Preface

The information technologies have become a differentiating factor of modern organizations. During the last decade, multiple organizational effects like virtual structures, flat organizations, network structures, among others, have been the constant that confronts the business communities as opposed to the challenge that raises a new interconnected and demanding world, where the competitive advantages and the value generation are the most wanted treasures.

While the information technology offers different alternatives to perceive and to construct the businesses, its users remain expectant to the possibilities that it can offer. In this sense, the potentiality of the information systems and their bonds with the individuals' realities become key factors for developing the information resource through the technology.

Recent studies show that the IS in the organizations are integrated with the business functions looking for reaching greater productivity and innovation, both translated in ad value for the clients. Although experiences, in this sense, show important levels of integration and satisfaction of the clients, the technology users often do not recognize real possibilities to enrich their work environment, generating a conceptual and mental division of the individuals' behavior in the organization.

According to the above, the incorporation of a complementary approach allows the review of the organization in specific and required aspects as in its general context. It is in this way, that the systemic thought appears to be a way to see the global vision of the organization's reality and its relations and interaction of its components. This approach looks to identify the relations between the components and their behaviors, to understand the reality in context of the phenomena under study.

Therefore, the use of a systemic perspective offers to the researchers new distinctions of the problematic reviewed. In the context of the IS and the information technology, it deepens in the relations of creation of value of the individuals based on the technology and its presence in the organization processes. Thus, the discovery of behaviors that are not inherent to the components of the organization, but are the fruits of the studied and analyzed relations, is allowed.

The systems thinking applied to the IS has peculiarly short extended in this area, though the same origin of these two takes the connotation of systems in its

own creation. This situation allows us to explore the ideas of the systemic thinkers and their concepts to approach the technology problematic in the organizations, understanding in a detailed way, its impacts and implications for the business communities of the 21st century.

Therefore, before establishing strategic guidelines for the technology and its relation with the business function, it is necessary for the leaders to review the different relations between the technology, the individual and the processes as a validation and reflection strategy that allows the management to watch those emergent properties that have always been in their reality, which up to the moment had not become explicit, to improve its advantages and innovative relations, reconstructing those that do not add to the expected value.

Finally, though the previous studies on systems information contribute critical and important findings and recommendations that generate new options and possibilities for the present businesses, their review and analysis in light of the systems thinking offer a new horizon of expectations and distinctions that they discover in the relations organization-individual-technology—a complementary way where the IS and the technology arise like emergent properties in the organizations of the new millennium

In this sense, the chapters of this book gather the findings, reflections and investigations in the IS and IT reviewed subjects from the systemic perspective, which offers a spectrum of conceptual and practical analysis, as well as a reference for future investigations and projects, where the relations between the technology, the individuals and the business allow for the discovery of the emergent source of knowledge and ad value in the organizations.

Chapter 1 entitled "A Systemic Approach for the Formalization of the Information Systems Concept: Why Information Systems are Systems ? by Manuel Mora, Ovsei Gelman, Francisco Cervantes, Marcelo Mejía andAlfredo Weitzenfeld, shows researchers the need to study the IS object and practitioners the need to use the same common conceptual knowledge about what Information Systems are. In this sense, this research offers improvements in the overall understanding about how organizations operate, the integration of disperse knowledge related to the way IS and IT leverages the management process, and the establishment of standard bases for contrasting research findings.

Also shown is how *IS* are systems that are included in business processes, and these, in turn, are included in organizations, and finally, the latter are included in their environment. Business processes and organizations, according to the hierarchy property of systems, can also be conceptualized as systems.

Chapter 2 entitled "Technological Frames Recursive Construction Approach: A Systemic Theory for Information Technology Incorporation in Organizations" by Jeimy Cano who, based on the assumption that information technology is the

result of an individual's social interaction, explores the benefits of individuals' structural relations understanding in the process of information technology incorporation for integrating the findings of causal research, the systemic elements (the study of relations), focusing the information technology understanding in the organizational tasks.

Chapter 3 entitled "Extending Checkland's Phenomenological Approach to Information Systems" by Hernán López-Garay, introduces a new image of organizations as holistic practices —an image based on these developments— and examines how this image may enrich Checkland's phenomenological design of information systems.

In chapter 4 entitled "A Validation Test of an Adaptation of the DeLone and McLean's Model in the Spanish EIS Field," by José Luis Roldán and Antonio Leal develop a research model adapting the DeLone and McLean's information systems success model to the executive information systems (EIS) field. They test the validity of their adaptation, studying the interdependencies among the variables and examining its predictive power.

Chapter 5 entitled "A Systemic Approach of Electronic Commerce" is by Roberto Vinaja, who applies several concepts from classical Systems Theory to the growing area of E-commerce and agents. His purpose is to demonstrate how General Systems Theory principles are widely applicable to the state-of-the art field of Electronic Commerce.

Chapter 6 entitled "Information Systems as Social Systems" by Niek du Plooy argues that the "human" or sociological side of information systems is of such importance that it should be seen as the core of the discipline, and that information systems are best understood when viewed as social systems. Current thinking on systems (especially soft systems methodology) and its place in supporting information systems in a constantly changing environment are also referred to.

Chapter 7 entitled "The SoSM Revisited—Critical Realist Perspective" is by Philip Dobson, who revisits the System of System Methodologies (SoSM) and suggests that use of the SoSM as a framework for defining methodological assumptions is difficult when the concerned methodologies have significantly different meanings for one axis of the framework—"system" complexity. It is suggested that the purpose of the underlying system can provide a more appropriate frame for defining system approaches, with such purpose being defined as interaction or transformation.

Chapter 8 entitled "Soft Evaluation: A Systemic Approach for Post-Implementation Review" by Ala Abu-Samaha describes an alternative approach to evaluating Information Technology (IT) projects, which involves developing a holistic view of IT interventions. The main methodological problem in evaluating any intervention is to choose the right indicators for the measurement of success or

lack of it.

In Chapter 9 entitled "Addressing Organisational and Societal Concerns: An Application of Critical Systems Thinking to Information Systems Planning in Colombia," José Rodrigo Cordóba and Gerald Midgley present a methodology for IS planning based on critical systems thinking an—approach that encourages the critical analysis of stakeholder understandings of social contexts prior to the selection and/or design of planning methods. Also, this methodology uses a combination of the systems theories of autopoiesis and boundary critique, which deepen our understanding of what it means to reflect on participation, values and social concerns during IS planning.

Chapter 10 entitled "The Information System Within the Organization: A Case Study" by Bruce Campbell and G. Mike McGrath introduces a case study where a particular technique was used to gain some understanding of a messy organizational situation that was, it was suspected, impacting the performance of the IS. The technique, using causal loop diagrams (CLD), is described and then applied to the case study.

In chapter 11 entitled "Implementation of Collaborative Technologies as a Learning Process," Tatyana Bondarouk and Klaas Sikkel present ideas about influence of group learning on ongoing use of collaborative technologies and propose a model, in which implementation is regarded as a learning process that takes place at different levels, reaching from the individual user to the entire organization.

In chapter 12 entitled "A Framework for Building Learning Organizations," Sushil K. Sharma and Jatinder N.D. Gupta suggest a framework for building learning organizations and show the use of systemic approach to implement their proposed framework to create learning organizations.

In summary, understanding in a systemic way the different elements involved in the IS and IT suggest an alternative and enriched vision of the managerial reflections on added value and strategy supported with technology in the organizations, as well as conceptual and critical land for academic, students, researchers and practitioners in IS/IT area. In this order of ideas, the chapters presented in this book review and explore diverse systemic facets of the IS and the IT, founding a knowledge base with which to understand in a holistic way the technical issues, human implications and business relationships that exhibit IT in the organizations.