# Industrial revolution: definitions, causes and inventions

History, Revolution

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How have the industrial revolution, productivity expansion, and technological developments contributed towards the formation of an improvisational industrial sector?

Introduction

Since the industrial revolution, productivity expansion and technological developments have contributed enormously towards the formation of an increasingly improvisational industrial sector. The excessive use of internet technologies for various business operations has widely transformed the key business processes including marketing, commerce, development and research, manufacturing, and logistics. These improvements have also played a strategic role in fading the spatial barriers between world economies. The development of a global industrial and financial system is supportive in free flow of information, products, people and investments across the globe.

The highly dynamic and competitive characteristics of e-businesses offer to generate revenue streams in various ways. As Dave (2003) noted, " all electronically mediated information exchanges, both within an organization

and with external stakeholders supporting the range of business processes", organization needs improved e-business technologies in order to formulate a sustainable business strategy. Innovation among e-businesses usually occurs through new exchange and transaction mechanisms not found in traditional organizations. Due to lack of geographical boundaries, virtual markets are reachable to a huge number of people and products. It is also economically viable for firms to outsource their services quickly and cheaply to the developing countries.

Over the last few decades, the dynamics of highly competitive global industry have forced organizations to rethink and re-evaluate the way they design competitive strategies in accordance with the fluctuating demand and diverse technologies. According to Robert Grant (2005), " When the externalenvironmentis in a state of flux, the firm itself, in terms of its bundle of resources and capabilities, may be a much more stable basis on which to define its identity". In order to meet volatile customer preferences and needs, e-businesses worldwide are relying more on their internal resources, capabilities and advanced internet technologies. Emerging forms of effective online collaboration among firms such as affiliate programs, customizability of products and services and reduced costs of information processing also have profound effects on the revenue returns.

## Strategic Application of E-CRM and E-Marketing

According to Lee-Kelley, Gilbert and Mannicom (2003), " e-CRM refers to the marketing activities, tools and techniques, delivered over the Internet (using technologies such as Web sites and e-mail, data-capture, warehousing and

mining) with a specific aim to locate, build and improve long-term customer relationships to enhance their individual potential." The adoption of e-commerce has long-term impacts on business profitability. Larger customers reach and existing customers' base has potential for increasing revenues. Additionally, electronic service greatly reduces the operational costs such as staff, transport and materials reducing the purchasing costs. It also helps to improvecommunicationand relationships with workforce, suppliers and customers. Complex business processes get simplified and standardized increasing the speed of access to information. Integrated business processes improve reliability, accuracy and also shorten the delivery time.

After the advent of World Wide Web, firms are using digital technologies such as intranets, extranets, online purchasing and e-government services to promote sales. Companies experienced increase in their stock prices by adapting to the internet. For instance, the web store of North West Supplies is online since 2002. In the first six months of website launch, the company had increased sales by ? 20, 000 through application of pay per click advertising. In order to reduce further advertising costs, the company redesigned its website and implemented Search Engine Optimization (SEO). The improvements in website design and marketing methods added to the NWS brand value increasing the annual turnover from ? 250, 000 to ? 350, 000.

For devising appropriate strategy plan and marketing techniques, the characteristics of trading in multiple business environments such as business-to-business and business-to-consumer, must be kept in view.

Whether through distributors or inter-organizational, research over e-business transactions shows the availability of more opportunities for business-to-business models rather than business-to-consumer ones. Another important aspect to be considered about internet marketplace is the company's distribution channel pattern for products and services. Internet makes it feasible for some businesses to bypass wholesalers, and distribute directly to online retailers or customers through a process called disintermediation. Amit and Zott (2001) have described business model in terms of application on the internet as, " A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities". Producers save sales and infrastructure costs which can be passed on to customers creating a competitive edge.

However, collaboration with intermediaries such as sponsorships and partnerships can also produce beneficial results. Intermediaries such as search engines, malls, virtual resellers, financial intermediaries, forums and evaluators have become important destinations to acquire information. For example, Hoover's online provides basic company and industry information free of cost to any visitor. However, only paid subscribers are eligible to access detailed information. Additionally Hoover's also generates revenue by advertising products and services of sponsor companies on their websites.

Sometimes, firms have to create new intermediaries to facilitate customers with selection of products by a process called re-intermediation. According to Dave (2003), " The advent of e-commerce means that marketers cannot rely

on the online presence of existing intermediaries – instead they must create their own online intermediaries." Re-intermediation is also important to monitor the market prices of other competitors and formulate a strategy accordingly. For example, nine European airlines including Air France, British Airways, KLM and Lufthansa created Opodo to facilitate their service buyers. The strategy was competitive enough to increase turnover in 2008 up to ˆ1. 3 billion in gross sales. Amazon and eBay are among the most successful e-businesses having business-to consumer relationships. They use specific e-business activities such as intelligent information systems to generate sales revenue. The system keeps record of customer's preferences and helps in product selection when customer visits the website again. eBay generates revenue primarily through the listing and commission on completed sales. Paypal, providing global online payment solutions was also acquired by eBay in 2003. It also acquired Skype Internet Telephony in 2005. The company's strategy is built on revenue generation from just transmitting information between buyers and sellers at tiny incremental costs.

Highly competitive market environments are challenging organizations to build a cost-effectivetechnologyinfrastructure. Successful e-commerce solutions demand compilation of all buyers' information into single database. Sawhney and Zabin (2001) have described effectiveness of sales on internet as, " technology-enabled selling will be used increasingly to synchronize and integrate all selling channels used by the enterprise, including telesales, the Net, resellers, and the direct sales force, through the use of a common customer relationship repository, a common applications infrastructure, and a shared business process." The formation of a multi-channel input stream is

critical for personalized service offerings to allow free flow of information between channels as well as cross-channel dialogue with buyers. A comprehensive understanding of the customer preferences will help firms to provide products and services they want. Additionally, e-commerce can be utilized to offer one-to-one relationships to customers. For instance, a software application consolidating a set of different e-CRM applications such as information integration, customer analysis, campaign management, real-time decision, and personalized messaging applications may accomplish a durable value exchange.

Instead of attracting new customers, it is economically more viable for firms to implement a customer retention strategy. Several studies have revealed that loyal customers are less sensitive to prices. A company can reduce the long-term costs of attracting new customers by maintaining relationship with existing customers. A good e-commerce strategy offers integration of all processes into a single, customized web interface. It is important to note that all customers do not use online communication. Some may prefer telephone or face-to-face communication channels. Thus, along with other needs, integration of e-CRM with intranet, extranet, organization's portal and other channels is also critical.

Nowadays, established businesses are seeking access to virtual markets as well as need street presence. Firms often experiment buying and selling on the internet. A specific channel strategy may work for few while not for others. The re-designing of business processes must be able to match customer expectations. It has been observed that web pages with the most

recent, interactive, reliable and rich information have the ability to enhance brand value attracting more customers. Most of these online corporate brochures present outdated financial results, invalid telephone numbers, already filled job vacancies, and outdated press releases portraying a negative image of respective organizations. If the design, funding and quality are properly managed, these brochures can improve overall image of such e-businesses.

Online order processing provides customer with multiple tools to access supplier information, pricing, participation in auctions, comparison shopping and view product or services aggregations quickly and cost-effectively. For companies, it provides a detailed overview of customers buying habits that can be further exploited for cross selling, up-selling, customer-service and technical support. When customers are offered to configure products and services according to their needs, firms become more competitive in their investment strategies. Conducting online surveys enable marketers to test customer behavior critical for designing effective e-commerce strategy.

The integration of internet technologies has systematically changed the traditional marketing practices reducing costs and enhancing reach. Previously, firms were using various numbers of marketing practices including transaction marketing, database marketing, interaction marketing and network marketing etc. Apart from TV, print, mail and other media, firms also include internet as part of a multi-channel marketing strategy. According to Dave (2003), a multi-channel marketing strategy " defines how different marketing channels should integrate and support in terms of their

proposition development and communications based on their relative merits for the customer and the company." Reports on the most visited sites ranking indicate various marketing opportunities including portals and web-logs. Companies are actively using them for keyword advertising, banner advertising or sponsorship to market their products and services. For instance, Yahoo is one of the top most portals developed according to geographical locations. Despite enormous competition from Microsoft andGoogle, Yahoo has been able to successfully generate large marketing services revenue.

In essence, e-marketing is same as agricultural-age-marketing building direct relationships between producer and consumer. E-marketing is still at lower costs compared to agricultural-age-marketing, however. It also makes remote areas accessible to the firms inexpensively. E-marketing can be utilized withrespectto universal reach of markets fading spatial barriers between different nations. Moreover, the amount of information available is much greater and without human intervention. The contact process is simple to understand and use such as a contact form for most customers. For example, it is quite difficult to manage airline scheduling and reservation systems according to every customer's needs. The interaction provided by e-marketing firms allows customers to customize required services and products according to their own choice.

Country's infrastructure and institutional development has far-reaching implications on a marketing strategy. The infrastructure development includes roads, telecommunication channels, legislative authorities, and law

and order situation. The presence of effective, competitive and efficient marketing institutions is essential to ensure institutional development. It is easier for companies having physical presence in different regions such as Wal-Mart, Dell and Cisco to reduce costs and enhance reach compared to the catalog firms. It is thus very important to formulate e-marketing strategy according to the available infrastructure and institutional development in a country.

## Conclusion

The role and impact of e-business technologies in an organization's overall performance cannot be neglected. As the business environments are quite dynamic globally, e-businesses should choose geographical development of their online business mediums. Businesses worldwide need to competitively adapt to the e-commerce and e-marketing technologies in their future strategies. Virtual markets are under the influence of complex environmental forces that can affect the strategic application of e-business technologies adversely. Another challenge for organizations implementing e-CRM and e-marketing is the selection of appropriate technology partners. Firms should be able to evaluate currently applied e-business technologies and monitor online processes for further improvements.

In addition to the websites, customers should also be provided with other multiple points of contact such as support centers, sales representatives and telephonic communication. For companies to be highly effective and efficient, a single view of the customer information and communication is critical in e-business strategy analysis. If e-marketing and e-commerce

technologies are extended to competitive strategy initiative, they are highly

likely to deliver far greater returns and establish different competitive

positions in identical market environments.

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