Week 2: What is Electronic Commerce

The three articles for week 2 all focus on answering what electronic commerce is. The two articles by Vladimir Zwass were written 8 years apart. The original framework of e-commerce proposed in the first article was renewed and expanded in his second article. The reason that I chose these two articles was to show you how our understanding of e-commerce had improved over the years. All the teams provided good definitions of e-commerce based on the readings. The scope of e-commerce has expanded over the years to include not only buying and selling on the Internet, but any activities that facilitates business activities over electronic channels as well. While technologies have changed dramatically in the last few years, Zwass’s original framework on e-commerce is still valid. All the teams have made minor modifications to the model to reflect the changes in technology. One aspect that Zwass’s model failed to address sufficiently is the social aspect of e-commerce. Social issues such as privacy are important parts of any e-commerce business decisions today. The practical implication of Zwass’s framework is that it provides us with a tool to understand the pieces required to conduct successful e-commerce transactions. As Team2 pointed out, “businesses need to understand that a strong organized infrastructure would create a desirable foundation for the rest of e-commerce to build from.” All the teams provided good examples of their organizations’ involvement in the five domains of e-commerce. For instance, FDR’s example shows how FDR is using e-commerce to conduct commerce, connect with their customers, and encourage collaboration. Team 3’s example shows an online retailer’s involvement in all five domain’s e-commerce.

Heng’s article explores the meaning of e-commerce from a historical perspective. As Heng suggested, e-commerce was not different from traditional commerce, it simply allowed these activities to be performed in the form of electronic communication. This view implies that traditional business rules, strategies and common sense still apply in the context of e-commerce. As Team 1 pointed out, Heng also viewed the technology as just a means to promote more efficiency in business activities and relationships between businesses. Understanding e-commerce from a historical perspective allows us to have a better understanding of what e-commerce is, a more realistic expectation of what e-commerce can deliver, and a better understanding of where it is heading.

Electronic Commerce: Structures and Issues

By Vladimir Zwass

Discussion Question:

This article was written in the wake of e-commerce. Does the framework proposed by the author needs any revision to better depict e-commerce today? What are the practical implications of the framework? In other words, why do businesses need to understand the framework?
Team1

In most respect the framework described by the author is still valid and depicts e-commerce today. It is very true that the products and structures are functionally dependent on services, which in turn are functionally dependent on technological infrastructure. However, in this table one may add the section of “Business Governance” right above the “Infrastructure” in Table 1. In addition, in view of the advancement in technology, its application has been extended to several avenues including the health care industry that can be included in the function and examples of the services and products and structures. It is estimated that e-commerce in health care industry can trim 20-40% of costs out of the health care supply chain. Additional points that must be considered under the higher levels of the hierarchical framework of e-commerce include cultural, executive and technological factors that either support or inhibit project and technology success.

E-commerce is globally used in consumer-oriented commerce, B2B commerce, and inter-organizational business. This has resulted in the creation of markets inside companies, allowed decision making to be decentralized and introduced some of the efficiency, flexibility, and motivating influence of free markets. Use of the Internet in e-commerce has become a platform for integrating disparate information systems that is ubiquitous and open to all comers.

One of the most significant practical implications of the framework is that it provides an opportunity to recognize nodal problems of e-commerce practice and approach. This allows These problems include (i) availability of sufficient bandwidth of the telecom infrastructure, (ii) validity of electronic contracts and other electronic documents: If an agreement made by e-mail or electronically on a web site, is it valid and binding? If a contract is made on the Internet, does it qualify the requirements of the law? Are e-signatures valid and acceptable? and (iii) protection of Intellectual Property Rights: Intellectual property (which includes both industrial property and copyright literature) rights are legal means to protect and balance the interests of an individual against those of the public. It has become relatively easier to infringe intellectual property through the use of electronic technologies. Therefore there is an urgent need to formulate a system of laws that define and protect intellectual property as a response to technological change. This is especially important in the case of emerging novel technologies.

Team2

Original Framework:

<table>
<thead>
<tr>
<th>Level</th>
<th>Function</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Electronic marketplaces and electronic hierarchies</td>
<td>Electronic auctions, brokerages, dealerships, and direct-search markets Interorganizational supply-chain management</td>
</tr>
<tr>
<td>6</td>
<td>Products and systems</td>
<td>Remote consumer services (shopping, banking,</td>
</tr>
</tbody>
</table>
Table 1. The hierarchical framework of electronic commerce

The fundamental structure theory is acceptable with Infrastructure being the basis of ecommerce with services, products and systems being built off of this. Although with the advent of grid computing and the redefinition of networks to encompass the internet rather than hub and spoke model as mentioned in the article, we have given way to new abilities for data retrieval and processing.

Another fundamental change was the emphasis on security. Security advancements have allowed flexibility to many of the transactions and data transmissions that occur over the internet.

A suggested modification of the above chart is as follows.
Businesses need to understand that a strong organized infrastructure will create a desirable foundation for the rest of ecommerce to build from. To have wide band, good security, and other fundamentals as mentioned in the model will enhance the ability to conduct business such as the product awareness, infotainment, brokerage, telecommunication services (live business applications).

The applications can range from sales, marketing, and customer interactions, as well as intranet applications such as data retrieval, datamining and data backup and recovery.

Interesting changes in history from reading the article,

There was quite a bit of emphasis on emoney, and a lack of recognition to advancements in security, band width and computing processing power.

**Team3**

Even though the article, *Electronic Commerce: Structures and Issues*, was written at the ‘end of the beginning’ of electronic commerce, many of it’s descriptions and
justifications for e-commerce frameworks still hold true. Granted, there are many additions that can be made due to technology increases – such as XML, the power of text messaging and internet access via cell phones, but overall, the basic meta-levels of Products, Services and Infrastructure has held true.

The first of these, Products, is the one that has seen the most additions over the past eight years – or rather, the most growth. Due to the huge success of the Internet and World Wide Web, marketplaces such as ebay.com and Amazon.com have taken over the way the world shops. The gross amount of products that are available through e-commerce transactions is amazing – from books to cars to insurance policies. Products will always rely on Services, though, in order to be sold.

The major changes that can be seen in the Services meta-level is again – growth. There are now additional ways to communicate with others, such as XML files, chat lines, instant messages, blue tooth technologies (which will affect the infrastructure as well) and peer-to-peer networks.

Lastly, the infrastructure is still the base foundation for e-commerce. Without the world wide web, internet, and networking, e-commerce could not exist at the level it does. We have seen the telecommunications world enter into e-commerce more so than this article represents: with internet access via cell phones, PDA’s, and BlueTooth technology.

The following is a practical implication/example of the suggested framework:

A) Infrastructure: Computer on a LAN, connected to the internet and accessing the world wide web via Internet Explorer
B) Services: Data is sent electronically using an XML file: encrypted, decrypted and compared against a database
C) Products: user is logged into (after verification) to a banking website. Funds are transferred to a different account and payments are made using remote banking services. The bank then takes that information, and electronically transfers information to whomever payment is made to and completes the transaction

It is pertinent that businesses understand the framework of e-commerce because in order for them to successfully communicate with other businesses and customers, they must be using similar processes. By following the e-commerce framework, it allows businesses to identify the customers’ needs (security, various transactions, feedback, etc…) and help them build more solid relationships with customers and other businesses.

The framework equals advantageous business practices through fully automated electronic communication, making secure document exchange transparent to the end-user. The E-Business framework allows for information to cross the boundaries of organizational departments internally and reaches external trading partners seamlessly. The most important factor to any e-commerce businesses’ success is keeping on top of industry changes. For example, with the introduction and standardization of XML, many frameworks are seeing updates to accommodate for XML transactions. We are seeing the XML/EDI framework rewrite the rules of how people interact in today's business environment. XML/EDI is relevant to all customer-to-supplier relationships, whether manufacturer, consumer-oriented, service-oriented, or government-oriented organization and will continue to be so as e-commerce progresses.
Understanding Electronic Commerce from a Historical Perspective

By Michael S.H. Heng

Discussion Question:

Why is it important to understand e-commerce from a historical perspective? What are the impacts of globalization on e-commerce?

Team 1

Michael S. H. Heng contends that it is indeed important to understand e-commerce from a historical perspective. Heng cites several reasons for this. First of all, the author contends that e-commerce has evolved naturally as a result of business to business practices and that there are “macro-level and socio-institutional level…implications” which are just beginning to be seen and recognized as a result (of e-commerce). Second of all, e-commerce is changing how business is done and impacting the business cycle and business practices. Third of all, there will be an impact on business and countries as a result of some of the changes e-commerce has made in the relationship between the consumers and merchants due to globalization.

Some authors contend that the internet and the advent of e-commerce is a transformational technology and that it is changing everything that it touches. Heng does not take this view. He sees e-commerce as something that has evolved naturally in the business world and technology that was there, in this case the internet, is fostering changes that would need to occur. The author looks at Thirteenth Century Italy to illustrate this and says that the traders “…operated on the basis of existing technology and culture…” and that “the economic repercussions of trading activities went…beyond efficiency…in…use of resources…” (105) In Heng’s view the technology is just a means to promote more efficiency in business activities and relationships between businesses.

E-commerce has had an impact on how business is done, just like the industrial revolution impacted how business was conducted. E-commerce has “reduced…time and transaction cost” which makes the business cycle more efficient and less costly to the business. It has also made it possible for virtual stores to exist which means that there is no need for a physical store with the advent of just-in-time inventory systems and electronic data interchange between businesses. This helps further costs because there is no extra capital being laid out to maintain a physical store and having an inventory on hand. Electronic data interchange allows for one business to directly deal with another business directly which reduces both time and transaction costs.

There is a direct economic impact on the countries and businesses due to electronic commerce. Part of this is due to the increased globalization that has become part and parcel of the business world. For example, a car manufacturer can have its headquarters in one country, its manufacturing center in another and have its customer service or call center in yet another country. There is no need for all of the parts of the business to reside in one physical place anymore. Businesses can take advantage of economies of scale or in
local knowledge and use outsourcing to compliment their other business processes and reduce costs. This reduced cost, in turn, will be passed on to the consumer.

Countries are now very interdependent on one another economically due to trade agreements, political alliances and the increasing ease of workers being able to migrate to other countries to pursue business needs and goals. Globalization has made it necessary for businesses to utilize any means they can which will reduce their costs and increase their profits in an increasingly competitive global market. Heng contends that globalization has led to network organizations that make it possible for businesses to have different parts of their businesses in different countries and to make the electronic interaction between those parts appear seamless to employees and consumers alike. (108) Globalization also “speeds up…diffusion of new technology…” which in turn effects other parts of the business cycle and the end results is a reduction in cost for the business and improved efficiency. Consumers now have access, through the internet, to find almost any item they want and to compare “price, quality and product features”, which results in price-deflation on products (108).

Globalization of business due to e-commerce has also created new markets, resulted in more inter-dependency between businesses, fostered “development of new business strategies and models” (111), ushered in a new business environment and impacted how banking transactions can be accomplished. New markets have developed as both large businesses and small specialty firms now have a global and direct connection to consumers through the internet and the marketplace is open for business 24/7 (110). Firms now “tie together their inventory control systems with web-based exchanges” in order to take advantage of reduced cost and transactions globally and businesses now act as “nodes” of a more complex system and not independently as they once did (110).

New types of business strategies and models are being developed to keep up with the new ways of doing business electronically. As stated previously, virtual storefronts can now exist anywhere in the world and these can be tied to other businesses electronically in order to complete a transaction for a customer. Traditional models for business to business relationships did not take into account virtual storefronts or direct business to business relations between businesses in order to fulfill one transaction. New models will have to take into account the fact that businesses can be started up without as much planning and capital as needed in the past and that the global economy is much more customer-driven now.

A new business environment has also become par due to electronic commerce. Companies can now delve into markets that were not open to them before due to technological innovation. For example, purchases can be made electronically either through the internet or a mobile phone. Along with this is the impact that electronic commerce is having on banks. Monetary transactions can now occur electronically as a business to business transaction between the bank and the business. This does open up areas in which banks can develop more electronic commerce related products including: security for transactions, more electronic billing services, offering businesses the
“technology for business-to-business electronic commerce” and further “assistance for small businesses to enter into EC” (114).

Globalization has sped up many of the business trends associated with electronic commerce. It has also changed the way that businesses relate to one another and to consumers. Electronic commerce emerged naturally as a conduit to further business and globalization is making its impact felt even more.

Team2

Heng, in his article, gives a good overview of the history of commerce itself, beginning with 13th century Italy. As with most disciplines, we learn and gain from history, learning from our past mistakes and building upon our successes, the same can be said of commerce and e-commerce in general. By understanding how commerce and current business models have evolved over time, one can obtain a framework upon which to build.

Commerce, simply defined, is the activity of trading goods and services and other related business activities, presumably to the benefit of all parties concerned. E-commerce simply allows these transactions to be performed in the form of electronic communication. Granted, new business models and goods and services have emerged as a result of e-commerce, but the same can be said throughout history as new technologies emerged, commerce evolved.

Commerce started as simple trading of goods and services by merchants to consumers. As this business model increased in size and popularity, advances were made in commerce and supporting areas, such as the development of banks, modern bookkeeping, insurance and stock markets to name a few. With these advances, commerce changed from simple merchant trading to include manufacturing, shopkeeping, etc. As indicated by Birnie in the article “the development of commerce was both a cause and a consequence of industrialization”.

As commerce increased and modernized, so did other areas, such as banking and the creation of financial instruments, which led to wider commerce. This activity eventually led to networking of suppliers for raw materials and goods and distribution outlets, thus widening the scope and influence of commerce and of a given merchant. Over time these networks, in order to provide more efficient and cheaper means of producing and selling goods, moved outside of political boundaries and began to be global. With these changes, came more technology and thus ultimately the Internet and other electronic means whereby commerce, now called e-commerce, could take place in a quick and economic fashion.

Commerce through the years created the need for new technology to make these more efficient. Each new advance in technology led to advances in commerce, reach and business models, which in turn again led to advances in technology, eventually leading to
electronic commerce. Understanding how each new step led to advances in the other allows one to realize how we got to where we are today, and what the future may hold.

With electronic communication, whether it be the Internet, telephone or some other electronic means, commerce is no longer restricted to a small geographic area as it was in 13th century Italy. As a customer, one can go wherever communication will allow in order to do business, or as a business, one can go wherever communication will allow to attract customers to the business. With each increasingly expansion in geographic area, a business can obtain cheaper and varied raw materials, or through a consortium demand lower prices. These in turn result in lower priced goods and more variety from which the customer can choose.

Due to globalization and the speed of electronics, products and goods can now be produced more efficiently and cheaper by having a wider area from which to search. This again results in lower priced goods, more variety to choose from and thus more competition. As a result of globalization, “companies which cannot possibly survive in a major city can do a brisk business serving a work market”. Thus, due to globalization and other factors, e-commerce continues to thrive, increase in scope, and evolve due to technological advances and consumer demand.

Team3

In an era that the ad hoc and fancy comments and analysis about e-commerce prevail, it is necessary to step back all of these and think over e-commerce in a larger context. Every remarkable event has its retrospective context make it happen and influence its current and future direction. Understanding e-commerce from a historical perspective helps us to develop this insight, the profound and long-term effect that e-commerce will have on our economy and society. It is a dynamic and ongoing process. Reviewing history of modern commerce in the 13th and 14th century suggests us to pay attention to the socio-institutional effect of e-commerce. As the paper discusses, both modern commerce and e-commerce have two orders’ effect: the first is the increase of efficiency of utilizing resources, such us production and consumption, and the second level is the socio-institutional effect, which is only visible after a longer period of time. From a historical perspective, scholars have realized that the economic repercussions of trading activities went beyond efficiency in the use of resources. The higher order influence of modern commerce is that it created commercial institutions and business practices, and raised the level of human capital. As for e-commerce, it stimulates remarkably more trading activities than industrialization did, making it important for us to understand the macro influence of e-commerce on the economy.

Understanding e-commerce from a historical perspective helps us see the iceberg beneath the water and point the clear direction of future research. E-commerce contributes to the deflationary effect, the expansion of industry and global trade, the emergence of rating agencies, the call for new business models, and the enhancement of innovative processes. Other potential institutional changes are also on the way.

Besides, to understand a socio-economic phenomenon from historical perspective, it is important to study its historical context. Political freedom in Italy is the most
influential one for the blooming of modern commerce in the 13th, while globalization of economy is the favorable context in which e-commerce is cultivated. The history of e-commerce is accompanied with the globalization, and the continuous growth of e-commerce requires more across-border flow of capital, information, products and services. This understanding calls for further studies of the influence of globalization on e-commerce and the reverse as well.

Globalization embraces trade-flow across borders. With more countries entering WTO, the international trade barriers are lowered. Import, export, and foreign investment become more practicable and predictable than the past. All of these give e-commerce the opportunities of fully utilizing its nature – connect more people and organizations without the traditional limitation of time and space. It is globalization make it possible for Dell with its virtual portal to sell computers worldwide as today, for eBay to attract people to bid almost everything no matter where they live. The network organizations emerge in the context of globalization now can be equipped with EDI or other e-commerce technologies to share data and commit transactions much more efficiently. The free trade flow helps e-commerce to see new markets all over the world, and give it a rise to bloom.

The economic globalization requires more free capital flow, which also contributes to the growth of e-commerce. Online securities trading and banking are allowed to attract more capital in other countries, and to better utilize capital resources, which then stimulate the expansion of online financial institutions. In addition, the generation of global financial institution and instruments make it more feasible for people and organizations to conduct businesses online because paying the bill or orders globally has become easier and less costly than before.

Finally, global economy requires the reach of information across borders. E-commerce supported by information technologies has naturally been recognized as the most efficient means to realize the information sharing and analysis worldwide. That is why we have seen more and more groupware is utilized by multi-national organizations for decision-making.

In a word, global customers, partners, distributors, suppliers, and so on require free flow of financial capital and human capital, requires the fast response to environmental change, and the collaboration of the entire value chain to bring values to each members and thus society in large. In this context, innovative application of e-commerce like CRM systems, and new e-commerce models, institutions, and business practices have been generated or under development, which weaves our e-commerce life today and envision its future.
Electronic Commerce and Organizational Innovation: Aspects and Opportunities  
*By Vladimir Zwass*

Discussion Question:

Based on the author’s discussion, provide your definition of e-commerce. In your own words, briefly explain the five aspects of e-commerce proposed by the author. Is your organization involved in any of the five domains of e-commerce discussed in the paper? Please provide an example.

**Team1**

E-commerce is a subset of the business enterprise. Business is defined by the author as “the sharing of business information, maintaining of business relationships, and conducting of business transactions”. E-commerce is the subset of this where he adds “by means of telecommunications networks”. By this definition e-commerce includes more than just the Internet or World Wide Web, but does limit itself to a form of communications.

Telecommunications networks include more than data networks. Telecommunications as defined by the Oxford English Dictionary is communications over long distances through the air or ‘ether’. This then includes telephone, radio, and television, includes voice and data, text and graphics. These tools have been used for commerce long before the development of the World Wide Web.

Electronic communications is a tool that has been used for sometime in commerce and business. The Internet has brought a new facet to the depth and speed to which large amounts or very complex information can be communicated between two people. E-mails and data transfers are virtually instantaneous and very cheap. How business uses these characteristics to its advantage is the key to successful use of the Internet for commerce and a competitive advantage for businesses.

The five aspects of e-commerce proposed by the author; Commerce, Collaboration, Communication, Connection, and Computation are valid aspects of the business environment.

Commerce is defined as the arrangements through which goods and services are exchanged. Key to this is the marketplace, a role that can be filled by the Internet with its universal access technology and extent of deployment of the World Wide Web. It provides a means for a purchaser to communicate the want of a product where someone with the produce might receive it. This seems to be one of the areas where e-commerce firms have succeeded, providing a forum or meeting places where buyers and sellers can go to find each other. Examples include both Internet based providers with universal access, primarily for consumer sales, and extranets where access is limited to accepted buyers and sellers. Electronic marketplaces include e-Bay, Amazon and the NASDAQ stock exchange.
Collaboration is the formation of relationships with clients and customers that is longer term and in greater depth than the basic transaction. Collaboration requires interactive communication with customers to determine their needs and expectations. It also implies working with clients to achieve common goals beyond or besides the normal goods and services provided to customers. Collaboration will include the sale of services to others. Data mining is one application that comes to mind that could be outsourced and performed over a network providing information of value to a customer.

Communications is the strength of e-commerce. Exchange of ideas and information is what telecommunications does best. It negates geographical differences to provide a wider source base of information. This is a form of e-commerce that Union Pacific Railroad uses. Customers are given access to logistical information that is captured through various means to determine the location of their shipments and estimated time of arrival. This could be done by simply making a telephone call, which technically would still be e-commerce, or through internet access to the companies web site that would allow the customer to directly access the information themselves. Recently Union Pacific has been deploying a collaborative project with General Motors to take this one step further. GM has helped fund 802.11 deployment at auto ramp facilities where automobiles are unloaded from trains. The bar coded vehicle numbers are then scanned into the system by portable devices and the data accessed directly by GM. The goal is for GM to know within 15 minutes, when and where an automobile has been unloaded from a rail car.

The author also discusses the electronic delivery of goods. He focuses on software and forms of print. Distribution of video is mentioned, but music is not. Currently music may have found a business model and means of profitable distribution over the Internet. An example of this is iTunes selling over $3 million dollars worth property in its first week of operations.

The author lists connection as the fourth domain of e-commerce. Included in this domain are the forms of access to the web, migration to web-based applications, and universal telecommunication network. Access can be through fixed or mobile devices for anytime, anywhere access for collaboration and commerce. Mobile devices with location based capabilities will add to the system by m-commerce making information available to customers based on their location without any input from them. At this time GPS features of mobile device, particularly cell phones is very limited. Future 911 location requirements will provide technology that will be able to support location-based m-commerce.

The author also discusses computation as a domain of e-commerce. Wide spread high-speed networks make grid-computing possible. This appears to take advantage of unused processor cycles and resell or make them available to others who might want them. This has been done and examples are given. This is a domain that is primarily in the future.
Definition of e-commerce
In a broad sense, e-commerce is any kind of commercial transaction or interchange of information within a virtual store that is based on the telecommunication of data through Internet. The concept of e-commerce does not only include the electronic purchase and selling of goods and services, but also the use of the Web for any kind of activities related to the advertisement, price agreement between the buyer and the seller, interaction among other firms to deliver the product or service, and the post-selling customer service. By the same token, not all these activities need to be presented in order to establish e-commerce, and this may be given between consumers (C2C), business to customers (B2C), or between businesses (B2B). At the same time, e-commerce can be presented in different scenarios being the wireless world the one with the most potential (i.e., M-Commerce).

Explain the five aspects of e-commerce
1. Commerce
This aspect of e-commerce deals with how goods and services are available to the customers. Some of the characteristics are the notion of commerce as a marketplace and as a universal value-chain linkage. In reference to the former, a marketplace can be a physical or a virtual place where buyers and sellers meet together in order to buy or sell products. The idea behind here is to offer the advantages of a space where buyers and sellers can be geographical dispersed, and where the spatial limitations imposed on a retail store does not exist. However, doing business in a virtual world has its own costs as well, like the opportunity cost of “forgetting” those customers that can only be reached through a regular retail store or the costs associated for doing business over the Internet. In the same direction, marketplaces in this virtual world are characterized for a flexible pricing structure. This is especially true in a B2B scenario where different clients can be captured in different pricing schemas. Product customization is another advantage of this world, and Dell is probably the best example here offering mass customization to its clients. All of these factors contribute to only around 2% of total retail sales in the US, thus marketplaces need to find a balance between pure virtual world and pure bricks-and-mortar. Having the technological tools available to do business on the Web does not constitute the determining factor and careful investigation needs to be done first before taking any action.
A second activity in this aspect is the universal supply chain linkage that the Web has to offer. In today’s world, most of the goods and services offered are the result of complex system products, and the more complex the product becomes, the more intermediaries are needed. Here it is where the Web plays a special role in the supply chain: technologies like XML or SOAP offers the possibility of connecting all of the business processes for the firms involved.

2. Collaboration
This aspect of e-commerce is based upon the establishment of a network of relationships and collaboratory efforts from different groups of people. In this sense, the Web is used here to develop long-lasting relationships between companies and customers that may
eventually yield in mutual familiarity, loyalty, and trust. Electronic Commerce Customer Relationship Management (ECCRM) is one of the tools available to achieve this goal. A good example of how all this works is Amazon.com. This company has developed a network of relationships among web partners, book reviewers, and second-hand bookstores that has evolved in one of the top, most trusted e-commerce companies. Collaboration in e-commerce not only means business collaboration, but also knowledge collaboration. A good example about this fact is the Open-Source Software community. Here different players use the Web as a communication tool to achieve a common goal, and discoveries made from a group or individual are shared among other groups or individuals who will create more software enhancements and so forth and so on.

3. Communication
The Web has become probably the most commonly accessible means of communication among people. Communication here may come in different flavors, such as a forum. In a forum, an individual can become part of specific private group spaces that are characterized by being asynchronous (i.e., individuals have not to be present at the same time to establish communication). This creates virtual communities that revolve around different interests, concerns, games, etc. The advantage of companies hosting this type of communication is that can gain significant competitive advantage over other competitors by accessing thoughts and concerns from their customers about the goods and services being offered.

The Web is also considered an interactive communication medium for delivering new media products (e.g., Wall Street Journal on-line edition), as a knowledge management tool (e.g., information displayed based on its relevancy and actuality in a given portal), as a resource for interchanging experience-based knowledge (e.g., instant messaging tools), and as a marketing medium too, among others (e.g., web surveys, webcasting, virtual focus groups, etc).

Also in reference to this matter of communication, the Web has a facet of delivery vehicle for digital products, such as software, content-based products, and on-line services. Since broadband connections have gained momentum in the recent years, more and more people have demanded this type of products and made companies to re-engineer the way their products are available to the public. Movielink’s videostreaming business constitutes a good example of this aspect in e-commerce.

4. Connection
Anytime/Anywhere connectivity is one of the main features of the Web that is becoming a necessity among specific group of users. This is particularly true after the introduction of wireless technologies, even though bandwidth and lack of standardization remain two of the major obstacles for this technology to evolve. However, advancements in this field have made possible the introduction of mobile commerce (M-Commerce), where not only companies can offer different products at different places based on consumers’ location (i.e., location-based services), but also employees on the field can gain access to client’s information on the fly from their laptops or PDAs via CRM or ERP applications.

By the same token, more and more companies are trying to implement a common platform in order to distribute information and knowledge in an effective and efficient fashion. XML is probably the common denominator among companies that are trying to
achieve this goal due to XML characteristic of dealing with both structured and unstructured data. However, the deployment of this and other technologies does not depend on their availability but on market pressures and corporate policies. Moreover, all of this would not be possible without the presence of a universal telecommunications protocol as the Internet Protocol (IP) is. The development of the next IP generation (IPv6), web-based content management, and quality of Internet service constitute the main factors in the success of e-commerce.

5. Computation
Thanks to the Internet, we can access multitude of computers and their associated resources (i.e., data). Internet has evolved from a distributed computing platform to the most recent grid computing, where utilities are turned on and off on-demand across multiple resources. In the e-commerce arena, grid computing will constitute to have data mining capabilities and access to federated databases for CRM and supply-chain management in a more efficient and effective way.

Example of business involvement in any of the five domains of e-commerce (First Data)
As an example of how e-commerce is currently present in the real world, First Data deals with the electronic transmission, authorization, and settlement of most of the monetary transactions worldwide (credit and debit card transactions, production of cards itself, money transfers, etc). A major part of the company where money is being heavily invested is the e-commerce business unit, or E-Oneglobal. Here, the company wants to get involved in any monetary transaction that will take place by the use of wireless devices. First Data wants to take the lead and become a company that is present and its resources used in any monetary operation around the world no matter which payment method or medium is employed. Inter and intra-collaboration among departments is also given by the use of Web resources at First Data. Multitude of company information documents are widespread across the company, users can reset passwords for specific applications or ask for authorization to use others, users can also log application issues or concerns and these being automatically directed to the particular application owner, etc, and all that by the use of the company’s Intranet.

Team3

In the article, Electronic Commerce and Organizational Innovation: Aspects and Opportunities by Vladimir Zwass, electronic commerce is defined as “the sharing of business information, maintaining of business relationships, and conducting of business transactions by means of telecommunications networks.” We agree with the author’s definition and in our own words would define e-commerce as the conducting of business information, communication, and transactions through computers and over networks. More specifically we would describe e-commerce as the buying and selling of both services/goods and financial exchanges through digital communications.

Throughout the article the author stressed the importance of entrepreneurship and innovation to identify and take advantage of the many aspects and opportunities that can be found in the area of electronic commerce. The author then divided these aspects and
opportunities into five broad domains of electronic commerce. The five aspects he mentions are commerce, collaboration, communication, connection, and computation. Alanah works at Niche Commerce Incorporated, which is strictly an online retailer. Due to her exposure to such an e-commerce organization she has been involved in many of the five domains of e-commerce described by the author.

In the aspect of commerce, the author points out marketplace and universal supply-chain linkage as channels that allow for innovation. Regarding commerce, Alanah’s organization relies only on the idea of a virtual marketplace that is presented by e-commerce. Niche Commerce has no brick and mortar store so they rely only on customers they can reach online.

Next, Zwass mentions collaboration, both within and across organizations, and the benefits that e-commerce can allow for in this area. As for collaboration at Niche Commerce, the organization is able to benefit from its affiliate program similar to the Amazon.com example that was provided by the author. Link exchange programs and other relationships have also been established to benefit Alanah’s organization.

As far as communication in the area of e-commerce, B2B, B2C, and C2C are all utilizing the Web-Internet vehicle in order to advance communication among all areas, especially in regards to customers. Zwass stated, “A company’s customers are one of the most important sources of innovation, as many of them have been testing its products for a long time.” We believe that this is very true. Niche Commerce, and other e-commerce companies, are able to benefit by having direct communication with every customer that enters their store (virtually of course). Online stats and transaction information can be stored about every online customer who enters the website. Customers are then easily and inexpensively accessed.

In the domain of connection, the author covered areas of m-commerce (mobile commerce) as well as other telecommunications networks. E-commerce connection allows for the very beneficial anytime-anywhere connectivity that is becoming increasingly important.

Finally, Zwass mentioned cost effective computation utilities that can distribute a workload across networks to multiple resources. Alanah’s company has not taken advantage of any connection or computation opportunities proposed by Zwass that electronic commerce will allow for at this time, however, the organization is still young and the development and opportunities available are growing rapidly.