



How the Knowledge Economy Will Transform Markets and the Producer/Consumer Relationship

The Knowledge Economy

The business world's preoccupation with information technology since the 1980s was an indication that the knowledge economy was beginning to assert itself. "Personal" computers enabled people to manipulate and create digital information and knowledge independent of computer administrators while the internally focused (LAN) network revolution during the 1980s enabled people to share information far more spontaneously than previously. This was followed by the externally focused Internet phenomenon during the 1990s which, because it employed standards-based technologies, exploded sharing and access possibilities. In the 2000s, advances in wireless networks are rapidly multiplying distribution possibilities.

Information technology creates the ability for enterprises to gather and manage information. Advances in software have been automating the management of information so that it may be applied to increasingly granular, specific uses. The management of information has led to the birth of the knowledge economy¹. Information Technology (IT) is the infrastructure of the knowledge economy.

For our purposes here, I shall define knowledge as information that is applied to a certain context to inform a human endeavor. Think of information as the raw material that must be transformed into knowledge by understanding the user's usage context. This is akin to iron being transformed into steel, but the usage context of knowledge changes rapidly, and knowledge is consequently much less durable. It is closely related to thought and is therefore highly dependent on the experience of its "user."

The knowledge economy is characterized by the application of digitized knowledge to every aspect of the economy. Of course, we humans have always created and applied knowledge to every aspect of our lives. However, our context here is the global enterprise to which non-digitized knowledge is of relatively limited interest because it is not scalable. The enterprise itself was born in the industrial economy, and its purpose has been to achieve efficiency through economies of scale and/or scope.

The shift from the industrial economy to the knowledge economy will engender profound changes to how people think and what value they assign to all aspects of their lives. It will transform the businesses that survive and give birth to many new businesses. The industrial economy enterprise has many management disciplines, which roughly correspond to business school courses: accounting, economics, finance, human resources/organization, operations and marketing. All of these disciplines will remain important, but marketing will become of paramount importance because it will offer the enterprise a lens through which to focus its knowledge of the industrial economy onto the knowledge economy.

From 2006-2015, we will see more changes in marketing practices than in the rest of the profession's history. Marketing will be in the vanguard of the shift from an industrial economy² to a knowledge economy, which will demand excellence in customer experience in order to achieve differentiation.

Working Paper

The shift from the industrial economy to the knowledge economy will change how people think and what value they assign to all parts of their lives. It will transform the businesses that survive and create many new ones.



Likewise, the globalization of markets is accelerating: emerging markets represent extraordinary potential, but addressing them will demand unprecedented innovation, which has never been a core competence for most enterprises. In a bright spot, ongoing CRM³ and BI⁴ initiatives, combined with continuing standardization of architecture (service-oriented architecture⁵) and messaging (Web services⁶, XML⁷), will begin to deliver the proverbial 360° view of the customer, which will be an enabler for this shift. These profound shifts present enterprises with elevated risks and rewards, and there will be poignant changes in the rankings of global leaders in all categories.

The Reality behind the Mirror: Customer Experience and Intimacy

The Customer Experience Imperative

The customer experience will be mandated from producer and consumer⁸ quarters. Consumers have product fatigue because there are too many choices with little real differentiation in many categories. Producers are creating unprecedented customer information, which they will explicitly use to create experiences. In fact, no customer wants a product or service anyway; rather, customers buy products and services in order to have emotional experiences through products or services. By making "customer experience"⁹ a strategy, leading edge marketers will try to differentiate themselves by explicitly helping customers to have experiences.

One quintessential example is Starbucks, which does not sell coffee; it offers a European coffeehouse experience along with fast food economics and predictability. More banal but equally profound: Amazon.com has changed the way many people buy books and other products. The company defines the e-commerce experience and affects consumers' expectations of service in retail. Designers of Web experiences have a metaphor for the "customer experience," which transcends any medium for it is all encompassing. The explicit customer experience focus is a megatrend that will transform business itself and usher in the knowledge economy because the differentiating value will be the information and presentation of the product/service, not the product/service itself as in the industrial economy.

Marketing will be the conduit through which business itself will morph from product-focused to customer-focused.

Modern Developments in the Marketing Discipline

In many countries, the height of the industrial economy was in the 1950s and 1960s. In the U.S., wartime industries were retooled for making consumer products (although far less so than after prior wars due to the Cold War). Boomers, whose parents had gone without during the war, unleashed their pent up demand. Television offered a then-cutting edge means to reach customers, and marketing as a profession developed quickly. The focus of marketing was on selling (manufactured) products to customers and, later, to "demographics." Marketing has generally remained product-focused rather than customer-focused. Marketers have focused on gathering and synthesizing better consumer information in order to produce more targeted profiles to which companies can market.

Marketing reflects the industrial economy and is due for discontinuous change so that it will be relevant in the knowledge economy. In being the closest discipline to the customer, marketing will be the conduit through which business itself will morph from product-focused to customer-focused. This will be an excellent time to be in or join the profession, but existing marketers must be willing to reinvent their role and activities because many assumptions in the marketing rulebook will change. The transition to integrated marketing is still not complete in all quarters, and changes slated for next ten years will be yet more challenging. Integrated marketing is the cost of entry for creating all encompassing customer experience.



Critical IT Enablers: CRM and BI

Marketers' focus on customer experience is emerging now because CRM and BI investments are beginning to make it possible. Helping customers to have experiences is a fairly intimate proposition. It requires knowing the customer, but that has not been a scalable goal from a corporate perspective. Enter information technology (IT). CRM attempts to gather information about customers that companies can use to determine what their experiences are, what affects those experiences and how companies can organize processes to increase pleasurable experiences (avoiding undesirable experiences isn't bad, either ;-).

The concept is that a customer's interactions with the company are inputs to the CRM system: calls, purchases, returns, responses to promotions and advertising; any measurable unique data. These are gathered and synthesized so that the company can track patterns that can be combined with other customers' experiences from which the company draws conclusions about consumer experience in general or for a certain demographic. BI focuses on interfacing with any kind of data repository, synthesizing data and presenting information in an actionable way so that decision makers are more effective. Together, these systems attempt to create a mechanized facsimile of intimacy. It's the only kind that's remotely scalable. For a vision for how it will eventually work, look at Amazon.com and its collaborative filtering technology. The more you shop at Amazon, the more rich the profile it develops. It compares your profile with similar people to create composite profiles from which it suggests products from categories you habitually buy. This is scalable, and the more information, the better the suggestions and the more sales.

The 360° view of the customer is still years away from most enterprises despite significant CRM and BI investments, but it is drawing steadily closer as capabilities increase and bridges are built among islands of automation (isolated systems). SOA and Web services make it easier to exchange data among various disparate systems, consolidating myriad instances of customer information that still exist (billing, service, sales systems all have separate records on you, and they don't match).

However, having the 360° view is not even half of the battle. The truth is, *knowing* customer likes doesn't do any good by itself; the company must be able to *act on* the knowledge. Keeping in mind the company's trade-off between efficiency and customer delight, it must then engineer business processes to empower employees (or agents) to respond to the customer information. Information without action effects no change. This is a far more difficult proposition.

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The Inherent Conflict between Efficiency and Customer-focus

One reason that companies will have a problem with the transition to customer-focus is the intrinsic dilemma between efficiency and innovation. According to Ronald Coase¹⁰, the godfather of transaction costs, the economic rationale for the enterprise is its ability to deliver products and services *in a superior way* by controlling business processes within the enterprise, which is the legal owner of its processes. For most of the history of the enterprise, "superior way" meant good quality at a lower cost. Efficiency was the hallmark of the enterprise during the industrial economy, and most companies specialized in product line extensions because they wanted to offer novelty while amortizing their investments in creating the product in the first place.

Being customer focused conflicts with efficiency. "I want to be treated like a person, not a number," thinks the consumer, but a machine can't treat the customer as a person. Only a person can do that because only a person can care and have an emotional relationship with another person. Shopping at your favorite boutique or bookstore used to give the customer that feeling. Overall, however,



customers continue to vote for efficiency with their pocketbooks: independent stores continue to fail in increasing numbers.

The Transformation of the Producer-Consumer Relationship

Two forces are transforming the relationship between consumers and producers. The first is that the industrial economy with its emphasis on products is drawing to a close. The industrial economy drove unprecedented growth in wealth in many parts of the world. Virtually every industrial process has been relentlessly improved, with the result that real prices for products in every category have consistently dropped significantly, which has increased product penetration in consumer segments.

Second, the pervasive adoption of the Internet is enabling a shift in market power away from producers in favor of consumers, which will make collaboration among producers and consumers possible. In a market of buyers and sellers, the party who controls information has an important advantage. Throughout modern history, producers controlled information because consumers were not connected with each other, and connections that existed depended on geographical proximity. Information about product performance and customer experiences was, before the Internet, largely gathered and controlled by companies. It was very difficult for customers and prospects to get sophisticated information to inform themselves about products/services and substitutes.

The Fin de Siècle Industrial Economy: Producer View

Today, producers in virtually every category face overcapacity and commoditization. Many industries are frenetically searching for new markets. This is a relatively new phenomenon: throughout the industrial economy, scarcity reigned, and consumers eagerly awaited not only new products but new product categories. Producers "offered" new products and categories to consumers, and they calibrated line extensions to meet efficiency goals and provide novelty.

Information and interaction drives product/service life cycles because information affects consumers' perception of value and producers' insight into emerging consumer desires; the more information and interaction, the shorter the life cycle. Since there was relatively little information available to consumers in the industrial economy, product life cycles were long relative to today's. What information existed was pushed from producers to consumers.

Part of what happened during the industrial economy is that huge swaths of human work became encapsulated in products and productized services, and specialization of work became the rule. For example, even fifty years ago, virtually all meals were made in the home, machines and appliances were often repaired at home, and many things were built in the home. Even many gifts were made rather than bought. Today, food preparation has been productized, and many restaurants serve productized foods. For most households, today's "home cooked" meals typically involve selecting, configuring and invoking packaged foods, which minimize preparation time. Consumers make very few things that are not related to work. They have very specialized work compared with those during the majority of the industrial economy, and they exchange their specialized work for an increasing array of products.

Producers have carried one of the great lessons of the industrial economy to its zenith: economies of scale have pervaded every function of the enterprise. Consolidating vendors and suppliers extracts better terms and lower prices. Huge advertising buys bring preferential terms across multiple markets. Innovative start-ups function as research and development: they are bought when their

Interaction drives product/service life cycles because it affects consumers' perception of value and producers' insight into emerging consumer desires.



offering begins to be relevant. Production is optimized across global theaters. Capital is sourced and moved seamlessly around the globe.

The problem is, producers' huge, efficient systems largely function through tightly coupled business processes that feature exacting performance criteria. There are large costs in having these huge interlocking processes and systems. When volume falls, the fixed cost nature of these large systems reveals itself. Having global financial, marketing and operational systems requires immense maintenance and operational costs. Using a capital-intensive production plant as a metaphor, these systems are extremely inexpensive to operate when the operational cost is divided by high unit volume. When volume falls, however, costs rise astronomically. The point is, maintaining volume has become an end in itself in most areas of the enterprise. This makes these global enterprises very inflexible; they are imprisoned by their volume requirements. The industrial metaphor has pervaded the entire economy and the ways in which executives think. It has brought unprecedented wealth, but it has also led enterprises to focus on their operational realities first and customer experience second.

Within an environment of plenty, consumers are less satisfied with products, and experience will increasingly differentiate products and services.

The Fin de Siècle Industrial Economy: Consumer View

The industrial economy was predicated on bringing products to consumers, it has fulfilled its mission, and the consumer market is saturated in general. Today's consumers have reached a point of diminishing returns in many categories: they have few durable relationships with many products and often shop price exclusively. They are bored and jaded because they have exchanged experience and intimacy for low prices and product features; many post Boomers¹¹ do not know anything else. Most relationships companies have with customers are through products and brands, not intimacy.

Intimacy traditionally developed at the shop level. Consumers knew the people at the shop for years who understood the context around their customers' experiences because they lived in a town, and they shared a common destiny. A shopkeeper could treat a customer "like a person" because s/he was empowered to enhance customer experience. Today, however, how many times have we all heard, "I'm sorry, that's against company policy" from unempowered sales or service clerks? Unfortunately, this is the rule, not the exception. These remarks are all too often perceived as inane and nonsensical because the customer does not understand the web of enterprise consequences that the exception s/he wants will entail. The scale of enterprises is so much greater than people; try standing at the foot of the Sears Tower and looking up. Compare the view with that of the neighborhood dry goods store. The scale is unimaginable for most consumers, which often leads to alienation and frustration.

Consumers' expectations have diminished, with boredom setting in with many categories, but the growth of the Internet and e-commerce has begun to raise expectations in some areas, and consumers respond quickly to innovation. They are getting accustomed to discontinuous change in an increasing number of industries. The Internet has changed the balance of power to the point that enterprises are wearing no clothes. (if you have any doubts, ask any of the convicted CEOs whether their companies are becoming transparent or not ;-). The more information in a market, the more dynamic and efficient it becomes.

A quintessential example of the Internet's giving consumers a voice is the practice of customer reviews for an increasing range of products and services. Pioneered by Amazon.com, this feature enables any customer to discuss his/her experience with that product, and the reviews can be read by

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millions of other customers around the world. Moreover, the reviews are integrated into the buying process so that the information is available when it has the most impact.

This is revolutionary on many levels, most of all because it is peer to peer, without interference or monitoring, beyond decency ground rules. Moreover, customers also rate reviews for their usefulness, giving other readers the benefit of peer review¹². The context around reviews is much closer to customers' points of view, and diversity is far greater than focus groups, which are notorious for sterility.

Transformation via Consumer Pull

Consumer to consumer interaction via the Internet is driving emerging, profound changes in the ownership experience for an increasing number of consumer products: automobiles, furniture, books, appliances, antiques; the list is long and getting longer. In the industrial economy, consumer products were imbued by novelty, which had overtones of progress, modernity and mechanical automation.

However, the burgeoning consumer society has become as become synonymous with the "throwaway society." Why? One reason was that there has never been an efficient secondary market. If the average consumer lives in a metropolitan area of fewer than 100,000 inhabitants, how many other people would like a red couch, a 1946 set of Hardy Boys or a '59 Chevy?

The cost in terms of time and money of finding a buyer was high, which kept resale value low. Today, however, efficient secondary markets are developing, and this has the potential to completely change the ownership experience across a broad swath of product categories. It will enable more product customization because durable products' resale value should increase, even for specialized products, all else equal.

Currently a small but growing portion of all consumers participate in the secondary markets, but this will increase over time as service providers and tools enter the market to manage risks on executing transactions on-line. This is clearly a development that is driven by the network effect: the more participants, the more efficient the market will become.

Significantly, the growth of an efficient secondary market may be perceived by producers as a threat because it may eventually cannibalize sales of new products in some categories. However, it will enable increasing product specialization (and high unit margins) as well: I can go ahead and order that chartreuse Mini with striped upholstery now because the Internet will enable me to reach the other 25 people in the country who will want it two years hence when I'm ready for something new. Therefore, products companies may well regain more of the craft element that preceded mass production, but they will do it extremely efficiently. Significant opportunities lie in building secondary markets, but these will emerge as e-commerce penetration continues.

Consumers are getting more sophisticated at finding, integrating and managing information for their personal use, and groups of consumers can "meet" on the Internet, share information and collaborate on decision making.¹³ This will increasingly make consumers more viable partners for producers, with whom consumers will collaborate to design and manage their experiences. To imagine this, think about GM's OnStar, which drivers can enable to wirelessly report the performance of their cars. This enables GM to monitor, in real-time, hundreds of digital, computerized functions in the car and to assist the consumer in managing the performance of the vehicle. It is a short step to soliciting consumer advice on myriad topics. Another example is Open Source software development in which developers, including thousands from enterprises that compete fiercely with each other, globally collaborate on developing software that is free and available for anyone to use.

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Consumers and producers are converging around increased information exchange. The rhythm is collaborative. Enterprises that understand and embrace this trend will gain a tremendous competitive advantage, but this will require new thinking. The industrial economy mindset is that producer experts invent products that are created, distributed and sold to consumers. Insight into customer wants is developed by gathering the numbers and interpreting what they mean, as well as through focus groups. Collaboration technology increasingly makes one to one collaboration with consumers scalable, where it was not before.

Transformation via Producer Push

Producers will increasingly be forced to differentiate their products by focusing on customer experience. This trend will play out within the next five to ten years, as offshore-produced products continue to drive prices of commoditized products down. Producers in high-cost countries will find it to be increasingly difficult to compete according to the product-focused, industrial economy rules. On the other hand, each culture has an inherent advantage in providing customer experience to its own market because cultural insight is required to provide satisfying experiences. Similarly, huge developing markets in China, India, Indonesia and Africa may prove to be out of reach for western companies unless they find a way to develop the keen cultural insight necessary to provide satisfying experience to these cultures. Their traditional model, buying local firms, will be difficult: there are few firms to buy because marketing has not been widely practiced in the sense that they are used to; this will develop iteratively within the markets in the years ahead. Consequently, there will be significant opportunities to collaborate with local knowledge as it emerges to fuse it with global marketing practices to create culturally specific insight and practices appropriate to those markets.

Each culture has an inherent advantage in providing customer experience to its own market... developing markets may prove to be out of reach for western companies

The companies that integrate customer information and create intelligent, customer-focused business processes will see customers flock to them. The most cutting edge enterprises will involve customers directly in designing products and services by creating direct interactions with designers, and these will be a far cry from today's vapid focus groups.

At a fundamental level, all market participants have to have a sustainable pattern to survive. Producers have to make a reasonable profit, and consumers must obtain reasonable utility from the products and services offered by producers and providers. The increased quality and amount of information will make markets more efficient, which will benefit both consumers and producers. The power shift from producers to consumers sounds zero-sum, and indeed it will be for the enterprises that do not understand the knowledge economy and how they must adapt to succeed.

The Innovation Engine

Emerging Knowledge Economy Characteristics

In summary, the knowledge economy proposes the following traits to global enterprises:

- Producers will have increased depth and breadth of information about customers due to CRM and BI systems, and such systems' integration with legacy systems due to new architectures and messaging standards.
- Producers will leverage this information to explicitly help consumers to have experiences through products and services.
- Business processes, enabled by more flexible IT, will become more agile.



- Consumers are increasingly jaded and alienated by a surfeit of products and lack of intimacy, and this drives commoditization.
- Consumers will be increasingly information-enabled and will interact with each other and enterprise systems to serve themselves.
- Product life cycles will continue to shorten due to increased information about products, substitutes and experiences.
- To survive, producers must change their emphasis from efficiency to innovation. To compete, they must remain efficient, but their survival will depend on developing and maintaining an unprecedented level of innovation.

Critical Innovation Gap

With the increased consumer peer-to-peer interaction, one can say that consumers *collectively* discover a product's value, and they consume it as a group. It rapidly loses its mystery and appeal. On the other side, astute enterprises can transform this rich information into new products quickly. This trend is in its infancy and will accelerate markedly with the emerging generation that grew up on the Internet.

This situation demands innovation in order to not only survive but thrive in the knowledge economy, where information about the underlying product is often more important than the product itself, at least in the product's perceived value and differentiation. Today's hot product has a very short lifespan also because the supplier market analyzes its success, applies new technology or a new business model or service or experience to change the collective perception of value.

The problem is that few companies have ever developed a true competence in innovation. Today, companies try to practice innovation with a corporate mindset, using industrial processes of elimination to sort ideas. This is because innovation was practiced rarely during the industrial economy because information exchange was less and product life cycles were long.

Since 96% of corporate innovation initiatives fail¹⁴, enterprises must drastically rethink their approaches to innovation. This is not a trifling proposition because innovation contradicts the corporate instinct, which is to create value through economies of scale and efficiency. Industrial economy companies are imprinted with the impulse to leverage the high fixed costs of capital equipment. Stopping production is a very expensive proposition that must in most cases be avoided at all costs, even if what is being produced is not exactly what the customer wants most. It may well be more advantageous to produce, distribute and sell at deep discounts than to stop the line.

Of course, innovation can take place in many areas of the enterprise. However, I believe that all its forms will have to have a solid line to customer experience. Enterprises are becoming more transparent to consumers, so they had better have a lucid strategy for tying all their activities back to the consumer.

Innovation Source: Shortening Time to Market

The enterprise needs a process to turn increasing information assets into increased consumer engagement and satisfaction. Customers prize novel products that encapsulate insight into their changing lives; however, satisfying rapidly changing tastes will require agility and loosely coupled business processes by which enterprises can gather relevant information, design new products, services and experiences and produce in short life cycles.

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The gap in information about what consumers wanted used to slow new product development, but today producers' antiquated, linear business processes are the bottleneck. In order to shorten delivery of new products, producers can apply lessons from the transformation of enterprise software, which has traditionally been developed according to a linear, long structured development cycle that was successful during the industrial economy because business requirements were more stable. Object-oriented development revolutionizes software development by creating an architectural structure that enables modules (objects) to be developed concurrently within a flat organizational team structure. Due to the architecture and structure, modules encapsulate complexity and interact via standardized interfaces. The development process is far more interactive, delivery cycles are shorter, and changes are accommodated much more easily. It is possible to apply these principals to product development and management.

Innovation Source: Partnering with Consumers

Today, producers have many levels of intermediaries between themselves and consumers. This used to be necessary because information was so difficult to get, analyze and present. Today, transparency is the rule, and producers can get good, reliable information directly from consumers. As many producers apply increasingly agile software to their offices and plants, they will increasingly gain the ability to make to order. The stage is set for producers to partner with consumers to produce what they want. This will be a revolution for both producers and consumers, and it will require a change in mindset on both sides.

Innovation Source: Discovering and Integrating Emerging Knowledge

Observing the development of emerging consumer markets in China, India, Indonesia and others, it is clear that the context of consumers' usage of products and services will differ significantly from that of producers' traditional markets. To address emerging markets, producers will need to develop processes to discover consumer needs and wants, and to create products and services to respond. Admittedly, these markets are nascent, but it is obvious that they will mobilize, and they will represent an inordinant portion of global demand in the years ahead.

Today, producers can begin by creating processes to engage consumers in their home markets to design products and bring them to market rapidly.

Transparency is the rule, and producers can get reliable information directly from consumers... the stage is set for producers to partner with consumers.

Current Innovation Example: E-Commerce

The old joke about commitment being like a ham and eggs breakfast certainly applies to producers and consumers in the industrial economy (the chicken [consumer] is involved, but the pig [producer] is committed). A large part of producers' inflexibility is due to the fact that they are committed to bits at all stages of production and distribution: inputs, inventory, safety stocks, unsold goods, returns... the whole catastrophe, as Zorba says. These commitments are in many cases more important to producers than putting the customer first, and they represent a critical barrier to industrial economy companies' intimacy with consumers.

E-Commerce is steadily liberating producers from this dilemma in many categories. Let's take a banal example. Probably most readers have shopped at "Earth's Biggest Bookstore." For many people, it defined the e-commerce experience. From the comfort of one's own desktop came almost limitless variety; in the consulting business myself in the late 90s, it was integrated into my workflow. On engagements, books were mentioned, and they were ordered instantly, delivered next day. There was virtually no possibility that the book was not available. Since those early days, it has only gotten



better because used books are integrated into the offering. Virtually no book, CD or DVD is out of print anymore. "Foreign" products are also increasing, although outmoded licensing/distribution agreements puts a damper on a truly global market.

The point is, once consumers experience predictable sales and self-service on-line, their expectations are fundamentally changed. Suddenly it is intolerable to call the phone company and be transferred to innumerable departments after being on hold for who knows how long to change one's address or to rectify a billing issue. One thinks, "If they can help me to do these things almost instantly whenever I want, why can't they?" This is not intimacy yet, but it empowers the consumer to service him/herself, a very powerful change in the provider/consumer relationship. For one, it is more collaborative. It gets the consumer more involved in the business process; there is no longer a human intermediary in many cases; the consumer interacts directly with the producer's systems.

From a product perspective, Chris Anderson's *The Long Tail*¹⁵ makes a strong case for a revolution in product life cycles. He shows the economics of "hits" and campy exceptions. One of his key ideas is that, due to the burden of the distribution of bits products, enterprises could not afford to support or market products that had no chance (based on focus groups and marketing analysis of similar products) of becoming mainstream, huge hits. Anyone in the business will tell you that distribution, returns, shrinkage, breakage and capital costs of bits products are huge. Distributing *La Mina* to record stores across the U.S. is not worth it because there are not enough Europeans to recognize and buy it. More poignantly, India has very vibrant film and music industries, and there are many Indians in the U.S. However, distribution costs prevented retailers from carrying any of the titles because a store only pulls from a small radius around its location, and the density of Indians was insufficient, save for a few pockets in Silicon Valley. On the Web, however, millions are sold nationwide, profitably, by aggregating demand because shelf space and distribution costs are minimized. The distribution center can be in a rural area where land and labor are cheap. In this scenario, shelf space is infinite; the producer/publisher has infinitely long to make its nut of 100,000.

For many bits products, (e-commerce) aligns producers and consumers because it frees producers from the tyranny of retail and distribution costs.

For many bits products, this fact aligns producers and consumers because it frees producers from the tyranny of retail and distribution costs.

Distribution cost is largely variable cost incurred at the time of order, and often paid by the consumer. Of course, the e-commerce model does not work for all products and services; it excels especially with highly standardized products and services. But that includes many products that consumers buy. I expect its portion of total consumer products to increase steadily.

Another instructive example is Dell Computer, which makes products to order and gets paid by customers before it pays its suppliers. Of course, it is not feasible to make everything to order, but many products could be that are not today. Some potential examples: consumer electronics, furniture, cars, and even certain apparel items.

Near Future Innovation Example: Mass Customization

E-Commerce offers an efficient mechanism for the exchange and servicing of standardized, often commoditized products. It is a means to make the still chiefly industrial economy model more efficient. In mass customization, producers approach building products to customer specification. This is revolutionary in several aspects because it mitigates or avoids the "make, then sell" pattern. Continued technological advances in supply/demand chain and production are bringing the build to order model closer to reality. This will feature offering the consumer more choices to customize



products. With customization comes the opportunity to lead the value proposition with customer experience.

An excellent example is Harley-Davidson's approach to engaging consumers with the ownership experience. Motorcycles are marketed according to several value propositions: for transportation, leisure, luxury, and status. However, Harley-Davidson focuses instead on "living a dream." It is akin to riding your horse into the sunset. The company's efforts at mass customization are growing steadily, but it offers extensive customization potential with accessories and custom bodywork to enable the consumer to "make the bike his/hers." Another key component is connecting with other people and sharing the experience of having a bike and going on rides. Obviously, Harley-Davidson is a unique example, but it shows that before and post-sale customization can be relevant to enhancing consumer experiences.

Especially relevant to durable goods, the Long Tail phenomenon will have a significant impact on customers' willingness to customize products, especially when consumers want to own the product for a shorter time period than the life of the product. Depending on the life of the product, a "vintage" or antique market can develop long after its contemporary life is over.

Consumers may be more willing to order a hot pink washer and dryer when they know that they can resell it three years later when it gets on their nerves. In many cases, the more outlandish or unique, the higher the resale value might be. We could even see consumers going into business by creating highly unique customized product combinations with the intent to resell them. In this case, we could perceive it as the consumer utilizing the production and customization capabilities of the producer to create a business. Consumer experience will explicitly demand customization and novelty as companies begin to deliver.

There are myriad other possibilities that already are reality. Millions of people make their living by trading on eBay. How many people buy CDs and DVDs, listen/watch them and resell, rather than renting? An increasing number.

Transourcing

Transourcing is a new approach to innovation that enhances enterprise flexibility by executing processes over quickly configurable partner networks. It emphasizes cross-boundary collaboration and fast-cycle innovation to address the needs of volatile, splintering, newly empowered customer groups.

Transourcing recognizes that organizations cannot achieve repeatable, rapid innovation and persistently differentiating customer experience by relying on internal resources. It builds repeatable innovation processes, using internal and external resources, while it delivers breakaway. and and scalable collaborative networks that deliver

Transourcing is an iterative approach with a two-fold value proposition. It creates and delivers distinctive customer experience in the short-term by orchestrating multidisciplinary injecting innovation into product/service development and customer service

while it builds the capability to

to addressing global organizations' need to significantly enhance their ability to innovate. It delivers tactical value by building open collaboration capabilities through initiatives that address high value customers. It focuses on developing the capability to orchestrate the activities of partner networks that focus participants' diverse, complementary expertise on the orchestrator's customers.

The industrial enterprise needs a way to transform itself so that it is less beholden to driving immense quantity through its unwieldy organizational structures.



Transourcing denotes an iterative approach to unbundling the enterprise in which outsourced processes produce profit for the organization while they decrease its organizational size and enable it to become more adaptive. The term also specifies the stage of market adoption at which the enterprise has transformed itself from process owner to process orchestrator, and outsourcing becomes so common that it ceases to exist as a distinctive practice.¹⁶

Along with innovation, Transourcing will be a critical tool in transforming the enterprise so that it can thrive in the knowledge economy. Transourcing is pragmatic because it simultaneously addresses tactical, operational goals as well as strategic goals. The industrial enterprise needs a way to transform itself so that it is less beholden to driving immense quantity through its unwieldy organizational structures. Consumer markets in all areas are splintering, volatility of demand is accelerating and producers that cannot be profitable by producing smaller lots will eventually perish.

Transourcing should have board-level visibility because outsourcing will be a required core competence for most global enterprises that require unprecedented flexibility. Highlights include transforming tightly coupled command and control processes to loosely coupled processes. This is accomplished by encapsulating complexity within outsourcing partners and specifying outcomes but allowing partners to innovate to meet them how they see fit. It is also critical to standardize interfaces among members of the partner network so partners can be invoked and reconfigured easily, which will produce agility.

Notably, developing the competence to create and manage a loosely coupled partner network¹⁷ will give enterprises an approach to sourcing emerging capabilities that are crucial to their businesses but that are too complex for the enterprise to develop internally. Where enterprises today acquire companies with desired competencies, they will partner in the knowledge economy to preserve agility. Most M&A transactions have dubious value on a good day because industrial economy enterprises' tightly coupled processes are very difficult to integrate, and integration and cultural factors end up leaching the value out of most deals.

A loosely coupled approach will provide desired competencies while maintaining agility. One only has to look as far as object-oriented systems, which depend on (often) standards-based architectures and standardized messaging interfaces to provide robust (distributed) applications. Invoking functionality within objects is relatively simple. To complete the metaphor, business partners are objects that encapsulate processes and information, and they are invoked by standardized messaging (contracts, agreements). Making this work requires astute business architecture.

Conclusions

The Knowledge Economy

- Continued advances in information technology have created the infrastructure for a post-industrial economy, the knowledge economy. Modern software and networking enables producers and consumers unprecedented ease in creating and sharing digitized knowledge.
- The knowledge economy will abstract away from products and services and focus instead on consumer experience itself, using products and services as props to that end.
- Increased information exchange will accelerate the shortening of product life cycles and the trend toward commoditization. This trend will also apply to services.
- The efficiency-focused competencies of the industrial economy enterprise will remain important to competitiveness, but efficiency will increasingly be the price of admission. Differentiation will be won through experiences, which are defined as the customer's emotions engendered by interacting with the enterprise.



- Marketing is a core competency that will increase significantly in importance in the knowledge economy because it is closest to the study of customer experience. However, the "efficiency" competencies function as inputs into customer experience.
- Many emerging markets will skip the industrial economy entirely and will pass directly to the knowledge economy from the agrarian economy. This will produce surprises and nullify many industrial economy assumptions.

Customer Experience and Intimacy

- In the product-focused industrial economy, producers maintained margins through creating "new" products with new feature combinations. This product-focused strategy is untenable in the knowledge economy because increased information sharing among consumers enables collective consumption of everything, which dispels the mystery of novelty. Secondly, information transparency among competitors makes it exceedingly difficult to maintain uniqueness.
- CRM and BI investments, combined with advanced architectures (SOA) and standardized messaging interfaces (Web services), will enable the 360° view of the customer at many companies within 3-5 years.
- However, companies will struggle with acting on the information because their business processes and organization structures need to be transformed. Empowering customer-facing employees with decision making authority as well as customer information will be required to enable differentiating customer experiences.
- "Experience" refers to a customer's impressions while interacting with a company. The most useful metaphor for experience is a customer's interaction with a company's website because designers must understand and anticipate what actions a customer will want to take and design them as possibilities. Enterprises must expand this meaning to include all of a customer's interactions with the company. This is distinct from the entertainment-oriented "experience" presented in "The Experience Economy," which is far more specific and limited in application.
- Scale and efficiency generally defined success in the industrial economy, and this success is imprinted on companies. This imprint will be a significant barrier to enterprises' adaptation to the knowledge economy because success in the latter will be driven by innovation. Innovation has intrinsic conflicts with efficiency because the former often means discontinuous change.

The Transformation of the Producer-Consumer Relationship

- The knowledge economy will see a transformation of roles between all parties in the economy. It will be characterized by extensive collaboration in which buyers will tap into sellers' resources to participate in the design of the products and services they want to buy. Likewise, sellers will tap into buyers' knowledge about experiences and emerging desires. This will benefit buyers and sellers immensely and bring unprecedented wealth.
- The industrial economy brought unprecedented efficiency over the agrarian economy due to pervasive mechanization. Similarly, the knowledge economy will bring a quantum leap in efficiency over the industrial economy as all players in the economy gain competence in creating, managing and sharing digitized knowledge.
- The industrial economy was characterized by a "produce then sell" rhythm in which consumers and producers were largely isolated from each other. Limited interaction took place via focus groups, analysis of buying patterns and advertisements. There were many intermediaries between the producer and the consumer. There was no scalable means for consumers to connect with each other or with producers.
- Today, producers in almost every category strive to find new markets because they face chronic overcapacity and brutal commoditization. This indicates the waning of the industrial economy.



- To deliver efficiency and economies of scale, enterprises became very large, complex and inflexible. Their large structures are only viable when large volumes are maintained, and this is their Achilles heel in the knowledge economy, where consumer tastes change rapidly and consumers want individual treatment.
- Consumers are becoming increasingly sophisticated at gathering and analyzing information and creating and sharing digitized knowledge. In so doing, they are developing the skills to interact with producers as equal partners. The producer knows more about factors of production and distribution, but the consumer knows what s/he wants and why—and what others want.
- During the past forty years, consumers have traded intimacy for lower prices. Local shops were high touch venues in which shopkeepers were empowered to make decisions on behalf of customers, and experience satisfaction was higher. Today's malls and chain stores provide better products at lower costs, but little intimacy. Consumers are increasingly bored and respond to intimacy, which is higher-level experience.
- E-commerce innovations such as customer reviews are giving consumers a powerful voice to connect with other consumers. Peer-to-peer, product-specific communication is revolutionary due to its scale. Notably, it is also a gold mine for producers in terms of learning what consumers like and why. This is an early example of consumer and producer collaboration.
- Secondary markets like eBay will continue to grow, and they will transform the economics and characteristics of products. Consumers will create more unique products because they will be able to command a higher resale value through increasingly efficient secondary markets.
- Producers in rich countries (with high costs relative to emerging markets) will be forced to differentiate through experience to compete. Each culture has an inherent advantage in creating satisfying experiences for the home culture due to cultural insights. This same principle will make it more difficult for western enterprises to succeed in emerging markets.

The Innovation Engine

- If we define innovation as measured risk-taking and using new thinking to create an advantage, we can see that innovation will be a cornerstone of competitiveness in the knowledge economy, which features extensive collaboration, short product/service life cycles and collective consumption.
- In the industrial economy, human work became encapsulated in products and productized services, which included insight into consumers' lives. In the knowledge economy, digitized knowledge will add to producers' insights into consumers' lives; hence the ability to focus on experience, which is iterative.
- Producers will have to innovate to create new processes that offer unprecedented agility, speed of response. New offerings will combine insights into consumers' lives as well as producers' capabilities to alter terms of the delivery of products/services to offer superior experience.
- Innovation is a weak spot for most industrial economy companies, which is not surprising considering the industrial economy's long product life cycles. Currently 96% of corporate innovation initiatives fail. Companies must rethink their approaches.
- A key method for producers to create agility is to remove barriers to consumers; the current database analysis and focus group approach is far too limited for the dynamic knowledge economy. The producer must disintermediate its levels of management and improve transparency between itself and consumers.
- To transition to knowledge economy thinking, producers must challenge themselves to think more deeply about customer experiences with their products/services. Engaging directly with consumers in several venues will be key to success.



- A key challenge will be organizational opposition. Most marketers and agencies will say that they are already engaged with all the segments that matter and that they market products within the context of customer experience. To win over the marketing organization, it will be crucial to introduce them to examples to show the new paradigm. Also hearing directly from consumers outside normal planned activities like focus groups should be eye-opening.

Transourcing

- Transourcing is a new phase of outsourcing that will help enterprises to introduce widespread flexibility at the business process level by executing processes over quickly configurable partner networks.
- Enterprises' increasing choice of how to structure and execute their processes will enable them to redefine their operations so that they can better align themselves with customer needs.
- In later stages, Transourcing will emphasize acquiring capabilities to fulfill the needs of customers in emerging markets.
- The global consumption of the world's products and services is rapidly becoming more integrated, but it will be unrecognizable within a few short years. The size of China's middle class is already greater than Germany's, even though it represents a miniscule fraction of China's current population.¹⁸



About the Author

Christopher S. Rollyson has been a technology and marketing visionary and pioneer for over fifteen years, with distinction in corporate strategy and innovation. As a consultant and marketing executive, he has had a leading role in launching such game-changing offerings as: Java with Sun, e-business strategy with PwC Consulting, and SOA, Web services and architecture solutions with nVISIA and IBM. In 2006, he launched Transourcing™ and Pervasive Outsourcing™, a new approach to innovation that leverages high performance collaborative partner networks. He currently works with global companies to drive innovation-led growth and to engage emerging markets.

Recently the Vice President of Marketing at nVISIA, he developed executive marketing programs and service offerings to drive the value of software transformation through service-oriented architecture and Web services. Previously a subject matter expert for e-business and knowledge strategy in PricewaterhouseCoopers' Strategic Change practice, Mr. Rollyson developed original models and services frameworks for e-business strategy consulting. He consulted to clients in automotive, software, telecoms, consumer electronics, chemicals and petroleum industries, advising global enterprises in e-business strategy and technology start-ups on innovation and business strategy. Prior to PwC, he led marketing for KPMG's Midwest High Technology practice, where he built one of the firm's first intranets to transform the marketing organization to a real-time team. Before that the head of marketing at a leading edge Java consultancy, he played a key role in co-launching Java via marketing alliances with Sun and Netscape. Mr. Rollyson has done graduate work in strategy and economics at the University of Chicago, with additional studies at Die Freie Universität Berlin and L'Université de Clermont-Ferrand in France. He earned his undergraduate degree from Kalamazoo College.



End Notes

¹ The knowledge economy lies on top of the industrial economy and the agrarian economy. Also see, "The 3.x Economies," *The Global Human Capital Journal*, <http://www.globalhumancapital.org/archives/64-The-3.x-Economies.html>

² The industrial economy began with the Industrial Revolution (1760) and continues through this day.

³ Customer Relationship Management systems gather factual information about customers' interactions with the company.

⁴ Business Intelligence systems pull information from disparate sources and present it so that it is actionable for decision makers.

⁵ Service-oriented architecture and systems make their services (resources, software components) available in a structured format that describes their capabilities and how to access them. Other parts of the system (or other systems) can request those services on demand but have no power to modify them, which ensures that their capabilities always remain available to any and all other "consumers." This loosely coupled, on-demand assembly of resources has the advantage of being highly adaptable to change.

⁶ Web services are a standardized way of integrating Web-based applications using the XML ,SOAP ,WSDL and UDDI open standards over an Internet protocol backbone, eXtensible Mark-up Language.

⁷ eXtensible Markup Language (XML) is pared-down version of SGML that is designed especially for Web documents. XML allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.

⁸ "Customer" as used herein is usually applicable in a B2C and a B2B context, as is "customer experience." "Consumer" and "producer" usually connote a B2C context but here can be also meaningful in a B2B context. For simplicity and brevity, I have not specified this in each instance.

⁹ By "customer experience," I refer to something greater and more abstract than Pine and Gilmore's "The Experience Economy" (*Harvard Business Review*, July 1998, which pertains to creating "experiences" with entertainment overtones. Because we humans have consciousness, everything we do is an experience. I do not believe, as Pine and Gilmore suggest, that human beings want companies to create "experiences" for any but limited situations. I have an experience with my car when I have a flat tire. Whether I use the jack or the road service, this experience will affect my perception of value of the car. When I log onto a website to change my billing information and it no longer recognizes my profile because I haven't logged on in over a year and, moreover, it will not allow me to recreate my profile (because it belongs to somebody else, me!), that affects my experience of the company in general. I may be extreme, but I am likely to reject a company providing a commodity service based on such an experience.

¹⁰ <http://coase.org/index.htm>

¹¹ The "Baby Boom" denotes the sustained and substantial rises in fertility after World War II from the depressed levels of the prewar period, especially in the United States, Canada, Australia, and New Zealand.

¹² For another, more profound discussion of this phenomenon, see James Surowiecki's *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*, http://www.amazon.com/gp/product/0385503865/qid=1139007916/sr=2-1/ref=pd_bbs_b_2_1/102-6984136-7139328?s=books&v=glance&n=283155

¹³ See "Surprises in Emerging Chinese Consumer Market," *The Global Human Capital Journal*, <http://globalhumancapital.org/archives/94-Surprises-in-Emerging-Chinese-Consumer-Market.html>

¹⁴ Doblin, Inc., <http://www.doblin.com/TeamIndexFlashFS.htm>

¹⁵ http://longtail.typepad.com/the_long_tail/

¹⁶ For a more complete treatment, see "Transourcing Will Transform the Enterprise and Drive the Emergence of a Global Human Capital Market," Christopher S. Rollyson, <http://www.rollyson.net>

¹⁷ Read about landmark work and tactics by John Hagel and John Seely Brown in *The Only Sustainable Edge*, http://www.amazon.com/exec/obidos/tg/detail/-/1591397200/qid=1132269417/sr=8-1/ref=sr_8_xs_ap_i1_xgl14/002-1519655-4601633?v=glance&s=books&n=507846

¹⁸ *The Wall Street Journal*, "High-End Fashion Labels Woo the Rich and Finiscky," September 26, 2005