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| **Case Report: Webvan** |
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| **Shields, Jordan E.** |
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**Abstract**

Webvan provides online grocery retail and delivery services for consumers located within a set geographical proximity to their distribution centers by utilizing massive capital requirements to achieve first to scale in the industry. The organizational structure for Webvan is holographic. In a holographic structure, each organizational unit is a holographic representation of the other units; that is, they are identical in the processes they perform and their method of operation. “The $25 million distribution center, a prototype for the 26 other centers Webvan intended to build, included 4.5 miles of conveyor belts, temperature-sensitive rooms for specialty items, and the ability to serve as many customers as 20 normal supermarkets.” (Allan Afuah, 2001). The generic strategy of Webvan is differentiation. While the reduction of overhead requirements allows the potential for cost savings to be transferred to the end consumer, “the primary benefit the online grocery channel provided to consumers was convenience… Webvan differentiated itself within the online grocery market in two distinct areas: operations and customer service.” (Allan Afuah, 2001).

**Porter’s Five Forces Analysis**

**Threat of new entrants**: **Medium**

The threat of new entrants into the online grocery delivery field is relatively medium. As exhibited by companies such as PeaPod, capital requirements are scalable; a new entrant with less capital may choose to operate in a specific geographical area and expand in response to their customer base, profitability, and evolving needs. There are currently no businesses that have achieved economies of scale in this market. If brick and mortar grocery retailers begin to lose sizable market share to their online counterparts then retaliation can be expected. There may also be issues gaining access to distribution for the large variety of groceries (and brands) available. Additionally, “industry analysts estimated online grocery sales of $156 million in 1998, less than 1 percent of the entire grocery market.” (Allan Afuah, 2001).

**Threat of substitute products or services: High**

The threat of substitute services in this industry is relatively high. Brick and mortar grocery retailers currently own this market; as such, the basis of online grocery delivery is that buyers will have a high propensity to switch to their service. “Many online grocers achieved less overhead by using centralized warehouses and employer fewer people than traditional stores, cost savings could potentially be transferred to the end consumer. Lastly, eliminating the costly real estate and other expenses related to bricks-and mortar companies made for exciting business propositions and growth.” (Allan Afuah, 2001); This led to reduced buyer switching costs from brick and mortar to online services. Delivery fees have the potential to seem negligible if balanced properly with these cost savings. There is also a great ease in substitution, customers can readily go to the grocery store just as well as order online.

**Bargaining power of customers: High**

The bargaining power of customers in this industry is relatively high. The switching cost for buyers is relative to any costs savings the online retailers are able to provide (in comparison to brick and mortar retailers), while taking into consideration delivery fees and time. Buyers can easily compare prices between retailers using the internet. In regards to buyer price sensitivity, it would seem logical that the costs differences between online and brick and mortar retailers would be evaluated and compared with regards to the convenience of online delivery services.

**Bargaining power of suppliers: High**

The bargaining power of suppliers in this industry is relatively high. If an online grocery service is unable to provide for all of the customers grocery needs, then the customer will have to go to the brick and mortar store anyways; if customers have to go to the brick and mortar store anyways, then why would they use online grocery services at all; especially if the cost is greater. Thus, being unable to obtain predominate brands of groceries would be detrimental to online retailers. If online retailers become a threat to brick and mortar retailers, then it would seem logical that brick and mortar retailers will retaliate by utilizing their sway with suppliers in an effort to convince these suppliers to ‘cut-out’ online retailers.

**Intensity of competitive rivalry: High**

The competitive rivalry for this industry is high. Online grocery services not only have to compete with each other, but with the established brick and mortar retailers; Their primary goal is to steal market share from brick and mortar retailers, leading to intense competition between online and offline retailers that will scale relative to the success of the online retailers.

**10 Properties of the Internet**

1. **Mediating Technology**

“The Internet is a mediating technologythat interconnects parties that are interdependent or want to be.” (Afuah & Tucci, 2003). Webvan is a typical business to consumer business. Webvan utilizes the internet as mediation between the products they sell and the customers they serve. Customers wishing to purchase from Webvan must access the company through the internet.

1. **Universality**

“Universality of the Internet refers to the Internet’s ability to both enlarge and shrink the world.” (Afuah & Tucci, 2003). Under this property, technology is ubiquitous and pervasive. This allows Webvan to connect to its customers in a variety of ways without having physical retail outlets. Not only can people access Webvan’s services from a personal computer, but also from other platforms such as mobile devices and tablets. Additionally, Webvan can utilize technology that lacks interconnectivity with consumers; such as by using television or radio ads to raise awareness of their services. The universality provides the ability to reach a global audience, while simultaneously allowing the individual to connect anywhere regardless of physical geographic location.

1. **Network Externalities**

This property encompasses the rise in value customers derive from a product or service as a result of an increasing the customer base for the product or service. Essentially, the underlying idea is that the more users of a product or service the more value individual user will derive from using that product or service. Metcalfe’s law assists us in determining the value of network size, it states that “the value of a network increases as the square of the number of people in the network. That is, value is a function of *N*2, where *N* is the number of people in the network. It has also been argued that the increase in value from size is exponential. That is, the value of a network increases as a function of *NN*.” (Afuah & Tucci, 2003). For Webvan, the best capitalization on network externalities will be in achieving a customer base that allows them to realize the benefits of economies of scale; these benefits will effectively reduce costs, allowing savings to be potentially passed on to the consumer, effectively increasing the value customers receive from the service. Another way Webvan can capitalize from network externalities is by data mining. For example, examining consumer purchase history can lead to identification of top selling (and underselling) products, allowing for strategic item placements that can be tailored to the individual consumer and others with similar purchase history.

1. **Distribution Channel**

The distribution channel allows internet-based businesses to distribute products that are primarily information; “When the product itself cannot be distributed by means of the Internet, information on its features, pricing, delivery times, or other useful information about the product can.” (Afuah & Tucci, 2003). Webvan requires strategically positioned warehouses to serve as a base for a limited, surrounding geographical distribution network. So while the internet enables Webvan to distribute information on its products and services, it’s limited by the physicality of the products. Webvan is attempting to enact the replacement effect of the internet as a distribution channel; put simply, the replacement effect entails utilizing the internet to serve the same customer base as traditional distribution channels without attracting new customers. In this case, Webvan is attempting to steal customers from brick and mortar retailers in favor of their distribution channel.

1. **Time Moderator**

The internet enables businesses to remain open 24/7. Websites will continue to be available to consumers until they are taken down or crash. In Webvan’s case, this allows customers to place grocery orders at any time; although they will still be limited by warehouse and delivery operating hours. On the other hand Webvan’s services posses the ability to shrink time for customers who desire information on a particular product or service offered by Webvan since this information is available instantaneously over the internet.

1. **Removes Information Asymmetries**

Information asymmetries occur when one party in a transaction has more information vital to the transaction than another party. The internet provides a vast library of information so consumers can break down these asymmetries and move towards the neoclassical idea of perfect information. As it applies to Webvan, this property of the internet allows customers to make informed purchase decisions based on a multitude of factors such as the price, service, quality, and convenience offered by Webvan relative to its competitors.

1. **Infinite Virtual Capacity**

Moore’s law proclaims that every 18 months computer processing power would double while the cost remains fixed. “Using these technologies, the Internet often gives customers the feeling that it has infinite virtual capacity to serve them.” (Afuah & Tucci, 2003). Increasing virtual capacity allows businesses to capture more data. This data can then be translated into information that guides various strategies. Webvan can benefit from this property by collecting data on customers to assist in creating strategic, personalized site layouts and help their supply chain with purchasing based on history and trends.

1. **Low Cost Standard**

The idea behind the low cost standard of the internet is that the internet is standardized globally, and the cost of utilizing the internet is minimal relative to other means of electronic communications. Borders has already realized this potential, “online grocers achieved less overhead by using centralized warehouses and employed fewer people than traditional stores” (Allan Afuah, 2001). Webvan plans to capitalize on the reduced operating expenses obtained from utilizing the internet versus brick and mortar outlets. “Firms still have to invest in adopting the Internet, but the costs are considerably lower than they would have been had the Internet not been an open standard and had most of the costs not already been underwritten by the U.S. government.” (Afuah & Tucci, 2003).

1. **Creative Destroyer**

The notion of the internet as a creative destroyer stems from the idea that the internet facilitates new technology-enabled processes that effectively render traditional processes obsolete. “The Internet is transforming the structure, conduct, and performance of other industries, in many cases rendering the basis for competitive advantage obsolete.” (Afuah & Tucci, 2003). The ultimate goal for Webvan is to render the idea of the traditional grocery store obsolete in favor of online grocery and delivery services.

1. **Transaction-Cost Reducer**

This property builds off various other properties of the internet such as universality, distribution channel, low cost stands, and information asymmetry reduction. The underlying notion of the internet as a transaction-cost reducer is that all the activities in a transaction cost money, and the internet reduces these costs because information necessary to these activities can be easily and instantaneously obtained through the internet. For Webvan, operating and performing transactions through the internet effectively reduces their transaction costs in comparison to retail stores that must scan each individual item and are limited by human capacity and the number of checkout lanes available.

**10 Facets of an Internet Enabled Business Model**

1. **Profit Site**

“A firm’s profit site is its location in a value configuration vis-a-vis its suppliers, customers, rivals, potential new entrants, complementors, and substitutes.” (Afuah & Tucci, 2003). Webvans profit site is positioned as an online retailer of grocery items and geographical centered on its eventual 27 warehouse facilities.

1. **Customer Value**

Webvan provides customer value through differentiation on location, and service. By aggressively expanding, Webvan will become the largest online grocery provider, serving more locations than any other competitor. Webvans customer service and delivery aspects differentiate its services from that of competitors by swiftly responding to customer orders and complaints. Once Webvan is able to achieve economies of scale, it can begin competing with brick and mortar retailers on costs as well.

1. **Scope**

“Scopeis about the market segments or geographic areas to which the value should be offered as well as how many types of products that embody versions of this value should be sold.” (Afuah & Tucci, 2003). For Webvan, their scope is limited to the geographic locations of their eventual 27 facilities. Ideally, these facilities will be located near highly populated areas that contain market segments ideal to the online grocery industry.

1. **Price**

“A bad pricing strategycan not only leave money on the table, but also kill a product or stifle its prosperity.” (Afuah & Tucci, 2003). Webvan’s pricing strategy is not discussed in detail; however, it would seem logical that Webvan should initially price products lower than competitors. This may seem like a bad pricing strategy in that it leaves money on the table for this period, however, it will allow Webvan to swiftly build its market share by attracting a plethora of customers that would forgo trying Webvan’s services without the extra savings. The vast majority (89 percent) of people who tried purchasing groceries online visited the grocery store less often. This indicated that online shopping could become habit-forming, potentially providing a constant stream of revenue for online grocers.” (Allan Afuah, 2001). Once enough market share has been obtained, Webvan could start to gradually increase its prices; although the possibility exists that it may not have to adjust prices if it achieves economy of scale and, thusly, the ability to provide the products cheaper.

1. **Revenue Sources**

This is the problem area for Webvan. Webvan’s rapid and aggressive expansion is occurring before it has generated enough demand through market share to offset its high fixed costs. “A [new] firm’s strategy, then, is to strive for high market share. Strategies for attaining such a high market share include (1) giving away a product and charging for later versions, (2) giving away product X and charging for related product Y, and (3) pricing low to penetrate the market.” (Afuah & Tucci, 2003). Additionally, Webvan is blocking additional revenue sources that can be generated through an internet enabled business, “[Webvan] did not intend to sell its customer data to third-party database firms, nor did it receive online advertising fees, since it wanted to remain neutral among the different product brands that it sold online.” (Allan Afuah, 2001). Webvan is completely relying on being able to obtain market share fast enough to prevent an otherwise inevitable bankruptcy.

1. **Connected Activities**

Webvans required connected activities are as follows: supply chain management, delivery and transportation logistics, warehouse logistics, marketing, website management, and customer service.

1. **Implementation**

Implementation is defined as carrying out the decisions made for “what value to offer customers, which customers to offer this value to, how to price it, and what activities to perform” (Afuah & Tucci, 2003). In this case, Webvans implementation involves the construction of its 27 warehouse facilities and supporting delivery network. The geographic locations of these facilities will determine which customers are offered their products and services and what product pricing points must be relative to competition in the area.

1. **Capabilities**

Webvan generated a little over $8 billion during its IPO. Thus, it has the resources to proceed with its business goal of being first to scale in the market. Webvans core competency is its ability to conveniently and efficiently allow customers to order and receive groceries. Relative to other online grocery retailers, Webvan has a competitive advantage due to the amount of capital it was able to generate during its IPO, allowing them the maneuverability to aggressively expand in an effort to achieve first to scale in this market. Border’s believes it can achieve a competitive advantage over brick and mortar retailers by cutting out the operating expenses associated with retail stores.

1. **Sustainability**

Webvan currently has the potential to choose a sustainability strategy. “To sustain a competitive advantage, a firm can—depending on its capabilities, environment, and technology in question—pursue some subset of three generic strategies: *block, run,* and *team-up*.” (Afuah & Tucci, 2003). The specific sustainability strategy Webvan should employ is covered in the recommendation.

1. **Cost Structure**

“A firm’s cost structureexpresses the relationship between its revenues and the underlying costs of generating those revenues.” (Afuah & Tucci, 2003). Currently, Webvans sole source of revenue is from selling and delivering groceries. On the other hand, Webvans costs are: the $1 billion agreement with Bechtel Group, the fixed and variable costs of its current facility and delivery network, labor, and web hosting materials.

**Main problem area**

The key issue for Webvan is that “1999 losses were forecasted to be $35 million.” (Allan Afuah, 2001). The forecast goes on to predict an overall loss of $302 million for 2001. But this isn’t really the problem; it’s only a symptom of the problem. What’s causing these massive losses? “High operational costs and low initial grocery sales… Webvan in 1999 signed a $1 billion agreement with Bechtel Group, an engineering and construction firm, to build distribution centers and delivery infrastructure in 26 new markets over the next two years.” (Allan Afuah, 2001). When you consider these expenses coupled with the following statement: “While Webvan had operated for a mere five months in the San Francisco area, more than 10,000 people had signed up for the service.” (Allan Afuah, 2001). This equates to 2,000 customers per month; if this trend continues, which would be an optimistic presumption since “it has taken rival Peapod, Inc., 10 years to amass a customer base of 100,000 households” (Allan Afuah, 2001), and we expect the other 26 new markets to generate the same amount of customers (which is also highly improbable due solely to geographic population density), then by the end of 2001 we can expect an optimistic customer base of around 1,008,000. To generate the $820 million needed to break even in 2001, all of these customers would need to utilize Webvan’s services 11.55 times a year and have the average order total be $71 (the current average order total for 1999). Since losses for 2001 are expected to be $302 million, it would seem that whoever forecasted these totals doesn’t expect the customer base and sales to grow this rapidly. Thus, the primary problem for Webvan is not having the customer base required to support their massive infrastructure costs of creating, supplying, and maintaining these 27 facilities. In essence, Webvan is expanding at a rate that vastly exceeds market demand for their services, resulting in excess capacity and projected losses stemming from high fixed costs. To remedy this problem, Webvan must find ways of increasing market demand for their services to the extent that it coincides with or exceeds their rate of expansion.

**Key stakeholders**

**Webvan Shareholders** – This group is comprised of the shareholders who’ve invested around $8 billion in Webvan. This group desires the Webvan to be successful and maximize profit.

**Louis Borders, Webvan Chairman** – He is the driving force behind Webvan and the decisions it has made to date. He desires Webvan to become profitable by stealing the market share from brick and mortar grocery retailers.

**Offline grocery retailers** – They are the primary competition of Webvan. Webvan and other online grocery retailers are threatening to take their market share. Any substantial or threatening success by Webvan will cause a stern competitive reaction by the offline retailers.

**Consumers of Webvan**- This group is comprised of Webvans customer base. They expect to receive the greatest balance of service and price to meet their personal financial and grocery needs.

**Alternatives**

1. **Do nothing.** Under this course of action Webvan would do nothing and continue operating as planned. This will lead to bankruptcy since Webvan will not be able to attract enough customers to offset its massive operating expenses. Essentially, Webvan will be left with the infrastructure of an economy of scale online retailer without the customer base to support the infrastructure. Borders and Webvan Shareholders will be disappointed. Offline grocery retailers and customers will continue as before.
2. **Launch a massive, targeted advertising campaign to coincide with the opening of each new facility.** In this course of action, Webvan would launch a massive marketing effort. This purpose of this effort is to attract the largest number of customers as quickly as possible. There is a plethora of ways Webvan could go about such as strategy; for example, offering new users 25% off their first three orders. It is even acceptable to sell at a loss during this period so long as their financial state can absorb the losses. The ideal outcome would be to achieve a customer base that can support economies of scale. Once economies of scale have been achieved, Webvan can adjust its prices, but now should be able to compete with (or perhaps surpass) the value brick and mortar stores offer customers through low prices. Additionally, “the vast majority (89 percent) of people who tried purchasing groceries online visited the grocery store less often. This indicated that online shopping could become habit-forming, potentially providing a constant stream of revenue for online grocers.” (Allan Afuah, 2001). Essentially, this course of action capitalizes on the facts laid out by the previous statement. This leads us to the conclusion that, while Webvan may lose some customers if/when they have to raise prices, the majority of the customers this marketing ploy attracted should continue to utilize Webvans services. Witnessing the convenience and speed of ordering firsthand should allow customers to fully grasp the value offered by Webvan. If this strategy is successful, Webvan Shareholders and Borders will be impacted positively, since it will mean the company is on its way to becoming profitable. Offline grocery retailers will likely retaliate to the loss of market share by attempting to match Webvan’s marketing strategy. This leads us to the conclusions that part of the marketing strategy should entail facets a brick and mortar store cannot emulate. Customers of Webvan will benefit from network externalities that result from a surge in Webvan’s customer base in addition to any extra value they receive during the promotional period.
3. **Renegotiate the contract with Bechtel Group.** In this alternative, Webvan will attempt to renegotiate the contract with Webvan. The reasons for doing this will depend largely on the other actions Webvan takes. If we proceed under the assumption that this is their only action, then the reason for renegotiation would essentially be to buy-out of all or part of the contract. Without any course of action that will generate the consumer demand and customer base required to maintain the infrastructure Webvan is attempting to construct, Webvan will surely go bankrupt due to high fixed costs and minimal sales. Borders and Shareholders of Webvan may be negatively impacted by the renege of the aggressive expansion plan; however, Webvan won’t go bankrupt (at least as quickly). Offline retailers would be happy with this decision since it puts off competition with online retailers. Customers of Webvan will not have gained the network externalities benefits that have the potential to result from aggressive expansion, however, they weren’t expecting these benefits and will likely continue as before.
4. **Team-up with a large grocery chain.** In this alternative, Webvan adopts the sustainability model of ‘team-up’. The idea behind this strategy is to utilize the $8 billion in resources gained from the IPO, and become owners of or partners with a large retail chain. “Webvan had a total market value of more than $8 billion, nearly half the capitalization of grocery industry leaders such as Safeway, Inc., and Kroger co.” (Allan Afuah, 2001). With half the capitalization of industry leaders, Webvan should possess the resources to acquire one of Kroger’s and Safeway’s biggest and profitable competitors. This acquisition will provide Webvan with sustainability and a customer base. If acquisition is not possible, another strategy is to offer a partnership with a large grocery retailer with the plan of taking market share away from other grocery retailers; large grocery retailers should be receptive to this offer since declining Webvan will inevitably lead to an identical offer for their competitor. Once a team-up is achieved, Webvans other actions will determine the correct course of action. If no other action is taken, the potential of this strategy will not be maximized. Shareholders and Borders will be positively impacted by this alternative since it will likely lead to an increase in Webvan’s stock prices. Offline retailers that didn’t partner with Webvan will be negatively impacted by the potential of this team-up and may retaliate. Customers of Webvan will have grown to include the customer base of the team-up, brick and mortar retailer, leading to benefits from network externalities.

**Recommendation**: **Use the ultimate strategy**

It is recommended that Webvan employ the ultimate strategy. The ultimate strategy entails a combination of alternatives two, three, and four.

First, Webvan should utilize alternative four to team-up with a large grocery chain. The ideal team-up would be an acquisition or Webvan owning the majority stake in the other company. “Physical stores can offer convenience and personal service unlike anything available on the Web.” (Kalakota, 2001).

After the team-up has been made, Webvan should employee alternative three and renegotiate the contract with Bechtel Group. The purpose of the renegotiation will be to change the geographic locations that have the potential to affect Webvan’s team-up company and instead place the facilities near other brick and mortar competitors in high population areas. That way, Webvan will be stealing customers from the competition rather than itself. “In the personal-courier service, inventory location is a major success factor” (Kalakota, 2001). Another reason for the renegotiation will be for an extension of the Webvan’s partner’s retail facilities in areas with a high population density (more on this later). There may be fees associated with this change but they should be offset by the contracts expansion.

At this point Webvan needs to extend their partners business model to become internet enabled and closely resemble Webvan’s services. In essence, the brick and mortar retailer should be able to receive online orders that are redirected from Webvan’s site placed by customers that live within a certain proximity of the retailer. Essentially, moving the business partner towards the click and brick pattern; “The [click and brick] pattern allows an existing offline business to profit from partnering with an emerging online presence.” (Kalakota, 2001). These orders should be available for same-day pick-up (more on this later) or same-day delivery (with a cut-off time). “The key to maximizing the potential of both channels is to weave them seamlessly together, allowing the consumer to buy any time and anywhere.” (Kalakota, 2001). Delivery would involve getting delivery vehicles for the brick and mortar outlets. There would be delivery charges associated with delivery while no charges should be associated with the pickup option.

The reason for the extension of Webvan’s partner’s retail outlets is to add the equivalent of drive-through lanes where customers can pick up orders they placed online without having to enter the physical store; increasing the customer value received through convenience and differentiation. “Using [click and brick], the customer can either order from home and pick up at the store or order from the store and take delivery at home.” (Kalakota, 2001). Additionally, some grocery retailers use rewards cards to collect data about customers, if Webvan is so lucky as to partner with one of these retailers, order history can be transferred the customer’s Webvan account (through the rewards card) to eliminate the initial set-up times.

Webvan’s facilities should be likewise expanded with drive-through lanes that allow customers to pick up their orders directly from Webvans warehouse to waive delivery fees. Time estimates can be placed on orders that shall denote when customers should arrive to receive their groceries with minimal wait time. The key to maximizing customer value and convenience is to offer same-day pickup and delivery for orders placed before a certain time in addition to allowing placement of future orders. Drive-through lanes will also eliminate the biggest concern for prospective online grocery customers, the ability to examine produce before accepting it.

The final piece of the puzzle is to enact alternative two and launch a massive marketing effort to promote these services with the goal of attracting customers as quickly as possible and getting them to use Webvan’s services at least three times (since the first purchase requires initial set-up time). For this effort, it may be best if Webvan operated under the name of its partner if the partner has viable brand equity. “Branding matters more than ever in a crowded world of more than 2 million Web sites.” (Kalakota, 2001). Regardless, customers should also be informed of Webvan’s partner’s new services as well.

Enacting the ultimate strategy will allow Webvan to redefine the grocery industry. Its partner can provide customers and revenue support through its existing operations and customer base. “Traditional retailers spend half as much to acquire each new customer as do Web-only retailers.” (Kalakota, 2001), allowing Webvan to capitalize off their partners potential and existing data. Rather than having customers forgo their tacit knowledge of produce and take a leap of faith, drive through lanes will provide the ability for customers to inspect produce during pickup while also attracting customers who simply do not prefer delivery or wish to forgo delivery charges. Webvan Shareholders will be positively impacted due to the rises in stock prices as a result of the partnership or acquisition. Borders will be satisfied that Webvan is positioned to steal market share for grocery retailers. Offline retailers that didn’t partner with Webvan may try to emulate Webvan’s competitive advantage by mimicking the drive-through lanes and delivery options; however, they will only decide to take this course of action after witnessing Webvan’s success; putting Webvan in a position to further increase its market share by dropping prices while competitors undergo these costly changes. Customers will gain maximum benefits from network externalities and the costs savings Webvan is able to provide from acquiring economy of scale.

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