

Applying Quality of Life Research: Best Practices

João Leitão  
Helena Alves *Editors*

# Entrepreneurial and Innovative Practices in Public Institutions

A Quality of Life Approach

 Springer

# Applying Quality of Life Research

Best Practices

## **Series editor**

Helena Alves, Department of Management and Economics, University of Beira Interior, Covilhã, Portugal

This book series focuses on best practices in specialty areas of Quality of Life research, including among others potentially: community development, quality of work life, marketing, healthcare and public sector management.

In today's world, governments, organizations and individuals alike are paying increasingly more attention to how their activities impact on quality of life at the regional, national and global levels. Whether as a way to tackle global resource shortages, changing environmental circumstances, political conditions, competition, technology or otherwise, the far-reaching impact of decisions made in these and other areas can have a significant impact on populations regardless of their level of development. Many lessons have been learned; yet many are still to be realized. Across a number of volumes on diverse themes, this book series will address key issues that are of significant importance to decision makers and participants across all sectors. The series will be invaluable to anyone with an interest in applying quality of life knowledge in contemporary society.

More information about this series at <http://www.springer.com/series/8364>

João Leitão • Helena Alves  
Editors

# Entrepreneurial and Innovative Practices in Public Institutions

A Quality of Life Approach

 Springer

*Editors*

João Leitão  
Department of Management and Economics  
University of Beira Interior  
Covilhã, Portugal

Helena Alves  
Department of Management and Economics  
University of Beira Interior  
Covilhã, Portugal

ISSN 2213-994X

Applying Quality of Life Research

ISBN 978-3-319-32090-8

DOI 10.1007/978-3-319-32091-5

ISSN 2213-9958 (electronic)

ISBN 978-3-319-32091-5 (eBook)

Library of Congress Control Number: 2016953635

© Springer International Publishing Switzerland 2016

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

This Springer imprint is published by Springer Nature  
The registered company is Springer International Publishing AG Switzerland

# Foreword

The public sector has been subject to major transformations and changes through the introduction of new management and organizational practices, making public transfers carried out by the State depend on the performance of public services (e.g. performance-based budgeting), which to meet customers' demands must simultaneously increase the quality and efficiency of service provision with certification of excellence.

From the 1970s, such transformations have taken effect through adopting a new paradigm designated in the reference literature as *New Public Management* (NPM), where the main focus lies in the adaptation and transfer of management knowledge and practices from the private to the public sector, regarding strategic planning, management, performance assessment and monitoring of its structures (Hood 1991; Boston et al. 1996; Minogue 1998; Christensen and Laegreid 2001).

The theoretical roots of NPM lie in the *Scientific Management Movement* and *New Institutional Economics* (Hood 1991; Boston et al. 1996; Christensen and Laegreid 2001). Regarding the former movement, in recent decades this has generated major administrative reforms in the public sector, following the key idea that professionalization of management, originating in the private sector, will bring about inclusion of visible, active and discretionary power, as well as organizational designs and practices to measure and assess performance, leading to development of an appropriate culture in the public sector (Peters and Waterman 1982; Osborne and Gaebler 1992). Concerning *New Institutional Economics*, what stands out is the approaches to transaction costs (Williamson 1975, 1985; Baker et al. 2002), public choice theory (Buchanan and Tullock 1962; Niskanen 1971, 1975) and institutional arrangements leading to efficient, rational and consistent political-administrative systems (Rhodes 1997).

The reference literature converges in attributing a hybrid nature to NPM (Christensen and Laegreid 2002), normally used by the main agents as an umbrella term integrating various tendencies of management and change process management in the field of the public sector. Examples of this are managerialism (Pollitt 1990), market-based public administration, post-bureaucratic organisation (Barzelay

1992), entrepreneurial government (Hughes 1998) and public innovation (Halvorsen et al. 2005).

However, according to Barzelay (2002), there is still a scientific debate running about the nature of NPM, which is associated with typical management reforms in the private sector (König 1997) or considered as a representation of a contractual model (Lane 2000).

Barzelay (2002) advocates a quadripartite typology of models included in NPM, namely a contractualist model, a managerialist model, a consumerist model and a reformist model; each one based on different suppositions and principles. Other authors criticize NPM, referring to it as a passing fashion (Pollitt 1995; Lynn Jr. 1998), a shopping basket of management ideas and techniques (Painter 2003) or even a mythical recipe (Christensen et al. 2008). Indeed, Christensen et al. (2008) strengthen these arguments, showing considerable scepticism with regard to the consistency of NPM as an integrated theory for modernization of the public sector.

The prominence of NPM is due above all to it being the organizational model that dominates the different structures of governance in the public sector (Hood 1991). Nevertheless, as Christensen and Laegreid (2001) emphasize, we cannot expect a single organizational model to be applied to all government structures, without considering the specificities of different application contexts, and above all, the differentiated effects on customers' quality of life.

Therefore, and following the suggestion of Minogue et al. (1998) and Christensen and Laegreid (2001), who pointed to the need to develop an alternative based on a transformative approach to NPM, in preparing this work it was decided to deepen two structural dimensions of transformation of NPM, which contribute not only to an effective change in the NPM philosophy, but also in the behaviour of the principals and agents who apply and benefit from implementation of governance change processes that aim to be open, participative and socially inclusive, and of public sector processes that aim to be formalized and certified.

In the line taken by Hood (1991), Peters and Pierre (1998) and Prats i Catalá (2006), *New Public Management* can be characterized as a function of six distinctive components: (i) reducing the dichotomy between the public and the private sector (the solution proposed lies in adopting management techniques from the private sector); (ii) developing new instruments for control and accountability purposes (ignoring or reducing the role of politicians and recommending the independence of public managers, so as to ensure the introduction of market mechanisms); (iii) competition (a central question to increase the efficiency of public management and give customers a better response); (iv) control of results (through introducing and signing management contracts according to objectives, and indexed to results); (v) the State's articulating role (serving as an example through expenditure cuts and effective responses to customers' growing and diversified expectations); and (vi) redesigning organizational structures (through the introduction of minimal government structures that mark the difference between principal and agent profiles).

This line of reasoning defends that the six distinctive components of NPM identified above should be considered in the scope of a renewed design of the public

sector based on two new structural dimensions of transformation, i.e., entrepreneurship and innovation.

Regarding entrepreneurship, this is a sufficiently complex and wide-ranging construct which should not be treated independently from the structural dimension of public sector innovation. Indeed, the process of converting new ideas in renewed public sector performance requires the transformation of new knowledge in knowledge and processes with high value added. This should be carried out, in an innovative way, through the direct action of the principal agents in terms of government structures, work networks, information management systems, knowledge flows and value creation, through the Schumpeterian mechanism of creative destruction, which highlights intensification of competition through the entry of new agents, restructuring government structures of different dimensions and elimination of less efficient structures, rather than continuing to give monopolist privileges to incumbent services or civil servants, or even those located in metropolitan areas of the highest population density. This does not mean, however, elimination per se of public services, but rather their restructuring and distribution, following criteria of public investment, social impact and wealth redistribution, in different spatial units, considering their needs of survival and social and sustainable development.

Nevertheless, most of the literature on this critical issue for countries and regions' economic, social and financial growth and sustainability has been dominated by the neo-classical paradigm, in this way omitting the role played by one of the fundamental agents in the functioning of the modern economy, i.e., the entrepreneur, and in the line of analysis and study in this work, the entrepreneurial State.

The omission mentioned above leads us to invite the reader to revisit the seminal contributions of Schumpeter (1934, 1961) and Kirzner (1973), who although recognizing the exclusion of the entrepreneurship construct from the theories of growth, determinately position for future research and public policy actions the entrepreneurial capacity as being a vital mechanism for economic and social progress.

So the entrepreneurial State takes on a central role in advancing and developing the economy and society as a whole, as well as being a protagonist in promoting the positive evolution of citizens' quality of life, the importance of which guides the concerted efforts in compiling this work.

Revisiting the arguments of Kaufmann et al. (2009), the quality of public service provision has a greater influence on citizens' quality of life than democracy itself. Although the concept of quality of life does not yet have a single definition, it is understood as an assessment of an individual's life conditions, including material and objective indicators such as income, level of education, employment, state of health, safety and others (OECD 2013), but also subjective indicators of individual satisfaction and happiness with life conditions (Haas 1999), thus reflecting a multi-dimensional concept that can be affected in its various aspects by the entrepreneurial and innovating character of public institutions.

In this work, quality of life will be approached from various angles: economic, social, and psychological; both objective and subjective, but all reflecting the influence of public institutions on the former. Regarding the structural dimension of transformation effected through innovation, it is worth returning to the approach of



*New Institutionalism*, which in this context should be understood as an extension of the base teachings of the theory of innovation, referring to institutional management and governance. So public institutions (e.g. organizations) can be understood as units that develop according to interactive and evolutionist learning processes. This vision corresponds to the arguments presented by the innovation systems approach (e.g. Lundvall 1992; Nelson 1993; Saxenian 1994; Carlsson 1995; Edquist 1997; Malerba 2002, 2004) and by the organizational perspective of innovation studies (Van de Ven et al. 1999). However, considering the organizational perspective (e.g. March and Olsen 1976, 1989, 1995; Zucker 1977, 1983, 1987), it should be stressed that the organization does not always function as an element facilitating public innovation. Indeed, the level of institutionalized comprehension is not necessarily the result of conscious decisions, but of rules of appropriateness embedded in the organization. That same level of institutionalized comprehension can tend to stabilize the organization rather than promote change.

Various authors state that successful introduction of innovative practices depends on the dimension of agent networks (e.g. Latour and Woolgar 1979; Callon 1980, 1992, 1995; Latour 1987), also underlining the decisive character of innovation processes that involve the management of agents and ensure the formation of relatively stable networks, in determining the success of those innovation practices. In addition, success in implementing those networks can vary throughout the innovation process, as a function of successful and unsuccessful episodes along the way (Van de Ven et al. 1999) and the organization's institutional culture, which can affect the path of changing government structure.

The connection between innovation in the public sector and change processes is firmly established in the literature, with various contributions on related topics standing out, particularly NPM (Hood 1991; Windrum and Koch 2008; Politt and Bouckaert 2011), change from government to governance (Rhodes 1996), e-government (Bekkers and Homburg 2005), e-governance (Raposo et al. 2006) and the role of the government in the scope of the 'Big Society' (Lowndes and Pratchett 2012).

There is growing interest in approaching the previously mentioned connection following a perspective of open innovation, which contributes greatly to enriching the reference approach to *New Institutionalism*, through opening up the public sector to external cooperation and stimulating relationships of cooperation and strategic co-competition, including external and internal stakeholders, as well as strengthening the absorptive capacity of innovation, on the part of government structures.

Implementation of open innovation practices in the public sector can give rise to positive effects, regarding timely detection of social problems, the introduction of governance practices based on citizens' experience capital and strengthening relationships of trust between government and citizens (Reddel and Woolcock 2004; Bassler et al. 2008; Gaventa and Barrett 2010). However, the direct transposition of these private sector practices to the public sector's sphere of action is not linear and is of a specific nature requiring research efforts and better understanding (Christofides and Michael 2013).

Taking as a reference the organizational design of public agencies in the USA, it should be underlined that these adhere to rules and regulations of public contracting that govern their conduct, following the traditional forms of contracting (e.g. Boyne 1998). It is of note that contracting, in this form, requires agencies to know the solution they are looking for in advance, as well as the conditions offered by potential suppliers. Nevertheless, public agencies show limited capacity to assess the suitability and innovation of the solutions proposed, given their manifest limitation as a public entity, in terms of carrying out crowdsourcing through open innovation practices (Bozeman 1987).

A good practice of international reference is analysed by Mergel and Desouza (2013) and concerns the entrepreneurial initiative of the US Administration, led by President Barack Obama, designated *Challenge.gov*, which consists of providing a collaborative open innovation platform, aiming to obtain new ideas originating in unlikely sources, as well as considering social needs and challenges in the area of science and technology (White House 2012).

This good practice gave us inspiration and motivation to advance with designing and publishing work forming an innovative approach, inasmuch as two structural dimensions of transformation of NPM are proposed and explored: entrepreneurship and innovation in the public sector; focusing analysis on the effects of those dimensions on citizens' quality of life.

The conceptual approaches and international case studies presented in this book about entrepreneurial and innovation practices in the NPM context have considerable potential to create new and original implications for public decision-makers, managers and participative citizens.

In terms of value added, this work contributes to the literature by providing answers to the following questions:

- (i) Should NPM be revisited in the light of disruptive approaches of entrepreneurship and innovation, taking as a reference the experiences of professionalized management in the private sector?
- (ii) Is the State a principal agent in determining the speed and extent of change processes, through public procurement mechanisms?
- (iii) Can entrepreneurship be a way of transforming the government structures of the public sector? How can intrapreneurship connected to innovation of those government structures and to citizens' needs be stimulated and strengthened?
- (iv) Does adoption of entrepreneurial practices of governance, open innovation and transparency have a positive influence on citizens' quality of life in towns?
- (v) Do public sector customers determine the introduction of entrepreneurial and innovative practices in the public sector?

Following this line of thought, this book presents original contributions to the literature that reinforce, in an innovative way, the connection between entrepreneurship and innovation as preferential dimensions of transformation and change of NPM, in terms of public procurement, public organizational innovation, public education, transparency, safety, trust, accountability and open governance, and their implications in determining citizens' quality of life.

This book, with respect to the intersection and intrinsic relationship between the two dimensions proposed for transformation of NPM, aims for better understanding of the importance of adopting entrepreneurial and innovation practices in the public sector, as mechanisms for detecting, dealing with and including citizens' social needs, with a reflection on positive determination of their quality of life. The focus is therefore on critical reflection and rethinking the articulation between the dimensions of transformation – entrepreneurship and innovation – of NPM. In this way the book contributes to deepening knowledge about the implications of this change in the organizational paradigm of the public sector for citizens' quality of life, which is treated multi-dimensionally here, including citizens' well-being, purchasing power, happiness, trust, safety, experience and satisfaction.

The book is divided in three parts: Part I – Entrepreneurship; Part II – Innovation; and Part III – Best practices: Case studies. What follows is a summarized review of the contributions gathered here in this edited volume, according to the design structured in the three parts identified above.

In Part I on entrepreneurship, various theoretical and applied approaches are presented by researchers whose views enrich the current debate about entrepreneurial universities, the role of public entrepreneurship and citizens' perceptions of entrepreneurial practices in the public sector. These form appropriate vehicles for promoting populations' quality of life, whether through human capital or through the intermediary of the multiplying effects of expenditure and wealth that emerge in the region of influence.

In Chap. 1, Maribel Guerrero and David Urbano advocate an entrepreneurial and transformative mission for the university, by outlining the role played by this type of knowledge institution in fostering the social impact and sustainable development of society. The main objective of this chapter is to provide a better understanding of the main determinants, impacts and challenges behind the transformative role of universities to become more innovative and entrepreneurial. The authors reveal that top universities are implementing novel strategies such as using social networks (i.e., free online courses) in order to attract students. They need to be more entrepreneurial, in the sense that they are committed to providing students with the knowledge, capabilities, skills and thinking required to be able to identify or create job opportunities in the market. In this entrepreneurial line of action, it is more important to ensure that people thrive (creating entrepreneurial thinking, leadership and action) and in the long term contribute to the key production factors associated with social and economic development. Another interesting feature of this contribution is the innovative vision of the authors, who propose the inclusion of alternative indicators to measure the performance/productivity of entrepreneurial universities, as well as starting to introduce some proxies associated with social returns.

In Chap. 2, Horacio Andrés Capanegra Vallé, Graciela Peralta, Mariel Farioli and Luciana Giacosa defend clarification of the University's mission, through a continuous process of quality improvement and responsible management of the impacts that are evident in four main strategic lines: organizational design; teaching; research; and extension. The authors review the paradigms that have been most recently consolidated in the State, namely, E-Government, Transparency and Social

Responsibility. For the authors, these constitute government and management policies that deserve to be introduced in university management, in order to guarantee the transfer of knowledge and services with efficiency, openness and a sense of community. Again, the importance of the social dimension of the University is stressed, due to its contribution for improving citizens' quality of life. This could be achieved by including social, economic and environmental objectives in the strategic plan of this knowledge institution, which for society may produce a satisfactory return on the resources financing them if the previously referred to paradigms are considered as key strategic values in this process of change.

In Chap. 3, Carolina de Andrade, Daniel Lopes and Ivan Ckagnazaroff analyse the public entrepreneurship experience and its impact on public entrepreneurs' quality of life according to their own perspective. The authors use as a benchmark the public entrepreneurship initiative in Minas Gerais, Brazil, where a state law created the position of Public Entrepreneur. An evaluation of the 7 years' experience is carried out, by using both qualitative and quantitative approaches, founded on the administration of questionnaires and semi-structured interviews. The results reveal positive perceptions among the majority of participants, related to the alignment between entrepreneurship, individual competences and job satisfaction, which are necessary for quality of life. The empirical findings are in line with the previous literature by showing that public entrepreneurs mobilize knowledge, skills and attitudes towards an expected delivery that adds value to public management, society and themselves.

In Chap. 4, Waleeska Schlesinger, Amparo Cervera Taulet, Helena Alves and José Luis Vázquez Burguete conceptualize and operationalize an entrepreneurial construct on perceived quality of life (PQOL) in the city from the perspective of its residents, proposing and validating a new measure with six dimensions through a formative index, embracing perceived standard of living, quality of health care, quality of educational services, quality of perception of safety, quality of infrastructures and quality of the environment. The authors use a Partial Least Squares approach to Structural Equation Models based on 200 personal interviews with residents of Latina, Italy. The results corroborate that residents' perceived quality of life can be measured using a formative construct with the six dimensions proposed by the authors. All dimensions are decisive in forming perceived quality of life in the city. The chapter provides a robust model for understanding the dynamics of PQOL and implications for public managers, in the sense that they should be interested in knowing which dimensions are highly or poorly rated in their city, as well as the importance of these dimensions for their citizens in forming perceptions of quality of life. In addition, the accessibility of public services and investment in human capital (education, health and social security) are considered to be a part of the external environment of quality of life, which is usually regulated by means of public policy.

In Part II, innovation is approached from different theoretical and applied perspectives, where the contributions reveal the push and pull factors of innovation in the public sector context, the importance of promoting innovative mechanisms tending towards greater transparency in public institutions, the role of institutional

practices oriented towards promoting public-private innovation networks with a social impact, innovation fulfilled through the so-called *New Public Service* and the effects of innovative and open governance conjugated with transparency, at the municipal level, on citizens' quality of life.

In Chap. 5, Gry Alsos, Tommy Clausen and Espen Isaksen consider the distinction in the innovation literature between push and pull factors that drive innovation and make an original attempt to identify the push and pull factors in innovation in public-sector organisations. Push factors refer in this context to innovation activity pushed from the supply side or from internal organisation issues. Pull factors are related to demand issues, and in the public sector, they could relate to signals received from citizens, politicians and bureaucrats.

The chapter provides distinct contributions to the literature on innovation practices concerning the NPM. First, it addresses the knowledge gap in the understanding of innovation in the public-sector context. Secondly, it adds to the innovation literature by studying a classical issue in a new context. Thirdly, the authors make use of a large cross-country dataset on innovation in public-sector organizations. A robust empirical examination with data from 29 European countries is performed. The results reveal that public-sector organisations do in fact innovate and that a majority have introduced one or more innovations over the last 2–3 years. There are some variations between the types of organisations, but the general trend is that all kinds of public-sector organisations have significant innovation activity that results in new services being offered to the community, new ways of communicating with citizens and new ways of organising public-sector organisations to improve the efficiency or performance of service delivery or other assigned tasks. Moreover, the authors reveal that innovation is driven not only by pull factors, such as NPM-driven goals and measures related to innovation performance in the public sector, but also to a considerable extent by push-related mechanisms related to the internal resources, processes and characteristics of public-sector organisations. Thus, strategies towards engaging in open innovation may produce results because they will increase the use of external knowledge sources and potentially contribute to the learning and development of innovative capacities. This ability to change and improve in European public-sector organisations is of tremendous importance for further development of European welfare states in times when public expenditure is under pressure.

In Chap. 6, Maria Cristina Longo and Eleonora Cardillo analyse how open innovation in Italian public organizations supports transparency in communicating entrepreneurial and innovative initiatives and how this practice is reflected in communities' quality of life. The authors use a conceptual approach to open government, based on the principles of transparency, in terms of participation, collaboration and accountability. In this context, stakeholders' involvement is critical to identify their economic and social needs and, at the same time, define priorities in promoting local development. To identify what constitutes good communication practices in the public sector, in compliance with Italian law, the authors follow an empirical approach based on a statistical descriptive analysis carried out on a sample of Italian public municipalities in different geographical areas. Furthermore, they complete

the analysis with an exploratory case study, which represents a good example of open administration in communicating entrepreneurial initiatives transparently. The empirical findings reveal a progressive attitude of public authorities to become open; increasing attention to performance evaluation and reporting results; and also an increasing number of public authorities that are becoming absolutely transparent.

In Chap. 7, Leandro Bonfim, Sandro Gonçalves, Mário Moreira and Márcio Jacometti describe how the institutional entrepreneurship that led to formation of a public-private innovation network in the field of Molecular Biology applied to public health in Southern Brazil can improve the Brazilian population's quality of life. The qualitative approach to organizational institutionalism developed in the city of Curitiba, Paraná State, Brazil, from 2013 to 2014, taking a sociological perspective, allows the authors to show how institutional entrepreneurship led to the legitimization of collective interests' actions in a developing field. In addition, the results contribute to a better understanding of how the innovative and entrepreneurial practices of a group of individuals could contribute to improving the national Public Health system provided to the Brazilian population as a whole, and consequently, citizens' quality of life.

In Chap. 8, Freddy Mariñez Navarro addresses the still unexplored topic in the New Public Service (NPS), in the scope of the emergent literature on Public Management, considering the former as a process of interaction where e-government and restructuring replace traditional systems that support the government-citizens relationship. In this domain, innovative e-government practices facilitate the delivery of information and services online through the internet and other digital media (e-mail, discussion groups and blogs) and social networks (Twitter, Facebook and My Space), providing information, creating interaction, producing and encouraging transaction processing, intended here as collaboration. The author defends that these tools are essential for government and citizens to identify and define public problems, and thus develop and implement solutions. In this sense, the government-citizens relationship becomes more dialogic and deliberative hierarchical and authoritative so that dialogue is therefore a precondition for collaboration.

To illustrate this, the author presents a case concerning the management innovation of NPS in the city of San Pedro Garza García, Nuevo León, Mexico that takes as a benchmark the programme called 'Papás en Red?' and analyses how the municipal public sector communicates its innovation to citizens. The empirical approach provides insightful implications for public governance, which needs to involve public administration in a process of change, integrating new types of relationships established between government and citizens, based on the incorporation of the Internet and virtual mediating structures; experiences of civil organizations and informal citizen participation; and horizontal collaboration between citizens and government as opposed to a more formal relationship characterized by a hierarchical relationship.

In Chap. 9, João Leitão, Helena Alves and Dina Pereira analyse the effects of open innovative governance and municipalities' transparency on citizens' quality of life. The authors test different specifications of probit models, by taking as a

reference a population of 308 Portuguese municipalities and using the data collected through the Local Authority site, integrated in the Local Government Integrity for Portugal initiative, in the period 2013–2014. The empirical findings reveal a positive and significant influence of open innovative governance on citizens' quality of life, regarding two dimensions: Plans and planning; and Taxes, fees, prices and regulations. Moreover, a positive and significant association between higher education institutions and citizens' quality of life is identified, although this could be counterbalanced through the negative effects associated with the condition of being a low density municipality and variation in purchasing power.

In Part III, good international practices of entrepreneurship and innovation adopted in the context of public institutions are analysed through a diversified set of case studies. The contributions provide the reader with a better understanding of international experiences of implementing the structural dimensions of transformation of NPM – entrepreneurship and innovation – and of managing change processes, in different contexts of government and safety structures (Brazil); a state university (Spain); state hospitals (Portugal); and state schools for vocational education (Italy).

In Chap. 10, Carlos Afonso, Ricardo Cavalcante and Denize Cavalcante analyse how the organizational model of contemporary public management is designed in the Brazilian case, emphasizing that despite the major reforms carried out and progressive discourse, the focus continues to be on how to control resources, to promote people's quality of life. From a more critical perspective, the authors advocate that when the dichotomy between theory and practice has been overcome, configuration of the model may bring an awakening of conscience to public managers and servers, as well as society in general. They recall the established view in the literature that points out an "emancipation process", motivating the interest in improvements, changes that will make a difference for the better in public management in Brazil, and monitoring of this management's results by society – social control. This could represent a reawakening of citizens, who will be aware of their duties, rights and responsibilities, demanding transparency in the administration of public goods and accountability regarding managers' actions and results. In the empirical approach, the authors use both primary and secondary qualitative data, as well as in-depth interviews with citizens who were protesting against the Brazilian civil service, especially the Executive Branch. The data was analysed through an interpretative approach, phenomenography, where the material collected from reports of 18 respondents was recorded and transcribed for analysis, adopting the hermeneutic phenomenological orientation methodology as in the previous collection stage. The research findings confirm that the Brazilian public administration model oscillates between elements related to instrumental rationality and substantive rationality – with one or other being predominant in each context or moment – on a *continuum* with each other. In practice, however, this can lead the people involved to a shock of rationalities, adversely affecting the administration, which should become more effective in fulfilling its social function, i.e., promoting the common good, contributing to people's quality of life as a whole.

In Chap. 11, Emerson Mainardes, Alexandre Cerqueira and Hekssandro Vassoler, taking as a reference a Brazilian Fire Department, the Military Fire Department of Espírito Santo State (MFDESS), develop a case study on fire inspection, which is critical in verifying safety measures against fires breaking out and panic. After 2010, the MFDESS simplified and digitalized fire inspection procedures. For example, the taxpayer can obtain a fire permit (ALCB) through the internet. Each inspector has a tablet when inspecting establishments, and if an establishment meets the standard requirements, the inspector can now print the permit immediately after the inspection, or the taxpayer can get the license through the internet. The MFDESS has been using the Integrated System of Technical Activities (ISTA), i.e., a computer system which has allowed simplification and recognition of good work on fire inspections. In this line of action, the MFDESS helps save time and contributes to avoiding traffic and pollution, and therefore produces a more positive end result. With the reduction of journeys, fewer vehicles circulate on the streets, meaning lower emissions and lower levels of stress resulting from heavy traffic, thereby generating a better quality of life. Another important result was improved fire safety due to a greater number of establishments meeting the recommended fire safety standards.

In Chap. 12, Victor Valero-Amaro, Clementina Galera-Casquet, M. Mercedes Galan-Ladero and M. Jesus Barroso-Mendez analyse the new opportunities offered by the European Higher Education Area (EHEA) for the development of activities that can enhance quality of life. The authors opted to focus on the educational process of Education for Development (EfD); and, as a case study, the set of initiatives undertaken in the context of the University of Extremadura (UNEX), Spain. The authors analyse the case selected to illustrate the application of a vision at the UNEX, which is in favour of institutionalization and recognition of Cooperation for Development activities. This implies orienting the university's activities in education and training, scientific and technological research, and knowledge transfer to specific issues of development and combating poverty and inequality. The university's role as a main actor in development can be very important since this type of knowledge institution with a social impact can contribute added value to areas such as capacity building and institutional strengthening in other countries, or the improvement of interventions targeted at enhancing human, social, productive and economic development.

In Chap. 13, Isabel Cruz and Maria João Major address the implementation of NPM policies, developing a case study of the corporatization process of 34 public hospitals in Portugal, during 2002. The authors characterize replacement of the traditional model of financing hospitals by a payment system based on the contracting healthcare services. Simultaneously, there was also implementation of Activity-Based Costing (ABC) in a few hospitals, as a management accounting system to provide accurate data. In this context, the authors assessed the impact of NPM policies on a public hospital, based on the result of an in-depth, intensive and longitudinal case study conducted between 2007 and 2012. This case provides insights into the influence of existing institutional logics (namely, bureaucratic public administration and professional logic) in change processes in the public sector. The main



findings reveal the logic of bureaucratic public administration, still predominant in public hospital management, hindered the development of management according to the principles of business management. Throughout the field work, the authors found that the adoption of corporatization was harmonious, with a tendency for very similar opinions. Concerning the implementation of ABC, the differences in perceptions between service heads and chief nurses and other managers were not surprising, due to the conflict of interests owing to the dissimilarities of underlying institutional logics.

In Chap. 14, Renata Vilhena, Humberto Martins and Caio Marini address the topic of public management, by taking as reference the experience in the State of Minas Gerais, Brazil, which underwent profound changes and has become an international benchmark in terms of development, efficient management and achievement of results. Minas Gerais is similar to Chile in population and gross domestic product (GDP). In 2003, the State of Minas Gerais faced serious financial difficulties, lacking resources for all expenses and the state's payroll. This disadvantageous situation was resolved by adopting measures to reduce public spending, without losing focus on development investment, through a process with six key-components: (i) strategy, monitoring and evaluation; (ii) result agreements and incentives; (iii) human resources management; (iv) participation, regionalization, cross-sector exchange, partnerships and accountability; (v) quality of spending and procurement; and (vi) services integration. Considering a 10-year period of innovative public management policies, the authors analyse the transformation processes that occurred with insightful results, revealing that the correlation with development outcomes is clear: the illiteracy rate in the population under 15 decreased from 11.05% in 2003 to 7.4%; infant mortality rate dropped from 18 to 13 deaths per thousand live births; the economic share of national GDP grew from 8.6% to 9.3%; and the Gini index was reduced by 11.3%. Minas Gerais has achieved half the Millennium Goals proposed by the United Nations, such as reduction of the population living under the poverty threshold and of the population suffering from hunger, as well as universal basic sanitation and running water supply. The authors conclude that the Minas Gerais experience reveals the definite possibility of instituting comprehensive processes of management changes with visible effects on development. It is the so-called paradigm effect, disseminating knowledge throughout Brazil and the world, and maintaining this framework tends to ensure a future of further breakthrough and even better performance of the State and its citizens.

In Chap. 15, Stefano Noventa, Serena Cubico, Piermatteo Ardolino, Giuseppe Favretto and João Leitão explore the characteristics and aptitude for entrepreneurship possessed by students in vocational education and training centres in the Italian Veneto region as a case study focusing on poorly qualified young students in contact with a formal or informal entrepreneurial environment. The authors reveal that students in vocational schools were receptive to the environment, social connections, education and work experience. Higher performances in entrepreneurial-related items were associated with greater aptitude and intention, involvement in the labour market, extracurricular activities, courses and presence of a network. The results

obtained emphasize entrepreneurial education's relationship with human and social capital, considered here as two of the main pillars of life-quality.

This book unites a number of innovative and ambitious contributions in line with what is considered fundamental in advancing a structural transformation of NPM, in the context of public sector institutions, aiming to determine citizens' quality of life positively.

Therefore, in the recent context of a lack of credibility and trust in economic, financial, social and political agents, revisiting the NPM approach leads to it gaining new vitality, given the importance of contributing in this work to greater understanding of the role of the State and government structures in the public sector. This follows an established logic of principal and agent, for effective procurement of entrepreneurial and innovative initiatives that contribute not only to internal transformation of the State, but also to external openness tending to improve citizens' quality of life, based on premises of collaboration, responsible participation and exercising active citizenship.

A last note about the challenges for future research, this should focus on the need to plan and intensify entrepreneurial and innovative ecosystems, positioned as institutional and social laboratories, following a holistic vision of sustainability, based on the interconnection of urban and rural dimensions as yet little explored in the literature, and therefore requiring additional efforts in future investigation, in order to determine their influence. This can be either as a determinant or moderating factor, admitting a hypothetical role of those ecosystems as levers and barometers of quality of life, adjustable in the plan of transversal public policies aiming to improve the sustainability of different spatial units and citizens' well-being.

Covilhã, Portugal  
Covilhã, Portugal

João Leitão  
Helena Alves

## References

- Baker, G., Gibbons, R., Murphy, K. (2002). Relational contracts and the theory of the firm. *Quarterly Journal of Economics*, 117(1), 39–84.
- Barzelay, M. (1992). *Breaking through bureaucracy: A new vision for managing Government*. Berkeley: University of California Press.
- Barzelay, M. (2002). Origins of the new public management: An international view from public administration/political science. In K. McLaughlin, S. Osborne & E. Ferlie (Eds). *New public management: Current trends and future prospects* (pp. 15–33). London: Routledge.
- Bassler, A., Brasier, K., Fogle, N., Taverno, R. (2008). Developing effective citizen engagement: A how-to guide for community leaders ([http://www.rural.palegislature.us/Effective\\_Citizen\\_Engagement.pdf](http://www.rural.palegislature.us/Effective_Citizen_Engagement.pdf)). Accessed 5 Oct 2015.
- Bekkers, V., & Homburg, V. (2005). *The information ecology of E-government: E-government as institutional and technological innovation in public administration*. IOS Press.
- Boston, J., Martin, J., Pallot, J., Walsh, P. (1996). *Public management: The New Zealand Model*. Auckland: Oxford University Press.
- Boyne, G. (1998). *Public choice theory and local government*. London: Macmillan.

- Bozeman, B. (1987). *All organizations are public: Bridging public and private organizational theories*. San Francisco: Jossey-Bass.
- Buchanan, J., & Tullock, G. (1962). *The calculus of consent: Logical foundations of constitutional democracy*. Ann Arbor: University of Michigan Press.
- Callon, M. (1980). The state and technical innovation. A case study of the electrical vehicle in France', *Research Policy*, 9(1980), 358–376.
- Callon, M. (1992). The dynamic of techno-economic networks. chap. 4 in R. Coombs, P. Saviotti & V. Walsh (Eds) *Technological change and company strategies* (pp. 72–102). London: Academic Press.
- Callon, M. (1995). Four models for the dynamic of science. Chap. 2 in J., Sheila et.al: *Handbook of science and technology studies*. Thousand Oaks: Sage.
- Carlsson, B. (1995). *Technological systems and economic performance – The case of factory automation*. Boston/Dordrecht/London: Kluwer Academic Publishers
- Christensen, T., & Laegreid, P. (2001). *New public management: The transformation of ideas and practice*. Aldershot: Ashgate.
- Christensen, T., Laegreid, P., Roness, P. G., Røvik K. A. (2008). *Organization theory and the public sector: Instrument, culture and myth*. London: Routledge.
- Christofides, L., & Michael, M. (2013). Exploring the public-private sector wage gap in European countries. *IZA Journal of European Labor Studies*, 2(15).
- Edquist, C. (1997). *Systems of innovation: Technologies, institutions and organizations*. London: Pinter Publishers/Cassell Academic.
- Gaventa, J., & Barrett, G. (2010). So what difference does it make? Mapping the outcomes of citizen engagement. *IDS Working Paper* 347.
- Haas, B. (1999). A multidisciplinary concept analysis of quality of life. *Western Journal of Nursing Research*, 21(6), 728–742.
- Halvorsen, T., Hauknes, J., Miles, I., Røste, R. (2005). *On the differences between public and private sector innovation*, Publin Report No. D9, NIFU STEP, Oslo, 2005.
- Hood, C. (1991). A public management for all seasons? *Public Administration* (1991) pp. 3–19.
- Hughes, O. (1998). *Australian politics*, 3rd. ed., Melbourne: Macmillan Education.
- Kaufmann, D., Kraay, A., Mastruzzi M. (2009). Governance matters VIII: Aggregate and individual governance indicators, 1996–2008. *World Bank policy research working paper*, (4978).
- Kirzner, I. (1973). *Competition and entrepreneurship*. Chicago: University of Chicago Press.
- König, K. (1997). Entrepreneurial management or executive administration: The perspective of classical public administration. In W. Kickert (ed.). *Public management and administrative reform in Western Europe*. Cheltenham: Edward Elgar, pp. 217–236.
- Lane, J. (2000). *New public management: An introduction*. London: Routledge.
- Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge: Harvard University Press.
- Latour, B., & Woolgar, S. (1979). *Laboratory life. The social construction of scientific facts*. London: Sage.
- Lowndes, V., & Pratchett, L. (2012). Local governance under the Coalition Government: Austerity, localism and the “Big Society””. *Local Government Studies*, 38(1), 21–40.
- Lundvall, B.-Å. (Ed.) (1992). *National systems of innovation: Towards a theory of innovation and interactive learning*. London: Pinter Publishers.
- Lynn Jr, L. (1998). The new public management: How to transform a theme into a legacy. *Public Administration Review*, 58(3), pp. 231–237.
- Malerba, F. (2002). Sectoral systems of innovation and production. *Research Policy*, 31, 247–264.
- Malerba, F. (2004). *Sectoral systems of innovation: Concept, issues and analysis of six major sectors in Europe*. Cambridge: Cambridge University Press.
- March, J., & Olsen, J. (1976). *Ambiguity and choice in organizations*. Bergen: Universitetsforlaget.
- March, J., & Olsen, J. (1989). *Rediscovering institutions. The organizational basis of politics*. New York: Free Press.

- March, J., & Olsen, J. (1995). *Democratic governance*. New York: Free Press.
- Mergel, I., & Desouza, K. (2013). Implementing open innovation in the public sector: The case of challenge.gov. *Public Administration Review*, 73, 882–890. doi:10.1111/puar.12141.
- Minogue, M. (1998). Changing the state: Concepts and practice in the reform of the public sector. pp. 17–37 in M. Minogue, C. Polidano and D. Hulme (Eds.), *Beyond the new public management: Changing ideas and practices in governance*. Cheltenham: Edward Elgar.
- Minogue, M., Polidano, C., Hulme, D. (1998). *Beyond the new public management*. Cheltenham: Edward Elgar.
- Nelson, R. (1993). *National systems of innovation: A comparative study*. Oxford: Oxford University Press.
- Niskanen, W. (1971). *Bureaucracy and representative government*. New York: Aldine.
- Niskanen, W. (1975). Bureaucrats and politicians. *The Journal of Law and Economics*, 18(3), 617–643.
- OECD. (2013). *OECD guidelines on measuring subjective well-being*. OECD Publishing. <http://dx.doi.org/10.1787/9789264191655-en>.
- Osborne, D., & Gaebler, T. (1992). *Reinventing government*. Reading: Addison-Wesley.
- Painter, M. (2003). Policy capacity and the effects of new public management. In T. Christensen and P. Laegreid (Eds.), *New public management: The transformation of ideas and practice* (pp. 209–229). Aldershot: Ashgate.
- Peters, B., & Pierre, J. (1998). Governance without government? Rethinking public administration. *Journal of Public Administration Research and Theory*, 8(2), 223–243.
- Peters, T., & Waterman, R. (1982). *In search of excellence – Lessons from America’s best-run companies*. London: HarperCollins Publishers.
- Pollitt, C. (1990). *Managerialism and the public services: The Anglo-American Experience*. Cambridge, MA: Basil Blackwell.
- Pollitt, C. (1995). Justification by faith or by works? Evaluating the new public management. *Evaluation*, 1(2), pp. 133–154.
- Pollitt, C., & Bouckaert, G. (2011). *Public management reform: A comparative analysis: NPM, governance and the Neo-Weberian State*. Oxford: Oxford University Press.
- Prats i Catalá, J. (2006). Veinte años de modernización administrativa em los países de la OCDE. Lecciones aprendidas. In: *Projeto de Modernizacion del Estado*. Seminario Internacional sobre Modernización del Estado. Buenos Aires, 2006.
- Raposo, M., Leitão, J., Paço, A. (2006). E-governance and public marketing tools for universities: A benchmarking proposal. *International Review on Public and Non Profit Marketing*, 3(2), 25–40.
- Reddel, T., & Woolcock, G. (2004). From consultation to participatory governance? A critical review of citizen engagement strategies in Queensland’, *Australian Journal of Public Administration*, 63(3), 75–87.
- Rhodes, R. (1996). The new governance: Governing without government, (1996) 44(4), *Political Studies*, 652.
- Rhodes, R. (1997). *Understanding governance: Policy networks, governance, reflexivity and accountability*. Buckingham. Open University Press.
- Saxenian, A. (1994). *Regional advantage*. Cambridge: Harvard University Press.
- Schumpeter, J. (1934, 1961). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Translated from the German by Redvers Opie; With a new Introduction by John E. Elliott.
- Van de Ven, A., Polley, E., Garud, R., Venkataraman, S. (1999). *The innovation journey*. Oxford: Oxford University Press. p.25.
- White House. (2012). *Memorandum for the National Science and Technology Council Committee on Technology: Open innovator’s toolkit*. February 8, 2012.
- Williamson, O. (1975). *Markets and hierarchies: Analysis and antitrust implications*. New York: Free Press.
- Williamson, O. (1985). *The economic institutions of capitalism*. New York: Free Press.

- Windrum, P., & Koch, P. (2008). *Innovation in public services: Entrepreneurship, creativity, and management*. Cheltenham: Edward Elgar.
- Zucker, L. (1977). The role of institutionalization in cultural persistence. *American Sociological Review*, 42, 726–743.
- Zucker, L. (1983). Organizations as institutions. In S. Bacharach (Ed.), *Research in the sociology of organizations*, 2, pp: 1–47. Greenwich, CT: JAI Press.
- Zucker, L. (1987). Institutional theories of organizations. *Annual Review of Sociology*, 13: 443–464. Palo Alto, CA: Annual Reviews.

# Contents

<b>1</b>	<b>The Transformative Role of Universities: Determinants, Impacts, and Challenges</b> .....	1
	Maribel Guerrero and David Urbano	
<b>2</b>	<b>New Paradigms for University Management</b> .....	19
	Horacio Andrés Capanegra Vallé, Graciela Peralta, Mariel Farioli, and Luciana Giacosa	
<b>3</b>	<b>Public Entrepreneurship and Quality of Life: The Perspectives of Public Entrepreneurs from the State of Minas Gerais (Brazil)</b> .....	41
	Carolina Riente de Andrade, Daniel Paulino Teixeira Lopes, and Ivan Beck Ckagnazaroff	
<b>4</b>	<b>An Approach to Measuring Perceived Quality of Life in the City Through a Formative Multidimensional Perspective</b> .....	59
	Waleska Schlesinger, Amparo Cervera Taulet, Helena Alves, and José Luis Vázquez Burguete	
<b>5</b>	<b>Innovation Among Public-Sector Organisations: Push and Pull Factors</b> .....	81
	Gry Agnete Alsos, Tommy Høyvarde Clausen, and Espen John Isaksen	
<b>6</b>	<b>Transparency in Open Administrations: Communication, Accountability and Community’s Quality of Life. Evidences from Innovative Practices in Italian Local Governments</b> .....	99
	Maria Cristina Longo and Eleonora Cardillo	

<b>7</b>	<b>Institutional Entrepreneurship and Improvement of Quality of Life: The Formation and Legitimation of a Public-Private Innovation Network in Molecular Biology Applied to Public Health in Southern Brazil</b> .....	123
	Leandro R.C. Bonfim, Sandro A. Gonçalves, Mário S. Moreira, and Márcio Jacometti	
<b>8</b>	<b>Citizens and Local Government Management Innovations. Implementation of the New Public Service (NPS) in Municipal Institute Family, San Pedro Garza García, Nuevo León, México</b> .....	155
	Freddy Mariñez Navarro	
<b>9</b>	<b>Open Innovative Governance, Municipalities' Transparency and Citizens' Quality of Life: Are They a Perfectly Matched Trilogy?</b> .....	169
	João Leitão, Helena Alves, and Dina Pereira	
<b>10</b>	<b>Public Management in Brazil: Reflections on the Contemporary Organizational Model</b> .....	189
	Carlos Otávio De Almeida Afonso, Ricardo Vinhaes Maluf Cavalcante, and Denize Vinhaes Maluf Cavalcante	
<b>11</b>	<b>Simplification and Digitalization Practices on Fire Inspection Service: Case Study in a State Fire Department in Brazil</b> .....	203
	Emerson Wagner Mainardes, Alexandre dos Santos Cerqueira, and Hekssandro Vassoler	
<b>12</b>	<b>Innovation Through Work in Education for Development: The Case of the University of Extremadura</b> .....	217
	Victor Valero-Amaro, Clementina Galera-Casquet, M. Mercedes Galan-Ladero, and M. Jesus Barroso-Mendez	
<b>13</b>	<b>Challenges of the New Public Management in a Public Hospital</b> .....	237
	Isabel Cruz and Maria João Major	
<b>14</b>	<b>Managing Towards Development Results: The Case of Minas Gerais' Management Shock</b> .....	261
	Renata Vilhena, Humberto Falcão Martins, and Caio Marini	
<b>15</b>	<b>Assessing the Relation Between Entrepreneurial Environment and Institutions and Aptitude Towards Entrepreneurship: An Experience in Veneto's Vocational Schools</b> ....	293
	Stefano Noventa, Serena Cubico, Piermatteo Ardolino, Giuseppe Favretto, and João Leitão	

# Chapter 1

## The Transformative Role of Universities: Determinants, Impacts, and Challenges

Maribel Guerrero and David Urbano

**Abstract** Traditionally, the core activity of universities has been universally recognized as teaching but universities have undergone internal transformations in order to adapt to external conditions and to legitimize their role in the society. Nowadays, the role of the university is considerably broader than simply to generate graduates, knowledge, and technology transfer. It is more fundamental to ensure that people thrive (creating entrepreneurial thinking, leadership, and action) and in the long term contribute into the key production factors associated to social and economic development. The main objective of this chapter is to provide a better understanding of the main determinants, impacts, and challenges behind the transformative role of universities to become more innovative and entrepreneurial.

### 1.1 Introduction

Universities are large organizations that by nature are not very entrepreneurially focused; however, the incorporation of an entrepreneurial orientation into a university's missions could change this convention (Kirby et al. 2011). The core activity of universities has been universally recognized as teaching, but, universities have undergone internal transformations in order to adapt to external conditions and to legitimize their role in the society (Lumpkin and Katz 2007) through research and entrepreneurial activities. This intrapreneurial phenomenon occurs at the boundaries of different scientific and professional backgrounds, creating a need for support mechanisms to transcend those boundaries. In the United States, this phenomenon has been enforced since the enactment of the Bayh-Dole Act to link entrepreneurial

---

M. Guerrero (✉)  
Department of Strategy, Deusto Business School, Mundaiz 50,  
Donostia, 20012 Guipuzkoa, Spain  
e-mail: [maribel.guerrero@deusto.es](mailto:maribel.guerrero@deusto.es)

D. Urbano  
Department of Business, Universitat Autònoma de Barcelona,  
Building B, Bellaterra, 08193, Cerdanyola del Vallés, Spain



activities of universities and economic development. As well, some Organisation for Economic Cooperation and Development (OECD) countries have reformed legislations but there are still several opportunities at different levels such as the systems, the university, and the individual (Grimaldi et al. 2011). As a consequence, the innovative and the entrepreneurial role of universities help them to compete, to become more productive and to establish links between education, research and stakeholders (Kirby 2005), as well as, to provide new alternatives to the university community that identifies an entrepreneurial opportunity (Audretsch 2014; Guerrero and Urbano 2012a, b) but also contributing to social development enhancing, directly or indirectly, the quality of life of their university community (students or academics) and the society (U.S. Department of Commerce 2013).

Based on these arguments, the called entrepreneurial university simultaneously fulfills three different activities—teaching, research, and entrepreneurship—while providing an adequate atmosphere in which the university community can explore and exploit ideas and contributing to the creation of a sustained competitive advantage that could be transformed into social and economic impacts. The existing literature provides insights about the entrepreneurial transformation process of universities in developed countries (e.g., the United States by Shane 2005; O’Shea et al. 2005, 2007; and Europe by Clark 1998; Wright et al. 2007; Grimaldi et al. 2011; Guerrero and Urbano 2011, 2012a, b; Urbano and Guerrero 2013) and current efforts to explore it in emerging economies (e.g., Iran by Guerrero et al. 2013). The studies showed that in emerging economies usually the first measure implemented to foster entrepreneurship within a university is entrepreneurship educational programs, which help develop a positive relationship between entrepreneurship education and entrepreneurial activity (Katz 2003; Coduras et al. 2008). However, a low prevalence rate of formal and informal entrepreneurship education in developing countries (i.e., Uruguay, Latvia, Peru, Chile, Iran, Argentina, and Mexico) clearly indicated the need for other support measures for entrepreneurs starting a business within universities (Coduras et al. 2010; Corbett 2005; Katz 2003, 2007).

Despite great differences in economic conditions and resource availability, social structures, cultural settings, and historical backgrounds, higher education systems in most countries face similar challenges: maintaining research capacity, combining elite with mass higher education, offering lifelong education, and providing society with a space for the development and maintenance of critical knowledge, independent thinking, social identity, and values (Corbett and Katz 2012; Guerrero et al. 2013). The main objective of this exploratory study is to provide a better understanding of the main determinants, impacts, and challenges behind the transformative role of universities to become more innovative and entrepreneurial. Adopting several theoretical approaches (institutional economics, triple helix, resource-based view, endogenous economic theory and quality of life perspective) and different sources of data (i.e., the Global Competitiveness Index, the National Expert Survey and the Adult Population Survey from the Global Entrepreneurship Monitor, QS World University Rankings, the Times Higher Education, World University Rankings, Human Development Index, etc.), an eclectic model is proposed and tested by several indicators.

Our introduction is followed by an explanation of the main determinants of entrepreneurial universities adopting an institutional, an organizational, and an individual perspective. Then the social and economic impacts of universities are explored in Sect. 1.3. The following section outlines the proposed model and some indicators used to understand better each dimension. Finally, the paper ends with the main challenges and implications.

## **1.2 Determinants of Entrepreneurial Universities: Institutional, Organizational, and Individual Perspectives**

Based on previous studies, the main determinant factors of entrepreneurial universities are grouped into: (i) the socio-economic and institutional context of the country; (ii) the university's resources, capabilities, and organizational context; and (iii) the individual entrepreneurial characteristics of the university community.

### ***1.2.1 Economic Models and Institutional Contexts***

Throughout economic history, institutions have established the rules of society that shape human interaction (North 1990, 2005). Using prior entrepreneurship studies as reference, Audretsch and Thurik (2004) identified two different economic models as the political, social, and economic response to an economy dictated by particular forces: the managed economy and the entrepreneurial economy. In the managed economy, the force is large-scale production, reflecting the predominant production factors of capital and unskilled labour as the sources of competitive advantage). In the entrepreneurial economy, the dominant production factor is knowledge capital as the source of competitive advantage, which is complemented by entrepreneurship capital, representing the capacity to engage in and generate entrepreneurial activity (Audretsch and Keilbach 2004). In each economic model, institutions are created and modified to facilitate the activity that serves as the driving force underlying economic growth and prosperity (Table 1.1).

Following this point of view, an increased importance and significance of the university in terms of its impact on the society is observed within the entrepreneurial economy (Audretsch 2014). Consequently, one determinant of an entrepreneurial university is the institutional context structured according to the stage of economic development in each society (e.g., it is explained by the institutional differences among the factor-driven economy, the efficiency-driven economy, and the innovation-driven economy—classification based on Porter et al. 2002; World Economic Forum 2011). For instance, evidence from North America, Europe, Asia, and Latin America reveals that the entrepreneurial stage of universities could be

**Table 1.1** Economic models and university evolution

	Managed economy	Knowledge and entrepreneurial economy	
Economic model	Solow's model	Romer's model	Audretsch's model
Driving forces	Unskilled labor force/physical capital	Knowledge	Entrepreneurship
Economic stages	Factor driven economy	Efficiency driven economy	Innovation driven economy
General characteristics	Basic factor conditions such as low-cost labour and unprocessed natural resources are the dominant basis of competitive advantage and exports. Factor driven economies are highly sensitive to world economic cycles, commodity prices, and exchange rate fluctuations	A country's advantage comes from producing more advanced products and services highly efficiently. Heavy investment in efficient infrastructure, business friendly government administration, strong investment incentives, improving skills and better access to investment capital allow major improvements in productivity	The ability to produce innovative products and services at the global technology frontier using the most advanced methods becomes the dominant source of competitive advantage. An innovation driven economy is characterised by distinctive producers and a high share of services in the economy and is quite resilient to external shocks
Organizational characteristics	Basic organizations	Higher education and training	Entrepreneurship
	Physical infrastructure	Efficient product – and services market	Innovation
	Macro economic stability	Efficient labour market	Internationalization
	Health and basic schooling	Sofisticated financial markets	Spillover effects
Curiosity for technology			
		International awareness	
Higher education system	Focused on teaching	Focused on teaching and research	Focused on teaching, research and entrepreneurial activities

Source: Self-devised based on Audretsch (2014), Audretsch and Keilbach (2008), and World Economic Forum (2011)

determined by the political, economic, legal rules (called formal factors) and codes of conduct, values, attitudes, norms of behaviours, and culture (called informal factors) on knowledge's production, transference, commercialization, and entrepreneurship in each society (Grimaldi et al. 2011; Guerrero et al. 2014a; Guerrero and Urbano 2012b; Wright et al. 2007). Therefore, the definition of entrepreneurial universities would be directly influenced by the socio-economic stage of each country.

Adopting this perspective, within universities there are particular factors that contribute in the definition of entrepreneurial universities' ecosystems such as formal and informal. The formal factors are: (i) flexible organizational and governance structure with innovative forms to help reduce the levels of bureaucracy and to support a fluid language with other agents in the region's entrepreneurial ecosystem to allow for the interaction and the definition of policies and practices to achieve their missions (O'Shea et al. 2007); (ii) measures integrated by different support mechanisms developed by universities to support internal and external new firm creation as centers of small-university businesses, research facilities, research groups or quasi firms, liaison offices, technology transfer offices, and incubators (Link and Scott 2005; Grandi and Grimaldi 2005); and (iii) adequate entrepreneurship educational programs, for both students and academics, that provide a wide variety of situations, aims, and methods oriented toward improving students' skills, attributes, and behaviors to develop both creative and critical thinking (Katz 2003, 2007; Kirby 2004). The informal factors are: (i) community members' favorable attitudes toward entrepreneurship to facilitate the development of potential entrepreneurs at all university levels (Liñán et al. 2011); and (ii) the existence and the diffusion of successful entrepreneurs, who will become new role models to their peers, demonstrating that entrepreneurial success is more than a theory (Venkataraman 2004) and influencing entrepreneurial intentions (Liñán et al. 2011).

### ***1.2.2 The University's Resources, Capabilities, and Organizational Context***

According to the resource-based view (RBV), an organization is a unique set of valuable, rare, and imperfectly imitable resources and capabilities (Barney 1991). When adopting an organizational perspective, these internal factors that have contributed to create a sustained competitive advantage are linked to the university's resources, capabilities, and organizational context (Wernerfelt 1995). Therefore, to facilitate the generation/transfer/commercialization of university research and generate start-ups/new ventures, the entrepreneurial university has not only altered its core activities/routines but also combined adequate organizational environments and resources (Guerrero and Urbano 2011). For instance, some internal factors that all universities tend to "imitate" are flexible organizational/governance structures or support measures such as centres of small-university businesses, research facilities,

research groups or quasi firms, liaison offices, technology transfer offices, and incubators (Guerrero et al. 2011). But there are other internal factors such as leadership, talent, connections with stakeholders, traditions, and reputation that are unique in each university (i.e., for these reasons most of the studies used a case-study methodology). Indeed, there are also other environmental factors that play an important role, such as the university's policies and its culture, which is reflected in the community members' favourable attitude toward entrepreneurship, and the existence/diffusion of university entrepreneurs demonstrating that entrepreneurial success is more than a theory (Guerrero and Urbano 2012a).

In general, the main internal factors that include: (i) human resources, which are the most critical element for the development of educational quality and generation of innovation in research (Powers and McDougall 2005); (ii) financial resources from diversified sources of income (e.g., government, research contracts, campus services, student fees, and others) (Clark 1998) are relevant to obtain positive and statistically significant relationships between research and development (R&D) expenditures and spin-off activities (Powers and McDougall 2005); (iii) physical resources that delimit the old boundaries between the university and the external world through infrastructure designed to satisfy social demands (Clark 1998) and that create a fertile environment for innovation and new ventures (Guerrero and Urbano 2011); (iv) strong networks/alliances that support entrepreneurial universities' activities by attracting the financial resources required for innovation and new venture creation (O'Shea et al. 2007); and (v) status and prestige representing the uniqueness of historical conditions, whereby firms as intrinsically historical and social entities can be the basis for sustained competitive advantage (O'Shea et al. 2005) and can also attract investments, networks, and access to public funding (O'Shea et al. 2007).

### ***1.2.3 The Entrepreneurial Characteristics of the University Community***

At an individual level of analysis, the university community is comprised of university leaders, academics, and students. Obviously not all university communities will have the motivation, knowledge, and intention required to become an entrepreneur (founder of a start-up), but it is expected that within an entrepreneurial university all their members at least develop entrepreneurial thinking. Undoubtedly, potential entrepreneurs could be identified within the academic and student groups (entrepreneurs in action as explain Corbett and Katz 2012). In the academic group, a potential academic entrepreneur is a researcher who develops his or her daily activities within a university to provide him or her with an adequate environment and resources to support the generation, transformation, and commercialization of knowledge and technology (Urbano and Guerrero 2013). Particularly, a university tries to support the main academic entrepreneurs' challenges, which include: (i) differences in

human capital emanating from the academic discipline base and business ownership experience, (ii) conflicts of interest regarding academic and entrepreneurial activities, and (iii) strong links with scientific networks (but not with commercial networks, which are agents that gain knowledge from one domain and apply it to another). However, evidence suggests that only a few individuals recognize opportunities and act on them through entrepreneurial activities (Corbett 2005).

A possible explanation is that the ability to recognize certain entrepreneurial opportunities will be more available to some academic entrepreneurs, while a different set of opportunities will be more available to other academic entrepreneurs, depending on specific knowledge, field, time, and place. Therefore, based on the nature of the organization, not all entrepreneurial universities could be intensive in knowledge generation and commercialization, but their spillover contribution is important. In the student group, university undergraduate and graduate students are the main focus group for researchers involved in entrepreneurial intention studies. The main objective of entrepreneurial universities is to provide to the society graduates with not only with the theoretical knowledge but also the practical abilities (willingness to change, ability to learn; to thinking entrepreneurial) required to become both talent job seekers and talent job creators (Guerrero and Urbano 2011). Thereby, the entrepreneurial university culture will exert a positive effect not only on students' entrepreneurial behaviours but also on students' "reference people" (friends, professors, and staff). Prior research evidences the relevant role of entrepreneurial universities in the start-up intentions model because, surprisingly, the main challenge is that students who have a higher desire to be entrepreneurs will perceive the start-up process as easy and possible when helped by their university's support measures (Guerrero et al. 2008; Liñán et al. 2011). For all these reasons, universities need to adapt their "traditional policies" to the needs and concerns of society. Also, an entrepreneurial thinking-action of university managers is required in order to pay attention to "intangibles," such as intentions, role models, and leadership, which are especially important for any entrepreneurial action (Kirby et al. 2011).

### 1.3 Impacts of Entrepreneurial Universities: A Social and Economic Perspective

To understand how an economy works, it is necessary to know the political, social, and cultural factors that establish its institutional dynamics; one way is to study its system of beliefs and decision-making processes (North 2005). Previous studies have investigated the impacts of universities since the 1980s. The main focus of these studies has been input-output relationships rather than the economic impact. They measured outputs in terms of contributions via the labour force (Chrisman et al. 1995; Elliott et al. 1988), revenues obtained from patents, R&D collaborations (Siegel et al. 2003), spillover effects (Audretsch and Lehmann 2005), or total university earnings (Goldstein 1990). On the other hand, the main inputs were