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## Technological obsolescence and customer switching

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### Abstract

This article deals with Technological Obsolescence and Customer Switching from Technology Management and Customer Relationship Management Perspectives. This is a multi-disciplinary study drawing its sources mainly from Technology Management studies, CRM, Knowledge Management, Business Ergonomics, People's workstyle, Mission and Vision more so the Techno Vision of modern Technocrats who are Engineers and Managers as well. Special emphasis was laid more on Engineering Management from Customer and Social Perspectives.

**Keywords:** Globalization, electronic revolution, consumer ephemerality, neo-consumerism, knowledge management, consumer behaviour, techno mission and techno vision

### Introduction

#### Globalization and Electronic Revolution

Mastering the technologies of the future in general and that of Electronic and Information Technologies will be the signs of the war of Economic Advancement: Information Technologies; Biotechnologies; Nanotechnologies; Environmental technologies, Renewable Energies. One of the major stakes of Technology Management could be to establish and manage the process of acquiring prevalent technological standards by a company or a consortium of industrial partners.

It is clear that neither robotics nor the development of new information and communication technologies, especially Internet, have burned themselves out, Key technologies do not replace each other. They can perhaps reinforce or complement each other, while pursuing their own diffusion logic. In other words, technology management today and for some time yet, must continue to focus on the productivity, quality and cost gains procured by robotics, but in a context of racing innovation and globalized technology (Jean-Jacques Chana Ron and Thierry Grange, 2007 <sup>[1]</sup>).

One of the requirements of the microprocessors for process control industry is multitasking operations which are now being fulfilled by powerful peripheral processors incorporating specialized controllers. Role of computer aided design for involving new architectures to meet the customer's requirements is becoming increasingly important.

**Electronic Process Control, Instrumentation and Systems:** The long gestation periods for development, production and ultimate use of the technology being generated in our R & D institutions, make it imperative for us to have a close look at the shape of things to come and gear up our R & D activities and production for the same so as to make it comparable and compatible with other technologies being developed elsewhere in the world and reap the full benefits of this rapidly developing technology.

Distributed Digital Process Control has significantly displaced conventional electronic analogue control systems. With the increasing speeds currently available on today's data highway systems, the same distribution philosophy will now begin to displace the minicomputer controlled process monitoring systems. New controls in Process using microprocessors will improve robot capability; in manufacturing, microprocessor based control systems are especially increasing the capability, with very little increase in cost requirements, for robots will most probably follow a hierarchical concept (G N Acharya, 1998) <sup>[2]</sup>.

#### Changed Knowledge Management Perspective

The popular adage that "knowledge is power" has prevailed in the mindset of people for decades, but the dawn of modern, electronic revolution has totally transformed the meaning

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and exercise of power. In the modern era of “globalization and electronic revolution”, Information itself has become power.

When people are at work, two different but significant functional systems come into being, they are “humanware” (human system) on the one hand and “techno ware” (technical system) on the other. Man’s knowledge, skill, application of reasoning and logic are together known as “humanware”. In all modern organizations it is seen that humanware will be functioning in the given organizational substratum, wherein technical system is another active functional system known as “technoware” (Shariff and Ramanathan, 1991).

Organizations of modern information age are totally different from those of the industrial age. Organizational focus shifted from highly specialized knowledge base resulting in single skill to interdisciplinary and multi-disciplinary knowledge base resulting in multi-skill. The hitherto hierarchical, linear information flows were taken over by multiple interfaces and boundary less information networking. Emergence of modern information technology is galvanizing each and every sector of economy, service sector organizations, which used to play a secondary role compared to the industrial organizations, started emerging as high-technology organizations with high-performance digital systems, playing a vital role in building a powerful nation reinforced by sophisticated infrastructure network with the induction of large proportion of scientists, engineers and other technical personnel.

Human resources should be effectively utilized in fast-changing socio-political-economic and technological environments in general and digital technology environment in particular. It can be done by adopting a planned and sustained promotion of new work attitude and sophisticated behavior patterns on the basis of updated information with respect to production, distribution and management as a whole. Schein maintained that the effect of creating a motivation to change is to open the person up to new sources of information and new concepts or new ways of looking at old information, which includes that of Customer Behavior and application of Demand Forecasting to Product Development and so on so forth.

Production Relations Vis-À-Vis Customer Relations  
Productive forces - Science and Technology, Technical skill, technical talent, and Technical bent of mind --- will always determine and influence the men’s relations in production process. In most of the situations across the world, productive forces will always be ahead of production relations. These production relations will in turn determine and influence the human relations in every sense. Since human relations will encompass, social relations, family relations, industrial relations, political relations to organizational relations, naturally, customer relations between the manufacturer on the one hand and distributor - dealer relations will also undergo a sea change. All these will in turn change a lot of vendor- procurer relations and buyer-seller relations as well.

Modern era came into being after negating the hitherto socio-economic formations from Stone Age to the Modern Era of Globalization and Electronic Revolution. This Era is with a kind of open trade without much hurdles, other than collection of Customs Duties, Tariffs, and Import-Export Taxes as per the regulations of Foreign Trade such as Foreign Exchange Regulation Act / Foreign Exchange Management Act.

Similarly, local markets have been transformed into All-India or National markets governed by National Laws -

Civil/Criminal, commercial/trading, industrial laws, Consumer laws, mercantile laws to Company laws and other related laws and/or Acts under the Government of India and respective State laws in some particular instances.

Just as Technology has undergone a sea change in Automobile engineering, Locomotive engineering, Agricultural Technology to Office Automated Technology, so the relations in production has also undergone a sea change. Steam engine has been negated by Diesel engine, and the Diesel engine has been negated by Electric engine, Nuclear Engine and so on so forth. Similarly, Blue Collar workers had been negated by white collar workers, who, in turn were negated by Gold Collar workers and so on so forth.

Similarly, Supply Chain Management, Logistics, Business Analytics, Office Automation, Interior Decoration which is inclusive of Ergonomics had undergone a revolutionary change. Evolutionary changes are quantitative and slow changes, whereas Revolutionary changes are sudden and qualitative changes. With respect to Business Environment in general and Customer Relationship Management (CRM) in particular, there is a kind of revolutionary change in the last 20 years.

### Globalization and Neo-Consumerism

In the Era of Globalization and Electronic Revolution, there is a revolutionary change with respect to Business Management, which used to revolve around the study and the adoption of better methods of production, marketing and distribution through wholesale and retail outlets. Modern business management has become not only a science but also a sophisticated art. It is comprehensive and concrete in systematically studying and applying the principles and methods of all modern issues of management related to supply chain management, logistics, materials management, human relations management, customer relations management, to dealer-distributor-retailer management, that is, Channel Partner’s Management and so on. Thus modern business management has acquired the dual characteristics of Science and Art, i.e. Theory and Skill (Vishnumurthy Narra, 2007) <sup>[6]</sup>.

Globalization brought Neo-Consumerism based on Digital Marketing using online marketing methods and techniques. These digital marketing methods and techniques were being much popular through Electronic Advertising and also through the conventional Print Media - Newspapers, leaflets, Physical Advertisements, and also through weekly and monthly magazines, etc. Apart from these Advertisements, through Hoardings, Billboards, Electronic displays using electronic Marque Techniques, etc. All these have brought much publicity through Advertising Technologies in general and the Electronic Modes of Advertising in particular. These modern advertising methods and techniques have become the basis for luring modern customers towards modern marketing and/or sales (Vishnumurthy Narra, 2007) <sup>[6]</sup>.

Modern Consumerism is ‘Digi phlox’ (Digital Attractive) (Vishnumurthy Narra, 2005) <sup>[9]</sup> consumerism. Present day consumers are searching for goods and/or products which are digital friendly, if possible which could be handled using remote digital devices. Now a day, most of the Televisions, Air Conditioners, Electronic Display systems, Refrigerators to modern Cars are remotely controlled with the help of Digital Remote devices

There are two kinds of consumers, while one group gives value to money, the other kind of consumers give value for brand. The Companies need to strike a balance by offering



equal focus to both the segments of consumers. Most of the high-end consumer durable companies involved in such kind of practice viz, Sony, Nokia, Samsung, Hewlett Packard, etc. sell their products through Multi-Brand Outlets (MBOs) and through their exclusive outlets (HP Digital Stores, Nokia Priority Stores, etc.). The exclusive stores serve the purpose of creating a strategic brand value which enables the companies to secure the mind space among the existing customers (A M Sakthivel, 2017) <sup>[7]</sup>. This would help the companies by easily position their new products with competition riddled markets and thereby protects the Producers/Sellers from Customer Switching.

### **Electronic Ephemerality as an Impelling Force to Consumers' Ephemerality**

No other branch of knowledge is witnessing such tremendous transformation as electronics and its allied branches. Changes in advanced productive forces such as electronic machinery, equipment, knowledge base and productions are all based on the principle of speed with accuracy and quality reinforced by intrinsic and extrinsic Engineering aesthetic values. Consumer value proposition has become the totality of economic, functional and psychological values. As a reflection of this material phenomenon, consumer behavior patterns are also undergoing sea change negating each low-level consumer patterns with an advanced, sophisticated with more psychological and engineering aesthetic pattern.

Several conceptions will together constitute one perception. Again, several perceptions will together constitute one attitude. Each attitude will give birth to one pattern, herein forms on consumer pattern (consumer model). In Modern Era, products are so ephemeral (short-lived) that within no time, one product is replaced by another, leading to the emergence of modern and quality products with a wide range and price bands/variations keeping in view all segments of customers in the market to the given products (Vishnumurty Narra, 2005) <sup>[9]</sup>.

### **Changed technology is necessitating changed consumer behavior patterns**

Emergence of New Technologies is a continuous Process. Based on the Theory of the Negation of the Negation, new and newer Technologies will come into being. Within no time BASIC program has been negated by COBOL which in turn was negated by PASCAL, FORTRAN, C, C++, and JAVA and so on so forth. Increased Quantitative workload in Primary, Secondary and Tertiary Service Sectors had necessitated for the emergence of Modern Technologies in general and Information Technology in particular. In Modern era, Computer Technology has blended with Electrical and Electronics technologies and in due course of time emerged as Telecom Technologies in general and Cellular Technologies and so on so forth in particular. Telecom Technology has again blended with modern methods of Management Technologies and Techniques and thereby serving the people's interests across the Globe.

Emergence of 5G Technology coupled with Artificial Intelligence, Machine Learning, Cloud Computing and Edge Computing is serving the Global people's interests on a massive scale. Globalization with unbridled competition has ushered in a totally different organizational and sociological scenario. Workforce in previous organizational scenario used to face lot of monotony, dehumanization, mechanization of human relations which ultimately lead to

the human ALIENATION - Man's alienation from his Human Characteristics -- in the Philosophy of Management. With the emergence of modern Telecom Technologies in general and 5G Cellular Technology in particular had broken the Newtonian Law of Inertia in all spheres of Life right from Financial management, Human Resources Management, Hospital management, Forensic Science, Customer Relationship Management to the field of Art and Theatre as well. Societal needs have also undergone a sea change. Higher level of Social Consciousness coupled with modern education has totally changed the modern market conditions which are calling for modern, quality products and sophisticated Customer service and/customer care.

Emergence of Modern Technologies in general and Electronic Global Business Technologies in particular has totally galvanized the marketing and sales methods and techniques which includes online business strategies and methods such as online commercial payment methods, business analytics, market survey and/or market research, Customer feedback mechanism, Customer grievance redressal mechanisms and so on so forth. All these had together changed the conventional advertising methods to modern advertising methods and techniques depending on Electronic mode of Advertisements which had negated the hitherto Advertising methods through Hoardings, Pamphlets, Newspaper Ads, Billboards, etc. Putting otherwise, Entrepreneurs who were still hanging to the traditional modes of marketing vis-à-vis advertising are losing their markets.

In modern Era, the age-old saying 'Knowledge is Power' has been negated by 'Information is Power'. This has become more palpable in Marketing with respect to Customer Inertia vis-à-vis Customer Switching from one product to another and from one Brand to another Brand of belonging to another company.

### **Modern technology engenders modern consumer behaviour patterns**

It is scientifically studied and established by modern Psychologists and modern Management Theorists that there is a strong correlation beyond doubt between Organizational and Societal Technology (Productive Force/s) on the one hand and Behavioral patterns of people in general and those of customers in particular. Robbins, an eminent Organizational management expert observed that mining technology engendered Blue Collar worker, Service sector generated its corresponding White Collar workers, IT Sector engendered Gold Collar workers. Now, in modern era, Artificial Intelligence and its allied modern software technologies engendered "PLATINUM WORKERS" as a kind of Super Human beings (Vishnumurty Narra, 2024).

Thus, while modern technologies are engendering modern behavioral patterns, obsolete technologies are engendering obsolete mode of social relations, organizational relations and obsolete Customer relations and/or obsolete CRM style in their organizations. It is established that obsolete technology is a major reason for workers' low-level behavioral patterns and negative attitude towards the implementation of modern consumers, more particularly, that of modern Information Technology enabled technologies and processes (Vishnumurty Narra, 2001). Further, Poor and Obsolescent Technologies are contributing a lot not only in engendering low-level work processes, low-level work attitudes, poor CRM methods and techniques and low and poor quality products as well - both



goods and services - as well. Low and poor quality of goods and services will ultimately lead to the falling of Customer Loyalty (Vishnumurthy Narra, 2007) <sup>[6]</sup>. In modern era, CRM is mainly done through Modern IT based call centers, IT enabled leased circuits, Extranets which includes Virtual Private Networks (VPNs'), Internet based social media Apps such as Facebook, LinkedIn, Telegram, Google Search, Instagram and popular Apps and Networks such as Amazon, Flipkart and so on so forth.

Thus, it is seen that poor technologies and/or obsolescent technologies are ultimately leading to the customer switching to other service providers and other manufacturers of goods or things or artifacts. In service sector particularly in Banking, Public Transport, Cargo Transport, Medical and Educational organizations, effect of usage of outmoded and/or obsolete way of production and dissemination of services are facing the problem of Customer Churning and/or Customer Switching to other organizations offering quality service with quality Customer Relationship management and after sales Customer service/customer care. Modern CRM is totally galvanized with modern CRM software either through Call Centers Management or through their Apps. In order to enhance Customer friendly monetary transactions, modern Organizations are encouraging payments in electronic mode through Phone Pe, Google Pe and also through Card Swiping Machines using Credit and Debit Cards.

#### **Mission and vision statements of the organizations**

Even the Mission and Vision Statements of Modern Organizations - both manufacturing and service sector organizations - have had undergone a sea change. Even those Mission and Vision Statements had been determined and influenced by the Modern 'Era of Globalization and Electronic Revolution' based on the principle of 'Speed with Accuracy'. Keeping in view the spirit of modern Electronic Revolution, the mission and vision statements also have been transformed into 'TECHNOMISSION' and 'TECHNOVISION' (Vishnumurthy Narra, 2024) respectively.

Now the task of Chief Executives and/or Top Management is deeply involved in devising various ways and means to modernize all wings of their organizations right from Production, Supply Chain Management and/or Vendor Management, Operations Research, Finance, HR, Marketing, Sales, CRM and so on so forth.

Enterprise Resource Planning (ERP) emerged as a correlated, comprehensive and concrete electronic /digital management system to serve the overall organizational interests. It is like a big but Software Banyan or Neem tree with 'n' number of software branches, twigs, leaflets and leaves, etc. which are known as (in Computer language), 'n' number of postulates, applets, servlets linked to the Root which is known as software path with several subroutines and protocols (set of computer instructions).

Management Experts emerged not just as managers but those of Technocrats who are managers and technologists as well. In order to see the future of organizations, modern managers shall become a kind of "Management Futurists" (Vishnumurthy Narra, 2024) like Futurologists with respect to History, Sociology, Psychology and Political Science. In and vision, every Technocrat, as a Philosopher of Management will think more like Alwyn Toffler, a renowned Philosopher in the Philosophy of History. In order to save the organizations from Future 'Organizational

Shock', the organizations shall have a comprehensive, correlated and concrete 'TECHNOVISION' (Vishnumurthy Narra, 2024) which will withstand under any kind of unforeseen 'Organizational Shocks' in the form of Market Recession or Deflation or Reflation effects and so on so forth.

Managers who can't look into the future markets with respect to product features, price, changed customer perceptions, customer requirements, and market scenario from competitor analysis perspectives, may fail to give proper mission and vision statements and proper future directives to their organizations.

#### **Conclusion**

1. Globalization and Electronic Revolution is calling for the production of quality goods and services based on the principle of 'Speed with Accuracy'
2. Organizations have to adopt better Knowledge Management Practices
3. Globalization engendered Neo-Consumerism which is based on 'Digiphilic' Orientation
4. Electronic ephemeralism has become the driving and impelling force for Constant Product development
5. There is a greater need for the implementation of modern, digital based Customer Relationship Management methods not only through their call centers but also in using digital based Apps in addition to their updated websites using modern web design techniques
6. Modern Technologies engendered Modern Behavioral Patterns - Artificial Intelligence professionals have been viewed as Platinum workers by organizations unlike other Gold Collar Software professions
7. Adoption of Engineering Aesthetics while keeping their work environments with better Ergonomics
8. Classical and Traditional Mission and Vision Statements have become Techno mission and Techno vision Statements respectively.

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