Urban Farming Montreal

Mark 485 – Business-to-Business: Corporate and Societal Goods

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Executive Summary

We have been observing a growth of population in urban areas across the globe over the past 50 years. In 1960, 34% of us lived in cities, compared to 54% in 2014 ("Urban Population Growth", n.d.). In Canada, the rural population has decreased over 20% in just 40 years: from 7.6 million in 1966 to 6 million in 2006 ("Canada Goes Urban", 2017). This decline, accompanied by a shrinkage in the number of farmers, has given birth to new farming practices in order to feed the world's population. These practices include the use of technology and chemicals (i.e. pesticides and insecticides) to have better outputs, as well as modifying the genetic structure of the crops we grow. Furthermore, converging customer tastes worldwide resulted in a surge in demand for out-of-season produce which has led to a major increase in transportation of food worldwide, contributing to the emission of greenhouse gases and global warming. It is becoming crucial for Montreal and its 4,424 restaurants (Harrison, 2014) to adopt better ways to deliver their services: How can restaurants become sustainably efficient?

This question may seem simple but let's declare the terms in order to fully understand the meaning behind it. By 'sustainable', I mean turning restaurants into actors in their network that will adopt better practices to grow food (without the use of insecticides, pesticides and GMOs aforementioned) in order to offer organic produce. By 'efficient', I mean decreasing the distance from farm to table as a means to reduce polluting emissions and greenhouse gases associated with food transportation. Through the implementation of a company, 'Urban Farming Montreal', this paper will try to solve the issue by making restaurants adopt urban farming practices to satisfy their needs in fresh produce. In addition to restaurants being independent, the new network will allow for an increase in green spaces, which will ameliorate the landscape and decrease pollution by diminishing transportation and with the plants absorbing greenhouse gases emitted by the city.

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Introduction

There are many costs associated with the growing of crops: labor, irrigation, transportation, fertilizer, chemicals, etc. Additionally, our modern conceptualization of cities lies around space optimization. Urban populations are growing and we are constantly looking for ways to fit everyone: we make taller buildings and expand the boundaries of our cities. We have been adopting a human-centric approach in the wrong sense of the term: we are doing our best to fit as many people as possible in as little space as possible, instead of making the spaces livable and sustainable.

With food exports becoming widely available in the past few years, we have observed a conversion of tastes in regions across the world. Since we are able to ship any type of produce at any time of the year, we have been increasingly dependent on countries on the other side of the globe to provide us with seasonal fruits and vegetables, thus increasing transportation traffic and contributing to global warming.

Furthermore, the growing population on earth and in cities specifically has been having an impact on the way we produce food. Our population is projected to reach 9.7 billion people by 2050 ("World Population Projected to Reach 9.7 Billion by 2050", 2015), which raises concerns as to how we will come about feeding all of these people. There are less farmers and more people to feed so we are adopting sometimes unethical methods to keep produce fresh for longer by using chemicals and modifying the molecular structure of the crops we grow to the detriment of our bodies and the environment.

We are in an era in which it is something of the extraordinary to have 'organic' produce with no additives, conservatives or pesticides, whereas it has been the norm for so long and until recently. We are now in a reverse-scenario in which we have to specify when something is organic

and pay a premium for it because it is not anymore perceived as a 'regular produce'.

All of these concerns also apply to Quebec and Montreal. In fact, the francophone province's carbon monoxide emissions represent about 25% of that of Canada and are in large part due to transportation ("Air Pollutant Emissions", 2017). This, combined with the fact that Millennials – the generation of tomorrow – reported to spend 44% of their food dollars on eating out (Talty, 2016), makes us realize that it is becoming crucial to adopt sustainable ways to produce and distribute food.

How can restaurants become sustainably efficient?

Urban farming, as its name suggests, is a practice that consists of designating spaces in urban areas to grow crops. This solution is used by an increasing amount of communities in order to fight against the negative effects of harmful substances, GMOs as well as the energy waste and pollution associated with the transportation of fruits and vegetables across incredible distances.

Starting a company, 'Urban Farming Montreal' whose initial primary focus will be with restaurants will enable us to plant a seed and make it grow by extending the service to every concerned actor in the network once they will take conscience of the problems we are facing as a society. The proposed solution to this question intends to turn customers into actors as a means to co-create better practices and co-destroy the unsustainable ones we have become accustomed to.

The Imperative of Adopting Sustainable Practices in Restauration

Review of the Current Network, its Actors and their Roles

The current restauration network functions on a basis of exchange in which produce is exchanged for money. This industry thus follows a goods dominant logic model, with actors that are uninvolved in each other's activities. There are many active players in this industry's network; here is an overview of the most important ones, from a mega to micro perspective:

- ⇨ Governments: Control the practices within their borders and impose regulations (i.e. tariffs and quotas) on imports, which can be more or less advantageous depending on the country and the type of products produced and imported.
- ⇨ International Farms: Grow and harvest the fruits and vegetables they can produce in their climate, at the cheapest cost and for the highest demand. On a mega level, over 99% of farms worldwide will use chemicals for better outputs, as less than 1% of farms worldwide are certified organic (Willer & Lernoud, 2016). To the benefit of personal gain and to the detriment of the environment, most farms will ship their produce internationally if they can produce enough and the demand allows it.

Source: Lernoud & Willer, 2016

- ⇨ Logistics Companies: These actors' main focus is to get products from *point A* to *point B* in as little time as possible. To do that, logistics providers can use various methods, including cargo, aerial, train, and truck transportation. Often times, the larger the distances they have to cover, the happier they will be, since their rates will go up exponentially. Logistics providers are arguably the most wasteful actors in their network, as the burning of fossil fuel to power their transportation devices is one of the main contributors to global warming and climate change.
- ⇨ Local Farms: Similarly to international farms, local farms' primary focus will be on growing the produce they can harvest for the cheapest costs and for the highest demand. The main difference setting them apart from international farms are the practices they can adopt in that process, which are usually set by local governments.
- ⇨ Distributors: Stock their inventory with produce that has the highest demand, regardless of the distance they have traveled nor the methods used to grow and harvest the produce.

- ⇨ Restaurants: Buy produce from farms and distributors. Usually purchase the same product from the same suppliers (thus perpetuating their habits) and base their decision on two main criteria: price and quality.
- ⇨ Customers: Choose restaurants based on the price of their menu, what they have to offer in terms of food and experience, as well as the location of the restaurateur. Customers rarely question the quality nor the origin of the food they order.

Concerned Actors: Before, During & After of the GDL Network in Restauration

Actors	Before	During	After
Governments	Evaluate trade restrictions and barriers to implement	Implement the restrictions	Benefit financially from the restrictions imposed
Logistics Companies	Look for clients for whom they can transport goods	Get the goods from point A to point B	Find faster ways to move goods around
Suppliers (Farmers & Importers)	Sell the produce they have bought (i.e. shipped in farms all over the world) or produced to restaurants	Satisfy the increments in demand from the restaurants they supply	Keep on ordering food from their own suppliers or harvesting fruits and vegetables to satisfy their demand
Restaurants	Purchase fruits and vegetables from suppliers (farmers & importers)	Re-order from their suppliers based on their needs	Assess how much inventory they have used for more accurate ordering
Customers	Trust restaurants to provide them with wholesome and healthy	Eat the food at the restaurant (not knowing where it is from nor how it is grown)	Estimate their satisfaction based on their experience (the food that have just consumed, the environment they are in, the service…)

We can see that in this network, everyone acts independently in order to achieve their goals. This is leading to major problems since at every level, there are negative aspects to any combination of the following: the economy, the environment, our bodies. Governments that have lax regulations on imports for instance, can get more money by taking advantage of high volumes of merchandise entering their territory and therefore generating tax revenue. Furthermore, by encouraging imports, not only do governments act as contributors to greenhouse gas emissions associated with the transportation of goods, but also saturate the demand for local companies.

Moreover, local and international farms using chemicals and altering the molecular structure of their crops in the name of efficiency are raising ethical concerns. Although such practices are technically not illegal, not only are the farms harming the environment at large (chemicals released in the soil, affecting insects, animals and polluting water), but they are also feeding us over-processed produce that is lacking some key nutritive elements.

Restaurants, by not taking initiative to solve these issues, act as 'collaborators' to the destruction of our environment since they are ultimately the ones distributing the finished products to us customers.

Implementing Urban Farming for Restaurants

Restaurants as Actors in their Network

Responding to the numerous environmental and ethical issues mentioned, requires turning the members of the network into actors contributing to each other's activities for the greater good. A way to do this would be to start at the micro level and get restaurants directly involved with the production of the produce they use in their menu.

This is where the pilot project kicks in: Urban farming methods to be adopted by restaurants in Montreal. Here's how it will work:

Urban Farming Montreal will work with restaurants in order to implement tailored gardens to their needs. Depending on the restaurants, the gardens could be implemented on their terraces, rooftops, parking lots, or even in 'communal spaces' for restaurants that operate in a near geographical proximity in order to split the costs. The aim is to co-design the best possible gardens for restaurants, which Urban Farming Montreal will harvest and deliver to their doorstep. By adopting these methods, restaurants will have access to fresh, organic produce and will ultimately reduce the distance from farm to table, therefore diminishing the negative impacts on the environment associated with unethical farming practices and food transportation.

New Network: SDL, Fluidity and Speed, Co-Creation and Co-Destruction

As a means to understand the benefits of this project, let's review the roles of the actors in this new network, from a mega to micro perspective:

- ⇨ Governments: Are likely to encourage such practices, and even potentially give subsidiaries, as such an initiative will ultimately increase GDP by decreasing imports and increasing local production.
- ⇨ International Farms: Will have decreased demand for international shipping.
- ⇨ Logistics Companies: Will see a decrease in demand for imports to Montreal as the demand for outside food will be decreased. If they understand the reason why their demand took a hit, they might try to find better, more sustainable alternatives to moving goods around, such as electric means of transportation for instance.
- ⇨ Local Farms: Will also have a dent in their demand, and realistically might increase the amount of produce they export. Hopefully, they will change their practices to adopt more sustainable ones and be able to compete in their own market.
- ⇨ Distributors: Will also see a decrease in demand from restaurants, which will hopefully

make them conscious of where they source their produce from.

- ⇨ Urban Farming Montreal: Will provide restaurants with urban patches of land on which the produce they sell will be grown.
- ⇨ Restaurants: Will have fresher and better produce to offer and will likely see a surge in their demand from environmentally conscious customers.
- ⇨ Customers: Will have the choice of going to restaurants in which they are guaranteed to have fresh and organic produce that supports the environment on multiple facets.

This new industry will therefore rely on a service dominant logic in which actors will apply their competences for the benefit of other parties. The basis of exchange will no longer be based on demand, supply and price, but for this to work, all actors in the network will have to be in a communal mindset in order to co-destroy their current practices as a means to co-create new ones that are sustainable and efficient.

The co-destruction mentioned above will be intentional and two-fold because there are two main practices to abolish: our current approach to growing crops which relies too much on unsustainable practices, as well as badly optimized spaces in Montreal.

The co-destruction of badly optimized spaces will result in the co-creation of spaces that will serve a better purpose than being idle, parking cars, or storing materials. They will be turned into urban farms, and will have a human-centric approach to space optimization. The second co-destruction is tied to the first one and refers to our current approach to growing crops. The practices employed in the urban farms described above will be as sustainable as possible, using organic practices and setting aside any harmful chemicals.

Using urban farming to improve the fluidity, speed & rhythm of restaurants' operations

Providing urban farms to restaurants will generate a new operations design which will flow in a smoother manner. By reducing the distance from farm to table, restaurants will be a lot more efficient and will be able to access what they need, when they need it. The fact that 40% of the food production for human consumption is wasted or lost in developed countries (Hunger Facts, n.d.), also helps this claim since reducing the geographical distance between where the products are grown and where they are consumed will ultimately decrease the amount of scenarios in which food can be spoiled, wasted or lost.

Opportunity Costs of Not Implementing Urban Farming

Adopting urban farming practices for restaurants may represent significant costs and minor adaptation efforts in terms of how logistics are handled. That being said, it has to be understood that such an initiative is an investment which will be paid back in the future, whether it is by saving costs on inventory or by an increase in foot traffic. Restaurants who choose to continue to operate in their outdated GDL network will face a number of opportunity costs. Here is an overview of the most important ones:

Perpetuation of Harmful Practices

By not implementing urban farming, restaurants will continue to perpetuate the unethical practices used to grow crops today: the use of chemicals destroying the earth, the large distances travelled by food contribute to global warming, and so on. Not only will they fail to set new standards for food harvesting in Montreal and globally, but they will also contribute to the degradation of our environment and fail to *'Make Agriculture Great Again'*.

Lost Corporate Social Responsibility Opportunity

Restaurants will also miss out on the opportunity to have a real CSR program. These initiatives have been on the rise over the past few years because businesses in all sectors have understood that they need to give back to the society and to have a minimal footprint on the environment. Urban farming will enable restaurants to distinguish themselves in the eyes of their customers and will likely see their customer base increase as a result without faking it (i.e. using greenwashing).

Keeping Dependency on Outside Firms

Restaurants that choose not to implement the gardens will remain dependent on outside firms to provide them with their inventory. They will therefore be more susceptible to being affected by outside factors such as late shipments, price fluctuations, import restrictions, and so on. Also, going back to the first point in this section, restaurants will perpetuate the practice of shipping products from the four corners of the globe, thus keeping – if not increasing – the already high worldwide traffic of merchandise.

Looking at the Future of Urban Farming Montreal

Urban farming can have a very bright future and can be applied to a variety of segments that are not limited to restaurants. Here is a closer look at where and how it should be implemented since its inception in order to reach its full potential:

Short term Implementation: Upscale Restaurants

In the first two years of its operations, Urban Farming Montreal should focus specifically in targeting affluent and upscale restaurants. These types of restaurants are more likely to have the funds to finance such a project as their margins are generally higher than the industry's average, in addition to the fact that this initiative is a good strategic fit with the idea that they sell superior quality food. By achieving this, Urban Farming Montreal can follow a top-down model, also adopted by Elon Musk's electric car company: Tesla. This strategy will increase the likelihood that the company will reach considerable awareness, making its organic growth down the line more effective. Also, as history taught us, it is more effective for businesses that essentially want to serve the whole market to start by targeting luxury segments and move downward, than the other way around.

Medium Term Implementation: Midscale Restaurants and Other B2B Expenditures

Once Urban Farming Montreal will have a name for itself after two years and when it will be able to find ways to drive down its costs to decrease its implementation price, the company should focus the following three years on targeting midscale restaurants. It will be easier for the company to do so at this point in time since it will have proven the benefits of urban farming for restaurants, and as a result its solution will be more likely to be adopted by actors in their network that have less financial means.

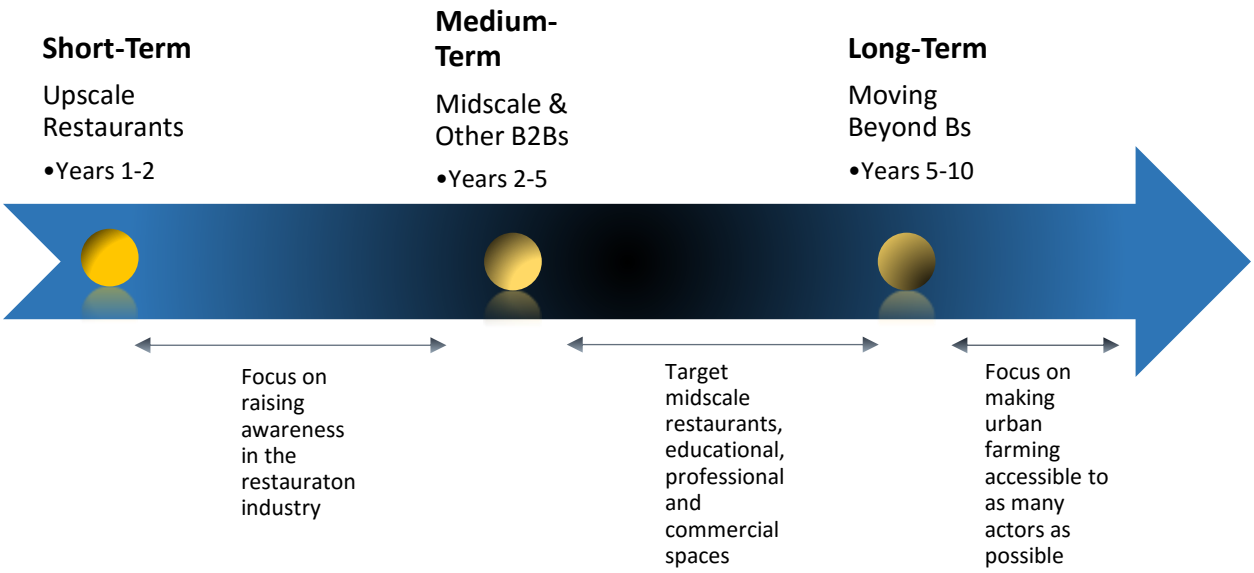
At the same time, I believe the company will be ready to expand and offer its services to other 'business actors'. For instance, the company could replicate its offerings to educational spaces (such as schools and universities) for them to offer healthy and organic produce in their cafeterias as a means to educate the generations of tomorrow on sustainable practices.

Professional spaces such as large office buildings could also be potentially good targets because of the amount of people their cafeteria feeds per day. Vice, the news company, has actually implemented such an initiative by turning the parking lot on the rooftop of their office in New York City into a garden able to feed their office ("Welcome to the Munchies Garden", 2015).

Finally, it would also be great for important actors in the food distribution network such as supermarkets and superstores to adopt urban farming due to the high volume of food they ship in and distribute. There is great potential for these types of stores to adopt urban farming as most of them have large surfaces on their roofs on which rooftop farms could easily be implemented.

Long-Term Implementation: Moving Beyond Business Actors

After five years of operations, Urban Farming Montreal will be able to focus the next five years on rendering its services available to as many actors as possible due to the economies of scale it will achieve. Not only does this mean that all types of restaurants will be targeted, but looking beyond business to business interactions, Urban Farming Montreal could also deal directly with government entities as a means to convert unused or misused spaces in Montreal into communal gardens to which Montreal residents would have access to. This initiative would educate Montrealers in sustainable farming practices, in addition to providing them healthy and organic produce. Also, taking business to business interactions even more off track, Urban Farming Montreal could propose its services to the most concerned actors: customers. By having their own crops, these actors will decrease their dependency on outside firms, save money in the long run, and will have a positive impact on the environment and on their city.


Short-Term
Upscale Restaurants
•Years 1-2
Medium-Term
Midscale & Other B2Bs
•Years 2-5
Long-Term
Moving Beyond Bs
•Years 5-10
Focus on raising awareness in the restauraton industry
Target midscale restaurants, educational, professional and commercial spaces
Focus on making urban farming accessible to as many actors as possible

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