UBC Social Ecological Economic Development Studies (SEEDS) Student Report

The Future of Food Services Project Daniel Michaud, Diego Arredondo, Kaichun Zhou, Laurel Oldershaw, Paras Sharma University of British Columbia BA 504 December 20, 2016

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UBC Food Services is responsible for feeding thousands of people every day. They operate residence dining for over 4,500 students, campus-wide catering, food trucks and more than 30 retail locations across campus, including full service restaurants, bakeries and cafes, and quick service restaurants through a mix of licensed, nationally recognized chains, as well as independent concepts, which are unique to UBC. A financially independent and self-sustaining organization, their profits are directed back to the University to support academic programs and student experience. UBC Food Services' 400-employee workforce is supported with above-minimum wage compensation and employee development programs. As a food service provider, UBC Food Services faces intense competition from off-site restaurants, and revenue generation can be limited by lower levels of disposable income among the majority of their customers, as well as the preference of many potential customers to bring food from outside campus. Despite these challenges, UBC Food Services remains committed to being a leader in food services on campus by prioritizing, promoting, and serving an abundance high-quality, nutritious, and affordable food options for every meal.

UBC Food Services engaged full-time MBA students through the Business Strategy Integration foundation course to evaluate the existing retail food services landscape within the UBC community and to make recommendations for future development. Food Services is an important value driver in UBC's continuous pursuit to compete and differentiate itself as a global top 40 university. Over the next 5 years, UBC Food Services will be opening new operations as well as renovating many existing locations. UBC Food Services is the largest food service operator in the UBC community, and the impacts of their decisions surrounding food have broad implications for the physical, social, and environmental health of the campus community. This challenge presents an opportunity to evaluate and recommend strategies to drive future growth. It is through a lens of developing UBC's internal capacities and expertise with which this project was approached.



Through evaluation of client documents combined with primary and secondary research, we found that the three biggest challenges were consistent financial struggles from UFS restaurants, trouble reaching customer expectation, and high competition with AMS and University Village. More specifically, 57% of UFS restaurants had an average \$95,000 loss per restaurant annually. Second, UFS' role is to serve the UBC community and support them to excel and compete with top colleges across the world. However, one challenge is that customers have changing expectations for UFS, and as such, UFS has to continue to innovate in order to maintain its competitive advantage against tight competition. AMS presents an opportunity for people on campus to choose from a variety of foods and also sit down to eat in a student-focused experience on campus. University Village also provides a wide variety of food at a cheaper price than AMS and UFS. However, University Village has an inconvenient location because people have to walk off campus. When looking into future opportunities for UFS, they will want to differentiate themselves by improving NPV, becoming more flexible to match customer expectation, and maintain a consistent competitive advantage around convenience and price.



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The Food Service contractors industry is worth \$4.4 CAD Billion and \$248 CAD Million; it has grown 2.1% on average over the past five years and it is expected to grow 2.4% on the next five years. According to research, the industry is growing at a slightly higher pace than the GDP. Educational institutions comprise the largest portion of the food services at 28% of the market.



- Millennials more likely to care about the ethics of their foods
- Importance of sustainability, organic and local
- More likely to eat out at fast casual restaurants
- Values over Value
- Increased focus on Vegetarianism and Alternative Proteins



Cross-Industry research demonstrates what UFS can learn from other colleges and other industries that are similar in scope, yet different in design. Comparing Washington University in St. Louis, Airport OTG, and Westfield Shopping Mall, UFS can learn developing systems for nutrition and high quality, convenience, digitalization, sustainability, and social experience from the primary to mature stages. The Mall provides the best experience around convenience, nutrition and quality, and digitalization, which also emphasizes the importance of the fast casual concept, noted earlier in the slides.



Food services market size in UBC is an estimation based on population, average spending per meal, and purchase frequency at UBC; in our estimations, the market size amounts to \$62 million, of which UBC Food Services accounts for roughly 58%. UBC Food Services' main competitors are the Nest and UBC Village; both have a wide variety of offerings in a single location, and while the Nest is more focused on a fast casual concept, the Village offers cheaper meal options. In a survey we performed to assess how UBC Food Services stands against them in different attributes such as price, quality, service, and location we noticed that it scored the lowest in terms of price, quality, and service.



UBC is home to staff, faculty, graduate students, and undergraduate students who come from all parts of the world. About 65% of people on campus are undergraduate students around the ages of 17-22, 15% are graduate students around the ages of 23 to 34, and staff and faculty combined make up about 21% of people on campus, whose ages range from 25 and above. Given this population, UFS should focus on trends around Millennials (aged 18 to 34) and adults who also have the disposable income to eat out more frequently than students.

Internationally, although UBC has a population of 70% Canadians, Vancouver as a location is extremely diverse and has a large international presence. Recently elected President Santa Ono has made it clear that he wants to increase the international prowess of UBC. In order to align with President Ono's strategic vision, UFS should look to consistently increase the variety of their food offerings to provide an international flavor.

Overview & Industry	highlights UBC Food market	The customer	Recommendations	Risks and Contingencies
	_			
	For UB	C FS.	with an	average
			er meal, d	•
			Quality the	
Key Questions	Find	ings – Based o	n limited 50 res	pondents
PR Location	Near UBC Loc	• • •	University Vill uth Campus	lage, Near Saud
Meals/day			· · · · · · · · · · · · · · · · · · ·	
ivieais/day		2 1010	eals / day	
Days/week		3.3 d	ays / week	
Types of Food	Such as sushi	, the deli, piz	za, burger, sar	ndwiches, salaa
Average spend per meal			\$ 11.1	

To learn more about customers, primary research was collected from people on campus that asked them the following questions:

• Do you eat at campus? Yes

No

- If you don't, why so?
- If you do, where do you usually eat?
- How often do you eat on campus?
- What do you value more about eating on campus?
- What type of food do you like the most? (includes vegetarianism)
- What concept (food truck, cafe, etc) do you like the most?
- Please evaluate from 1 to 10 food on campus, AMS and Student Village on the following aspects: (1 being the worst, 10 being the best)
 - Price, Quality, Location, Service
- How much are you willing to spend for a meal?
- What % of your earnings are you willing to spend in food?
- Activity on campus:
 - Undergrad, Grad, Faculty



Primary research demonstrated that the specific needs of customers are to develop new concepts, eliminate queues, and improve existing options. Combined with qualitative and quantitative data provided by UFS current surveys, these needs stood out as significant to improve consumer experience. Although not all customers would be satisfied, as UFS brainstorms new ideas for the future, successfully supporting these issues first should be their top priority.



The Lean Startup Method is an approach to product development which addresses the negative outcomes of the costly, wasteful, out of touch approach to product development which is used by most large companies. The LSM, which focuses on testing hypotheses, developing a minimum viable product, gathering useful feedback to prove or disprove the hypothesis, then modifying the product a little bit (iterate), or a lot (pivot) in response to customer feedback. The lean methodology helps entrepreneurs avoid developing their ideas in a vacuum where they are absent of real customer experience and validation for the idea. The approach is iterative which means that product attributes are changed in response to customer feedback, then the product is reintroduced to the customer to elicit more feedback. If small iterations to the product do not yield improvements to the product and better response from customers, the entrepreneur will scrap the old idea and pivot to a new idea. New hypotheses are developed in response to customer feedback at each iteration or pivot. The entire methodology is designed to minimize efforts and costs associated with bringing bad ideas to market. The strategy has become more mainstream and has seen a lot of growth in the way of early stage company accelerator programs or startup accelerators, which have grown in the U.S. at an average annual rate of 50 percent per year since 2008 (Brookings). The goal of these accelerator programs is to develop a viable business concept from an idea within 3 months.



For the Lean Kitchen recommendation, we estimated an initial investment of \$455K, which includes the construction, equipment, furniture, and signage dibursement. We computed three scenario simulation combining the curent average spending per meal with three different transaction per hour rates. Assuming that the local would take a year to build, it would begin to operate in 2018. In the end, in a five-year projection, if we consider 20 purchases per hour and 30 purchases per hour, NPV would be negative, while with 40 meals per hour, the NPV would be high. However, the Lean Kitchen would not serve as a profit generating center but as a hub for future outperforming restaurants



With the Lean Kitchen, UFS could lower the expected loss of opening a restaurant and increase the probability of it being profitable. Currently opening a restaurant results in expected value of -\$532K, while not opening a restaurant results in a loss of \$475K. Nonetheless, with the Lean Kitchen higher profit growth can be achieved and UFS can over turn the expected value of -\$475 to -\$368 for the lean kitchen as compared to the respective expected value of current restaurants.



The initial step in implementing the Lean Kitchen is to choose a location. Because the Lean Kitchen is not intended to be a profit center for UFS, the opportunity cost of putting it in a location with heavy foot traffic is high. However, if it is located in a low traffic area on campus, there will be risk of few visitors, thereby reducing its effectiveness as a customer-feedback focused innovation center. Once the location has been determined, construction, pre-promotion, opening, and subsequent product testing can occur. Testing of food concepts and feedback collection can occur in 3-month cycles, in accordance with the average timeline for new company startup accelerators.



The Customers can use the mobile application to check the waiting time, get the navigation to the restaurants, the more important, pre-ordering can be accomplished via this application system. It would reduce the waiting time as customers can order online and set the pick up time, furthermore, it will help restaurant to better utilize their labor resources and avoid peak time chaos. In addition, the feedbacks can be collected instantly through the mobile app.



According to the Operational Triangle theory, the operation information could help to maximize the operation efficiency and reduce the burden in capacity and inventory (labor capacity in this case).

Furthermore, the data through the application will be analyzed in terms of the customer satisfaction, preferences and restaurant operation efficiency. It would give the management team more clear picture on operational defects and the upcoming trends.



The initial investment for the tech application is about \$97500, with 4% of risk free rate and 16% of the risk premium rate, the expected return on investment is 83% in 5 years, the sensitivity report shows the positive outcome even though the growth rate and discount rate vary in certain

Overview & Challenge	Industry highlights	UBC Food market	The customer	Recommendations	Risks and Contingencies
	Тес	h 2017	Start developing Website and Me Application		
			Advertising: on restaurant sign:		
		2018	Select three re with highest w		
			Monitor the O and collect fee		
		2019	Update the Mo Application Monitor the O		
			and collect fee	dback	
			other restaurar		

The Tech mobile Application takes one year to develop and test in 2017, and in the end of 2017 advertising should be started via both online and the restaurant signage, in the beginning of the 2018, the three restaurants, with the highest waiting time based on the historical data, should be selected to implement the application, and the operation should be monitored consistently, and feedbacks from both customers and restaurants employees should be collected and analyzed in the monthly basis. In 2019, the application system should be updated based on the user experience and operation feedback from 2018, and if the outcome reaches the expectation, the application system should start to be implemented in other restaurants.



There are several risks behind launching the lean kitchen pre-ordering mobile application, particularly in regards to current players and dynamic market expectations –

- Competitors UFS has to cognizant of competitors following its lead. Especially, in regards to mobile technology that AMS currently uses. Currently, AMS doesn't has a pre-ordering functionality, however, if UFS realizes a upward trend of its use and benefits, AMS can go forward and implement the same strategy.
- 2) Cannibalization The successful new concepts can attract more foot traffic from the UFS's current restaurants, leading to decrease in revenue from the later.
- 3) Lean Kitchen Although the upcoming concepts from lean kitchen would be based on various iterative processes or tests, however due to dynamic market or changing customer's expectations, there is a high chance that these concepts would not survive or appreciated by the customers
- 4) Tech conversion rate The success of pre-ordering mobile technology is highly based on the customer's adoption to it. Although use of mobile tech is crowded with lot of successful applications that are highly visited or utilized by customers, the conversion can be a huge deterrent.



In regards to identified risks, there is some key steps or measure UFS can take -

- 1) Robust Platform The mobile pre-ordering system has to be robust, minimum viable and matching with user's expectations. This would lead to higher conversion rate and would create a barrier to entry for the competitors.
- 2) Uniqueness UFS has to make sure there are no "me-too" upcoming restaurants from the lean kitchen, excluding the creation of similar restaurant as a chain. If there is no conflict of product offerings and each existing restaurant has it unique value proposition such as location or convenience, then there is a minimum chance of cannibalization
- 3) Lean Kitchen UFS has to make sure that the new idea or concept is primarily launched at a small scale level. Nonetheless, going forward, in regards to its given success, UFS can scale up the new concept's volume or even product offerings.













	Growth F	late: 17% (in 2018), a	and 5% (from 2019 to	20122)	
Year	t	c f	pmt	pv	ROI
2017	0	_	97500	-97500	
2018	1	1473717.90		1228098.25	11.60
2019	2	2210634.28		1535162.70	27.34
2020	3	2984396.48		1727081.30	45.05
2021	4	3796846.79		1831041.08	63.83
2022	5	4649919.61		1868698.40	83.00
iscount Rate	0	.2	NPV in 5 yr	80925	81.73
	Growth F	tate: 10% (in 2018), a			
Year	t	c f	pmt	pv	ROI
2017	0		97500	-97500	
2018	1	60563.19		51763.41	-0.48
2019	2	726821.83		530953.20	4.69
2020	3	1426393.41		890598.05	13.16
2021	4	2160943.56		1153187.64	23.85
2022	5	2932221.23		1337418.80	35.94
iscount Rate	0	.2	NPV in 5 yr	386642	21.096
Year	t	Growth Rate: 5% (fr c f	_	PV.	ROI
2017	0	<u> </u>	pmt 97500	-97500	KOI
2017	1	-948833.03	97500	-832309.68	-9.11
2018		-333044.20		-256266.70	-11.48
2015		313534.07		211626.57	-11.48
2020	4	992441.26		587604.90	-4.71
2021	4	1705293.81		885676.17	2.32
2022		1705255.81		365070.17	2.52
count Rate	0	.2	NPV in 5 yr	4988	31.26

			ROI Sen	sitivity Analys	sis		
			Discount Rat	e (risk free rat	e 4% + risk pr	emium rate)	
		5%	10%	15%	20%	25%	30%
	5%	55.98	46.34	38.73	32.66	27.75	23.76
<u>Growth Rate</u>	10%	86.74	73.15	62.34	53.63	46.54	40.71
kt	17%	129.81	110.69	95.39	83.00	72.85	64.45
<u> </u>	20%	148.26	126.77	109.56	95.59	84.13	74.63
	25%	179.03	153.59	133.16	116.56	102.92	91.59
			NPV Sei	nsitivity Analy	sis		
			Discount Rat	te (risk free rat	te 4% + risk pr	emium rate)	
		5%	10%	15%	20%	25%	30%
	5%	5,457,988	4,517,836	3,776,115	3,183,927	2,705,943	2,316,260
Rate	10%	8,457,240	7,132,057	6,077,955	5,229,200	4,538,119	3,969,624
Growth Rate	17%	12,656,194	10,791,967	9,300,531	8,092,582	7,103,165	6,284,333
Gro	20%	14,455,746	12,360,500	10,681,636	9,319,745	8,202,471	7,276,351
	25%	17,454,998	14,974,721	12,983,476	11,365,018	10,034,647	8,929,715

						Considerations									
						Average spending per meal	\$11.1	Considering	current avera	ge obtained f	from primary	research			
						Hours of operation a day	12								
						Days of operation a year	160								
	Investment					Scenario 1 (transactions per hour)	20								
	Construction w/kitchen	\$350,000				Scenario 2 (transactions per hour)	30								
	Equipment and furniture	\$100,000				Scenario 3 (transactions per hour)	40								
	Signage	\$5,000				Inflation	2%								
	TOTAL	\$455,000				Growth rate	4%	Considering	industry aver	age + upside	of using acce	ted concepts	to try		
						Discount rate	10%								
	21	018				2019		2020			2021			2022	
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario
Revenues	\$426,240	\$639,360	\$852,480	\$434,765	\$652,147	\$869,530	\$443,460	\$665,190	\$886,920	\$452,329	\$678,494	\$904,659	\$461,376	\$692,064	\$922,7
Food sourcing (30% of sales)	\$127,872	\$191,808	\$255,744	\$130,429	\$195,644	\$260,859	\$133,038	\$199,557	\$266,076	\$135,699	\$203,548	\$271,398	\$138,413	\$207,619	\$276,8
Labor (50% of sales)	\$213,120	\$319,680	\$426,240	\$217,382	\$326,074	\$434,765	\$221,730	\$332,595	\$443,460	\$226,165	\$339,247	\$452,329	\$230,688	\$346,032	\$461,3
Maintenance	\$20,000	\$20,000	\$20,000	\$20,400	\$20,400	\$20,400	\$20,808	\$20,808	\$20,808	\$21,224	\$21,224	\$21,224	\$21,649	\$21,649	\$21,64
Profit	\$65,248	\$107,872	\$150,496	\$66,553	\$110,029	\$153,505	\$67,884	\$112,230	\$156,576	\$69,242	\$114,475	\$159,708	\$70,627	\$116,764	\$162,90
PV	\$59,316	\$98,065	\$136,815	\$55,002	\$90,933	\$126,864	\$51,002	\$84,320	\$117,638	\$47,293	\$78,188	\$109,082	\$43,854	\$72,501	\$101,14
	Scenario 1	Scenario 2	Scenario 3												
NPV	-\$198,532	-\$30,992	\$136,548												

Curent							
Decision	Investment	Outcome	Probability	Expected profit	Expected value	Expected decision value	Growth
Decision		Profitable	0.43	\$450,360	\$193,655	value	2.4%
Open		Non- profitable	0.57	-\$475,000	-\$270,750	-\$532,095	
Do Not Open						-\$475,000	
With Lear			obabilities)	Expected	Expected	Expected decision	
		Outcome	Probability	Expected profit	value	Expected	Growth ra
With Lear				Expected		Expected decision	Growth ra 5.0%





Appendice	es – Customer	r Drivers
Drivers	Importance	Comments
Convenience	4	"Mercante is a best place, you can order and have a good ambience, one can focus on studies as well" Graduate Student
Healthy & Cost Effective	4	" Price is a key drivers, as I dont want to spend more than what I am getting, and being a student you often run on tight budget " Undergrad
Good Quality	•	"For me choosing a place to eat is highly dependent on both cleanliness & quality of food" Undergrad
Multicultural		"Multicultural Place that can offer healthy and fast service" Undergrad

ppendices	- Customer F	Pains
Pain Points	Importance	Comments
Lack of peaceful ambience		"The nest usually held events which is annoying as it attracts non- eating crowed and that leads to lot of noise" Grad
Lack of alternatives		" There is a lack of alternatives - Tripe O, A&W & McD are alike in offerings" Undergrad
Mismatch	4	"Affordable places that can offer quality of food. Though UBC is quite a dense university, surprisingly there are not enough options that resonates with students expectations. A dine in proper full range restaurant was opened at the Nest, but was expensive and not at all efficient with timing, so it got closed" Undergrad
Expectations		"Can only go to restaurant which is closer to the sauder building,

Executive Summary

In October 2016, UBC Food Services (UFS) engaged MBA students to evaluate the existing retail food services landscape within the UBC community and to make recommendations for future development. The results are presented herein. Recommendations are based on identification of the key issues affecting UFS's future growth.

Introduction

UFS is an important value driver in UBC's continuous pursuit to compete and differentiate itself as a global top 40 university. Over the next five years, UFS will be opening new operations as well as renovating many existing locations. The impacts of their decisions surrounding food have broad implications for financial, physical, social, and environmental health of the campus community. This challenge presents an opportunity to evaluate and recommend strategies to drive future growth.

About the Client

UFS is responsible for feeding thousands of people every day. They operate residence dining for over 4,500 students, campus-wide catering, food trucks and more than 30 retail locations across campus, including full service restaurants, bakeries and cafes, and quick service restaurants through a mix of licensed, nationally recognized chains and independent concepts unique to UBC. As a financially independent and self-sustaining organization, their profits are directed back to the University to support academic programs and student experience. UFS' 400-employee workforce is supported with above-minimum wage compensation and employee development programs.

Issue Analysis

Evaluation of UFS restaurant's financial performance as well as customer behavior and preferences through customer survey, the following issues were identified:

- In 2015, 57% of UFS locations were operating at a loss. The average loss for those restaurants, was \$95,000 per restaurant, for the year. The expected value of deciding to open a new restaurant is lower than deciding to continue operating a restaurant at a loss. This environment creates significant challenges for decision making.
- Customer surveys demonstrate that UFS ranks lower than AMS Nest and University Village on key customer satisfaction attributes such as value for money, and quality. UBC Campus population is growing at a rate of 2.6%. In order for UFS to grow beyond this rate, it needs to increase market share by improving their competitiveness in these areas.

Recommendations

In order to address the issues of negative expected value of investments in new restaurants as well as customer perception relative to competitors, the following recommendations are proposed:

1. Create a Lean Kitchen to test new food concepts prior to being launched

UFS can apply a lean startup methodology to developing food service concepts. A restaurant whose sole objective is to accelerate and test new food ideas on the campus population with an intense focus on immediate customer feedback, would act as an innovation engine for the rest of UFS establishments.

2. <u>Develop a mobile application to engage customers in a technology-based format</u>. On average, smartphone users look at their phone 46 times a day. UBC can capitalize on this human

habit by enhancing their current mobile platform to better suit the needs of customers. Creating a platform that presents useful information such as waiting times, customer loyalty rewards, and online pre-ordering will simplify the customer experience and therefore increase the perceived value of UFS establishments relative to competitors.

Implications

1.<u>Lean Kitchen</u>: On average, UFS closes one establishment per year, triggering high costs to change the restaurant into something new. The costs of closing and reopening restaurants on an annual basis become substantial, especially when considering the high probability that a new restaurant will not achieve profitability. Through its smart approach to food concept development, the Lean Kitchen will reduce the probability of new restaurant failure. This recommendation is supported by an expected value analysis. Building the Lean Kitchen would cost roughly \$455,000 and it would take around a year to finish it, so it would start operating in 2018.

2. <u>Mobile App</u>: By developing a mobile app, customers could become more encouraged to eat at UFS locations. Given the technical complexity and financial disbursement of developing a platform of an app and adapting restaurants to it, it is recommended to first test the app in only three locations, and gradually employ it in other restaurants. It is also foreseen that the app development would take a year and it would cost roughly \$97,500.

Risks

The large investment in creating a pre-ordering mobile tech and establishing lean kitchen creates huge opportunity costs. The success of the Lean Kitchen could lead to cannibalization of its existing restaurants, and the minimal adoption rate of mobile app could render its impact uncertain. However, UFS could create a robust mobile platform that will be implemented at a selected and at small scale level. Further, UFS should make sure that the new ideas or concepts create a unique non-conflicting value proposition as compared to existing restaurants, this will ensure that new restaurants would not eat into existing restaurant's foot traffic. UFS has a positive outlook going forward with implementing the above mentioned recommendations, if risks and mitigation steps are clearly addressed.