

Foreword

We are truly in a technological age where “technology determinism,” “technology opportunism,” “technology adoption,” “technology innovation,” “technology assimilation,” “technology integration,” “technology implementation,” and many other similar terms or concepts have become commonly used phrases in not only professional arena but also in general public arena. While all these terms may have specific academic meaning and can arguably be distinguished one from the other, yet these terms have become synonymous with efficient, effective, purposeful and intelligent business processes, the backbone of all forms of management systems used in different walks of human endeavors. Business processes themselves do not recognize products, services, organizations, cultures, social or economical or political boundaries, intellectual level of its users or the extent of perceptual sophistication. They are indeed indifferent to all these distinguishing features of the modern society. The only differing features of business processes that have any significance relate to the level of intelligence built into the processes, the extent of user-friendliness and adaptability to the ever changing human environment to remain ever efficient, effective and purposeful. Business Process Engineering subsumes all the technological, engineering, scientific, social science and human developments of the past century. It does not mean that the past innovations and developments, which are often classified under “hardware,” “software” or “brain ware” have lost their individual significance. They attained popularity in the modern education and professional applications and are categorized as “mass production,” “assembly lines,” “lean manufacturing,” “flexible systems,” “transfer lines,” “computer aided designs,” “computer aided manufacturing,” “computer integrated manufacturing,” “automation,” “management information systems,” “total quality management,” “organic systems,” “e-business,” “e-commerce,” “e-governance,” “real time systems,” “artificial intelligence,” “robotics,” “neural networks,” and numerous others. All these and many others have their relevance and use, and they add value to the processes. But essence of Business Process Engineering lies in its “holistic approach” which takes into account all available technologies, concepts and constructs and provides dynamic solutions incorporating whatever suits a particular application. Pervasive Computing and Business Process Engineering have an integral relationship.

Pervasiveness of computing has become inevitable in all walks of human life. It is witnessed whether one looks at human endeavors such as travelling millions of kilometers in space to various planets, and collecting and processing information and data and sending the same to the earth which enables looking back millions of years and predicting what lies in the future, or whether one looks at different strata (economically, educationally, socially or culturally) of the society in underdeveloped, developing or developed countries of the earth planet, or whether one looks at the functioning of various business and non-business entities including tiny, small, medium and large enterprises or even self-employed individuals such as hawkers, shopkeepers, house-hold workers, taxi drivers, delivery personnel, helpers

and assistants, they all use computing technology in conjunction with the other technologies to produce gadgets and equipment of tiny or large sizes with amazing and often unimaginable capabilities. What was mere fiction or wishful thinking and pure imagination of creative writers has become a reality. Pervasive computing has only one limitation and that is the ability of the human mind to visualize and transcribe the same. If one expresses something, somebody somewhere produces it. Days are not far when the so-called “crystal balls” used by the Egyptian foretellers and various invisible gadgets used by sorcerers might become possible for the common human beings to use. Speed of light has become a practical concept, but it may be practically possible to reach the speed of human mind.

Dr. Varuna Godara made a pioneering attempt when she compiled and produced her first book entitled *Risk Assessment and Management in Pervasive Computing: Operational, Legal, Ethical and Financial Perspectives*. This book was released in 2008 and it gained immense popularity due not only to the innovativeness of the concept but also to the fact that various contributions (all focused on pervasive computing) came from different sectors of the economy and from various disciplines. The author proved the point that generality can also be bound within the scope of pervasive computing.

Dr. Varuna Godara’s project on *Pervasive Computing for Business: Trends and Applications* is another attempt to drive the point home that Pervasive Computing is making a significant dent into numerous areas of business. The author in this book demonstrates the same by incorporating applications from various countries, from various socio-economic zones and from various well known disciplines. Areas explored in the book include business intelligence, advertising, text-to-speech synthesis systems, reconfigurable manufacturing systems, computer mediated communication systems for enhancing audit quality, automatic trading system, ambient intelligence development, seamless knowledge and virtual schools, activity based costing, human resource management, performance management, business excellence framework, technology adaptation in connection to organizational change, Web-Based Software System Service Quality, quality assurance systems and other conventional areas. All the applications included in the book come from the research and/or real life applications from learned academicians and practicing professionals. This is by no means a comprehensive treatise of Pervasive Computing Applications. But readers would gain a deep insight into a wide range of both conventional and unconventional applications of Pervasive Computing for Business. Serious reading of this book and contemplation will generate new ideas and new applications which, I hope, that readers would take on board for future development.

Rakesh K Agrawal
CEO/Principal Consultant
Business Continuity Innovation Centre

Rakesh K Agrawal holds bachelor degree in Mechanical Engineering, Post Graduation in Industrial Engineering, Graduate Diploma in Adult Education and PhD in the area of Technology Management. He spent over 2 decades in business, industry and consulting before embarking upon educational career as a Professor of Industrial Engineering at NITIE India. He then worked in Kenya and moved to Australia and worked in several positions including a professorial appointment in the School of Management at the University of Western Sydney in Australia. Dr Agrawal had a glorified entrepreneurial career having set up his own businesses in manufacturing, trading, management consulting and education. He assisted many entrepreneurs for setting up educational, trading and manufacturing business projects. He currently heads the Business Continuity Innovation Centre at Sydney. His area of specialization includes Innovative Entrepreneurship, Technology Management, Performance Evaluation and Improvement, Business Continuity Management and Integrated Risk Management.