

Integrating Brick and Mortar Locations with E-Commerce: Understanding Synergy Opportunities¹

Charles Steinfield
Michigan State University
East Lansing, MI 48824 USA
steinfie@msu.edu

Thomas Adelaar
Telematica Instituut
Enschede 7300 AN, NL
adelaar@telin.nl

Ying-ju Lai
Michigan State University
East Lansing, MI 48824 USA
laiyingj@msu.edu

Abstract

Little empirical work has directly addressed the sources of competitive advantage of the click and mortar e-commerce approach, despite growing recognition of its importance as a business model. In this paper, we introduce a framework to describe the areas of physical and virtual synergy in click and mortar enterprises, the management actions for achieving synergies and avoiding channel conflicts, and the types of benefits that may be obtained. Case studies of ten US companies, including both business to consumer (B2C) and business to business (B2B) cases are used to illustrate the utility of the framework.

1. Introduction

With each new reported dot.com failure, there is a growing recognition that the Internet is unlikely to displace traditional channels anytime soon, at least in the world of business to consumer commerce. This does not signal the end of e-commerce, however. Rather, a number of traditional enterprises have moved to integrate e-commerce into their channel mix, using the Internet to supplement brick and mortar retail channels [7, 11, 13, 20, 23]. Indeed, the arrival of big retailers may have contributed to the collapse of many struggling dot.coms [15], while others have recognized that they need a physical outlet in order to survive [14]. Electronic commerce researchers, using terms like “clicks and mortar,” “bricks and clicks,” “surf and turf,” “cyber-enhanced retailing,” and “hybrid e-commerce,” now consider the combination of physical and web channels to be a distinct electronic commerce business model [16, 19, 20, 23, 28]

In this paper, we explore the relationship between traditional and electronic channels through a series of ten case studies of US firms completed in late 2000 and early 2001, exploring the ways that firms found synergies between their traditional outlets and e-commerce. The goal of the case studies was to provide a framework for understanding where the potential payoffs are when integrating physical and e-commerce channels. In addition, the cases illustrate particular management strategies that firms developed to achieve synergy and avoid conflicts between their Internet and physical channels.

The paper is organized as follows. First we review theoretical work that establishes the basis for expecting synergy between e-commerce and physical presence in a market. We then introduce a framework that highlights the areas from which synergies stem, the management actions that can help firms avoid channel conflicts and exploit synergy opportunities, and the anticipated benefits. We then summarize our empirical approach, noting how we chose the ten firms to examine, who we interviewed, and what topics we covered. Brief summaries of each case are provided. A discussion focuses on the implications of the framework and the extent to which it captured the variation in the cases. We conclude with limitations of the study, and possible new research directions.

2. Literature review

In the early years of Web-based commerce, much emphasis was placed on sources of competitive advantage that Internet firms had over traditional ones, primarily using transaction cost logic [e.g. 5]. Greater operating and

¹ The research reported in this paper has been funded by the Telematica Instituut, Enschede, The Netherlands in the PLACE project (Physical presence and Location Aspects of e-Commerce Environments).

transaction efficiencies, coupled with lower search costs are just a few of the many hypothesized advantages of virtual firms [see 25, 26, for reviews of this literature].

Recent conceptual and empirical work has sharply criticized the expectations that virtual firms will drive out physical ones and make distance irrelevant [8, 16, 20, 23, 24, 25, 26, 30]. In these works, the authors emphasize the theoretical advantages of hybrid approaches to e-commerce. Importantly, these works suggest that advantages arise not only from the ability that a multichannel approach offers for reaching new customers and offering new services, but also because each channel can have spillover effects that result in increased purchases and reduced costs in the other channel.

A framework for understanding click and mortar advantages can be derived from a combination of classic competitive advantage and inter-organizational networks theories [3, 10, 17, 18], transaction cost theory [2, 12], and research that takes into account the advantages of local physical presence [24, 25, 26]. The framework emphasizes that click and mortar firms can capitalize on synergies arising from interrelationships across tangible and intangible assets in order to derive a variety of synergy benefits related to reduced costs and improved differentiation. In addition, the framework illustrates that in order to achieve synergy benefits and avoid channel conflicts, a number of management actions are required (see Figure 1).

Sources of synergy arise from the fact that click and mortar enterprises may have common infrastructures, common operations, common marketing, and common customers. To the extent that virtual and physical channels are able to share these various assets in a coordinated fashion, a variety of benefits can emerge [17].

One oft-noted critical challenge for click and mortar enterprises is the potential for multi-channel conflict to arise, leading to one cannibalizing sales from the other, limited cooperation, customer confusion, and even sabotage of one channel by the other [8, 11, 30]. Channel conflicts, which may occur when alternative means of reaching customers implicitly or explicitly competes with or bypasses existing channels, are nothing new to e-commerce [4, 27]. Management must act to diffuse conflicts and ensure the necessary alignment of goals, coordination and control, and development of capabilities to achieve synergy benefits [8, 17, 27].

Aligning goals across physical and virtual channels implies that all involved realize that the parent firm benefits from sales stemming from either channel. One problem faced by click and mortar firms is that the contributions made by the Internet channel may be intangible and hard to measure [28]. Managers have to be open to such intangible benefits and not, for example, evaluate e-commerce divisions purely on the basis of their

own sales and profitability. Moreover, there must be agreement on what types of customers (e.g. existing vs. new) are targeted by the new e-commerce channel.

Coordination and control mechanisms include interoperability across channels so that customers may move freely between, use of each channel to promote the other, incentives encouraging cross-channel cooperation, and coordinating customer services to ensure that the unique strengths of each channel are utilized [22].

In many situations, traditional firms may lack important competencies needed to achieve synergy benefits with e-commerce. For example, traditional firms may lack Web development skills, or logistics skills needed to serve distant markets. In these situations, alliances may be more useful than attempting to develop a virtual channel in-house.

The final component of the framework identifies four categories of synergy benefits, including 1) lower costs 2) differentiation through value-added services, 3) improved trust, and 4) geographic and product market extension. We elaborate on these potential benefits from physical and virtual integration below.

Lower costs: Cost savings may occur in a number of areas, including labor, inventory, marketing/promotion, and distribution. Labor savings result when costs are switched to consumers for such activities as looking up product information, filling out forms, and relying on online technical assistance for after-sales service. Inventory savings arise when firms find that they can avoid having to stock infrequently purchased goods at local outlets, while still offering the full range of choices to consumers via the Internet. Marketing and promotion efficiencies are garnered when each channel is used to inform consumers about services and products available in the other. Delivery savings may result from using the physical outlet as the pick-up location for online purchases, or as the initiation point for local deliveries.

Differentiation through value-added services: Physical and virtual channel synergies can be exploited at various stages in a transaction in order to help differentiate products and add value. Examples of pre-purchase services include various online information aids to help assess needs and select appropriate targets, or, conversely, opportunities in the physical environment to test out products. Examples of purchase services include ordering, customization, and reservation services, as well as easy access to complementary products and services. Post-purchase services include online account management, social community support, loyalty programs and various after-sales activities that may be provided either online or in the physical store. Typical opportunities are in the areas of installation, repair, service reminders and training.

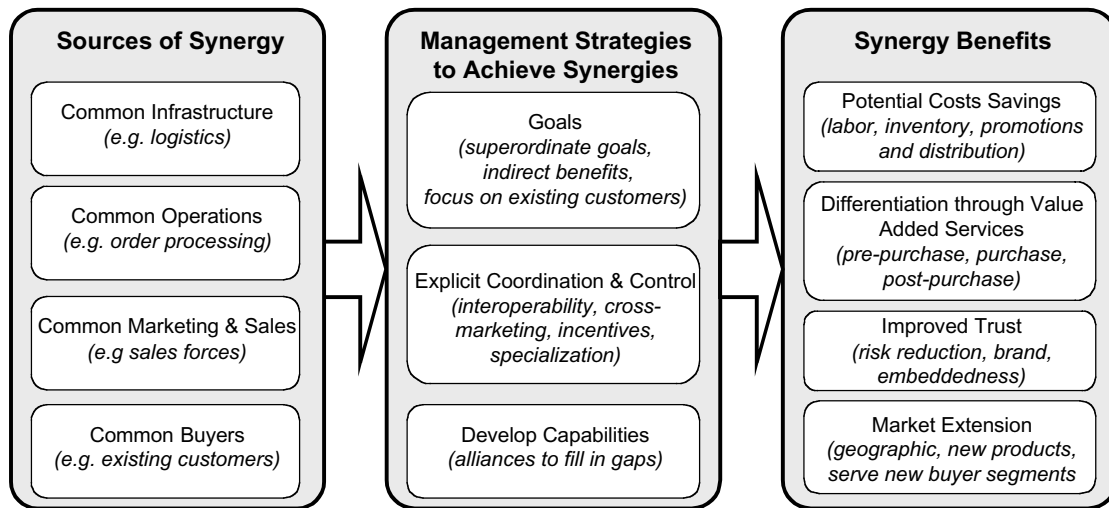


Figure 1. Sources, Management Requirements, and Benefits of Click and Mortar Synergies

Although many of these value-added services are potentially available to single-channel vendors, combined deployment of such services (e.g. online purchase of computer with in-store repair or training) can enhance differentiation and lock-in effects [21].

Improved trust: Three reasons for improved trust, relative to pure Internet firms, derive from the physical presence of click and mortar firms, including reduced consumer risk, affiliation with and embeddedness in recognized local social and business networks, and the ability to leverage brand awareness. Lower perceived risk results from the fact that there is an accessible location to which goods can be returned or complaints can be registered. Affiliation and embeddedness in a variety of social networks can facilitate the substitution of social and reputational governance for expensive contracts or legal fees [6, 9]. Such ties are more likely to exist between geographically proximate buyers and sellers, suggesting that there may indeed be a preference for doing business with firms that are already physically present in the local market. Finally, marketing theorists have long recognized the power of branding as a means of building consumer confidence and trust in a product. Established firms are able to leverage their familiar name to make it easier for consumers to find and trust their affiliated online services.

Geographic and product market extension: Adding a virtual channel can help extend the reach of a firm beyond its traditional physical outlets, addressing new geographic markets, new product markets, and new types of buyers. Those in other geographic markets may be new or former customers who have moved away [22]. Virtual channels can also extend the product scope and product

depth of physical channels by enabling firms to offer new products that they do not have to physically stock locally. Moreover, firms may add new revenue generating information services online that would not be feasible to offer in physical outlets. Finally, the Internet may help reach customers within an existing market who may not have visited the physical outlet, but are otherwise attracted to the virtual channel due to its special characteristics [1].

In order to evaluate the usefulness of this framework, a series of case studies were conducted in the US in late 2000 and early 2001. We next describe how firms were selected, and how case studies were conducted.

3. Methods

Firms were selected based on information from the trade press and other sources suggesting that each was explicitly pursuing a click and mortar strategy. We attempted to include both business-to-consumer and business-to-business firms, although the main emphasis was on selecting examples where goods and services were sold to end customers (businesses or consumers) through physical outlets of one sort or another. A large number of candidate firms were initially selected, and calls and emails were used to contact the manager most responsible for electronic commerce in each one. Table 1 lists the types of firms included.

Interviews focused on the ways in which firms used electronic commerce in concert with their physical outlets.

Table 1. Basic characteristics of the case study firms

Type of Firm	Sales (\$ mil.)	Num. of employees	Number of stores or sales offices
Electronics retail	15,327	75,000	419
Book retail ¹	8.5 ('99)	44 ('99)	>350 (185 on Web)
Music retail	1,099.9	7,158	115 U.S.
Gift retail	N/A	≥ 425	1
Financial services ²	25,168	80,778	≥ 1,800
Auto. manuf. ³	184,632	386,000	> 8,000 dealers
Shopping mall dev.	2,094.2	5,370	251 prop.,
Industrial supply	745.7	6,477	897
Building supply	1,027.6	4,090	101
Logistics provider	N/A	N/A	N/A

¹ Sales, net income, employees and founding year refer to the central cooperative association, while number of stores reflects the membership.

² Financial services/ banking was formed at 1998 after a merger.

³ Sales, net income, and employees and founding year refer to the manufacturer, which is a separate entity from the dealers.

Source: Interviews, Hoovers.com and EDGAR Database (www.sec.gov)

4. Summary of the cases

In this section we provide a summary of the main synergy-related services, management interventions, and synergy benefits reported by interviewees.

A national electronics retail chain. This firm is one of the largest volume specialty retailers of consumer electronics, personal computers, entertainment software and appliances in the U.S with over 400 stores. After several less than successful experiences with a Web channel, the firm recently rolled out a new e-commerce site that featured both a deeper selection of products and a tighter integration with traditional physical stores. This new click and mortar design strategy enables the firm to benefit from a range of synergies between their virtual and physical channels. The goal is to be "channel agnostic," letting customers choose whatever channel or combination of channels best suits their needs.

One key element of the synergy approach in this firm is the integration between the Internet and existing databases and other legacy systems. This integration now permits online customers to check out the inventory of individual stores and order merchandise for pickup in the nearest store. This technical innovation had to be

supported by a change in business processes. For example, if only one or two items desired by an online purchaser are in stock, in-store customers might claim them by the time the Web customer arrived for pickup. To avoid this situation, store personnel must be notified that an online customer has requested an item for pickup. Then employees remove the item from the shelf, and send an email confirmation to the online customer.

Other synergies include:

- maintaining their store brand image online
- capturing customer data in the store and on the Web
- allowing return of online purchases to local stores
- use of in-store kiosks to provide store patrons access to items not in the store
- integrated promotional campaigns, such as contests, that customers can access through the store, the Web, kiosks, or other media

The addition of the Web channel also enabled value added services geared towards improving customer relationship management. In particular, the Web site allowed customers to store items under consideration in a 'Think About' folder. This provides useful marketing information to the firm, as they can provide more targeted promotions related to desired products. In addition, the integration of systems enabled store employees to access customer and order data to improve customer assistance, such as finding complementary goods.

Finally, management incentives were also considered to avoid or diffuse potential channel conflicts. In particular, the company included performance in fulfilling online orders as one of the parameters influencing store manager compensation.

An independent booksellers group. Traditional booksellers have undoubtedly been affected as much or more than any other type of business by electronic commerce, due to the enormous influence of Amazon.com. In no other industry has the very survival of a particular type of traditional business been called into question. We interviewed the electronic commerce manager for a cooperative web venture started by an association that represents booksellers. Their aim was to help out the threatened independent bookseller (participants had to sell new books, and be privately owned and not publicly traded on the stock market), since the large chains such as Barnes and Noble and Borders had already established a significant Web channel. Among the noteworthy aspects of this cooperative web venture for our research are:

- the allocation of each Web customer to a specific physical bookseller, based upon the postal code input by the customer.
- the use of a number of strategies designed to increase traffic in the physical stores. These include on and offline sales of gift certificates that can be redeemed

in any participating physical store, discounts on in-store purchases for customers who bring in a receipt from an online purchase, and tools for local booksellers to create their own web pages allowing them to highlight local events.

- Featuring the expertise of employees at the member stores by creating a national list of recommended titles.

By participating in a cooperative venture, small booksellers gain use of services and capabilities that would otherwise be difficult to provide on their own. The goal is to enable booksellers to retain their own local customers while still offering the convenience of a Web channel. Additionally, they hope to recapture business lost to competing Web brands such as Amazon.

A national music retail chain . As with booksellers, music retailers were among the first to feel the pressure from purely Web-based competitors, and had to fight back with their own Web channel. The music retailer that we interviewed is one of the largest music and video chains in the US. Their click and mortar strategy was still emerging, with several plans to exploit synergies not yet implemented. At the time of the interviews, the Web channel operated somewhat like an independent and competing store, limiting the scope for full cooperation across channels. This was to some extent an intentional fit with the existing corporate culture, which promoted inter-store competition. However, it also allowed the Web channel to have more flexibility in pricing so as to better compete with other online music retailers. Differential pricing prevented many of the more extended synergies, such as ordering online with in-store pickup, since this would reveal the higher in-store prices.

The primary synergy-related applications for this retailer included:

- promoting Web sales by using the brand name of the retail chain
- allowing online customers to return purchases to any of their physical stores
- giving each store their own web page on the site to promote local events and music
- using the expertise of store employees to provide music recommendations on the Web
- collecting email addresses in stores to allow for targeted marketing
- extending the range of music choices beyond that available in the stores
- supporting online research to sample different types of music

The e-commerce manager felt that more could be done to improve cooperation between the Web and physical stores. The firm was developing plans to install CD burners in stores, but this service is hampered by the unwillingness of music publishers to support this service.

The firm is also working with MP3.com to allow online purchasers of music to store their CD online. However, interviewees noted difficulties offering this service to in-store customers because of the relative anonymity of buyers in stores.

Interviewees further noted that online browsing of in-store inventory is hard to implement, because of inconsistency between the database and the uncertainty of the actual location of products on the shelves.

A local specialty gift store in a tourist destination.

This firm is a single location family business that also has a highly successful web site. They are one of the largest home gifts and specialty goods retailers, focusing on a niche market (gifts and decorations related to Christmas). This single-proprietor business is in sharp contrast with the large chains. The firm had a certain readiness to serve distant markets by the Web, based on prior experience with a catalogue business.

They used the web in many ways to bring new traffic into their physical store and vice versa. Because of its location in a popular tourist destination, the store cooperates with other local firms in collective promotional activities. The atmosphere of the store is important. Employees try to offer an experience for customers through in-store shows, exhibitions and decoration. The firm tries to mirror this on the Web. Further, there is some heavy cross-promotion between the Web site and the physical store. They try to direct customers from the Web to the store through the use of online coupons, and remind customers leaving the store to visit again via the Web.

Other synergies were difficult to establish, in some cases because the e-commerce functionality (that is, online ordering and payment) was outsourced to Yahoo! Stores. This limited the number of unique products they could sell, as well as their ability to offer in-store pickup of goods ordered online (since Yahoo automatically adds a shipping charge). However, they worked around these product scope and service limitations by allowing online customers to communicate special requests through email and comment forms. In addition, for a single location firm with a national appeal there is likely to be little demand for hand-offs between online and physical channels. That is, few people would order online and then travel across country for pickup or return.

A national bank. The US banking case focuses on consumer and small businesses, with more than 8 million households as customers. They took a somewhat different path to arrive at a click and mortar strategy. In part due to organizational differences stemming from previous mergers, they ended up with an Internet banking channel that only served their existing customers, and an entirely separate Internet brand that solely targeted new customers over the Web.

Their Internet pureplay bank was not successful, largely due to the high costs of customer acquisition, and the lack of a number of necessary synergies with the parent bank. One that was mentioned in the interview was the difficulties and costs of transferring money into and out of the Internet bank. Because of customers' reluctance to deposit cash or checks in ATMs, funds had to first be deposited in another banking account, implying that the Internet bank would always be a supplementary, rather than primary bank. Cash withdrawals from ATMs resulted in high surcharges.

On the other hand, the Internet channel serving the brick and mortar branches had little customer acquisition costs, and offered many customer retention services. Providing such services as bill payment, for example, helped increase customer switching costs. It further helped the brick and mortar branches offload routine transactions to the cheaper and more convenient Web channel. Price incentives were also introduced to stimulate the use of the online services.

Additional synergies were created by designing applications once and implement it across the virtual and physical channels. For example, an application to speed up the approval of home equity loans was 'mirrored' between the Web and the physical branches. Their goal was to provide seamless customer support, so that customers would not have to repeat any transactions on multiple channels. For example, if they changed their address using one channel, all systems would be updated. To achieve this, the bank had to integrate systems so that Web services were integrated into the day-to-day operations of branches.

As a result of these experiences, the Internet-only spin-off is now being re-integrated into the parent bank. A pilot was undertaken to introduce the Internet brand into bank centers using networked kiosks. The parent bank now supplies many of the core services, including deposits and withdrawals, and their connection to the Internet brand creates the trust that had been lacking. The benefit for customers dealing with the new or old brand is differential pricing, based on difference in offered service level.

An automobile manufacturer. In response to the growing evidence of Internet use by car buyers, the automobile manufacturer is experimenting with a large number of e-commerce initiatives. In one project with click and mortar implications, the e-commerce service allows customers to configure cars online, obtain a fixed price quote, and choose a local dealer. The application locates the matching car from dealer inventories, and if in stock at a different dealer from the one chosen by the customer, the dealers will swap cars with each other. The chosen dealer then gets full credit for the sale of the online-configured car, as well as the continuing service

relationship to the customer. At the Web site, customers can also research cars and check the inventory of local dealers online. In addition, customers can apply online for credit and insurance, which is also submitted to local dealer.

This approach helps the manufacturer sell more cars without alienating their existing dealer network. The company realizes that in the car market, due to the logistics of delivery and the need for a physical presence for service and warranty work, bypassing dealers will not work. In fact, in many states, it is illegal for car manufacturers to sell directly to end consumers. To secure support from dealers for the initiative an e-dealer advisory board was created. The manufacturer has also introduced features such as online scheduling for maintenance and repair, and an ownership Web site where customers can find accessories that go with their car and receive maintenance service reminders.

A shopping mall property management company. This company is the largest provider of shopping malls in the US. In addition to a general Web site that helps to locate malls, and promote the individual stores within them, this property management group decided to embrace click and mortar e-commerce in a number of innovative ways. Their main focus is on providing services that make the shopping experience at the physical mall more appealing and convenient, through an integration of Web, handheld technology, wireless and physical infrastructure.

First, the firm created a subsidiary to provide high speed network services to all stores in their malls. They then created specialized subsidiaries that developed unique click and mortar services using handheld technologies. Shoppers are provided with a device at the mall, that enables them to scan items they are interested in buying. Scanned items can then be purchased immediately or stored on a web site for later review by themselves or others. In one service that targeted teenagers, the scanned items were available in a gift registry, so that adults had some idea of what to buy for birthdays and other occasions. In another service, the shopper could select the items for purchase while at the mall (perhaps leaving some in a consideration folder), and mall personnel would retrieve items from the individual stores. The items would then be either loaded in the shoppers' cars or delivered. New plans include the use of smaller wireless devices that fit on key chains so that payment could be made in stores without waiting on a queue.

As they worked with the trials of these services, the mall owner found that it was necessary to provide a physical loading location for putting ordered items into a customer's car. The convenience of online or wireless

pickup was diminished if the customers had to physically go into the mall to pick up goods.

A national industrial parts supply wholesaler. One of the largest industrial parts and tools wholesalers in the US, this firm operates a number of stores catering mainly to businesses. The firm totally integrated their e-commerce database with their corporate network, such as Web, EDI and point-of-sale terminals (POS) in the local branches. Existing clients who have an account with the company are able to order supplies via the centrally-provided e-commerce site. Prices of goods purchased online have been pre-negotiated, based on each customers' volume and other special circumstances, and are the same as if they purchased goods in the physical branch. When customers place an order online, it is transmitted directly to the POS terminal of the physical store in which the account resides. When the store employee arrives at work, the order pops up on their POS screen. They then treat it as they would any order they receive, filling it from their normal inventory or supply chain and, depending on the customer's wishes, delivering it or holding it for pickup. Hence, all Web sales contribute to the sales of the branch.

New customers are able to establish accounts and are referred to a specific branch based upon their address. Local branches have authority to negotiate prices and fulfill all customer orders. The firm is listed on several Web-based markets and portals. Orders placed on these platforms also feed directly to the POS in the branches. Thus, the Web not only provides an added convenience to existing clients, it can help attract new customers. Account representatives in the corporate headquarters handle large national customers, but fulfillment can be distributed to the branches closest to the desired delivery points.

The firm finds that the Web is often used for complementary sales and handling small orders, with large customers more often using the Web for spot purchases based on immediate and unanticipated needs. The firm offers templates on the Web to create a basket of products to provide an incentive to increase the ordered batch size. The basket helps customers to aggregate demand.

A national building material supply company. The building materials supply company has a double-pronged approach to e-commerce. First, they maintain their own Web site offering rich information services to their primary customer base – the professional builder. Second, they have an alliance with a building supply portal that allows them to offer e-commerce transactions to their existing client base as well as to new customer segments.

Professional builders are provided with an account that allows them to use the e-commerce site. They can login directly from the builder supply firm's home page. Orders

are fulfilled by the local lumberyard with whom the builder has the account. Prices are individualized, encouraging builders to consolidate their purchases for volume discounts.

The building supply portal works with other suppliers, but is tightly coupled with the case study firm due to both firms having the same principle stockholder. In addition to providing online supply ordering services to builders, it also enables the firm to offer value added services, extend in to the consumer home improvement market, and provide customers goods not carried by the local lumberyard. Among the value-added services are a variety of accounting and management options that builders can use. These include maintaining an online ledger for a project – for example a house – that can be used as a template for the next project, saving builders time on order entry. Each builder can have his own personal Web page, including a personal product usage and construction plan folder. Builders can also check the status of their orders on a daily basis and order material outside the regular store hours. This is helpful because many builders do their administrative task at home in the evening. The personal pages include information on activities and promotions occurring at the local branch.

Individual stores receive all orders placed on the portal for their products electronically, and fulfill them through their normal supply chain and existing fleet of delivery trucks. New professional clients are first encouraged to setup a new account at a local branch, where local employees negotiate individual pricing arrangements..

The Web-based service supports standard orders. However, the company still maintains outside sales representatives (OSRs) who visit with builders on job sites to maintain good customer relations. The increased use of online ordering by builders allows OSRs to pay less attention to administrative tasks and to focus on selling value added services, giving advice, educating the client about the online channels, and strengthening customer relationships.

Through its online partner, the firm also completed a successful mobile service pilot using Palm Pilots. Builders were able to make on-site purchases for critical materials needed immediately. Materials were then brought out to the job by the local delivery truck. One interesting impact of this service is that it encouraged builders to wait until the last minute for some orders, and to make orders in smaller quantities than they would through normal channels. This is, of course, less efficient for the supply firm, creating some challenges for their delivery system. However, it is a new value-added service that strengthens their relationship to their core clients.

A logistics support company. The final case study firm provides logistics support to other firms, including warehousing, inventory management and distribution

services. Their primary product is a software system that helps client firms better integrate their e-commerce and offline distribution systems. In essence, this company sells a product that enables other firms to pursue a click and mortar approach.

The main focus of their business is the rationalization of their clients' inventory management systems in order to improve clients' abilities to deliver goods purchased online. Through a careful analysis of end customer product needs, they are able to determine the most appropriate location for inventory, either in existing facilities of the client, or in space maintained by the logistics company. Through this approach, they enable rapid delivery of products where there is an immediate demand, such as for critical parts.

The company recognized that many firms approached e-commerce as if it were like a catalogue sales operation, centralizing all goods in one or a few warehouses from which online orders were filled. This causes delays in delivery for many customers who are not near the warehouses. Yet, the perception when people use electronic channels for purchasing is that it should be faster – they expect more rapid turnaround time on electronic orders. By combining their own warehouses with the local inventories and warehouses of customers, reorganizing where products are stored based on the timing requirements of customers, and working with other courier services, the logistics firm could provide the delivery speed customers require.

5. Discussion

Collectively, the cases serve to illustrate robustness of the framework across both B2C and B2B cases.

Nearly every case exploited existing infrastructure, operations, marketing and sales forces and existing customers in order to derive synergy benefits. Physical infrastructures such as warehouses, distribution systems, and retail outlets all enhanced the value of e-commerce offerings. Physical and virtual channels made use of a number of operational systems such as integrated order processing systems and after-sales services. Most capitalized on existing sales forces and used e-commerce to strengthen relationships with existing customers. A good example of capitalizing on common operations was the way in which several firms leveraged experience serving distant customers. Expansion into online commerce followed naturally on pre-existing expertise with catalogue sales and experience shipping goods to remote customers.

The framework focused our attention on a number of management actions needed to achieve synergy benefits and avoid multi-channel conflicts.

Goal aligning strategies. The cases collectively illustrate efforts by firms to convince existing physical outlets that e-commerce channels worked for their benefit, rather than in direct competition. In a few cases this involved explicit committees that included physical outlet managers to set e-commerce strategy. Firms also considered indirect benefits of e-commerce. In many, the primary focus of the Web channel was not to be an independent profit center in its own right, but to enhance customer relationships and provide indirect benefits. A third example of goal alignment was the decision to focus first on the existing customer base and communities in which the firm had a physical presence. This is evident in the emphasis among B2B firms on business customers who already held accounts. It was also a clear strategy for the gift specialty store, which has a tightly coupled relationship with the town in which it is located. The tight linkage between a store's location and its Web channel was also the focus of the bookseller cooperative Web venture.

Coordination and control strategies. Examples of management actions to achieve coordination and control were also evident across the cases. To some extent, each of the firms attempted to harmonize channels to ensure interoperability. Several firms re-engineered business processes and/or information systems in order to ensure interoperability between their e-commerce and physical channels. The best example of this was the electronics retailer, which not only redesigned their entire store database system so that online customers could search store inventories, but also developed a new business process to make this service work properly.

Firms created incentives for cooperation across channels, particularly by developing compensation schemes that enabled employees or owners at physical outlets to benefit from the e-commerce channel. This was particularly the case for businesses that catered to business customers. Most customer sales originating over the Web were allocated by customer account or geographic location to a specific physical establishment for fulfillment. However, many consumer-oriented retailers did the same, even if retail stores were fully owned by the parent corporation. For example, the electronics retailer rewarded store managers based upon how quickly they handled Web orders that were designated for local store pickup.

Firms also actively cross-promoted physical and virtual channels. Coupons, gift certificates, highlighting of in-store events online, and provision of decals and posters with the URL of the web site are just a few of the many examples found in the cases.

Lastly, firms specialized services across channels where appropriate. A clear example of this strategy was the bank with its efforts to migrate low margin mass

market services to the more efficient Web channel. Their all-Internet banking option offered favorable rates as an encouragement to customers to use it.

Capability development. To ensure adequate e-commerce capabilities, several firms formed alliances to fill in important gaps in either their physical or virtual channels. There were many examples of alliances, particularly with other Internet firms, in order to offer important services or extend into new markets. The building materials supplier, for example, aligned with a home improvement e-commerce firm, in order to be able to offer services to home consumers. Another example was the alliance between the music retailer and a widely used digital music web business so that the retailer could offer popular personalization services.

The framework emphasizes the use of synergy strategies to lower costs, differentiate products and services, build trust, and extend into new markets. Many of the cases relied on the Internet channel to improve labor productivity by offloading product information search, ordering, filling out forms and other routine tasks to end customers. In many cases, such as the industrial parts supplier or the building materials supplier, the e-commerce channel helped to make sales persons and sales representatives more productive, even though the orders were still fulfilled locally rather than from a central distribution site.

The use of the Web channel to differentiate a firms' products and services was also apparent in all of the US cases. For example, using the Web to enable product customization as a service was evident, such as with the automotive manufacturer that allowed customers to create "build-to-order" vehicles that would be provided through their dealer. Also common were services that allowed customers to pick up goods immediately that they had ordered online, and a wide range of after sales services.

Combining channels as means to improve trust was also evident, as a number of US cases relied on the power of their established brand name to improve e-commerce sales. The electronics and music retailers, for example, both were nationally recognized brands. Both permitted customers to return products ordered online to physical stores. In the banking case, earlier efforts to establish a fully separate Web brand failed to capitalize on the trust that the existing client base had in their name. In the end, they were forced to reintegrate the Internet bank back into the traditional bank. Nearly all of the national brands and chains offered store locator services, and many featured local events as means to bind their virtual and physical channels. A common tactic was to provide links to individual retail store pages with local content from a centralized Web site that featured the national brand.

Adding a virtual channel also enabled market extensions for a number of the US cases, but was

particularly evident for those that were not already present on a national basis through extensive physical chains. The gift specialty store, for example, was able to garner new orders from throughout the US and even from foreign sites, despite their emphasis on promoting the unique attributes of their physical store, and their use of their web site to bring people to their physical location. Firms that previously catered only to business clients, such as the building materials supplier, also found that through the Web they could extend into the consumer market.

6. Conclusion and Future Research

In addition to illustrating the explanatory value of the synergy framework, the cases suggested a number of new research topics for better understanding the influences upon and consequences of click and mortar e-commerce models. We clearly need to better understand the barriers to effective click and mortar development. Our cases suggested a few barriers, but our sampling strategy limited our ability to elaborate on this issue. Three potential problems arising from our discussions include 1) a sense that taking a click and mortar approach forced several cases into a slower pace of e-commerce innovation, 2) problems adapting to the changes in customer behavior brought about by the availability of e-commerce, such as differences in timing and quantity of orders, and 3) lack of available metrics to fully assess the usefulness of investments in click and mortar strategies.

7. References

- [1] Anderson, E., Day, G. and Rangan, V. (2000). Strategic channel design. *Sloan Management Review*, Summer, 59-69.
- [2] Bakos, J. Y. (1997). Reducing buyer search costs: Implications for electronic marketplaces. *Management Science*, vol. 43 (12), December, 1676-1692.
- [3] Bakos, J. Y. and Treacy, M. (1986). Information technology and corporate strategy: A research perspective. *MIS Quarterly*, June, 107-119.
- [4] Balasubramian, Sridhar (1998). "Mail versus mall: A strategic analysis of competition between direct marketers and conventional retailers, *Marketing Science*, 17, 3, 181-195.
- [5] Cairncross, F. (1997) *The Death of Distance*. Boston, Massachusetts: Harvard Business School Press.
- [6] DiMaggio, P. & Louch, H. (1998). Socially embedded consumer transactions: For what kinds of

purchases do people most often use networks. *American Sociological Review*, 63 (October), 619-637.

- [7] Economist. (2000, February 26). Something old, something new. *Economist*.
<http://www.economist.com/editorial/freeforall/20000226/su3796.html>.
- [8] Friedman, L.G. and Furey, T.R. (1999). *The Channel Advantage: Going to Market with Multiple Sales Channels to Reach More Customers, Sell More Products, Make More Profit*. Butterworth-Heinemann: Oxford.
- [9] Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91 (3), 481-510.
- [10] Johnston, H. R., & Vitale, M. R. (1988). Creating competitive advantage with inter-organizational information systems. *MIS Quarterly*, June, 153-165.
- [11] Lindsay, G. (1999, August 10). Building businesses with clicks and mortar. *Fortune*. Available at <http://www.fortune.com/fortune/clicks/index.html>.
- [12] Malone, T., Yates, J., and Benjamin, R. (1987). Electronic markets and electronic hierarchies: Effects of information technology on market structure and corporate strategies. *Communications of the ACM*, 30 (6), 484-497.
- [13] New York Times. (December 25, 1999). Increasingly, traditional retailers take the Internet plunge. (<http://www.nytimes.com/1999/12/25/technology/25brick.html>)
- [14] New York Times. (November 20, 2000). Retail battle returns to the bricks. (<http://www.nytimes.com/2000/11/20/technology/20ECOMMERCE.html>).
- [15] New York Times. (December 18, 2000). Internet merchants adapt to survive. (<http://www.nytimes.com/2000/12/18/technology/18ECOMMERCE.html>)
- [16] Otto, J. and Chung, Q. (2000). A framework for cyber-enhanced retailing: Integrating e-commerce retailing with brick and mortar retailing. *Electronic Markets*, vol. 10 (4), 185-191.
- [17] Porter, M. E. (1985). *Competitive Advantage*. Competitive advantage: creating and sustaining superior performance. New York: Free Press.
- [18] Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage. *Harvard Business Review*, July-August: 149-160.
- [19] Rappa, J. (2001). Business models on the web. North Carolina State University: unpublished web page.

(<http://www.ecommerce.ncsu.edu/topics/models/models.html>)

- [20] Rosen, K. and Howard, A. (2000) E-retail: Gold rush or fool's gold. *California Management Review*, vol. 42 (3), 72-100.
- [21] Shapiro, C. and Varian, H.R. (1999) *Information rules : a strategic guide to the network economy*. Boston, Mass. : Harvard Business School Press.
- [22] Steinfield, C., Bouwman, H. and Adelaar, T. (2001b). Combining physical and virtual channels: Opportunities, imperatives and challenges. Bled Electronic Commerce Conference, Bled, Slovenia, June 25-26.
- [23] Steinfield, C., DeWit, D., Adelaar, T., Bruin, A., Fiel, E., Smit, A., Hoofslout, M., and Bouwman, H. (2001a). Pillars of virtual commerce: Leveraging physical and virtual presence in the new economy. *Info*, vol. 3 (3).
- [24] Steinfield C. and Klein, S. (1999). Local versus global issues in electronic commerce. *Electronic Markets*, vol. 9 (1/2), 45-50
- [25] Steinfield, C., Mahler, A., & Bauer, J. (1999). Electronic commerce and the local merchant: Opportunities for synergy between physical and web presence. *Electronic Markets*, vol. 9 (1/2), 51-57.
- [26] Steinfield, C. and Whitten, P. (1999). Community level socio-economic impacts of electronic commerce. *Journal of Computer Mediated Communication*, vol. 5 (2), (<http://www.ascusc.org/jcmc/vol5/issue2>).
- [27] Stern, L.W., El-Ansary, A.I., Coughlan, A.T. *Marketing channels*. Upper Saddle River, N.J. : Prentice Hall-International, 1996.
- [28] Tedeschi, R. (2001, Sept. 3) Bricks-and-Mortar Merchants Struggling to Assess Web Sidelines. E-commerce report. *New York Times*.
<http://www.nytimes.com/2001/09/03/technology/ebusiness/03ECOM.html>
- [29] Timmer, P. (1998). Business models for electronic markets. *Electronic Markets*, vol. 8 (2), 3-8.
- [30] Ward, M.R. Will Online Shopping Compete More with Traditional Retailing or Catalog Shopping? *Netnomics* 3, 2, (September 2001), 103-117.