

The Power of Electronic Commerce

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For the last several years, attempts to define electronic commerce have born a remarkable resemblance to government's attempts to define pornography. While debating issues surrounding the identification and control of questionable programming on television, one government representative observed that "We can't define it, but we know it when we see it." And while electronic commerce is often mistaken for a mirage on the horizon, it has finally gained enough critical market mass that it is being taken seriously as a viable option to traditional commerce techniques. It is not a trivial undertaking: its successful implementation demands that companies look long and hard at their own business models.

As African companies move to consider whether electronic commerce should be a part of their corporate game plan, they find themselves faced with three principal challenges that they must consider if their foray into e-commerce is to succeed. These include general corporate issues, infrastructure issues, and security issues. Corporate and infrastructure issues are the most rigidly defined of the three; companies behave the way companies behave, and their supporting infrastructure (which may or may not include an electronic commerce sub-infrastructure) is built around and reflects that behavior. Security, then, must often wait for the dust to settle from the construction of the first two, then follow up with a protection mechanism tailored to the unique nature of each company.

Corporate Issues

Corporate Issues derive from the nature of the company's "business fabric," and of the three, are probably the hardest to change if deemed necessary. Taking into account such factors as market position, nature of the principal customer base, and corporate direction, corporate issues are rooted deep in the matrix of beliefs and behaviors that define a company. They include such things as:

Tactical vs. Strategic Positioning: Electronic commerce is a powerful strategic tool. All too often, however, it is looked at as just one more "payment option" with little regard for the profound manner in which it can position a company closer to their customer base. Remember Michael Porter's work on product differentiation: chances are that your product is a commodity, which means that the customer has purchase options. The law of primacy works: whoever gets there first, wins. The closer you can position your product to the customer, and the more innovatively you can do so, the better your chances of success. E-commerce is much more than a tactical payment option: its impact is potentially long-term and powerful.

Corporate Culture and Business Models: Again, corporate cultures and business models are highly interdependent; each inevitably affects the other, and the implementation of an e-commerce option will affect them both. It changes the way companies behave, and changes the way they interact with their customers. Consequently, the decision to add e-commerce to a company's bag of tricks should be part of a planned strategy, and

preferably the *result* of a planned strategy. It is not an end state; it is a *means* to an end. Companies that implement an electronic commerce web site or other option should do so after careful planning, because its effects will be far-reaching. In many cases, the company's reach into the market will change so drastically that a whole new business model will need to be defined; in some cases, corporate culture will change in cataclysmic fashion. Business as usual may go away, replaced by a whole new model of customer interaction.

Corporate organization also figures prominently in this scenario. The decision to support e-commerce must be made prudently, as there can be significant hardware, software, and personnel costs associated with the decision. If the implementing organization is large enough to support an MIS staff, they *must* be involved in the project from day one; smaller organizations may need to add support staff, which again represents a significant change in the traditional "everybody does everything around here" paradigm.

Cost Justification: Electronic commerce falls into the category of "Be careful what you wish for, because you might get it." Since the Worldwide Web gives a company worldwide presence and exposure to a potentially global customer base, electronic commerce gives those global customers the ability to place orders – and therefore to affect business, sometimes in dramatic ways. Managers must ask themselves if they are ready for the onslaught that could occur if such a scenario were to take place. Too much business is a wonderful problem to have, but it can be catastrophic if improperly managed.

Vertical Market Segmentation: One factor that will allow e-commerce to succeed is the continued proliferation of businesses on the Internet/WWW, which will in turn provide a motivating factor for its use. Unfortunately, while many companies have a presence on the Web, few are using it as a commerce medium. The use density will increase, but until that time, successes will consist of a sporadic series of fits and starts. Until large businesses start doing business successfully on the Web, the vertical industries that support them will be sparse there as well.

Transnational Business: Multinational corporations (MNCs) are rapidly becoming more the norm than the exception in business today. As corporations redefine their markets to serve the world, they inevitably face a new set of challenges that stem from doing business globally. These include export restrictions, public policy concerns, transfer pricing, international taxation, trade barriers, protectionism, and a variety of others. Companies that implement e-commerce capability and that invite business from all corners of the world may be faced with a new set of challenges to deal with. In some cases there may be significant barriers to overcome; witness the current controversy over encryption software, a critical component of e-commerce, and whether it can be exported from the U.S. Under current law, it is classified as 'munitions' by the Department of Commerce, and is therefore carefully controlled.

Taxation: One particularly vexing issue that has yet to be decided is that of taxation enforcement. The ability to effortlessly and lucratively do business on the Worldwide Web has caused federal and state tax authorities to prick up their ears with interest: they

smell what they think is a new source of revenue. However, taxation of Internet commerce is to date a hands-off affair, much like the mail order catalog business in the United States. At some point the issue will be resolved, but as yet it is an unanswered question. The problem is exacerbated by the global nature of e-commerce; how can import duties be collected, for example, when the merchandise to be exported is a series of zeroes and ones?

Intellectual Property: Nicholas Negroponte observes in his book *Being Digital* that more and more, enterprises are making money by shipping bits around rather than by shipping atoms – a recognition of the fact that intellectual property is both a valuable commodity and a transactable one. Companies that are looking to do business on the Internet are therefore skittish about the safety of their product in such a wild and uncontrolled place. The degree of hysteria that exists over the perceived lack of appropriate security and safeguards on the Web is at an all time high; in fact, a significant barrier exists between consumers with money to spend and their willingness to do so on the Net. (We find it interesting that while most people are loathe to transmit credit card information over the Internet, those same people don't even blink when their credit card data goes zipping across the continent electronically, thanks to the magnetic stripe reader in the department store/restaurant/hotel).

Education plays an important role, and the better informed customers are about the relative safety of electronic commerce, the more willing they will be to try it. Education of the customers out there should be a matter of paramount importance for would-be electronic commerce implementers.

Payments: Closely related to intellectual property protection issues are those that revolve around getting paid. Organizations like EDIBANX, CommerceNet, Master Card/VISA, and others like them have gone to great lengths to not only secure the buy-in of key and influential players, but have identified the primary issues around which most concerns revolve. These include secure encryption and transmission standards, source and sink validation agreements, and non-repudiation guarantees, to name a few. Furthermore, such organizations have crafted a broad variety of payment techniques (discussed in another part of this article) which are both secure and imminently auditable. It must be remembered that e-commerce is still very much in its adolescence; it will be some time before large-scale, stable commercial infrastructures are in place on an Internet-wide basis.

Infrastructure Issues

Infrastructure Issues are closely related to their corporate cousins, and generally provide the underpinnings of corporate function. From the point-of-view of e-commerce implementation, infrastructure includes everything from physical network topology to details such as ordering, tracking, billing, and payment, as well as:

Standards: In this industry, we often observe that “the nice thing about standards is that there are so many to choose from.” That is certainly true in the e-commerce realm, as EDI, SET, JEPI, and a host of other would-be global standards jockey for pole position in the race to be first. The plethora-of-standards problem is not restricted to E-commerce,

however; there are just as many battles going on in the Internet application realm. Market players are skittish, and rightly so; commerce is serious business, and no one is willing to take a chance on anything short of a sure thing.

Interoperability: A great deal of work has been done to develop good electronic commerce components including ordering, billing, tracking, and payment software; computer and network components; secure transaction sets; search engines; network management systems; and a variety of cyber-money models. Comparatively little has been done, however, to ensure interoperability between all these disparate components. Many solutions remain proprietary, but as globalization continues and the need for interoperability grows, these vendor-specific solutions will disappear in favor of open standards.

Route Discovery: Being lost in the wilderness is not particularly fun, but that's the way potential customers can feel as they try to navigate their way through the maze of the Net to your site. The Internet is a dazzling array of information, ripe for the picking. But in its success lie the seeds of its own destruction, for so broad and diverse is the information that the ability to find a single, specific site successfully can be haphazard at best. The interworking that must be perfected between browsers, directory structures, agent software and a plethora of information sources is still in a seminal state, and will be for the foreseeable future. However, significant effort is being expended to make it happen, as this process lies at the heart of e-commerce's success.

Performance: Equally problematic for customer and provider alike is congestion at the host (information source) and in the network. Companies that are planning to implement electronic commerce as a means for their customers to reach them must ensure that alternative means are also available, because unlike the telephone, the fax machine or surface mail, there is as yet no guarantee of service on the Internet/Worldwide Web. Discrete network management skills can help to ensure that congestion is localized and temporary, thus minimizing the impact on the customer.

Personnel: While qualified technical personnel are required in companies implementing e-commerce to ensure that the physical infrastructure works properly, companies also need employees with commerce knowledge, customer service skills, business acumen, security skills, and marketing know-how. In the same way that a physical sales environment needs all of these skills at one time or another, so too does the cyber store.

Security Issues

Security Issues distill from the resolution of corporate and infrastructure concerns. Once the organization has reconciled itself to the fact that e-commerce is a reality and that its arrival will force cultural and business process changes and has put into place the necessary infrastructure improvements and modifications to ensure its success, then the security front line can be created. Security personnel must consider password protection, digital signature management, and deployment of smart cards (if merited), as well as logical and procedural considerations such as firewall permeability, the relative responsibilities and liabilities of partners (including network providers and ISPs).

Conclusion

Because of the enormous visibility that companies have on the Internet economic stage, it is incumbent upon them to exercise significant responsibility to educate their immediate customers specifically and the market in general. There is a great deal of hysteria, hype, and myth associated with electronic commerce, just as there always is with something new, especially something new that involves money. The ultimate goal must be to replace hysteria, hype and myth with reasonable concern, trust, and knowledge. Then and only then will e-commerce become a force to be reckoned with. And once it becomes an embedded phenomenon, it will take its place as a powerful driver for African businesses of all sizes, helping to give them the international economic presence that they so richly deserve.