950.00)	$ (82,558.70)	$ (55,337.52)	$ (26,078.05)	$ 8,513.02	$ 44,309.75	$ 44,309.75
							NPV ROI = 21%

NPV Analysis						
	Discount Rate					
$ 44,309.75	0.05	0.07	0.09	0.11	0.13	0.15
	$ 97,331.22	$ 84,748.47	$ 73,266.51	$ 62,766.52	$ 53,144.62	$ 44,309.75

Cost Benefit Analysis						
	Est. Operating Cost					
$134,550.00	$100,000.00	$200,000.00	$ 300,000.00	$ 400,000.00	$ 500,000.00	$ 600,000.00
$ 200,000.00	$100,000.00	$ -	$ (100,000.00)	$ (200,000.00)	$ (300,000.00)	$ (400,000.00)
$ 300,000.00	$ 200,000.00	$ 100,000.00	$ -	$ (100,000.00)	$ (200,000.00)	$ (300,000.00)
$ 400,000.00	$ 300,000.00	$ 200,000.00	$ 100,000.00	$ -	$ (100,000.00)	$ (200,000.00)
$ 500,000.00	$ 400,000.00	$ 300,000.00	$ 200,000.00	$ 100,000.00	$ -	$ (100,000.00)
$ 600,000.00	$ 500,000.00	$ 400,000.00	$ 300,000.00	$ 200,000.00	$ 100,000.00	$ -
$ 700,000.00	$ 600,000.00	$ 500,000.00	$ 400,000.00	$ 300,000.00	$ 200,000.00	$ 100,000.00
$ 800,000.00	$ 700,000.00	$ 600,000.00	$ 500,000.00	$ 400,000.00	$ 300,000.00	$ 200,000.00

Est. Net Benefit (row labels on left)

ROI						
	Est. Operating Cost					
ROI = 51%	$100,000.00	$200,000.00	$ 300,000.00	$ 400,000.00	$ 500,000.00	$ 600,000.00
$100,000.00	ROI = 0%	ROI = -50%	ROI = -67%	ROI = -75%	ROI = -80%	ROI = -83%
$ 200,000.00	ROI = 100%	ROI = 0%	ROI = -33%	ROI = -50%	ROI = -60%	ROI = -67%
$ 300,000.00	ROI = 200%	ROI = 50%	ROI = 0%	ROI = -25%	ROI = -40%	ROI = -50%
$ 400,000.00	ROI = 300%	ROI = 100%	ROI = 33%	ROI = 0%	ROI = -20%	ROI = -33%
$ 500,000.00	ROI = 400%	ROI = 150%	ROI = 67%	ROI = 25%	ROI = 0%	ROI = -17%
$ 600,000.00	ROI = 500%	ROI = 200%	ROI = 100%	ROI = 50%	ROI = 20%	ROI = 0%
$ 700,000.00	ROI = 600%	ROI = 250%	ROI = 133%	ROI = 75%	ROI = 40%	ROI = 17%

Est. Net Benefit (row labels on left)

II.   Recommendation (On the basis of financial & non-financial solution)

Firstly, Tahir should choose business location that will ensure quick delivery service. If possible, it would be great if he find location within Indian residential area/university. Tahir pizza station should focus on superior product. It will increase the customer's loyalty. Tahir should also hire quick delivery people who have excellent customer skills with good delivery vehicles. Employees at pizza station should go to every table & take care of every order to neglect the delay & satisfy the customers. Taking a feedback is really important for the improvement in service.

As we can see above, on the basis of financial analysis, we could easily *interpret* that this startup can get up to 51% return on investment (ROI) over a period of 5 years. In addition to this, Net present value over this period is 21% that clearly shows dollar contribution to stakeholders. Payback period for this start up investment is 3 years. It will take 3 years to cover the investment & start getting profits.

Non-Financial Benefits:-

- Tahir Pizza station is the only Indian restaurant in Houghton.
- Every year, lot of Indian graduate students comes to the university.
- Pizza is the common meal for grad students due to workload of classes & assignments.
- During snow, it's difficult for students to go walmart, so pizza is the only source of food.

Non-Financial Risks:-

- During snow, it's difficult to provide quick delivery service to customers. Delay of service may impact the image of Tahir pizza station.
- Mostly, students are the customer here and during holidays, students go to enjoy vacation. So, getting the customer & maintaining the benefit is the main concern during this period.

Financial Benefits:-

- Houghton is small place, so less vehicle costs because delivery people don't need to go far.
- Heavy pizza eater, so great place to start this business & gain maximum ROI/benefit.

Financial Risks:-

- During vacations, it's difficult to cover the return because most students go from the university.
- Getting the profit by giving the same offers provided by its main competitor, Dominos in this area.

III.   References

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- Managing and Using Information Systems: A Strategic Approach, 5th Edition

Thank You