An Online Business in Nicaragua: The Challenges That Threaten the Opportunity

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ABSTRACT

E-Commerce has steadily increased in volume in the U.S. Despite the collapse of many "dotcoms" regular businesses realized the potential for cost reduction and invested in online transaction capability. This paper addresses the strengths and weaknesses of some E-commerce models especially as they apply to Nicaragua. The authors suggest that most developing countries would present significant impediments to a successful E-commerce operation. Some solutions are examined critically.

Keywords: E-Commerce, Developing Country, Nicaragua.

INTRODUCTION

When a new business venture is being considered, there are numerous business models that are available to guide the principals as they develop their model. Not only do they have to select an appropriate business model, they must also develop a business plan so that their investors would be able to evaluate the viability of the proposal.

The first decision might be whether the business should deal with customers directly (retail) or whether they should deal only with other businesses, often called business-to-business (B2B). This decision must be made whether the proposed business is an online business or not. The nature of the business often determines the eventual choice, and the experience of the principals is crucial to the success regardless of the choice.

In this paper the authors will concentrate on the B2B model as it applies to an online business (also called E-Commerce) that was started in the U.S., but whose partner organizations are outside the U.S. Commerce is defined as an exchange of money for goods or services between companies or between a company and an end-consumer. E-Commerce (EC) then is doing commerce using electronic technology, whether it is an intranet, extranet, or Internet (7). The authors reviewed four specific models under the general umbrella of B2B (7):

- The Buy-Side model focuses on companies that use Web technologies to buy from approved vendors. In this option there is one buyer and many sellers.
- The Sell-Side model involves companies that use Web technologies to sell their goods and services to other companies. There is usually one seller, and many buyers.
- The eMarketplace model is a web-based virtual shopping mall where multiple buyers and sellers do business.
- A Trading Partner Agreement is usually a contract between two or more companies to conduct business over the Web, and therefore involves one buyer and one seller (7).

Business-to-Business

In many industries, B2B transactions rapidly moved to Web-based transactions, primarily as means to reduce costs, and increase control. However, technical savvy is not necessarily consistent amongst executives. In fact the human factor remains a crucial part of supplier relationships (13). While the discussion of relationships dwelt at length on technical competence there was not a single reference to the logistical issues particularly the delivery of the product to the buyer. The authors consider this a significant problem when conducting business with the developing world. Mayer-Guell (11) discussed the cultural problem of U.S. dominance and control, reflecting their masculine culture (6), whereas a key value of B2B is collaboration (11).

New Models

New models are emerging that will need to be tested for robustness. The E-Commerce-as-cable-TV model (5) proposed three simple rules for success: 1) Strip out human contact to the maximum extent possible. 2) Sell commodity items such as books, videotapes that are likely to be uniform. 3) Beat the competition's price and range of selection.

One of the challenges to the current EC model is that low prices must be offered to attract business. Low prices mean low margins, which in turn cause lower customer service, and thus the seller's fragility. Price-motivated shoppers are notoriously fickle (5). EC businesses should therefore reach new customers by innovative projects that are made known in the community. High-maintenance customers are not well served in the new model. Organizations that have a deep investment in existing low-touch low-margin world cannot take advantage the high-tech market. Some of them merely create a virtual storefront to demonstrate a presence, but there is little substance behind it. Gillmor (5) suggests that companies entering EC now need to determine whether what they intend to sell fits in the new model. They will need the tools, wizard-based packages, a business partner to get the site ready, and customization products (5). This would not appear to be a problem in developed countries, but could inhibit the emergence of EC in many developing countries.

Transaction Cost Economics Model

The most interesting model could be the application of Transaction Cost Economics (TCE) to EC applications (15). The three assumptions of TCE are that they are assumed to occur in bounded rationality, that rule out the ability to anticipate every contingency (1, 2), secondly that the transactors are assumed to be imperfectly formed (18), thus leading to uncertainty, and finally that some of the transactors act opportunistically (18) to cheat other parties whenever profitable (1).

TCE examines how trading partners protect themselves from the unpredictability of commercial transactions (14). Williamson (18) identified three principal characteristics in TCE: the specificity of the assets, the uncertainty surrounding the transactions, and the frequency of the transactions. Specificity involves investments undertaken in support of particular transactions (18). TCE regards the firm as a governance structure rather than a production function (19). Transaction-specific assets are tailored to particular transactions and are valuable only in a narrow range of uses (1). Uncertainty occurs because the transactor cannot control the environment (12), and could arise internally or externally to the transactor. Transaction frequency results in greater administrative costs depending on the frequency of occurrence (10).

Virtual Integration

Virtual Integration uses technology and information to blur the boundaries in the value chain between suppliers, manufacturers, and customers (10). Virtual Integration begins by using rapid communication to build direct relationships between the customer, manufacturer, and supplier (16). Doyle (4) identified three basic principles of virtual integration, that could be significant when dealing with partners in developing countries: 1) take control of distribution, 2) eliminate stock, and build to order, and 3) maintain flexibility so that when technology changes, partners may be switched (4). Clearly, in an EC environment as much as in any other, it is imperative to maximize efficiency across the value chain. In the shift towards B2B in EC, some of the legacy principles need to be reexamined. Stapleton et al (15) asserted that a conceptual shift was taking place from vertical to virtual integration, with technology being the main contributing factor to this phenomenon.

A traditional request for quotations (RFQ) often does not itemize in detail the delivery schedule, supplier inventory requirements, and incidental inventory support. The bidding process is sealed and cumbersome, and hence once a supplier is identified, there is seldom a change. However, the online auction form of B2B - EC, creates an open bidding system that benefits the company (17). B2B marketplaces are either vertical or horizontal. A vertical hub serves a particular industry, and perhaps even a specific line of products and a horizontal hub serves a broad range of products. Some hubs are starting to build logistical support into their B2B operations, so that items such as shipping costs and optimal source location can be efficiently and expeditiously handled (5). EC therefore aims to provide transaction speed, access to global markets, and mass customization (9) to business partners, and customers. “Competition in future will no longer be a case of firm versus firm…the real competitions will lie in the speed, and who can provide the lowest cost of purchase” (16). That is an important projection of the future as far as developing countries are concerned. Those countries that have at least the infrastructure to support EC could become attractive to EC entrepreneurs in developed countries. Many corporations already rely on the lower labor cost in developing countries and relocated some non-EC production operations there.

The Human Assets aspect of specificity becomes more complicated when a firm in a developed country seeks a relationship with one in a developing country. The reason could be the rooted in the education and technology gap that inevitably thwarts the development of people in most developing countries. Yager (20) claims that maintaining relationships will be more difficult for U.S. businesses, as evidence is already building. In Central America, Hofstede’s (6) feminine culture classification would have them nurture interpersonal relationships. Thus selecting a business partner in a developing country should be done with extreme care and with the help of a local expert. The nature of the business in which this partnership seeks to function is ultimately the deciding factor. Often, handicrafts, and art works are ideally suited, provided other logistical impediments can be overcome. This situation could create uncertainty.

Uncertainty could be internal or external. The more unpredictable the environment, the more uncertainty surrounds the transactions. Vertical integration usually results from the need to control the level of internal uncertainty. On the other hand, environmental uncertainty that allows negative information to develop could provide an opportunity for competitors to act (8).

The authors examined the principles and outlines of the above models, as they prepared to apply them to a small business as described below. The authors posit that the plan described below could be executed in many developing countries. As the use of the Internet grows and with it the

EC phenomenon, firms in the developed world will actively seek partnerships to reduce their costs, and increase efficiency.

Description of Serigraf and On2canvas.com

The Internet has altered the business environment, creating a new paradigm. However, recent history also shows the difficulty of sustaining a viable operation on the Internet. Many small entrepreneurs started EC ventures with a good idea, but with inadequate management skills. Initially venture capitalists were attracted to the potential for profit, but after a prolonged period without profit and the resulting scrutiny, it became clear that profitability was not possible without significant changes. Consequently many small entrepreneurs were forced out of business as their funding sources dried up.

Thus it is appropriate to ask what might be considered a viable EC venture to attract funding and to operate in the current climate. Too often, it was assumed that all that was needed was a modem (or similar external connection), an Internet Service Provider (ISP), a good PC, and some initial investment. However, everything that a business normally needs to do is also needed to conduct an EC business.

It is in this climate that Serigraf sought to leverage its contacts with local artists in Leon, Nicaragua. Serigraf operates a small business that imprints customized images on tee shirts. Artists often sell their original designs to Serigraf, and they are encouraged to do so. On2canvas.com is an EC business in the U.S. that offers original oil paintings of images provided by the customer. Mr. Russell, the principal of On2canvas.com offers the customer the opportunity to have pictures of familiar scenes, or pets, rendered into an original oil painting. When an online user decides to order a particular painting, the transaction is carried out online. The image is transmitted online, the size and other production details are clarified, and Mr. Russell responds with a timeline and price.

Mr. Russell is interested in keeping his costs as low as possible while maintaining his quality at the highest levels. There are many artists in the U.S. that would willingly accept an order to reproduce the image on a canvas using oil paints. The artist's fee could be significant. However, knowing the superior reputation of Nicaraguan artists and the potential for a much lower fee for the reproduction, Mr. Russell sought to engage Nicaraguan artists in his operation. Fairfield University students and faculty make regular trips to Leon, Nicaragua as part of research or community projects. On one such trip Mr. Russell requested a contact in Nicaragua for his effort to engage Nicaraguan painters in his venture. After some investigation, Serigraf was identified as an organization that had email service, contact with artists, and a ready business organization. Mr. Russell was therefore in a position to engage in his EC venture.

In order to accomplish the task, Mr. Russell would email to Serigraf an image selected by the customer, as an attachment. Serigraf already has an Internet connection using a modem running at 9600 baud, and therefore required no additional investment for hardware. With little delay, Serigraf would receive the image via email and print it for the artist. The artist would then estimate the time required to complete the painting and the fee. Serigraf would in turn communicate this to Mr. Russell. He would reply with an agreement of the estimate, or challenge the fee. Once agreement was reached, the artist would use the necessary materials, mainly oil paints and canvas, to reproduce the image from the downloaded picture. Once the painting was completed, the artist would turn the painting over to the staff of Serigraf. Serigraf would then arrange to send the finished painting to Mr. Russell in the U.S. Mr. Russell would then deliver the painting to the customer.

Summary of Transaction Steps

1. Customer accesses website On2canvas.com
2. Select image type for reproduction, or provide image
3. Contact On2canvas.com and arrange to send the image electronically
4. On2canvas.com replies with price and delivery estimate
5. Customer accepts estimate and provides charge card information
6. On2canvas.com contacts Serigraf via email
7. Serigraf downloads the image that is attached to email message
8. Serigraf contacts artist and obtains cost and time estimate
9. Serigraf emails the estimates to On2canvas.com
10. On2canvas.com accepts or rejects estimate
11. If On2canvas.com accepts estimate, work order is emailed to Serigraf, go to 14
12. If On2canvas.com rejects estimate, negotiation begins
13. If 12 is successful the go to 11 if not terminate offer to Serigraf
14. Serigraf contacts artist, provides materials and printout of image
15. Artist completes painting, delivers to Serigraf
16. Serigraf arranges for delivery to U.S. via undisclosed means
17. Serigraf notifies On2canvas.com of above arrangement
18. On2canvas.com receives package
19. On2canvas.com repackages painting and ships it to customer
20. Customer receives painting

The business-to-business model is viable and could be accomplished with little difficulty in the U.S. However, the authors have documented the obstacles that most small businesses must overcome in Nicaragua in particular, and perhaps in most developing countries. We will describe some of the challenges that must be faced in order to first acquire the needed materials, and then to send the finished product to the U.S. and still maintain a competitive advantage.

Challenges for Serigraf

Obtaining the pictures using email an attachment was technologically achievable. In fact Serigraf had no difficulty with this phase. This was perhaps the only phase that that did not present challenges. Once the artist received that picture, the first problem that developed was the scarcity and exorbitant cost of oil paints that were needed for each painting. Even the canvas was not easily available. On2canvas.com had to research methods of providing materials to the artists in Leon, the cost for which had to be added to the cost of the final product.

The artists had to be coached into a production mode, which is counter-cultural, at least in Nicaragua. Once the artist completed the picture, Serigraf had great difficulty making arrangements for delivery to the U.S. There are apparently differing bilateral trade agreements between countries. On2canvas.com found that artists from China had little difficulty sending their paintings to the U.S., but Nicaraguan artisans did not have the same path. Serigraf located some agencies in Managua, Nicaragua that would charge a fee for guiding the packages through the channels, but the fee was prohibitive. There are some cultural realities of conducting business transactions in many developing countries that become insurmountable barriers to continued trade. Serigraf had to determine the frequency of the transactions and size of the finished product before selecting an appropriate delivery method. The authors have reviewed various options and it appears a service such as UPS or Federal Express would offer the best alternative. Their organization and reputation would ensure safe and prompt delivery of Serigraf's packages to On2canvas.com in the U.S.

Comparison with TCE Model

While TCE assumes that the transactions are carried out in bounded rationality, there is the acceptance of imperfectly formed transactors, which leads to uncertainty. It is the uncertainty aspect that Serigraf presents to On2canvas.com, as the transaction steps in Nicaragua are examined. The first element of uncertainty is the availability of raw materials, followed by the uncertainty of being able to deliver the finished painting to On2canvas.com. The TCE model does not account for this at all, and most U.S. partners would not give much thought to the nature of the uncertainty described above. In addition, there are cultural constraints that must be considered. The business attitude is the U.S. is very different from the Nicaraguan practice. The latter attach great importance to interpersonal relationships, and spend time cultivating and nurturing those contacts.

It is clear that the TCE model would have to be altered to accommodate the Nicaraguan business practice. Where Virtual Integration calls for taking control of distribution, eliminating stock, and maintaining flexibility, only eliminating stock is achieved, because each painting that is ordered is done individually. However, there is almost no control over distribution, since the process of delivering the finished product to the U.S., is highly undeveloped. The element of technology and flexibility is not relevant in this instance.

CONCLUSION

The concept of a virtual art-on-order store is interesting and shows promise. The authors did not do a business plan for this venture. When On2Canvas.com was interested in seeking a business partner in a developing country, the process of placing the order online, and getting rapid and cost-effective response was anticipated. But there are good reasons why that was not the case.

The EC models do not take into account the nuances of dealing with the realities of the developing world. Once On2canvas.com was able to find a partner in Nicaragua, the only easy step was accessing the picture online. The scarcity of art materials and the cost of obtaining them introduced the element of uncertainty into the transaction. This was compounded by the significant difficulty of shipping the finished painting to the U.S. legally. The cultural differences in work habits and practices also presented some challenges. The authors suggest that EC models need to be altered when one of the partners is in a developing country.

REFERENCES

1. Anderson, E. (1984). The Salesperson as Outside Agent or Employee, Report No. 84-107, Marketing Science Institute, Cambridge. MA.
2. Anderson, E. (1985). The Salesperson as Outside Agent or Employee. Marketing Science, 4, (3), 234-154.
3. Anderson, E. (1988). Strategic Implications of Darwinian Economics for Selling Efficiency and Choice of Integrated or Independent Sales Forces". Marketing Science, 34, (5), 599-618.
4. Doyle, P. (1998). Management From the Top. The Guardian, April, 1998.
5. Gillmor, S. (1999). New Model for E-Commerce - - Electronic Commerce is Poised for Radical Change – But not all of Today's Electronic Storefront Products will Support the Transition. InformationWeek, June 28, 1999, p65.
6. Hofstede, G. (1988).The Confucious Connection: From Cultural Roots to Economic Growth. Organizational Dynamics, 16, (4), 4-21.
7. IBM B2B. (2002), Business to Business, http://www-1.ibm.com/servers/eserver/iseries/btob/bebmodels.htm
8. Klein, S., Frazier, G., Roth, V. (1990) A Transaction Cost Model of Channel Integration in International Markets. Journal of Marketing Research, 27, (2), 196-208.
9. Littman, M., Busy as a B2B. Crain's Chicago Business, March 2000, 23, (11), p17.
10. Magretta, J. (1998). The Power of Virtual Integration: An Interview with Dell Computer's Michael Dell. Harvard Business Review, March-April, 74-84.
11. Mayer-Guell, A. (2001). The New Economy's Challenge to Traditional American Business Values. Management Communication Quarterly, May, 2001.
12. Perrow, C. (1986). Complex Organizations: A Critical Review, 3RD Ed, New York, Random House.
13. The Food Institute Report, (2001). Hotel Supply Business a Good Model for B2B Exchanges, May 28, 2001, p3.
14. Shelanski, H., Klein, P. (1995). Empirical Research in Transaction Cost Economics: A Review and Assessment. The Journal of Law, Economics, and Organization, 11, (2), 335-361.
15. Stapleton, D., Gentles, P., Ross, J., Shubert, K. (2001). The Location-Centric Shift from Marketplace to Marketspace: Transaction Cost-Inspired Propositions of Virtual Integration Via an E-Commerce Model. Advances in Competitiveness Research, 9, (i1), p10.
16. Stump, Rodney L. and Jan B. Heide (1999). "Thinking strategically about e-commerce". World Reporter. October, 1999.
17. Tully, S. (2000). The B2B Tool that Really is Changing the World. Fortune, 141, (6), p6
18. Williamson, O. (1985). The Economic Institutions of Capitalism, New York: The Free Press.
19. Williamson, O. (1988). Transaction Cost economics: How it works, where it is headed. De Economist, 146 (1), 23-55.
20. Yager, T. (2000). Building the perfect exchange, Infoworld, 22, 54.