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**CONTRIBUTIONS OF INTERNATIONAL EVENTS ON LOCAL
DEVELOPMENT: THE CASE OF THE KNOWLEDGE CITIES
WORLD SUMMIT IN BENTO GONÇALVES**

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**CONTRIBUIÇÕES DE EVENTOS INTERNACIONAIS PARA O
DESENVOLVIMENTO LOCAL: O CASO DO KNOWLEDGE CITIES
WORLD SUMMIT EM BENTO GONÇALVES**

Dissertation presented to the Graduate Program in Smart and Sustainable Cities of Nove de Julho University – UNINOVE, as a partial requirement to obtaining the Master's degree in Smart and Sustainable Cities.

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IN BENTO GONÇALVES**

by

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Dissertation presented to the Graduate Program in Smart and Sustainable Cities of Nove de Julho University – UNINOVE, as a partial requirement to obtaining the Master's degree in Smart and Sustainable Cities, being the Examining Board composed by:

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ABSTRACT

Knowledge-based urban development (KBUD) is a strategic approach that considers knowledge as a critical element for urban transformation and sustainable development. The incorporation of KBUD into a city's development process can occur through different paths. This study analysed how an international event on the theme of knowledge-based urban development can contribute to the local KBUD of the host city. In order to do so, the study applied two qualitative research approaches: a semi-structured interview-based qualitative analysis was adopted for investigation of the annually held event Knowledge Cities World Summit (KCWS). Then, a case study was carried out to focus on the Brazilian city of Bento Gonçalves, which hosted the fourth edition of the KCWS in 2011. The interview technique was used as the primary data collection method, while content analysis was applied to analyse the interview transcripts. Document and indicator analysis provided complementary evidence in support of triangulation. Findings indicated that among the contributions of KCWS to Bento Gonçalves' KBUD are those associated with the local university's role in city development. KCWS contributed to placing the university as a leader of the local KBUD movement. From there, other effects and other KBUD initiatives were developed in the city. The analysis also suggested that the local context had an influence on the nature of the event's contributions. Even so, Bento Gonçalves' results are a signalisation to the various Brazilian cities inserted in similar contexts and planning to follow KBUD's path.

KEYWORDS: Knowledge-based urban development. Knowledge city. Event contributions. Sustainable urban development. Knowledge Cities World Summit. Bento Gonçalves.

RESUMO

O desenvolvimento urbano baseado no conhecimento (DUBC) é uma abordagem estratégica que considera o conhecimento como um elemento crítico para a transformação urbana e o desenvolvimento sustentável. A incorporação do DUBC no processo de desenvolvimento de uma cidade pode ocorrer por diferentes caminhos. Este estudo analisou como um evento internacional sobre o tema do desenvolvimento urbano baseado no conhecimento pode contribuir para o KBUD da cidade onde foi realizado. Para tanto, o estudo aplicou duas abordagens de pesquisa qualitativa: uma análise qualitativa baseada em entrevistas semiestruturadas foi adotada para investigação do evento anual *Knowledge Cities World Summit* (KCWS). Em seguida, um estudo de caso foi conduzido com foco na cidade brasileira de Bento Gonçalves, que sediou a quarta edição do KCWS em 2011. A técnica de entrevista foi utilizada como método primário para coleta de dados, enquanto a análise de conteúdo foi aplicada para analisar as entrevistas transcritas. A análise de documentos e indicadores forneceu evidências complementares, em apoio à triangulação. Os resultados indicaram que entre as contribuições do KCWS para o KBUD de Bento Gonçalves estão aquelas associadas ao papel da universidade local no desenvolvimento da cidade. O KCWS contribuiu para colocar a universidade como líder do movimento de KBUD local. A partir daí, outros efeitos e outras iniciativas de KBUD foram desenvolvidas na cidade. A análise também sugeriu que o contexto local teve influência na natureza das contribuições geradas pelo evento. Ainda assim, os resultados de Bento Gonçalves são uma sinalização para as várias cidades brasileiras inseridas em contextos semelhantes e que planejam seguir o caminho do KBUD.

PALAVRAS-CHAVE: Desenvolvimento urbano baseado no conhecimento. Cidade do conhecimento. Contribuições de eventos. Desenvolvimento urbano sustentável. *Knowledge Cities World Summit*. Bento Gonçalves.

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LIST OF ABBREVIATIONS AND ACRONYMS

AMESNE	Municipalities of Northeast Upper Hillside Association
Aprovale	Vale dos Vinhedos Fine Wine Producers Association
CAGED	General Register of Employed and Unemployed
CAQDAS	Computer-Assisted Qualitative Data Analysis Software
CEMPRE	Central Business Register
CGI	Furniture Innovation Management Centre
CIC-BG	Bento Gonçalves Centre for Industry, Commerce and Services
CISC	Comunidad Iberoamericana de Sistemas de Conocimiento
CISGA	Serra Gaúcha Intermunicipal Consortium for Sustainable Development
CNPq	National Council for Scientific and Technological Development
COP	United Nations Climate Change Conferences (Conference of the Parties)
COREDE	Regional Development Councils of Rio Grande do Sul State
Corsan	Riograndense Sanitation Company
DATASUS	Informatics Department of the Unified Health System
ECOC	European Capitals of Culture
EMATER	Technical Assistance and Rural Extension Company
Embrapa	Brazilian Agricultural Research Corporation
FECOMERCIO	Federation of Commerce of Goods, Services and Tourism
FENAVINHO	National Wine Festival
FIERGS	Federation of Industries of Rio Grande do Sul State
FIFA	International Federation of Association Football
FIRJAN	Federation of Industries of the Rio de Janeiro State
GPD	Gross Domestic Product
IBGE	Brazilian Institute of Geography and Statistics
IBRAVIN	Brazilian Wine Institute
ICKS	Ibero-American Community for Knowledge Systems
ICT	Information and Communication Technology
IDESE	Socioeconomic Development Index
IFDM	FIRJAN Municipal Development Index
IFRS	Federal Institute of Education, Science and Technology of Rio Grande do Sul
INPI	National Institute of Intellectual Property
KBD	Knowledge-based Development
KBUD	Knowledge-based Urban Development
KBUD/AM	KBUD Assessment Model
KCWS	Knowledge Cities World Summit

LOC	Local Organizing Committee
MAKCi	Most Admired Knowledge City Award
MHDI	Municipal Human Development Index
MOVERGS	Furniture Industries of Rio Grande do Sul State Association
PPGA	Graduate Program in Administration of University of Caxias do Sul
PPG-CIS	Graduate Program in Smart and Sustainable Cities of Nove de Julho University
R&D	Research and Development
RAIS	Annual Social and Information List
RS	Rio Grande do Sul state
SBGC	Brazilian Society for Knowledge Management
SEFAZ-RS	Rio Grande do Sul State Finance Department
SENAI	National Industrial Training Service
SHRBS	Bento Gonçalves Hotels, Restaurants, Bars and Similar Union
SIMMME	Union of Metallurgical, Mechanical and Electrical Material Industries of Bento Gonçalves
SINDMÓVEIS	Bento Gonçalves Furniture Industry Union
SNIS	National Sanitation Information System
Tec	Tecnológico de Monterrey
TecnoUCS	Science, Technology and Innovation Park of University of Caxias do Sul
UCS	University of Caxias do Sul
UCS INOVA	University of Caxias do Sul innovation agency
UERGS	State University of Rio Grande do Sul
UFRGS	Federal University of Rio Grande do Sul
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-Habitat	United Nations Human Settlements Programme
UNINOVE	Nove de Julho University
WCI	World Capital Institute
WHO	World Health Organization

SUMMARY

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1 INTRODUCTION

1.1 CONTEXTUALISATION

'Think Globally, Act Locally' was one of the most famous slogans of the environmental movement since the early 1970s (Darier & Schüle, 1999). Nowadays, however, the expression takes on other meanings, becoming representative of phenomena that, although somehow also related to the environmental issue, are not limited to it. Global dynamics and processes territorialised at local level are changing the urban context and creating unprecedented challenges for cities. As the world moves towards a global information order, many cities worldwide face the prospect of major transformations (Edvardsson, Yigitcanlar & Pancholi, 2016).

The extraordinary growth of urbanisation, now encompassing half of the world population, turned global sustainability into an increasingly local urban issue (Bugliarello, 2006; Vojnovic, 2014). Meanwhile, communities have been impacted by global scale environmental, social and economic crises, such as climate change, socio-economic inequity, and digital and knowledge divides (Yigitcanlar & Lee, 2014).

As a result of increased cross-boundary flows of resources, privatisation and deregulation, the global economy has shifted the city's scale of action, giving space to the rise of the global cities (Sassen, 2005). Although it may be argued that few cities can compete to be genuinely global, the nature of economic activities affects all cities seeking local development (Burbank, Andranovich & Heying, 2002). Considering this, city governments have become increasingly concerned about their role in the global economy, as cities become one of the main drivers of national growth (Anttiroiko, 2014).

In this global context, cities are driven into increased intercity competition for increasingly footloose investment capital, transnational firms, skilled workers and tourists (Malecki, 2007; Shin, 2014). In an asymmetric field, interlocal competition involves not only marketing natural and created assets but also enhancing or improving attributes that make it possible to attract and keep investment and migrants (Anttiroiko, 2014; Malecki, 2007).

All these shifts in scale take place during what was called the threshold of a new evolutionary cycle of human civilisation: the transition from an industrial, material-production era to a knowledge-production era (Carrillo, 2004). Initiated by the turn of

the millennium, this transition is characterised by the incorporation of new factors such as innovation, entrepreneurship and technological progress into the production function (Carrillo, 2014).

In the knowledge-production era, non-tangible forms of capital, also known as intellectual capital or knowledge capital, play a key role in developing economies and societies and imprint different human activity and human living patterns (Carrillo, 2004, 2014). In the global knowledge economy, knowledge is the driving force for economic growth, societal development, and improvement in urban regions' competitiveness (Yigitcanlar & Lönnqvist, 2013). In order to remain competitive and compensate for the loss of industrial relevance in their economic matrix, cities are forced to focus on developing knowledge as a critical local and regional resource (Edvardsson et al., 2016; Ivaldi, Penco, Isola & Musso, 2020). In this context, the very nature of urban development changes, as knowledge-based activities require conditions and environments very different from those associated with the industrial dynamics (Yigitcanlar & Martinez-Fernandez, 2010).

Hence, cities are being asked to cope with the multifaceted challenge of attracting the highest possible value from global flows of values while promoting local knowledge-based and sustainable development, attracting resources and increasing citizens' quality of life (Knight, 1995; Malecki, 2007; Yigitcanlar & Lönnqvist, 2013; Yigitcanlar & Martinez-Fernandez, 2010). Such a challenge requires a new strategic approach to thinking about urban development.

Knowledge-based urban development (KBUD) is a strategic approach that can support cities facing such a challenge. First appearing in the urban planning agenda during the very last years of the 20th century (Yigitcanlar, 2011), in the last decade, KBUD has become a prevalent policy for cities and regions aiming to increase their competitiveness, upgrade infrastructures, attract and retain investment and talent, and improve quality of life (Yigitcanlar, 2010; Yigitcanlar & Lönnqvist, 2013; Yigitcanlar & Bulu, 2015; Yigitcanlar, Edvardsson, Johannesson, Kamruzzaman, Ioppolo & Pancholi, 2017).

KBUD is a comprehensive approach that considers knowledge as the critical element of a development strategy (Chang, Sabatini-Marques, Da Costa, Selig & Yigitcanlar, 2018). Its ultimate goal is to produce a knowledge city – a city purposefully designed to "encourage the generation, circulation and use of knowledge in an economically secure, socially just, environmentally sustained and well-governed

human setting" (Yigitcanlar & Lönnqvist, 2013, p. 359). Knowledge cities function as breeding grounds for talent and innovation, aggregating knowledge and technological infrastructures (e.g., universities, research and development institutes, digital grids), connections to the global economy (e.g., international companies and financial institutions for trade and investment), together with processes and people capable of producing knowledge (Edvardsson et al., 2016).

The capacity to balance all societal values into an equitable and sustainable dynamic equilibrium is the distinctive characteristic of knowledge cities (Carrillo, 2015). To achieve such balance, KBUD framework, as presented by Yigitcanlar and Lönnqvist (2013), articulates four development perspectives – economic, socio-cultural, environmental, and institutional – as main policy domains (Yigitcanlar & Lönnqvist, 2013; Yigitcanlar, 2014b). A multidimensional and balanced approach to these domains, along with sustainability and strategic organisational capacities, are critical success factors in KBUD initiatives (Yigitcanlar, 2014b).

Sustainability, therefore, is a fundamental dimension of KBUD. Earlier in the 1990s, Knight (1995) advocated that the knowledge-based development of cities was the basis for sustainable development. Insofar they underlie a critical aspect of collective capital, sustainability goals are a necessary, though not sufficient, condition to knowledge-based development (Carrillo, 2014). To the same extent, Yigitcanlar and Kamruzzaman (2015) stated that "[t]here is no other option remaining to achieve the prosperity in urban development without considering the sustainability in planning and development" (p. 14679).

1.2 RESEARCH PROBLEM

In order to achieve the overall goal of KBUD, cities need their strategic urban planning, development and management mechanisms targeted at meeting the requirements of the global knowledge economy (Yigitcanlar, 2010; 2014a). That, in turn, requires urban planners and policymakers to be aware, capable, and equipped to integrate KBUD principles and guidelines into policies, procedures, methods, and metrics. Previous research on KBUD policies' effectiveness has indicated that partnership between university, industry, and government (the triple-helix model) is a critical factor for KBUD success (Yigitcanlar et al., 2017). However, building a

knowledge basis, partnerships and synergy on a collective level is a complex task and demands the use of different strategies and instruments. This research focuses on a specific strategy, which is the hosting of international events on the theme of knowledge-based development.

A considerable number of studies has focused on understanding the processes, contributions and impacts of events, especially mega-events (large scale leisure and tourism events such as the Olympic Games and World Fairs), on cities (see Azzali, 2017; Bernardino, Freitas Santos & Cadima Ribeiro, 2017; Dwyer, Mellor, Mistilis & Mules, 2000; Hall, 2012; Hiller, 2000; Hudec, Remoaldo, Urbančíková & Cadima Ribeiro, 2019; Kassens-Noor, Wilson, Müller, Maharaj & Huntoon, 2015; Liang, Wang, Tsaur, Yen & Tu, 2016; Liu, 2019; Quinn, 2005; Richards, 2017; Ritchie, 1984; Shin, 2014). However, it is also relevant to consider the potential of smaller-scale events, such as conferences and summits. Events of this type usually intend to promote understanding and application of different fields of knowledge and, therefore, have a high potential to advance development. Besides, such events often succeed in bringing together leading national and international specialists and practitioners in their fields, providing opportunity for accessing new technologies, exchanging ideas and establishing business and professional contacts (Dwyer et al., 2000).

In the policy field, researchers have identified that events may create shared understandings capable of motivating engagement in joint action (Henn & Bathelt, 2015) or act as catalysts of change in an institutional field (Hardy & Maguire, 2010). For that reason, "[e]vents have become an increasingly important policy tool for achieving a range of different objectives for cities and regions worldwide" (Liu, 2016, p. 707). In the last decades, cities and regions have been using events to generate a growing range of different outcomes.

The literature on the impacts of events on cities includes, but is not limited to, triggering economic growth, developing tourism industry, creating landmarks and infrastructure, generating media interest, improving city image, and more (Azzali, 2017; Gelders and van Zuilen, 2013; Getz & Page, 2016; Richards and Wilson, 2004; Richards, 2017; Waitt, 1999). Attentive to that, cities have progressively moved from a passive role as merely location or backdrop for events towards a more proactive use of them in order to draw different policy agendas (Richards, 2017).

Considering that, it seems relevant to explore the relationship of KBUD and events, not only because events can be used as an intermediary or as a tool to

leverage cities' knowledge-based agenda but also because they can produce development themselves. This study approaches this relationship by considering the potential contribution of international events to host cities' local knowledge-based development. Particularly, it focuses on a global event held annually on the specific theme of KBUD – the Knowledge Cities World Summit (KCWS) and its contributions to the Brazilian city of Bento Gonçalves, which hosted the event in 2011.

In line with that, the following research question emerges and underlies the development of the study: how can international events contribute to the local knowledge-based urban development of host cities?

In order to answer this question, general and specific objectives are defined below.

1.3 RESEARCH OBJECTIVES

1.3.1 General objective

Analysing how an international event on the theme of knowledge-based development can contribute to the local KBUD of the host city.

1.3.2 Specific objectives

To achieve the general objective of this study, the following specific objectives were defined:

- a) Analysing the role of the Knowledge Cities World Summit (KCWS) on the knowledge-based development of host cities, with particular focus on the event purposes and achievements on host cities;
- b) Describing the particular settings of case study city Bento Gonçalves and analysing the context in which the KCWS was held;
- c) Identifying the KBUD initiatives and achievements of Bento Gonçalves;
- d) Exploring the relationship between the KCWS and the KBUD initiatives and achievements of Bento Gonçalves.

1.4 DELIMITATION OF THIS STUDY

The international event subject of this study is the Knowledge City World Summit (KCWS), an event held annually on the theme of KBUD. The first edition of KCWS occurred in 2007, which time-bounds our analysis. Since then, 12 different cities hosted the event each year. This research, however, carries out a case study of only one of the hosts: the Brazilian city of Bento Gonçalves. Since the research aims to investigate the contributions of the event on the host city's KBUD, the effects that go beyond the KBUD conceptual field, as well as those that surpass contributions, e.g., impacts, were not considered in research design and analyses.

1.5 RELEVANCE AND JUSTIFICATION

The justification for carrying out this study lies in the vision that KBUD is a robust strategy capable of leveraging urban development in a smart and sustainable way. From the empirical point of view, the selection of the study object, the KCWS, occurred due to the event's declared objective of promoting this vision. In turn, the city of Bento Gonçalves, which hosted the event, is recognised on the national scene as an important cultural and tourist hub, often standing out in development rankings. The city was also awarded a Most Admired Knowledge Cities in 2019, increasing the interest in investigating the possible effects of KCWS on the city's KBUD.

Therefore, this study makes a contribution by providing insight into the context and social processes through which an international event can contribute to the KBUD of a city. These insights may be valuable for managers and policymakers seeking instruments and strategies to induce development and improve the competitiveness of their cities.

From an academic perspective, this study is relevant in approaching and contributing to the fields of Urban Development and Knowledge-based Urban Development in Brazil. Also, considering the existing international body of knowledge on the topic, the study makes a contribution by providing insight into the potential of events in promoting Knowledge-Based Urban Development.

Finally, the current work is justified by its contribution and adherence to the Graduate Program in Smart and Sustainable Cities (PPG-CIS) at Nove de Julho

University (UNINOVE), which advocates that the synergy between the social interaction patterns provided by urbanisation and the knowledge produced by citizens creates opportunities to expand sustainable urban development. By furthering the understanding of how a development strategy that has knowledge as its critical element can be furthered in a Brazilian city, this study contributes to advancing public policies focused on the smart and sustainable development of cities.

2 LITERATURE REVIEW

2.1 METHODOLOGICAL PROCEDURES

Prior to empirical investigation, a comprehensive literature review was conducted in order to compose the theoretical basis of the study. According to Yin (2016), reviewing the extant literature at the beginning of the research helps sharpen preliminary considerations regarding the topic of study, methods, and data sources. The literature review also provides a theoretical framework and a state-of-the-art reference for comparing and discussing research results with findings previously obtained by other researchers (Creswell, 2010). The procedures adopted to execute it are presented below.

Firstly, combinations of keywords were defined considering research objectives and preliminary readings of academic papers on *international events* and *knowledge-based development* topics (Table 1).

Table 1

Keywords used in search inquiry, by topic.

International Events	Knowledge-based Development
International event	Knowledge-based development
Event impact	Knowledge-based urban development
Event scale	Knowledge city
Mega-event	Knowledge economy
International conference	Knowledge management
International convention	
City event	
City festival	
Event-led strategy	
Event-led development	
Field-configuring event	

Source: the author, 2020.

Scopus database was selected as the source for the research of academic literature pieces considering its broad journal coverage of highly reliable, quality

journals, especially in the Social Sciences domain (Harzing & Alakangas, 2016; Mongeon & Paul-Hus, 2016). Besides, the platform provides a varied filter menu that allows the application of inclusion and exclusion criteria before the extraction.

Since the purpose of the search was to gain an overview of the topics, the database included journal articles and journal reviews, books and book chapters, conference papers and conference reviews, and editorials. Document types such as letters, short surveys, notes and errata were left out. The next criterium applied concerned the subject area – in general, documents on Exact and Biomedical Sciences were excluded. The final selection was made considering source titles. The remaining documents had their titles and their abstracts 'eye-balled' for an evaluation of their adherence to the research themes. After that, a CSV file containing the list of documents was exported and manipulated in Excel. A column containing the impact factor of the source titles, when available, was added. After that, the entries were sorted on a priority order that combined citation count (highest to lowest), impact factor (highest to lowest) and date (newest to oldest). Then, the documents on the resulted ordered list started to be read.

As the documents (mainly journal articles) were being read, notes on literature they referred to were collected, which provided the second map of relevant literature that needed to be reviewed. In this second stage, Scopus and Google Scholar databases were used to search for specific articles. Qualitative summaries were produced as the documents were read. The main findings of the literature review are presented below.

2.2 KNOWLEDGE-BASED URBAN DEVELOPMENT

For over two centuries, traditional input factors of the production function – i.e., labour, land and capital, all of material base, were sufficiently adequate for explaining the growth of economies based on agriculture, extraction and industrial manufacturing. Human capital was either embedded in labour or in a capital category (Carrillo, 2014; Edvardsson et al., 2016). However, by the second half of the 20th century, economic analysts and policymakers started to realise that the growth rates of several economies could not be explained in terms of traditional economic factors anymore (Cooke & Leydesdorff, 2006; Edvardsson et al., 2016). By the turn of the millennium, it has

become clear that non-tangible forms of capital, also known as intellectual capital or knowledge capital, were playing a pivotal role in the development and economic prosperity, particularly in high-performing, innovation-driven economies (Carrillo, 2014; Cooke & Leydesdorff, 2006; Edvardsson et al., 2016). In the knowledge economy era, education, science, technology, and innovation are levers for economic growth, and knowledge-based activities are a requirement for development – a knowledge-based development (KBD) (Fachinelli, D'Arrigo & Breunig, 2018).

Initially considered and applied for the development of industry and business, KBD rapidly caught the attention of researchers from fields such as Economic Geography, Urban and Regional Planning and Regional Sciences (Yigitcanlar, Lönnqvist & Salonius, 2014). Early in the 1990s, Knight (1995) had already recognised knowledge as a fundamental force underlying the sustainable development of cities and argued that new policy and planning approaches were needed to address knowledge-based development, defined by him as the transformation of knowledge resources into local development.

During the 2000s, the connection between cities, as places where knowledge is created, traded and marketed, and the concept of KBD became stronger, as 'knowledge city' became a popular theme in academic research (see Bugliarello, 2004; Carrillo, 2004, Dvir & Pasher, 2004; Ergazakis, Metaxiotis & Psarras, 2004; 2006; Yigitcanlar, O'Connor & Westerman, 2008; Yigitcanlar, Velibeyoglu & Martinez-Fernandez, 2008). Soon, it became clear that the knowledge-based perspective needed to be embedded in the urban planning and development theoretical framework more systematically. That was when 'knowledge-based urban development' (KBUD) concept emerged as a planning and development policy approach for cities and regions in the context of the knowledge economy era and global competitiveness (Yigitcanlar, 2011; 2014a; Yigitcanlar et al., 2014).

Yigitcanlar (2011) defined KBUD as

the new development paradigm of the knowledge era that aims to bring economic prosperity, environmental sustainability, a just socio-spatial order and good governance to cities, and produces a city purposefully designed to encourage the production and circulation of knowledge in an environmentally conserved, economically secure, socially just and well governed human setting, a knowledge city. (p. 354)

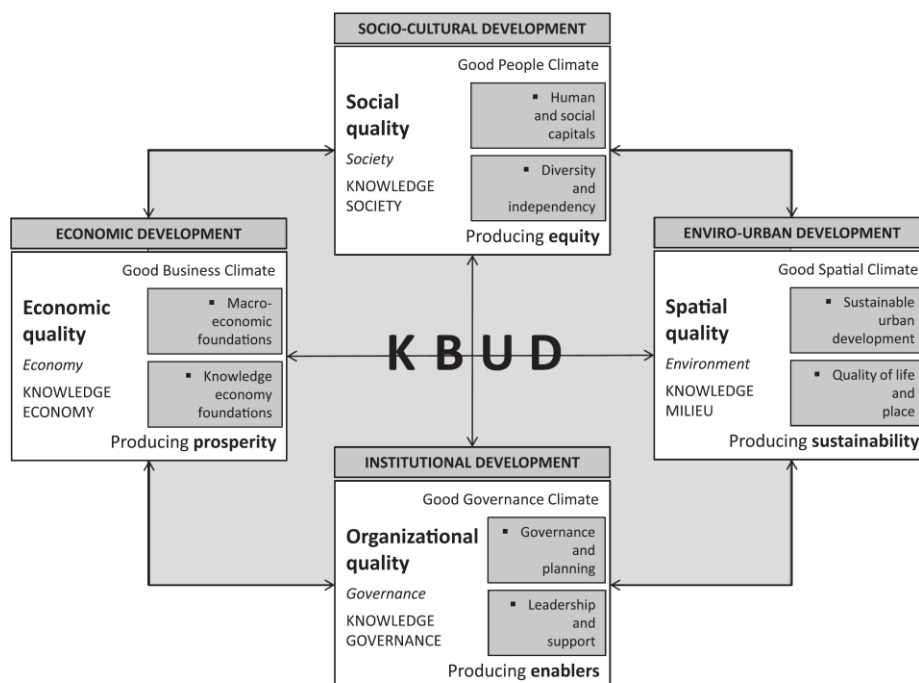
Although other different definitions of KBUD may be found in the literature, this one remains the most cited, as the systematic literature review carried out by Edvardsson et al. (2016) has demonstrated. In the last decade, KBUD has become a

prevalent development approach for cities aiming to advance innovative capacities (Yigitcanlar & Lönnqvist, 2013), diversify their economic base (Yigitcanlar et al., 2018), upgrade infrastructures (Yigitcanlar & Bulu, 2015), and improve quality of life (Yigitcanlar, O'Connor & Westerman, 2008). More recently, KBUD has been considered a strategic model for the promotion of smart and sustainable cities (Chang et al., 2018; Michelam, Tucunduva, Yigitcanlar & Vils, 2020; Sabatini-Marques, Yigitcanlar, Schreiner, Wittmann, Sotto & Inkinen, 2020; Yigitcanlar, Sabatini-Marques, Lorenzi, Bernardinetti, Schreiner, Fachinelli & Wittmann, 2018).

Through a comprehensive and multidisciplinary perspective, KBUD aims to form perfect 'climates' for business, people, space/place and governance (Yigitcanlar and Lönnqvist, 2013; Yigitcanlar & Bulu, 2015). In order to do that, KBUD's conceptual framework draws upon four broad policy domains—i.e., economic, societal, spatial, and institutional (Yigitcanlar, 2014b; Yigitcanlar and Lönnqvist, 2013; Yigitcanlar et al., 2014). Figure 1 illustrates the conceptual framework of KBUD.

Figure 1

Conceptual framework of KBUD



Source: Yigitcanlar & Lönnqvist, 2013.

Economic development perspective considers knowledge a strategic resource and seeks to incorporate endogenous knowledge assets into economic activities (Yigitcanlar & Lönnqvist, 2013). In KBUD's economic strategy, locally developed intelligence, research and technology are used to create high value-added products and economic prosperity, especially in terms of high-technology business and services, as well as education and Research & Development (R&D) (Yigitcanlar, 2009; 2011).

Socio-cultural development perspective considers that residents' skills and knowledge are a means for individual development and the growth of society's achievements (Yigitcanlar et al., 2014). This perspective aims to build a knowledge society that achieves social equity through diversity, independence and strong human and social capitals (Yigitcanlar & Lönnqvist, 2013).

Enviro-urban development perspective considers the conservation, development and integration of natural and built environments as premises to build a strong spatial network relationship between urban development and knowledge clusters (Yigitcanlar & Lönnqvist, 2013). This perspective aims to achieve sustainability in a knowledge milieu through 'sustainable urban development' and 'quality of life and place' (Yigitcanlar, 2014b).

Institutional development perspective considers that the joint action of actors, stakeholders and sources can create a civic vision and also plan and facilitate knowledge-intensive bases and activities. It intends to democratise and humanise knowledge, institutionalising collective interdisciplinary learning processes and knowledge-based organisations (Yigitcanlar & Lönnqvist, 2013). This perspective applies the principles of strategic planning, institutional leadership, partnership and support as enablers of KBUD. From the institutional perspective, knowledge governance is part of the urban planning, development and management process itself (Yigitcanlar, 2011; 2014a; Yigitcanlar & Lönnqvist, 2013; Yigitcanlar et al., 2014).

Integration and balance among the four perspectives are central for the success of KBUD initiatives, and cities must give equal attention to all policy domains if they want to achieve prosperous knowledge-based development (Yigitcanlar, 2014b). Likewise, sustainability and organisational capacity are critical dimensions that must be at the heart of a KBUD process to support the knowledge city (trans)formation (Yigitcanlar, 2011; 2014b).

2.2.1 The Knowledge City

A knowledge city is the ultimate goal of KBUD. However, what makes a city a knowledge city? What does the idea of a knowledge city mean? Scholars who have focused on the topic report that, whereas a widely used concept nowadays, competing definitions of 'knowledge city' can be found in the literature (Carrillo, 2015; Edvardsson et al., 2016). Carrillo (2004) defined it as "a permanent settlement of relatively higher rank in which the citizenship undertakes a deliberate, systematic attempt to identify and develop its capital system in a balanced, sustainable manner" (p. 34). Ergazakis, Metaxiotis and Askounis (2013), building upon a previous definition by Ergazakis, Metaxiotis and Psarras (2004), defined a knowledge city as

a city that aims at a KBD, by continuously encouraging the knowledge management processes. This can be achieved through the continuous interaction between its knowledge agents themselves and at the same time between them and other cities' knowledge agents. The city's appropriate design, ICT networks and infrastructures support these interactions. (p.79)

In Yigitcanlar's KBUD definition (Yigitcanlar, 2011), a knowledge city is conceptualised as "a city purposefully designed to encourage the production and circulation of knowledge in an environmentally conserved, economically secure, socially just and well governed human setting" (p. 354). In their systematic review of knowledge city empirical studies, Edvardsson et al. (2016) refer to knowledge cities as "cities in which both the private and the public sectors value knowledge, nurture knowledge, spend money on supporting knowledge dissemination, and discovery and harness knowledge to create products and services that add value and create wealth" (p. 538).

Common to all these definitions, it seems, is the recognition that knowledge cities have the purpose of creating value through knowledge. Yigitcanlar, O'Connor and Westerman (2008) emphasised that a knowledge city's strategic mission is to encourage and cultivate locally-focused innovation, science, and creativity. Moreover, because they are competing in a global knowledge economy, knowledge cities need to develop and integrate local knowledge infrastructures, such as universities, science parks and R&D institutes; local knowledge resources and capacities, such as educated people and effective management processes and; connections to the global economy, such as transnational companies and international investment institutions (Edvardsson et al., 2016). In order to do that, cities need a sound KBUD strategy.

2.2.2 Planning and Implementing KBUD strategies

To date, a number of cities around the world have earned the 'knowledge city' label/brand, including Austin, Barcelona, Delft, Helsinki, Melbourne, Montreal, Singapore and Stockholm (Edvardsson et al., 2016; Knight, 1995; Yigitcanlar, 2009; 2014b). So far, though, an increasing number of aspiring or emerging knowledge cities – e.g., Brisbane, Copenhagen, Dubai, Dublin, Istanbul, Kuala Lumpur, Manchester, Monterrey, Shenzhen, Shanghai and Tampere, have been engaged in planning and implementing KBUD strategies in the pursuit of sustainable economic growth and prosperity (Edvardsson, et al., 2016; Rizzon, Fachinelli, Zanotto, Montaña & da Silva, 2019; Yigitcanlar, 2011; Yigitcanlar & Bulu, 2015; Yigitcanlar et al., 2014). This is neither a quick nor a simple endeavour, and literature on knowledge cities best practices has shown that a sound strategic vision and long-term planning are integral parts of a successful KBUD process (Edvardsson et al., 2016; Yigitcanlar, 2009; 2011; 2014a; Yigitcanlar & Lönnqvist, 2013; Yigitcanlar et al., 2014).

Cities interested in planning and implementing KBUD approaches must start by forming a KBUD strategy and adapting their planning mechanisms to it (Yigitcanlar 2014a). However, there is no generic recipe to articulate a KBUD strategy, as each city's key characteristics and circumstances must be considered in the formulation process (Yigitcanlar et al., 2014). Knight (1995) already highlighted in the 1990s that particular attention needed to be given to local historical, cultural, aesthetic and ecological values, which give the city its distinctiveness and affect the quality of life in it. Planning for prosperous knowledge cities through a KBUD strategy requires an understanding of the unique characteristics, the identity differences, the diverse socioeconomic and socio-spatial forms and, mainly, the valuable knowledge assets of a city or region (Edvardsson et al., 2016; Yigitcanlar, 2010; Yigitcanlar et al., 2014; Yigitcanlar, O'Connor & Westerman, 2008; Yigitcanlar, Velibeyoglu & Martinez-Fernandez, 2008).

Urban 'knowledge assets' are defined by Edvardsson et al. (2016) as "the common knowledge capabilities of regional stakeholders to implement strategies that aim at long-term sustainable development (Kozak, 2011)" (p. 539). Literature lists among these: knowledge and creative workers, universities, ICT systems, housing and property markets, and citizen decision-making (Edvardsson et al., 2016). Yigitcanlar (2014b) points out that a balance between exogenous and endogenous assets plays a role in determining the success and sustainability of a KBUD strategy.

Also essential for the success of a KBUD process is the ability of city managers and policymakers in establishing and cultivating collaboration through a partnership model – often a triple-helix model partnership, in which the collaborative action of university, government and the private sector produces innovation and economic development (Etzkowitz & Zhou, 2017; Yigitcanlar et al., 2017). In the triple-helix model, the interaction between those three actors can go beyond collaboration and may involve the creation of new organisational formats, such as incubators, technology parks and venture capital companies, which operate in a continuous dynamic of knowledge transfer and transformation (Etzkowitz & Zhou, 2017). In this institutional arrangement, the university is raised to a more prominent role, moving from a supporting to an entrepreneurial position (Alizadeh, 2010; Etzkowitz & Zhou, 2017). In this sense, the university becomes one fundamental institution in any KBUD strategy (Etzkowitz & Zhou, 2017).

KBUD approach places a central position on universities and research institutes, seen as critical assets that act as knowledge hubs, deeply embedded in systems of innovation and knowledge training, generation, exchange, circulation and commercialisation (Edvardsson et al., 2016). Furthermore, universities attract scientists and creative people and can also play a governance role by improving the administrative capacity and effectiveness of the city or region (Yigitcanlar et al., 2017). Likewise, government plays a fundamental role in the partnership by providing infrastructure (Fachinelli et al., 2018) and nurturing a knowledge incubation environment (e.g., incentives, urban infrastructures, quality of life) (Yigitcanlar, Velibeyoglu & Martinez-Fernandez, 2008).

However, exploiting the city's knowledge assets and developing partnerships is not enough for a successful KBUD. In practice, the effectiveness of KBUD depends on how the policy is formulated, implemented and supported. The success is heavily dependent on community support and support policies, as well as on strong financial foundations, usually public funding and incentives (Yigitcanlar, 2009; 2011; Yigitcanlar et al., 2017). Implementing these policies requires competent organisations, organisational skills, and expert teams, in association with city administrations, planners and policymakers equipped with powerful decision and policy support tools and systems to make informed decisions (Yigitcanlar, 2009; 2011; 2014b; Yigitcanlar et al., 2017).

Yigitcanlar (2014a) proposed a methodological approach for in-depth policy analysis that entails a quantitative analysis framework to benchmarking cities with a qualitative evaluation for understanding the policymaking process's contextual conditions. At the practical level, KBUD strategies are developed through different planning and implementation contexts. Assessing and comparing global best practices thorough KBUD analyses can contribute to developing better methods and process for KBUD policymaking, planning and implementation (Yigitcanlar, 2014b).

2.2.3 Assessing and benchmarking KBUD initiatives

Different tools and indices have been developed for the benchmarking and competitive evaluation of KBUD in cities. Research on this topic has coincided with a more sophisticated understanding of the elements of competition amongst cities (Edvardsson et al., 2016). The rapidly globalising phenomenon of knowledge economy has driven cities into increasing competition and compelling them to learn what other places are doing in response to global changes (Malecki, 2007). Assessment and benchmarking analyses can inform strategic planning and urban policymaking by helping cities to identify their potential and achievements and then compare themselves with cities that are performing better (Yigitcanlar, 2014b). Moreover, benchmarking is highly useful for cities to identify strategies for improvement, set targets for future performance and then monitor and review their progress (Yigitcanlar, 2014b).

For emerging knowledge cities seeking prosperous development through a KBUD strategy, benchmarking global thriving knowledge cities is an essential prerequisite for informed and strategic vision and policymaking (Yigitcanlar, 2014b). It also provides information about KBUD strategies' specifics and how they can be reformulated to move the city in the needed KBUD progress direction. Assessment and benchmarking analyses of knowledge cities have become increasingly popular within the sphere of urban policymaking (Edvardsson et al., 2016), and different models and evaluation frameworks can be found in the literature.

Yigitcanlar and Lönnqvist (2013) presented and applied the 'KBUD Assessment Model' (KBUD/AM) to assess and compare Helsinki's KBUD performance against eight international competitors (Boston, San Francisco, Birmingham, Manchester, Melbourne, Sydney, Toronto, and Vancouver). KBUD/AM is a comprehensive

indicator-based assessment model to measure, benchmark and evaluate the KBUD achievements of cities and urban regions. The model consists of a composite index, four indicator categories, eight indicator sets and 32 indicators. The KBUD/AM framework has effectively been used for the evaluation of a number of international and national cases. For instance, Yigitcanlar (2014b) applied the KBUD/AM to assess the performance of 11 global and emerging knowledge cities (Birmingham, Boston, Brisbane, Helsinki, Istanbul, Manchester, Melbourne, San Francisco, Sydney, Toronto, and Vancouver), while Yigitcanlar et al. (2014) used the KBUD/AM as part of a mixed-method analysis to evaluate the KBUD dynamics of the emerging knowledge city-region of Tampere, Finland.

Carrillo (2004) proposed the use of the *capital system taxonomy* as a generic framework for designing, implementing and assessing knowledge cities programs. Having originated in the business environment of the Knowledge Management field, it soon expanded to public management application. Fachinelli, Carrillo and D'Arísbo (2014) developed the generic capital system as a value-based tool to evaluate the knowledge capital of the Brazilian city of Bento Gonçalves. They also undertook a benchmarking exercise, comparing results of the city, the state (Rio Grande do Sul) and the country (Brazil), which provided understanding not only on the micro-level of the knowledge capital but also on the general context in which it operates.

Garcia (2012) argued on the '*Most Admired Knowledge City Awards*' (MAKCi) and how it can be used as a knowledge-based development metrics and a knowledge city benchmarking through city positioning. Launched in 2006, MAKCi is an annual consulting exercise established to identify and recognise communities around the world successfully engaging in formal and systematic knowledge-based development processes (Garcia, 2010). The MAKCi framework includes eight knowledge capital dimensions (identity capital, intelligence capital, financial capital, relational capital, human individual capital, human collective capital, instrumental-material capital, and instrumental-knowledge capital) as indicators, and uses the Delphi technique to select nominee, finalist and winner cities (Garcia, 2010).

Edvardsson et al.'s study (2016) indicated that no unified assessment model has been developed, and although trying to provide a holistic approach, most of the models seem to reflect different disciplinary perspectives of a knowledge city. It also identified a lack of research on benchmarking and indices focusing on second- and third-tier cities. That is because the evaluation and benchmarking process requires

continued development and debate about learning experiences, as well as constant research for the development of more applicable models and tools (Yigitcanlar and Lönnqvist, 2013).

2.2.4 KBUD for smart and sustainable cities

In the last years, the United Nations 2030 Agenda for Sustainable Development (United Nations, 2015) has been a representative example of how sustainability is now placed at the mainstream of the global development strategy. However, there seems to be a lack of consensus between scholars and practitioners about how to operationalise urban development in a sustainable way (Yigitcanlar & Kamruzzaman, 2015). Recently, with the increasing availability and popularisation of new technologies, especially in the field of information and communication (ICT), a new model of cities has also gained popularity: the smart and sustainable cities (Cortese, Coutinho, Vasconcellos & Buckeridge, 2019; Yigitcanlar, Kamruzzaman, Foth, Sabatini-Marques, da Costa and Ioppolo, 2019).

Some authors emphasise that to be truly smart, a city also needs to be sustainable (Ahvenniemi, Huovila, Pinto-Seppä & Airaksinen, 2017; Yigitcanlar et al., 2019). However, in a study on 15 United Kingdom cities, Yigitcanlar and Kamruzzaman (2018) found no evidence that smart technology's adoption has resulted in sustainability gains for the cities under study. The most recent conceptual approaches coincide in pointing out that the application of technology alone does not make a city smart and sustainable (Ahvenniemi et al., 2017; Yigitcanlar; Kamruzzaman, 2018; Yigitcanlar et al., 2019). On the contrary, in order to become smart and sustainable, cities need a holistic approach, which uses the opportunities provided by technology applications as a means to promote all areas of urban development: economic, social, environmental and institutional.

In the 1990s, Knight (1995) had already indicated that in the knowledge era, the primary challenge of sustainable development for cities was to create new types of opportunity and to promote welfare by transforming science and technology into ecologically sound local development. In this sense, KBUD contributes to the promotion of smart and sustainable cities by offering an integrated and balanced approach to urban development. Moreover, Carrillo (2014) states that achieving sustainability goals is a necessary condition for achieving KBUD.

Sustainable urban development is mostly associated with, and operationalised by, the 'triple bottom line' approach, which considers social justice, environmental quality and economic prosperity as pillars for development. Later, the governance perspective has been added to the model as a necessary dimension for the achievement of the former three, making it a 'quadruple bottom line' model (Yigitcanlar & Kamruzzaman, 2015). The comprehensive and multidisciplinary approach of KBUD, as presented in Figure 1, has a high convergence with this approach of sustainability.

From an economic perspective, KBUD aims to achieve development from local R&D and innovation processes, leveraging endogenous production factors that generate economic growth for the city (Yigitcanlar, 2009, 2011). From a social perspective, KBUD seeks to develop the citizens' capacities and skills and apply them for equity, stimulating their independence and valuing their diversity (Carrillo, Yigitcanlar, García & Lönnqvist, 2014; Yigitcanlar & Lönnqvist, 2013; Yigitcanlar et al., 2014).

From an environmental point of view, KBUD values the development of smart and sustainable alternatives for environmental issues in cities (Carrillo et al., 2014), not allowing this aspect to be overlooked amid technological plans. In the institutional field, the governance processes established through partnership and collaboration with all local development actors are elements that improve city's management (Yigitcanlar, 2011, 2014a; Yigitcanlar & Lönnqvist, 2013; Yigitcanlar et al., 2014), contributing to city's smartness and sustainability in a democratic and institutionalised way.

Chang et al. (2018) developed a conceptual framework for knowledge-based, smart and sustainable cities. The model applies the KBUD framework developed by Yigitcanlar and Lönnqvist (2013) to promote smart and sustainable cities by operationalising an integrated knowledge management approach. Considering that smart and sustainable cities are a goal of current urban development projects, KBUD offers the means to achieve it. KBUD operates as a multidimensional and integrated platform for the application of smart solutions at the practical level without losing sight of all dimensions of sustainability (Michelam et al., 2020). By encouraging the attraction, development and retention of intellectual and human capital and fostering innovation and knowledge dynamics, KBUD promotes the transformation of the territory in economic, environmental, societal and institutional terms (Chang et al., 2018).

2.3 INTERNATIONAL EVENTS

Cities and their public spaces have always provided a qualified environment for a wide range of events, which has also allowed them to use the events to attract the attention of different audiences and stakeholders (Burbank, Andranovich & Heying, 2002; Hiller, 2000). Planned events have sprung from the fundamental need for economic and social exchanges, and thereby they constitute essential building blocks of society, culture and economy (Getz, 2012).

Considering that, foundation disciplines for event studies are primarily in the humanities and social sciences. From Anthropology, History and Sociology came the perspectives to an understanding of the roles, meanings, importance, and impacts of planned events in society and culture. Events have become an object of interest of applied sciences, such as Management Studies, Economics, Tourism, Political Science and Law, with a focus on the instrumental character of events. However, the largest body of study on events has come from the field of Event Studies, which encompasses Event Tourism and Event Management (Getz, 2012). With the spotlight on mega-events, notably the international sports events such as the Olympic Games and FIFA World Cup, a wide range of disciplines turned their attention to the study of events, including Urban Studies and Public Policy.

Much of the academic research on events seems to be focused on the evaluation of events and their outcomes. On an early stage dominated by economic impact assessments, a growing body of theory and methods is now focused on the social and cultural effect assessment of events. More recent is the inclusion of the environmental dimension of event impacts, leading to the development of sustainability evaluation criteria (Hall, 2012). The theme of sustainability, in fact, has gained much more visibility as events such as the United Nations Climate Change Conferences (COP) and the UN-Habitat Conferences have gained importance and prominence worldwide. Studies on the role of these events in institutional, political and environmental change towards sustainable development have been carried out in different research fields (Campbell, Corson, Gray, MacDonald & Brosius, 2014; Hardy & Maguire, 2010; Schüssler, Rüling & Wittneben, 2014).

2.3.1 Contributions and impacts of events

A major part of the existing literature on contributions and impacts of events is focused on mega-events (Azzali, 2017; Bernardino et al., 2017; Dwyer et al., 2000; Hall, 2012; Hiller, 2000; Hudec et al., 2019; Kassens-Noor et al., 2015; Liang et al., 2016; Liu, 2019; Quinn, 2005; Richards, 2017; Ritchie, 1984; Shin, 2014), which means that much of research methods and findings regards this particular scale of events. This must be carefully taken into consideration before comparing or extending any results or analysis.

The concept of mega-event, for instance, is somewhat nebulous. Although anyone can intuitively think of one when invited to think about a mega-event, the term lacks a single objective definition in academic literature. A consolidated definition was proposed by Müller (2015), who stated that "[m]ega-events are ambulatory occasions of fixed duration that attract a large number of visitors, have a large mediated reach, come with high costs and have large impacts on the built environment and the population" (p. 638). However, a question remains about how large the "large" in his definition must be. From another perspective, Hiller (1995) presented three case studies of conventions held in the city of Calgary, Alberta (750,000 population): a North American denominational church convention that drew 7,000 delegates in 1988, a barbershop quartet convention that took 12,000 visitants in 1993, and a convention of academic scholars that drew 8,000 in 1994. He concluded that even conventions, when large enough and held in medium-size cities, may become, and therefore cause the same kind of impact as, mega-events.

Considering the main objective of this study is analysing how an international event can contribute to the local KBUD of the host city, literature review on events' contributions and impacts will be presented regarding the four policy domains of KBUD conceptual framework (as shown in Figure 1).

2.3.1.1 Economic development

Events are commonly associated with the attraction of new investments in the host city, which are expected to generate income, an increase in tax revenues, employment and retail opportunities, more advertising for local products and services and the opportunity to diversify the local economy. Also, events generally are expected

to attract more visitors to the city, contributing to the tourism industry's development (Hudec et al., 2019; Liang et al., 2016; Ritchie, 1984). Considering that, cities have long used events such as World Fairs, Expos and sporting events as a means of revitalising their economies and triggering economic growth (Azzali, 2017; Gelders & van Zuilen, 2013; Getz, 2012; Hall & Amore, 2019; Richards & Wilson, 2004; Waitt, 1999). For instance, Liu (2019) analysed that hosting cultural events such as the European Capitals of Culture (ECOC) can be an alternative strategy for projecting a cultural image of the city to potential investors or visitors. Held in the city of Liverpool in 2008, the event contributed to initiating or accelerating large investment projects such as the Liverpool ONE retail complex.

Nevertheless, adverse effects can also occur. Hosting a mega-event, for instance, may cause financial problems for the city. Burbank, Andranovich and Heying (2002) highlighted that holding a massive event may require millions of dollars (even just for the bidding) and expertise on everything from event budgeting to venue design, making it almost impossible for city officials to conduct such an endeavour with public resources alone. Even when the city manages to obtain external funds, the costly projects required by international organisations and committees as a prerequisite to hosting the events not always pay off (Hall, 2012; Hall & Amore, 2019). The costs may take a long time to be compensated, as pointed out by Malchrowicz-Mosko and Poczta (2018) about the case of the 1976 Summer Olympic Games of Montreal, whose losses could not be compensated by the income from tourism, leaving thirty years of debts for Canadians to pay. The perception that their costs far exceed their benefits appears to be one of the main concerns of public opinion against mega-events (Hall, 2012). The city of Oslo withdrew its candidacy to host the 2022 Winter Olympics, as the public opinion and the Norwegian government were openly criticising the spent of public investment on wasteful infrastructures required in the International Olympic Committee bid guidelines (Hall & Amore, 2019).

Furthermore, even on a local level, negative economic externalities (indirect consequences of an activity on third parties) may occur. For example, inward investments and the boost in local economy may cause a rise in the prices of goods, services and property, meaning an increase in the cost of living (Hudec et al., 2019; Liang et al., 2016). Regarding the increase in tourist visits and the development of the tourism sector, research showed that the growth of visitors' flow may create congestion, noise, and excessive energy and water consumption (Liang et al., 2016).

Malchrowicz-Mosko and Poczta (2018) pointed out that some studies have concluded that mega-events may have an adverse effect on other forms of tourism, sometimes contributing to the decrease of the number of tourists at a location. For touristic cities that are used to receive high flows of visitors, this may represent a loss. That was the case of Los Angeles, for example, that registered a significant increase in the number of free hotel rooms during the days of the Olympics Games in 1984. Atlanta and the Olympic Games of 1996 is another example: during the year of the Olympics, the number of conferences held in the city as compared to previous years dropped, the number of visitors decreased from 7.3 million to 6.7 million, and hotel occupancy decreased as well.

On the other hand, from the perspective of smaller-scale events, Dwyer et al. (2000) highlighted that hosting events such as international conferences, conventions, and exhibitions can contribute to the growth of existing businesses, the establishment of new ones and particularly to the development of small local business, since the events may offer effective opportunities and marketing means of promoting local products and services to an international audience. Besides, the hosting of successful conventions and exhibitions often appears to be associated with increased local business confidence, which in turn induces higher business activity, including increased business investment. Furthermore, international events have the potential to stimulate business activity within and between the host city and other nations, providing opportunities to promote both local interest and international cooperation (Dwyer et al., 2000).

Also, conferences and conventions have great potential to advance and foster the knowledge and technology base of the city, once attendance at this kind of event draws together leading national and international specialists and practitioners in their fields, world leaders in science, medicine, and business, strengthening a destination's internal capabilities in each profession and providing opportunities for access to new technology, exchange of ideas, establishing and maintaining valuable business and professional contacts, a source of continuing education, and other favourable sociocultural contributions and impacts (Dwyer et al. 2000). Henn and Bathelt (2015) also highlighted that, for example, business conferences can be key moments for knowledge creation and dissemination in an economic context, as they allow organisations to connect with industrial and technological communities from different parts of the world, creating competitive advantage.

2.3.1.2 Socio-cultural development

The focus on the economic and tourism impacts of events is insufficient to understand the full range of events' contributions and impacts. Hence, some studies considered the socio-cultural aspects of events, indicating that economic goals can be augmented by other kinds of effects (Richards & Wilson, 2004; Quinn, 2005). Positive socio-cultural contributions frequently assessed include the transmission of local cultural values and traditions, and the chance to meet new people and exchange ideas, while impacts often comprise an increase in community's self-esteem, improvements in the standard of living and quality of life, the strengthening of local or regional identity, (Bernardino et al., 2017; Hudec et al., 2019; Liang et al., 2016).

Hudec et al. (2019) investigated different strategies implemented by the cities of Guimarães (Portugal) and Košice (Slovakia) while hosting the ECOC in 2012 and 2013, respectively. They found that, despite the different approaches adopted by each city, a shared legacy for the two ECOC projects was an increase in citizens' pride. Bernardino et al. (2017) also found that the 2012 ECOC event in Guimarães, Portugal, contributed to promoting individual and community development by increasing resident's pride and city cultural identity.

According to Getz (2012), events and festivals have an instrumentalist value in serving diverse policy domains, including social marketing efforts to encourage community integration, participation in arts, environmentalism, and healthy lifestyles. Furthermore, different studies have shown that, when applied in culture-led strategies, events may provide opportunities to initiate social change, reinvigorating existing community ties and people's perception of place, accentuating the importance of diversity and enabling spaces of cultural resistance against merely elite reproduction (Eizenberg & Cohen, 2015; Quinn, 2005). Liu and Chen (2007) affirmed that festivals or special events, as part of the city activities in a specific space and time, can induce public behaviours that enhance the city's vitality and urban life quality.

2.3.1.3 Enviro-urban development

Besides triggering economic growth and contributing to local socio-cultural development, events can play a significant role in urban development, leading to regeneration and modernisation of the built and natural environment (Azzali, 2017).

Studies on this topic, however, tend to concentrate on mega-events. This kind of event generates a spectacle that can catalyse investment worldwide (Azzali, 2017), which is frequently spent on the construction or upgrading of stadia, conference facilities, roads, railway and metro lines and hotels or power stations to support the event, allowing cities and regions to make strategic use of it and push urban renewal, through leveraging billions of dollars that would not be available otherwise (Müller, 2015).

According to Burbank et al. (2002), mega-event hosting can be used by place-dependent local growth advocates as a vehicle to meet their growth desires. Shin (2014) analysed that a mega-event may act as a catalyst to event-led development to provide event facilities and supporting infrastructure. Events may also be used as a platform for creating landmarks or an urban policymaking tool for the city's general redevelopment (Azzali, 2017; Essex & Chalkey, 2004). The Summer Olympics have probably the most remarkable examples of that, since the case of the 1960 Games held in Rome until famous examples such as the 1992 Olympic Games in Barcelona (Azzali, 2017; Essex & Chalkey, 2004; Richards & Wilson, 2004). The success of the later in extending the temporal effects of the Games to a spatialised process of place transformation led to it being used as a model for many other cities (Richards, 2017).

Thus, because of this transformative potential, mega-events have become powerful tools for urban revitalisation, regeneration and development (Azzali, 2017; Bernardino et al., 2017; Burbank, Andranovich & Heying, 2002; Eizenberg & Cohen, 2015; Hall & Amore, 2019; Kassens-Noor et al., 2015; Liu, 2019; Shin, 2014;). Cities like Athens, Barcelona, Detroit, Dunedin, Lille, Manchester, Montreal, Sheffield, Sydney, Turin and Vancouver are examples of cities that used the hosting of large-scale sports events to reposition themselves, particularly after shifts in their economic and industrial structures (Hall & Amore, 2019).

Hall and Amore, studying the 2015 Cricket World Cup case at the city of Christchurch, New Zealand, provided evidence on the rhetoric of urban competitiveness and the use of a mega sporting event to reframe urban development. According to them, the event allowed authorities and interested stakeholders to deliver a project that rebranded Christchurch as the "recovery city" after massive earthquakes in 2010-2011. They concluded that the project would certainly not have been allowed to proceed if not because of the event (Hall and Amore, 2019).

However, mega-events are also a source of negative effects on the urban environment. Changes in land use, pollution of natural assets and deterioration of

cultural or historical landscapes are documented in academic literature (Liang et al., 2016). Hall and Amore (2019) highlighted that it is essential to consider that as an urban regeneration strategy, sometimes the impacts of hosting mega-events are short-termed and fail to reposition cities or consolidate their appeal as tourist destinations effectively.

Another well-documented problem with mega-events is the so-called 'white elephants', namely costly facilities such as stadia built for the mega-event and unable to generate significant revenue after it due to the absence of national and international sports competitions in the country (Malchrowicz-Mosko & Poczta, 2018). Frequently, even when they can be reconfigured as multi-purpose facilities, long-term utilisation often demands further investment and more expenses to keep them functioning (Hall & Amore, 2019). Facilities like that can be found in different countries, as South Africa and the 600-million-dollar stadium built in Cape Town for the 2010 FIFA World Cup, Brazil and Brasilia stadium built for the 2014 FIFA World Cup, which was the second most expensive football stadium in the world, and Portugal and the facilities built for the European Football Championship (Malchrowicz-Mosko & Poczta, 2018).

Finally, as for the potential of events to drive social and urban development, some critics are presented as well. Shin (2014) studied the Chinese city of Guangzhou and its experiences of hosting the 2010 Asian Games. One of his conclusions was that Guangzhou's hosting was embedded in a stream of speculative investments in fixed assets that ensured urban development but also capital accumulation.

2.3.1.4 Institutional development

Improvement in the organisational capacity of different stakeholders is one frequently mentioned event impacts in academic literature. Eizenberg and Cohen (2015) pointed out that the process of merely preparing the proposal for an event bid enables collaborations that had not previously been realised, improves the municipality's, and even the region's, organisational capabilities, and may even lead to the resolution of urban and regional planning dilemmas. Earlier, Burbank, Andranovich and Heying (2002) examined the political coalitions that made possible cities like Los Angeles, Atlanta, and Salt Lake City, in the United States to host the Olympic Games. They verified that informal governing arrangements, which they called urban regime,

provided the wherewithal to undertake the policy initiatives necessary to host the Games.

Bernardino et al. (2017) found that the 2012 ECOC event contributed to increasing the skills and knowledge base of Guimarães' residents. The event promoted entrepreneurial skills and the ability to implement ideas in new economic activities through the establishment of a broad range of partnerships and protocols of cooperation with the business sector, public sector and other cultural and social organisations; it also reinforced city social capital due to the integration of different institutions and economic agents.

Events may also contribute to the learning and development of cooperation capacity. According to Liu (2019), one of the positive outcomes of the 2008 ECOC event in Liverpool was that it stimulated unprecedented collaborations between cultural organisations, public and private sectors and made all these different stakeholders work together to achieve common goals, which also contributed to the sustainability of other results achieved during the event. In Guimarães, the political and institutional cooperation established for the 2012 ECOC hosting contributed to a closer connection between the city and other municipalities (Bernardino et al., 2017).

Cooperation frequently facilitates knowledge transfer. Schüßler, Rüling, and Wittneben (2014) highlighted that events can bring together actors and partners that do not often interact. These unusual discursive spaces enable information flows and innovation through the emergence of new discourses and the translation by multiple actors of dominant narratives in unforeseeable ways.

Azzali (2017) investigated the relationship between mega-events and urban planning and how event planning can be exploited for improving the planning capacity of hosting cities, focusing on the effect on planning regulations. One of her findings was that events could help in building planning capacity of the host city through knowledge transfer from previous events. By hosting an event that occurs on serial editions, cities and their management bodies can benefit from city-to-city learning. Often organising committees of mega-events grant access to best practice databases, technical documents, images and photographs developed by the experts involved in the previous editions (Azzali, 2017). Azzali adds that in the case of a mega-event, such as the Olympic Games or World Cups, host cities usually attract elite planning companies, global agencies and world-class organisations,

creating a network of expertise and an environment for knowledge transfer of urban planning standards and techniques.

2.3.2 Events and city image

Another type of effect that permeates all the former four presented before concerns city image. When cities engage in an event-led strategy to promote development, often they are seeking more than economic, social or environmental benefits. Those can be achieved by a wide range of strategies and policies. However, an event strategy can provide a means for obtaining those kinds of effects and simultaneously creating or enhancing a positive city image. In that sense, events can be powerful communication tools for city branding (Gelders & van Zuilen, 2013).

Quinn (2005) emphasised that urban art festivals are "construed as entrepreneurial displays, as image creators capable of attracting significant flows of increasingly mobile capital, people and services" (p. 931). Dwyer et al. (2000) identified the same potential in international conferences and conventions, which, they say, may contribute to positioning the city on a high-profile international ranking or elevating its international prestige among other cities, stimulating other possible benefits such as increasing the flow of investments, convincing a corporation to bring its headquarters to the city, increasing tourist visits, and the like).

Framing on mega-events such as the Olympic Games, Burbank, Andranovich and Heying (2002) pointed out that on global competition, an enhanced global image is also an essential factor that can be magnified in a mega-event strategy. Hosting the Olympic Games, for instance, may associate the city name to an internationally recognised brand, having a worldwide media audience and appealing to corporate sponsors, all of which create or enhance a global city image. Hosting the ECOC in 2012 provided a European brand to Guimarães that enabled the city to acquire some national and international visibility. Bernardino et al. (2017) reported that image improvement was consensually cited in the interviews they conducted as one of the most important ECOC legacies for the city. Malchrowicz-Mosko and Poczta (2018) also acknowledged that the increase in international recognition and prestige of the host city is one of the most significant added values of staging a sporting mega-event.

A large part of this referred image is built upon media exposure generated by the event. Müller (2015) indicated that media coverage plays a crucial role in forming

place images, as more than transmitting information, it is instrumental for creating a celebratory atmosphere and emotional attachment. Liu (2019) analysed that media impact was very high during the 2008 ECOC event in Liverpool. The number of positive reports about the city on the media's coverage increased by 71% between 2007 and 2008. In addition, positive stories of Liverpool's urban icons and culture became common topics in media coverage in the post-ECOC period (2008–2018), replacing previous negative reports on social issues and giving evidence that the activities organised under the programme were essential factors in promoting the transformation of city image.

Scholars also expressed some concerns about using an event strategy to improve a city's image. Firstly, it does not seem to be always effective. For instance, one of the most prominent studies about the impact of an event on city image was conducted by Richards and Wilson on the 2001 ECOC's impact on Rotterdam's image. They verified that the city only partly succeeded in its ambition to achieve image improvements as a more cultural city. Furthermore, they analysed that the changes in the city's image could be attributed as well to a long process of revitalisation of the city, initiated before the event (Richards & Wilson, 2004).

Cities that engage in event strategy are always at risk of homogenisation, especially when it comes to using replicated and branded events such as sporting mega-events (Richards & Wilson, 2004). Liu and Chen (2007) also alerted that sometimes, the images produced by certain events are so identical that they fail to differentiate the city and attract investors' attention. Gelders and van Zuilen (2013) concluded that city events certainly have the potential to differentiate, but only if they rest heavily upon effective distinctive communal characteristics.

There is also concern about the duration of the effects on the city's image. Some scholars, such as Sjøholt (1999), suggests that city events may only affect the city image in the short run. However, Gelders and van Zuilen (2013) concluded that long-term effects are possible if city events are embedded in broader marketing initiatives. Richard and Wilson's study on the ECOC event in Rotterdam was not conclusive about the durability of the positive image effects caused by such events. They pointed out that it may be challenging to maintain such gains unless there is a structured development programme in subsequent years (Richard & Wilson, 2004).

2.3.3 The need for a strategic development trajectory

Up to this point, it has become clear that events can generate different positive and negative contributions and impacts on cities. However, these effects' intensity and sustainability will depend on whether the event is the product of a dispersed and fragmented endeavour or part of a strategic development trajectory.

Kassens-Noor et al. (2015) noted that in the past, cities that most benefit from hosting mega-events were those that used the event to serve their long-term planning goals. Azzali (2017) emphasised that cities should use events to meet broader urban objectives, rather than taking them as replacements of urban policy.

In the case of the 2008 ECOC event in Liverpool, Liu (2019) concluded that its success was linked to a long-term cultural development strategy. The event was developed in synergy with the Liverpool Vision's Regeneration Strategy, launched in 2000, and encouraged the maintenance of strong support for a long-term strategy and funding for culture beyond the ECOC year. Bernardino et al. (2017) pointed out that one of the lessons learned from the Guimarães ECOC experience was that a clear strategy for the post-event period, designed and planned with the support and commitment of local and political stakeholders, is critical. Shin (2014) analysed that Guangzhou's experience of hosting the 2010 Asian Games, which was strongly embedded in the city's strategic development plans, succeeded in positioning the city as a national and international regional centre.

The relationship between cities and event programmes has developed in a way that purely developing the externalities related to events is not enough anymore. Cities are moving towards a more integrated approach in which events are part of broader policy frameworks, and policymakers are employing a range of different strategies to increase the benefits of events for different stakeholders (Richards, 2017). Understanding and working upon legacy trajectories make it possible to minimise planning failures and maximise urban development with long-term public benefits (Kassens-Noor et al., 2015).

Up to this point, the literature review showed that events have a great potential to generate different contributions to city development. The extent of the effects, however, depends on its alignment with current development policies and strategies. This study is specifically interested in exploring how events can contribute to a local KBUD strategy. Therefore, in the following sections, the empirical procedures for the investigation on the Knowledge Cities World Summit (KCWS) in the Brazilian city of Bento Gonçalves are presented.

3 METHODOLOGICAL PROCEDURES

This research constituted an exploratory study with a qualitative approach. The main goal of exploratory research is to uncover ideas, concepts and relations through systematic data collection. This research adopted an exploratory approach insofar it sought to uncover, based on empirical data, how an international event can affect the KBUD of a host city. The approach was appropriate since, as the literature review has demonstrated, a number of frameworks and empirical-derived concepts address the effects of events on city development; however, none of them deals with the specificities of the knowledge-based development field. In the same line, while literature on knowledge-based development covers a broad spectrum of themes, the role of events on a KBUD strategy seems unaddressed.

The qualitative approach was considered the most appropriate to achieve research goals, since it encompasses emergent methods and techniques, committed to developing a composite picture of the problem or issue under study, not limited to cause-and-effect relationships only, but instead representing multiple perspectives and interactions of factors that may describe or explain the situation (Creswell, 2010; Creswell & Poth, 2018).

The literature review procedures carried out in this study have already been presented in the previous section. Now, the methodological procedures adopted for empirical investigation are described below.

3.1 EMPIRICAL RESEARCH DESIGN

According to Yin (2016), the design is the logic that links the research questions, the data to be collected, and the strategies for analysing the data, ensuring that the study's findings will address the intended research purposes. Yin also highlights that in order to do that, researchers can use a large and diverse body of specialised research types such as case study, ethnography and grounded theory. Adopting any of the specialised types is not imperative, and researchers can choose among (a) conducting a qualitative research study of the generalised form; (b) adopting one of the specialised types; or (c) adapting one or more of the procedures from the specialised types (Yin, 2016). Empirical investigation in this study was designed

referring to the third option. In order to answer the research question and meet the proposed objectives, this study drew upon two main research strategies: a semi-structured interview-based qualitative analysis approach (Pancholi, Yigitcanlar & Guaralda, 2017; 2018) was adopted for empirical investigation of the annually held event, the Knowledge Cities World Summit (KCWS); then a case study strategy was applied to focus on the specific case of the Brazilian city of Bento Gonçalves, that hosted the fourth edition of the KCWS in 2011. The designs are presented in more detail in the next sub-sections.

3.1.1 The Knowledge Cities World Summit

As abovementioned, the study adopted a semi-structured interview-based qualitative analysis approach, based on procedures used in the research work of Pancholi et al. (2017, 2018), to carry out the empirical investigation of the KCWS. The selection of the event as an object of study regarded its declared aim of shedding light on the multifaceted dimensions of knowledge-based development and the various scales of building a knowledge city (Yigitcanlar, Yates & Kunzmann, 2010). The KCWS is promoted by the World Capital Institute (WCI), an independent international think tank whose purpose is to further the understanding and application of knowledge as a leverage of development (World Capital Institute, 2021).

Semi-structured interviews with key members of the WCI Executive Board were designed in order to gain insight into the KCWS as a whole and the role the event plays on the KBUD of host cities. The purpose was to capture KCWS's creators and promoters' perspectives regarding the aims, achievements, and challenges of taking the event to the selected cities. This approach relied on interviewees' discursive accounts of their experiences and perceptions of the event throughout the years and how it has contributed to host cities' development. Also, preliminary findings of the interview analysis supported the design of data collection on the case study.

3.1.2 The case study: Bento Gonçalves

In order to gain a longitudinal insight and explore the topic in different dimensions, covering contextual settings, this research also applied a case study strategy for empirical inquiry. Case studies can provide detailed, empirical descriptions

of the particular instances and context in which events occur, offering insights that might not be achieved with other approaches (Dyer and Wilkins, 1991; Eisenhardt & Graebner, 2007; Rowley, 2002; Yin, 2003). Case study research also suits new research areas or research areas for which existing theory can be further (Eisenhardt, 1989). It allows researchers to understand the dynamics within single settings more complexly, leading theoretical relationships to emerge or old ones to be questioned (Dyer & Wilkins, 1991; Eisenhardt, 1989; Eisenhardt & Graebner, 2007).

According to Creswell and Poth (2018), a single instrumental case study is appropriate when the researcher focuses on an issue (such as the contributions of international events on the KBUD of host cities) and then selects one bounded case to illustrate this issue (the 4th KCWS in Bento Gonçalves, Brazil). Single case design was therefore adopted in this research since it allowed the observation of the unique characteristics of the case and simultaneously provided a longitudinal understanding of the research problem.

Case study design can take different approaches. Positivist or deductive approach is based on the definition of questions and *a priori* propositions for subsequent test or validation in case settings (Yin, 2003). This approach contrasts with the inductive one, based on the Grounded Theory (Glaser & Strauss, 1967), in which questions, insights, and propositions emerge from data collection. (Hyde, 2000; Rowley, 2002; Yigitcanlar et al., 2017; Yigitcanlar, Sabatini-Marques, Lorenzi, Bernardinetti, Schreiner, Fachinelli & Wittmann, 2018). Eisenhardt (1989) proposed a third approach that combines inductive methods to build theory from each case and across cases, with a logic of multiple cases that serve as replications, contrasts, and extensions to the emerging theory built. This research mainly applied a deductive approach since data collection and analysis were guided by categories defined from the research objectives and KBUD concepts and framework. Nevertheless, in a complementary way, an inductive approach was also employed in the data analysis process to obtain data-driven categories.

The selection of the case occurred at the beginning of the research, during the design phase. Among the 12 cities that have hosted a KCWS, Bento Gonçalves was purposively selected due to the particularly revelatory conditions that the city offers regarding the research issue. Bento Gonçalves is an important regional industrial and touristic centre in Rio Grande do Sul (RS) state, Brazil. With an estimated population of approximately 120 000, Bento Gonçalves was formed by Italian immigrants in the

19th century. The Italian identity remains a strong cultural factor of the city, also known for its high-quality wine production and furniture industry (Município de Bento Gonçalves, n.d.). The Municipal Human Development Index (MHDI) for Bento Gonçalves in 2010 was 0,778, which is considered a high score and places the city above the average of Brazilian cities (Atlas do Desenvolvimento Humano no Brasil, n.d.).

As beforementioned, the city hosted the KCWS in 2011. In 2019, eight years after holding the event, Bento Gonçalves was granted the Most Admired Knowledge City (MAKCi) Award, which aims to identify and recognise communities around the world engaged in formal and systematic KBUD processes (Garcia, 2010). In addition, illuminating studies in the KBD field were developed in the years after the event, having Bento Gonçalves and region as their object of study (Fachinelli et al., 2014; Fachinelli et al., 2018). All of this was reason to believe that the activities and discussions developed during the event in 2011 could hold a connection to Bento Gonçalves' KBUD trajectory.

Also, an eight-year interval would allow the measurement of short and mid-term results of initiatives and ideas eventually developed due to the event. It was also considered that these results would be easier to observe in a smaller city such as Bento Gonçalves. Finally, it is important to acknowledge that Bento Gonçalves was also selected for the researcher's convenience since it constituted a much more accessible case in terms of proximity, culture and language.

Following Yin (2003) and Eisenhardt (1989) on the importance of methodological rigour and aiming at increase the reliability of the case study research, a case study protocol was developed during the design stage (see Appendix A). It covered the main procedures and general rules that guided the researcher during data collection and analysis. Referring to Yin (2003), the protocol contained four sections: (a) an overview of the case study project; (b) field procedures; (c) case study questions; and (d) a guide for case study report.

3.2 DATA COLLECTION PROCEDURES

Overall, interviews were the primary data collection method of this research. They were an evidence source for empirical inquiry into the KCWS, as well as for the case study of Bento Gonçalves. Part of the interviews had been planned to be conducted in a face-to-face fashion. The initial plan also considered collecting other

primary and secondary data, including a field visit to the case study site, in order to create the opportunity for direct observation. However, due to unforeseen events, initial planning needed to be reviewed.

On March 11th, 2020, the World Health Organization (WHO) declared the novel coronavirus (Covid-19) outbreak a pandemic (World Health Organization, 2020). As a result, several countries adopted emergency social distancing measures. In Brazil, community transmission of Covid-19 throughout the national territory was recognised on March 20th, 2020 (Ministério da Saúde, 2020), and to prevent the spread of the virus, most state governors imposed state-wide quarantines and isolation measures that perdured for several months. To cope with that situation, data collection activities involving physical presence (visiting Bento Gonçalves for field observation and face-to-face interviews) were excluded from the plan. All interviews were conducted through on-line video communication applications (Skype and Google Meet). Moreover, as a result, document analysis gained relevance in the research and became the complementary data collection procedure in support of triangulation.

However, these changes in the original plan did not result in a loss of validity and reliability in data collection. Although something of the rapport and richness of the interaction may have been lost in on-line interviews, there was also a gain in removing potential interviewer bias (Rowley, 2012). For their part, "documents may be the most effective means of gathering data when events can no longer be observed" (Bowen, 2009, p. 31). They are stable, i.e., they can be retrieved repeatedly; unobtrusive; and non-reactive, i.e., as they were not created due to the research, they are not affected by it (Bowen, 2009; Yin, 2003).

3.2.1 Data collection on The Knowledge Cities World Summit

Semi-structured interviews were conducted in May 2020 to collect data on the KCWS. Researcher's acquaintance with the event, however, initiated in November 2019, when the researcher attended the 12th KCWS, held in the city of Florianópolis, Brazil. Throughout the three days of the event, the researcher was able to attend conferences, masterclasses and special sessions, which provided a better comprehension of the themes, approaches and discussions developed in the event. The experience of participating in one of the summits also contributed to building insight into the dynamics and interactions developed among stakeholders during the

event. Later, a preliminary analysis of data collected from documents such as previous KCWS's Proceedings and WCI website contributed to form a 'big picture' of the event, giving support to the design of the semi-structured interviews.

The selection of interviewees was done by purposive sampling and sought to include key people involved in the idealisation, development and promotion of the KCWS since its outset. Based on research objectives, an interview script was developed and tested with three people familiar with the research topic. After considering their feedback, the final interview guide consisted of six key questions about (a) KCWS's selection criteria and goals on host cities; (b) event's stakeholders and their aims in hosting KCWS; (c) achievements and impacts triggered due to KCWS; (d) tools, methods and indicators to measure those impacts; (e) challenges and barriers restricting impacts; and (f) follow-up on host cities after the event. The complete interview guide can be consulted in Appendix B.

The interviews were conducted through the Skype platform and lasted from 45 to 100 minutes each. They were digitally recorded and manually transcribed. During the interviews, some participants referred to documents and archival content they could provide in order to illustrate or amplify the comprehension of the topics discussed. This material was collected for analysis as a complementary source of evidence about the KCWS.

3.2.2 Data collection on Bento Gonçalves Case Study

A hallmark of case studies is their ability to integrate many forms of data to develop an in-depth understanding of the case (Creswell & Poth, 2018). This research was committed to observing this principle, and for that, the case study's data collection was developed over the following procedures as a means of triangulation.

As beforementioned, interviews were the primary data collection method for the case study. The goal was to capture key local actors' perceptions and narratives about the KCWS in 2011 and its connection to KBUD initiatives and achievements of Bento Gonçalves. A purposive sampling approach was again adopted for the selection of interviewees. Informed by content collected on WCI Board interviews, the selection sought to include people directly involved with the organisation of the 4th KCWS in 2011. Also, considering literature references that emphasise the central role of the quadruple-helix in the development of knowledge cities, local representatives of the

four sectors, i.e., academia, civil society, the public sector and the private sector, were included.

Semi-structured interview scripts were developed, following the case study protocol and research objectives. Preliminary findings from the WCI Board interviews also contributed to improving the questionnaires. Although each interview had a different focus according to each interviewee's group, the main topics addressed in the interviews were: (a) KCWS organising process (b) event's stakeholders and their goals in organizing/sponsoring/supporting/participating in KCWS; (c) event's contributions to the involved institutions and to the city; (d) challenges and opportunities that could have been better explored; (e) perceptions about MAKCi Award; and (f) perceptions about what makes Bento Gonçalves a knowledge city. More details on the interview's questions can be reached in Appendix C.

As explained before, due to the Covid-19 pandemic, face-to-face interviews were replaced by on-line ones. Interviewees also signed an on-line Informed Consent Form (see Appendix D) agreeing to participate in the research. In total, nine interviews were conducted, seven of which through the Google Meet platform. The other two interviews were done by e-mail, and one of them was complemented in a Google Meet session. Each interview lasted from 40 to 120 minutes, and all of them were conducted, manually transcribed (when applicable) and analysed in Portuguese.

In addition, to better understand local particular context and settings and identify the KBUD initiatives and achievements of Bento Gonçalves, data collection included research and gathering of documents and indicators. Secondary data were collected from academic literature and grey literature, including technical reports, research reports not peer-reviewed, institutional websites, legislation, and policy reports, serving as a source of evidence about facts, actions and events regarding the development of Bento Gonçalves.

Likewise, indicators and data sets were collected from the main official databases to compose a better view of Bento Gonçalves' development level. Indicators' selection was informed by the KBUD Assessment Model (KBUD/AM) (Yigitcanlar, 2014b) and included data sets and indexes related to the economic, socio-cultural, spatial and institutional aspects of development. In some cases, some difficulty was found in obtaining specific updated indicators. In Brazil, except for state capitals, the updating of most city-level socioeconomic data only occurs when the national Demographic Census is carried out by the Brazilian Institute of Research and

Statistics (IBGE). Thus, the reference date for some of the indicators needed was 2010. In such cases, when possible, alternative indicators produced by other official institutions, or qualitative data that could contribute to the apprehension of that particular aspect of Bento Gonçalves's development, were sought. The documents and indicators collected also served to confront, corroborate or augment the evidence about facts, actions and processes mentioned in the interviews.

In observation of the principles stated by Yin (2003), all data collected were documented in a case study database and organised by type, date and theme. In attention to the chain of evidence principle, all data collected were addressed during data analysis and accordingly related to case study objectives.

3.3 DATA ANALYSIS PROCEDURES

Data analysis procedures in this study were informed by the overarching process presented by Creswell and Poth (2018), named the *Data Analysis Spiral*. According to the authors, to analyse qualitative data, researchers engage in the process of moving in analytic circles rather than using a fixed linear approach. The spiral is compounded by five main loops of interrelated activities that often go on simultaneously in the analysis process.

Data Management (preparing and organising the data) began the process and was the first data analysis activity. All collected data were organised into digital files with a file naming system based on data type, collection date and theme. This step is akin to Yin's (2003) case study database mentioned in the previous section and was central to ensuring the tracking, access, search and retrieval of all collected data.

The next loop consisted of *Reading and Memoing Emergent Ideas* to get a general sense of the data collected. This was a continuous activity that went on simultaneously to the entire processes of data collection. The idea was increasing familiarity with the data already collected while, at the same time, providing elements to improve and give focus to data collection yet to be done.

Moving on the spiral, the *Describing and Classifying Codes into Themes* step represents the heart of qualitative data analysis in Creswell and Poth's model. In this research, it was performed through content analysis, a method for systematically describing and interpreting the meaning of text data through techniques of coding and

identification of themes or patterns (Hsieh & Shannon, 2005). Coding refers to the process of identifying, arranging, and systematising ideas, concepts and categories from raw data (Benaquisto, 2008).

At first, data were analysed separately according to the initial research design. That means that WCI Executive Board interviews were analysed and coded as one package of evidence. Then, interviews with Bento Gonçalves representatives were analysed as another package, and so on. A Computer-Assisted Qualitative Data Analysis Software (CAQDAS), namely NVivo, was used to support the coding process of interviews' transcripts and later to facilitate iterations within data coding and analysis.

The same coding process, including two subsequent coding cycles (Saldaña, 2009), was used for analysing both WCI Executive Board interviews and Bento Gonçalves representatives' interviews. The data corpus was carefully read and analysed multiple times in each cycle until a point of saturation was reached (Schreier, 2014). For the first cycle, categories based on the key questions that guided the semi-structured interviews (see Appendix B and C) were defined and applied through *structural coding method* (Saldaña, 2009). Then, considering the recommendation that, in qualitative content analysis, part of the coding frame should be data-driven, to make sure that the categories provide a valid description of data collected (Schreier, 2014), in the second coding cycle, *pattern coding method* (Saldaña, 2009) was used for the identification of emergent topics, providing a second, and in some cases even a third, level of codes (subcodes), derived directly from the interview's content.

According to Krippendorff (2004), every content analysis requires a context that gives meaning to the findings and serves as a conceptual justification for reasonable interpretations. In line with that, indicator and document analyses provided a profile of Bento Gonçalves and the context within which the interview analysis results should be considered. Document and indicator analyses were also instrumental in refining ideas, identifying conceptual boundaries and corroborating the relevance of categories derived from interview analysis. Triangulation of the findings resulted from each analysis was performed for convergence and corroboration, or refutation.

The next loop in the spiral consisted of *Developing and Assessing Interpretations* of the findings that emerged from the previous stage. In this research, interpretation was informed *a priori* by the conceptual framework of KBUD presented in Figure 1. It also involved making sense of the data and carefully considering what was meaningful in the patterns and categories generated in the analysis. Interpretation

also involved linking the analysis to the broader research literature developed by others (Creswell & Poth, 2018), which in this research encompassed KBUD and knowledge cities literature and research on event contributions and impacts.

The last step in Creswell and Poth's model is *Representing and Visualising the Data* when researchers represent what was found in textual, tabular, or figure form. As usual in content analysis, presenting the findings involved informing code frequency counts. Also, given the nature of the data collected in the case study, reporting the results also included a description of case elements and telling the story of the 4th KCWS and how it relates to Bento Gonçalves' development.

4 FINDINGS AND DISCUSSION

4.1 FINDINGS CONCERNING THE KNOWLEDGE CITIES WORLD SUMMIT

In line with the research objective of analysing KCWS's role on the KBUD of host cities, focusing on the event's purposes and achievements, this section reports the results of the interviews with WCI Executive Board members about the KCWS as a whole. Before that, a brief overview of the KCWS, elaborated from documents made available by the interviewees, such as the WCI Institutional Brochure and the KCWS Hosting Terms, is presented to support the further analysis of the findings.

4.1.1 The KCWS in a nutshell

As beforementioned, the KCWS is an annually-held event focused on the topics of KBUD and knowledge cities. The event is promoted by the World Capital Institute (WCI), a non-profit professional association that operates as a network focused on R&D, publications, events, awards, professional community building and diffusion activities on KBD (World Capital Institute, 2021) in association with one or more local hosting organisations.

Held for the first time in 2007 in Monterrey, Mexico, throughout its editions, other 11 different cities around the world hosted the summit: Shenzhen (China, 2009), Melbourne (Australia, 2010), Bento Gonçalves (Brazil, 2011), Matera (Italy, 2012), Istanbul (Turkey, 2013), Tallinn (Estonia, 2014), Daegu (Korea, 2015), Vienna (Austria, 2016), Arequipa (Peru, 2017), Tenerife (Spain, 2018) and Florianopolis (Brazil, 2019). The 13th edition, in 2020, was meant to take place in usual face-to-face mode in Tijuana (Mexico). However, due to the Covid-19 pandemic restrictions, it was held in an on-line summit format, with an operational basis in Monterrey (Mexico).

As for the public, KCWS has been gathering together academics, professionals—both practitioners and researchers, public servants and policymakers from all over the world (World Capital Institute, 2020). Historically, the event has also attracted technical and post-graduate students' interest from different fields, such as knowledge and intellectual capital management, urban studies, human geography, economics, sociology, and political science.

Cities and local institutions can bid to host a summit. Annually, the WCI Executive Board, in consultation with its International Advisory Board, considers the bids received and defines the next city to host the KCWS, based on selection criteria that include (a) reputation and suitability of the hosting city candidate; (b) capacity of the local organising institution and organisation committee; (c) financing scheme (e.g., estimated overall budget and contribution from sponsors); (d) suitability of the proposed overall theme, program structure and activities; (e) potential to attracting a large number of international and national delegates; (f) involvement of a professional event planning company; and (g) marketing and media promotion plans, among others. On notification of being selected as a host, the city, through its leading host institution, is invited to sign a Memorandum of Agreement that establishes each party's contribution to the event organisation process (World Capital Institute, 2013).

A Local Organising Committee (LOC) must then be formed to deal with the event's production and execution demands in constant dialogue with the WCI Executive Board. Each edition of the KCWS is co-chaired by an official representative of the LOC and the WCI Executive Director of Events Program (World Capital Institute, 2013).

In addition to the broad topics of KBUD and knowledge cities, particular focus is given to a theme significant to the host city's context in each summit. This particular annual theme and the event's program, its major tracks, special parallel events, keynote speakers, or any other matter concerning the event's structure are jointly defined by the WCI Executive Board and the LOC.

Academic aspects are also a fundamental part of KCWS. For that reason, at each summit, an International Scientific Committee is formed to coordinate the papers' selection by double-blind peer review, the allocation of papers on summit's tracks and subsequent publication of the KCWS Proceedings.

Hosting the KCWS also includes hosting the Most Admired Knowledge City (MAKCi) Awards' annual ceremony. MAKCi is an international consulting initiative jointly developed in its origins by WCI and Teleos to identify and recognise cities or regions for their progress in implementing KBUD strategies. The MAKCi exercise rationale consists of a 3-stage process, drawing on Delphi methodology. Each year, to elect the annual winners, researchers and practitioners with credentials in KBD-related disciplines are invited to compose a Panel of Experts (World Capital Institute, 2020).

The Nomination is the Stage 1 of the MAKCi exercise. A city or region can only run for the award if nominated by one of the invited experts. This process occurs through an

on-line platform that uses the MAKCi Framework© and the MAKCi Nomination Form®, both based on the Capital System taxonomy. Experts can nominate as many cities as they see fit, in four categories: (a) ‘Knowledge Metropolis’ (for communities with three million inhabitants or more); (b) ‘Knowledge City-region’ (for communities with about half a million inhabitants to less than three million); (c) ‘Emerging Knowledge City’ (for communities that have become a regional capital or a growing regional economic or cultural centre in the last 15 to 30 years); and (d) ‘Knowledge Clustered Region’ (for communities that are geographically scattered but act as a regional centre for political, economic or cultural activities) (World Capital Institute, 2020).

Following the Delphi methodology, on Stage 2, the Panel of Experts analyse the candidates and vote for the finalists in each category. In Stage 3, the final stage, votes are compiled, and the finalists’ lists for each category are presented for voting again. After the votes are counted, each category’s winners are awarded at the MAKCi Award ceremony during the KCWS.

4.1.2 Findings concerning the WCI Executive Board interviews

The results of the interviews with members of the WCI Executive Board are presented in this section. The interviewees were selected considering their seniority and involvement in the KCWS idealisation, development and promotion since its outset. Accordingly, five members of the WCI Executive Board were interviewed:

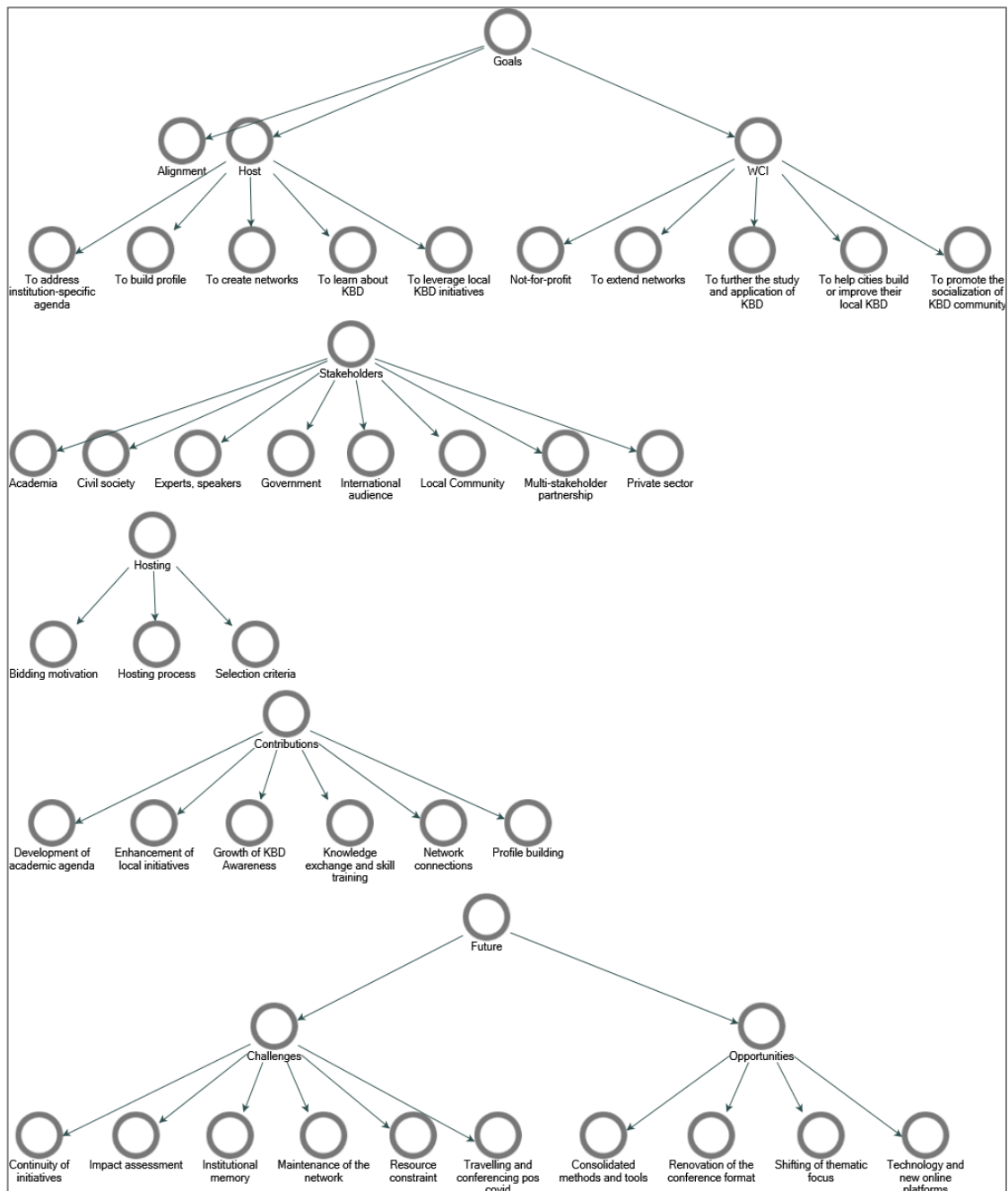
- Francisco Javier Carrillo, PhD, WCI President;
- Blanca Garcia, PhD, WCI Executive Director of the Awards Program;
- Cathy Garner, PhD, WCI International Advisory Board Member;
- Günter Koch, PhD, WCI International Advisory Board Member;
- Tan Yigitcanlar, PhD, WCI International Advisory Board Member, and former WCI Executive Director of the Events Program.

Altogether, the interviews totalled about five recording hours. Each transcribed interview was carefully analysed to identify the interviewees’ perspectives about the goals, achievements, and challenges of taking the KCWS to different cities. The interviews also provided an overview of KCWS’s history and hosting process.

Two subsequent coding cycles (Saldaña, 2009) were performed using NVivo software for the analysis of the interviews. In each cycle, the content was read and analysed several times until a saturation point was reached (Schreier, 2014). A visual representation of the coding structure can be seen in Figure 2.

Figure 2

Coding Map of WCI Executive Board interviews



Source: the author, 2020. Developed in NVivo.

A total of 42 codes and subcodes, grouped in five categories ('Goals', 'Stakeholders', 'Hosting', 'Contributions' and 'Future'), were applied. Below, more details about the content of each category are presented.

The 'Goals' category (83 references) brings together data coded as 'WCI's goals' (34 references), 'Host's goals' (38 references) and the interviewees' perception about the 'alignment' (11 references) between both since there was a specific question about it in the interview script. Among WCI's goals, the most cited one was 'to help cities build or improve their local KBUD' (11 references). One of the interviewees explains that, sometimes, it is just a matter of bringing awareness to the city: "and the awareness is so that they use consciously, purposefully, their capital system for development. Because a lot of cities, they are aware that they have this history, they have these monuments, and they have heroes of the past, for instance, but they don't use their history to trigger some more movements of the present and future". The other 'WCI's goals' mentioned have a more institutional nature, which would be 'to further the study and application of KBD' (8 references), 'to promote the socialisation of KBD community' (7 references), 'to extend networks' (6 references) and 'not-for-profit' (2 references).

On content coded as 'Host's goals', the most cited subcode was 'to address institution-specific agenda' (13 references), as all interviewees pointed out that local host agenda may vary from city to city, according to the leading host institutions of each event. Other host's goals, according to the interviewees, include 'to learn about KBUD' (9 references), 'to build profile' (8 references), 'to leverage local KBUD initiatives' (5 references) and 'to create networks' (3 references).

The overall perception is that there is an alignment between the local host's objectives and the objectives of WCI. This is corroborated by the coincidence of subcodes in each category, such as 'extend networks' (WCI) and 'create networks' (Host); or 'to help cities improve their KDB' (WCI) and 'to leverage local KBUD initiatives' (Host). This alignment about the goals, which according to one of the interviewees would be more appropriately called 'convergence', is said to be achieved due to a constant dialogue between WCI and the local host institutions in order to make the event happen in resonance with local interests and concerns as well.

For that matter, another aspect of interest in the analysis was understanding who the event's primary stakeholders are. In the 'Stakeholders' category (138 references), the agents of the triple-helix model, 'academia' (35 references),

'government' (34 references) and 'companies' (25 references) were the most cited ones, followed by 'multi-stakeholder partnerships' (15 references). 'Experts and speakers' (10 references) are also considered relevant stakeholders since they are responsible for delivering the event's value proposition. 'Local community' (7 references), 'civil society' (6 references) and 'international audience' (6 references) were also cited by the interviewees.

The 'Hosting' category (46 references) included content about the circumstances, processes and activities that enable the hosting of a KCWS by a specific city. Three key factors were coded on this category: 'city's motivation' (19 references); WCI's 'selection criteria' (16 references); and 'hosting activities' (11 references).

Similar to the goals, a city's motivation in hosting the event may vary according to the context and the institution or group of institutions that lead the bid for hosting the summit. Interviewees cited some examples in this regard: the first conference in Monterrey, Mexico, in 2007, for instance, was held on the occasion of the *Forum Universal de las Culturas* (Universal Forum of Cultures), a major international event held with the support of UNESCO (United Nations Educational, Scientific and Cultural Organization). The Forum that lasted several months provided an excellent opportunity to launch the 1st KCWS, with the strong support of local universities (*Tecnológico de Monterrey* and *Universidad Autónoma de Nuevo León*) and the local government that was engaged at that time in the Monterrey Knowledge City Project, an initiative to turn Monterrey into an international knowledge city.

Another example recalled was the 2010 KCWS held in Melbourne, Australia, which was said to have been motivated by the city's interest in showcasing its knowledge-based urban development on an international scale. At that time, the Melbourne city government had already successfully launched its Office of Knowledge Capital, a semi-public, semi-private institution to oversee the knowledge-based development issues in the Melbourne metropolitan region. On that occasion, the KCWS was organised jointly by the state government, a number of universities and the Melbourne City local government.

One of the interviewees highlighted that in some places, the motivation is mainly academic, as in Arequipa, Peru, in 2017, where the event was only made possible due to the strong commitment of the National University of St. Agustin. While in other places, for instance, the private sector leads the efforts to bring the event to the city,

as was the case in Florianópolis, Brazil, in 2019, where one of the leading host institutions was the Federation of Commerce of Goods, Services and Tourism (FECOMERCIO). Sometimes, the motivation for hosting the KCWS can even come from organisational partnerships, as pointed out by another interviewee. That was the case of Bento Gonçalves, Brazil, and the partnership with the *Comunidad Iberoamericana de Sistemas de Conocimiento – CISC* (Ibero-American Community of Knowledge Systems - ICKS), which will be detailed in the next sections. That was also the case of Daegu, Korea, in 2015, when the KCWS was held in partnership with the Society of Open Innovation.

Another subcode in the 'Hosting' category was 'selection criteria', which included content about the factors considered by WCI in order to decide where to hold the next KCWS. Besides the practical and operational criteria already presented in the previous section, interviewees indicated that a combination of stakeholders' engagement level, the current or desired KBUD level of the city, and, of course, the willingness and enthusiasm to host the event are the most relevant aspects to be considered. About the stakeholder's engagement, although in each event there is always one or two stakeholders that stand out, interviewees highlighted that it is much desired that the four-helix agents, i.e., government, companies, the academic sector and society, are engaged.

The last subcode in the 'Hosting' category is 'hosting activities', and it included content about the production and execution of the event once the host city is defined. As the circumstances in which each event is held vary widely, different interviewees pointed out that there is not the one concept of running a KCWS in one place. Each city's characteristics are very meaning, so the subjects and the sense of what is needed is very much different in each place too. A constant dialogue is what makes an intersection of interests possible. As highlighted by one of the interviewees, local concerns are essential, and dialogue makes it possible to format the event to fulfil each stakeholder's goals, including those of WCI.

Another codified category was 'Contributions' (47 references). At this point, it is necessary to clarify that during the interviews, the question presented to the interviewees referred to the impacts of the event in host cities. However, during the analysis procedure, it was concluded that the answers were focused on the event contributions, meaning the part played by KCWS in bringing about a result. Therefore, this content was coded as 'Contributions'. This finding also influenced the data

collection of the case study. In interviews with Bento Gonçalves representatives, the term used was 'contributions'.

As for the content of WCI interviews coded in the 'Contributions' category, the most cited one was 'networking' (13 references). The interviewees pointed out that one of the most relevant event outcomes is that it triggers connections to formal and informal networks of leading global thinkers, experienced practitioners and host city partners, enabling active engagement around KBUD. One interviewee highlighted that KCWS also brings local stakeholders together and enables them to see a way to work together in partnership and tackle their local issues around KBUD, which then may produce several other different positive results for the city.

The second most coded contribution was 'enhancement of local initiatives' (10 references), as all interviewees indicated that the event helps improve the KUBD strategies or initiatives undertaken by the local stakeholders. Another contribution cited was 'growth of KBUD awareness' (7 references), which is directly connected with the event's very reason, namely to promote KBUD and knowledge cities as a model of sustainable urban development. Interviewees also referred to the following contributions: 'profile building' (7 references), since the event allows the host city to showcase itself to a highly qualified audience; 'development of academic agenda' (5 references), especially when the leading host institution is a university or research institute; and 'knowledge exchange and skill training' (5 references), as a result of the cutting-edge lectures and debates delivered by the experts and speakers brought by the event.

Finally, the last content category coded was 'Future', including 'challenges' (27 references) and 'opportunities' (31 references) subcodes. As a reflection of the recent Covid-19 pandemic, the most cited challenge for the future was 'travelling and conferencing after Coronavirus' (7 references), followed by 'continuity of initiatives' (6 references), 'institutional memory' (4 references), 'resource constraint' (4 references), 'impact assessment' (3 references) and 'maintenance of the network' (3 references).

The continuity of initiatives is perceived as a challenge mainly because it also depends on the host city's actors or institutions. In this sense, something that concerns some of the interviewees is how to continue contributing so that the ideas and initiatives developed during the event continue to be nurtured after the event. At this point, there are divergent views: some interviewees believe that WCI should be directly involved and maintaining a constant follow-up on these initiatives, while others understand that

it is not WCI's role to get directly involved. 'Institutional memory' refers to the documentation of events and activities carried out by WCI and is perceived as a challenge due to the organisational nature of WCI, whose members are in different countries and dedicated to several other matters. As for the 'resource constraint', the covid-19 pandemic is expected to cause an economic crisis in the short term, causing cities to stop applying resources for events. 'Impact assessment' is perceived as a challenge mainly because of the methodological aspects – for example, how to measure the intangible impacts of KCWS? However, as in the case of local initiatives, not all interviewees understand that this follow-up is WCI's role. Considering that, as mentioned before, networking is one of the significant contributions KCWS brings to the city, some interviewees also mentioned that keeping nurturing these networks is a challenge in the sense that it demands constant dedication.

On the other hand, different opportunities for the future are perceived by the interviewees. The possibilities of 'technology and new on-line platforms' (11 references) are seen as a powerful instrument for responding to the challenges presented above. Virtual conferencing through on-line communication platforms is seen as an alternative to the difficulties brought about by the Covid-19 pandemic and have already contributed to the event's maintenance in 2020. However, some interviewees point out that it will be necessary to reflect on whether it is possible to transmit the entire value proposition of KCWS in a virtual format in the long run. And if not, what the alternatives could be. That is why 'renovation of the conference format' (4 references) is seen as an opportunity as well, preceded by 'methods and tools' (8 references) and 'shifting of thematic focus' (8 references). The interviewees agree that, over the years, the methodologies and frameworks used and disseminated in KCWS / MAKCi are well consolidated. Nevertheless, new technologies and the emergence of themes such as the Anthropocene, climate change and the Smart City phenomenon may have created some room for renovation. Incorporating these themes into the knowledge cities debate is also seen as an opportunity by the interviewees.

Thus, through the perspective of the WCI's Executive Board members, it is possible to see that the event successfully involves the main KBUD agents, namely, the triple helix, academia, government and companies. However, there may be room for more civil society participation. Considering what interviewees pointed out, the events' contributions resonate with the purposes, both those of the WCI and those of the host city. This can be verified by the coincidence of codes such as 'to help cities

build or improve their local KBUD' (Goals/WCI's goals), 'to leverage local KBUD initiatives' (Goals/Host's goals) and 'enhancement of local initiatives (Contributions); or 'to extend networks' (Goals/WCI's goals), 'to create networks' (Goals/Host's goals) and 'Networking' (Contributions); and also 'to further the study and application of KBD' (Goals/WCI's goals), 'to learn about KBUD' (Goals/Host's goals) and 'growth of KBUD awareness' and 'knowledge exchange and skill training' (Contributions). This convergence seems to be connected to the event's sensitivity to the local context and host city interests, making it very consistent with the local expectations. However, some of the WCI Executives have a concern with the continuity and maintenance of some of these achievements over the years. Another perspective on this matter can be added by the case study findings, which are presented in the next section.

4.2 FINDINGS CONCERNING THE CASE STUDY

This section reports the results of the case study of Bento Gonçalves. In line with the research objectives of describing the particular settings and identifying the KBUD initiatives and achievements of the case study city, the first part of the report presents the results of the collection and analysis of indicators and documents performed on official databases, institutional websites, and academic and grey literature. Following the KBUD framework, relevant features of the economic, sociocultural, spatial and institutional development of Bento Gonçalves are highlighted.

The second part of the section reports the findings of the interviews with Bento Gonçalves' key local representatives, carried out with focus on the research objectives of analysing the context in which the KCWS was held and exploring its relationship with KBUD initiatives and achievements of the city.

4.2.1 Bento Gonçalves, an Emerging Knowledge City

Bento Gonçalves is located in the *Serra Gaúcha* region, in Rio Grande do Sul (RS) state, Brazil, 124 km from the state capital, Porto Alegre (Figure 3). According to the Brazilian Institute of Geography and Statistics (IBGE), the city's land area corresponds to 273.57 km², with an estimated population of 121,803 (Instituto Brasileiro de Geografia e Estatística, 2020). Bento Gonçalves' territory has a rugged

relief, characterised by escarpments and valleys, and a rich hydrographic network, with *Rio das Antas* being the main watercourse (Município de Bento Gonçalves, n.d.).

Figure 3

Bento Gonçalves location



Source: Bento+20 Masterplan Bento Gonçalves, 2020.

The city has its origins as a colony named 'Dona Isabel', created in 1870 with the purpose of receiving the Italian immigrants, who settled there from 1875 on. Two decades later, in 1890, the colony was officially emancipated of the municipality of Montenegro, adopting the denomination of Bento Gonçalves in 1892 (Rittes, Cuogo & da Silva, 2014; Torres & Caprara, 2010). The identity and cultural values inherited from

the immigrants who started the first ventures in the region for their sustenance would then be deeply rooted in Bento Gonçalves' development processes (Bertoco & Medeiros, 2015). Today the city is an important regional hub, compounding the Serra Gaúcha Metropolitan Region.

Regarding national averages, Bento Gonçalves sustains a good performance in terms of development. The Municipal Human Development Index (MHDI)¹ of Bento Gonçalves in 2010, the latest available for city level, was 0.778, which is considered a high score and places the city in the 145th position among the 5,565 Brazilian cities and 16th in the Rio Grande do Sul state (Atlas do Desenvolvimento Humano no Brasil, n.d.). On the 2018 FIRJAN Municipal Development Index (IFDM)², another national ranking of city development, Bento Gonçalves ranked 7th in the state and 58th in the country, with a score of 0.85, also considered a high level of development (FIRJAN, 2018).

Bento Gonçalves' advances in terms of development have been recognised even internationally. In 2019, the city received the Most Admired Knowledge City (MAKCi) Award in the 'Emerging Knowledge City' category, which placed Bento Gonçalves among a select group of cities in the world that have been thriving under the KBUD flag. Different economic, sociocultural, spatial and institutional factors have contributed to Bento Gonçalves' current development levels, some of which are presented below.

4.2.1.1 Economic development

Bento Gonçalves is one of the largest economies in Rio Grande do Sul. In 2018 (most recent available data), the city's Gross Domestic Product (GDP) was the 14th largest among the state's 497 cities (Table 2).

¹ The Brazilian MHDI follows the same three dimensions of the global HDI - health, education, and income, but has adjustments to fit the Brazilian reality better, adapting to the Census databases and the municipalities' innate characteristics.

² The IFDM (FIRJAN Municipal Development Index) is a study of the Federation of Industries of the Rio de Janeiro State (FIRJAN) that monitors all the Brazilian municipalities' socioeconomic development in three areas: employment & income, education, and health. It was created in 2008 based on official public statistics, made available by the Ministries of Labour, Education and Health. The index ranges from 0 (minimum) to 1 point (maximum) to classify the level of each location in four categories: low (from 0 to 0.4), regular (0.4 to 0.6), moderate (from 0.6 to 0.8) and high (0.8 to 1) development.

Table 2*GDP of the municipalities of Rio Grande do Sul in 2018*

Municipalities	GDP 2018 (in R\$)	GDP State Ranking 2018
Porto Alegre (State capital)	77,134,613,181	1 ^o
Bento Gonçalves	5,963,268,924	14 ^o
Porto Vera Cruz	31,548,526	497 ^o

Source: Departamento de Economia e Estatística, 2020.

However, in terms of GDP per capita, the results are less impressive: among the same 497 cities, Bento Gonçalves holds the 92nd position in the state ranking. Still, Bento Gonçalves' GDP per capita values are far above the national average of R\$ 33,594, for instance (Table 3).

Table 3*GDP per capita of the municipalities of Rio Grande do Sul in 2018*

Municipalities	GDP per capita 2018 (in R\$)	GDP per capita State ranking 2018
Triunfo	304,208	1 ^o
Porto Alegre (state capital)	52,150	80 ^o
Bento Gonçalves	50,091	92 ^o

Source: Departamento de Economia e Estatística, 2020.

Bento Gonçalves is listed in the national 'Best Cities to Do Business' ranking, having moved from the 84th position in 2014 to the 18th position in 2019 (Urban Systems, n.d.). According to IBGE's Central Business Register (*CEMPRE*), in 2018, Bento Gonçalves was the 100th city in Brazil, and the 9th in the Rio Grande do Sul state, with the largest number of companies and other legally constituted organisations³ in its territory: 7,100 units (Instituto Brasileiro de Geografia e Estatística, 2018). Although they exist in large quantities, most companies are small, which can be

³ CEMPRES encompasses records of legal entities registered in the National Register of Legal Persons (CNPJ) of the Ministry of Finance, regardless of the legal nature or the economic activity exercised. Thus, the information in the publication refers to companies, public administration bodies and non-profit entities.

considered an indication of the city's entrepreneurial profile. In 2018, for instance, of the 4,509 establishments in Bento Gonçalves that employed someone, 93% had up to 19 employees (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019).

The industry sector represents the main economic activity of Bento Gonçalves, with a 59% share in the municipality's revenue, followed by the commercial (21.2%) and services (19.8%) sectors⁴ (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019). Within the industry, the segments with the largest participation correspond to timber and furniture (34.3%), beverages (18.6%), metal mechanics (18.5%) and food (13.6%). In the commercial sector, the segment with the largest share is the retailer (67%), followed by trade and vehicle repair (17.7%) and wholesale trade (15.3%). As for participation within the services sector, seven activities account for almost 80% of revenues, i.e., logistics (36.7%), accommodation, food and tourism (8.4%), industrial services (7.1%), civil construction (6.8%), financial services (6.7%), information technology (6.2%), and health and aesthetics (6.0%).

The timber and furniture industry is one of the most relevant segments in Bento Gonçalves economy. In addition to its high-quality products being nationally famous, this is the industry that generates the most jobs (13,4% of all formal jobs in 2018)⁵ and revenues (45% of total industrial sector revenues in 2018)⁶ for the city (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019). Its development is directly related to the arrival of Italian immigrants by the end of the 19th century. The first furniture companies were family-owned and started production to supply local demand (Sperotto, 2018).

The shift to industrial-scale production occurred in the 1950s, driven by the expansion of the furniture state market. In the last two decades, sectoral and regional policies focused on enhancing business networks and production systems, such as the State Program for Strengthening Local Chains and Productive Arrangements (APL Program), favoured the sector's development in the region (Sperotto, 2016). Although the slowdown in the Brazilian economy in the last five years has affected the furniture sector as a whole, Bento Gonçalves keeps an expressive share, especially in the state

⁴ Data from the State Finance Department (SEFAZ-RS) and Bento Gonçalves Municipal Finance Department. Reference year: 2018.

⁵ Data from the Ministry of Labour and Employment (RAIS - Annual Social and Information List and CAGED - General Register of Employed and Unemployed). Reference year: 2018.

⁶ Data from the Bento Gonçalves Furniture Industry Union (SINDMÓVEIS). Reference year: 2018

market, accounting for 44% of its furniture industry revenue (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019).

The interesting aspect of the timber and furniture segment in Bento Gonçalves, in terms of KBUD, is the presence of a strong cultural identity associated with the Italian pioneers and their entrepreneurial spirit (Sperotto, 2016). Besides, in the last decades, local companies have been making a structured effort for competitive differentiation through investments for workforce specialisation, technology development and design innovation (Sperotto, 2018).

Local institutions such as the University of Caxias do Sul (UCS) and the Institute of Timber and Furniture Technology of SENAI (National Industrial Training Service) have been playing an essential role in offering training and specialised technological education for this purpose (Marion Filho & Sonaglio, 2010; Sperotto, 2016). Also, the *Centro Gestor de Inovação Moveleiro – CGI* (Furniture Innovation Management Centre) during its existence, provided an environment where projects, studies and information were made available for the different players of the furniture production chain. The combination of these elements led to the rooting of the productive activity in the territory and the formation of local knowledge capacities, generating development for the city.

Bento Gonçalves also stands out on the national scene for its grape and wine production, an activity also directly linked to the city's Italian origins. The history of the grape and wine sector development is similar to that of the furniture industry. The first wineries started with the arrival of the Italian immigrants in the last years of the 19th century, producing table wine for their consumption (Fachinelli, D'Arrigo & Breunig, 2018). Currently, Bento Gonçalves is known as the 'Brazilian Capital of Wine' and integrates the largest and most important wine region in Brazil, i.e., the *Serra Gaúcha* region, which accounts for about 85% of the national wine production (Município de Bento Gonçalves, n.d.).

Bento Gonçalves is also part of Brazil's first region contemplated with the Geographical Indication for wines⁷, the *Vale dos Vinhedos* region. In 1995, by the

⁷ According to Embrapa (Brazilian Agricultural Research Corporation), "Geographical Indications identify wines originating from a defined geographical area when a specific quality, reputation or other characteristic is essentially attributed to that geographical origin. In Brazil, there are two types of Geographical Indications: the Indication of Origin (IO) and the Designation of Origin (DO). The IO applies to regions that have become recognized in wine production. In the DO, the wines have qualities or characteristics that are essentially due to the geographical environment, including natural and human factors" (Embrapa Uva e Vinho, n.d.).

initiative of Aprovale (*Vale dos Vinhedos* Fine Wine Producers Association), the project for structuring Brazil's first geographical indication was started, in partnership with Embrapa (Brazilian Agricultural Research Corporation, of the National Ministry of Agriculture, Livestock and Supply) and specialists from different institutions, such as the Federal University of Rio Grande do Sul (UFRGS) and the University of Caxias do Sul (UCS). As a result, *Vale dos Vinhedos* became Brazil's first recognised Geographical Indication: in 2002, it obtained the Indication of Origin registration, and in 2012 the Designation of Origin (Embrapa Uva e Vinho, n.d.).

Fachinelli, D'Arrigo and Breunig (2018) analysed the region's development process and verified that knowledge became a significant asset in it. The geographical indication process induced producers' collective organisation, resulting in a network that stimulated intense knowledge sharing among winemakers, small producers, and experts. By grouping in professional associations and organisations such as Aprovale, grape producers and winemakers increased opportunities for sharing and storing knowledge, generating enhancements for the sector as a whole. They used knowledge to modify their crops, improve production systems generating higher quality products, and explore wine tourism's potential. In a virtuous cycle, it stimulated the expansion of the region's reputation, with impacts not only on the wine chain but also on several other local economy sectors (Fachinelli et al., 2018).

The tourism sector has also significantly benefited from the *Vale dos Vinhedos* geographical indication process. Besides adding value to local wines, it placed the region on the map of national and even international wine tourism. However, Bento Gonçalves' vocation for tourism developed from business tourism during the 1960s, driven mainly by the furniture industry fairs (Município de Bento Gonçalves, n.d.). Then, in 1967, the first FENAVINHO (National Wine Festival) was held in the city, an event of national repercussion that lasts until today, celebrating Italian wine traditions and culture (FENAVINHO, n.d.).

In the 1990s, the *Caminhos de Pedra* Cultural Project, an initiative to recover and enhance the cultural heritage received from Italian immigrants through the recovery and preservation of the local architectural collection, was a milestone for Bento Gonçalves tourism. The old stone houses built by the first generations of Italian immigrants were restored and started to receive visitants interested in getting in touch with the authenticity and originality of the local culture, gastronomy and architecture.

As a result, the tourism sector in Bento Gonçalves had been showing impressive growth rates before the Covid-19 pandemic: in 2018, the local tourist routes received more than 1.5 million tourists, an amount that had been growing by an average of 9% per year since 2014 (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019). It is remarkable that the city uses culture as an attraction and transforms old buildings, colonial products and even language itself into economic value and development (Bertoco & Medeiros, 2015). Thus, from the KBUD perspective, tourism has become a means of valuing cultural heritage, promoting environmental rehabilitation, and providing economic and human development, both in tangible and intangible dimensions.

4.2.1.2 Sociocultural development

Bento Gonçalves also stands out, together with other cities in the region, for its good human and social development levels. In Rio Grande do Sul state, the government monitors the municipalities' societal development through the IDESE, the Socioeconomic Development Index⁸. IDESE results from the composition of three sub-indexes: IDESE Health, IDESE Income, and IDESE Education. Bento Gonçalves scored an IDESE of 0.834 in 2018, considered a high score, ranking as the first in the state among the municipalities with more than 100 thousand inhabitants and 19th in the general ranking (Departamento de Economia e Estatística, n.d.).

By observing the index in its sub-components, it is possible to verify that the best performance of Bento Gonçalves is on IDESE Health (0.905 and first place among the municipalities with more than 100 thousand inhabitants). Different aspects explain this result. Bento Gonçalves' network of health establishments (hospitals, clinics, basic units), whether public or private, is considerably more numerous than the average. In 2019, there was one health establishment for every 374 inhabitants in Bento Gonçalves. In comparison, the average in Rio Grande do Sul was one establishment

⁸ The IDESE (Socioeconomic Development Index) results from a 12 indicators set aggregation, divided into three blocks: Education, Income and Health. The Education Block uses five indicators: pre-school enrollment rate, Prova Brasil mark for grade 5 and Prova Brasil mark for grade 9, high school enrollment rate, percentage of the adult population with at least elementary education completed. The Income Block is composed of two indicators: income appropriation and income generation. The Health Block uses five indicators: the mortality rate of children under the age of 5, number of prenatal visits for live births, the mortality rate from preventable causes, the proportion of deaths from ill-defined causes, standardized crude mortality rate. The classification of the index is considered high (above 0.800), medium (between 0.500 and 0.799) and low (less than 0.499).

for every 428 inhabitants, while the national rate was one for every 618 inhabitants⁹ (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019). Therefore, in terms of infrastructure, Bento Gonçalves' citizens are served by a broader network.

Even so, the number of hospital beds per thousand inhabitants in the city is considered inadequate. In Bento Gonçalves, this index was 2.03 in 2019, when WHO indicates that the satisfactory would be 3 to 3.5 beds per thousand inhabitants. For comparison, the average in the Rio Grande do Sul state was 2.66 per thousand in the same period¹⁰ (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019). In terms of health policy, taking, for instance, the infant mortality rate as an indicator, Bento Gonçalves registers better rates than the state average. In 2018, the infant mortality rate (children under five years old) per thousand live births was 5.23, while in Rio Grande do Sul this rate was 11.23¹¹ (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019).

Regarding IDESE Income, the index is composed of two indicators: income generation (GDP per capita) and income appropriation (average household income per capita) (Fundação de Economia e Estatística, 2018). In this set, Bento Gonçalves has an index of 0.817, ranking 3rd among municipalities with more than 100 thousand inhabitants and 39th among all municipalities in the state (Departamento de Economia e Estatística, n.d.). Although IDESE contributes to a relative evaluation in terms of income, the index does not say much about economic dependence and equality levels.

In Bento Gonçalves, 2010 Census data pointed out an unemployment rate of 2.5% (compared to 4.6% in Rio Grande do Sul and 7.3% in Brazil), a dependency ratio of 35.4% (compared to 43.2% in Rio Grande do Sul and 45.9% in Brazil) and a Gini coefficient of income inequality of 0.44 (compared to 0.54 in Rio Grande do Sul and 0.6 in Brazil) (Instituto Brasileiro de Geografia e Estatística, 2010a). This may give some idea about the city's level of equality, although, of course, a lot may have changed in 10 years. Unfortunately, for small cities like Bento Gonçalves, the above indicators will only be updated when the next census is completed. Only then will it be possible to obtain a more accurate view of the city's equality and dependency situation.

⁹ Data from DATASUS (Informatics Department of the Unified Health System).

¹⁰ Data from DATASUS (Informatics Department of the Unified Health System).

¹¹ Data from Department of Noncommunicable Disease Surveillance and Health Promotion, of the Ministry of Health.

As for IDESE Education, Bento Gonçalves also has good results compared to other cities in the state: index of 0.779 and second place among the municipalities with more than 100 thousand inhabitants (Departamento de Economia e Estatística, n.d.). One factor that may have contributed to this good result is the municipal government investments in education. In Brazil, the Constitution requires states and municipalities to invest at least 25% of their income in maintaining and developing education. In the case of Bento Gonçalves, spending on education exceeded the constitutional minimum in the last decade. The city's investment ratio is even higher than that of the state, as shown in Table 4.

Table 4

Percentage of public spending on education over net revenue of taxes and transfers

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bento Gonçalves	34.9	33.7	36.9	31.8	33.3	33.9	32.8	34.3	29.8
Rio Grande do Sul state	27.0	28.3	30.0	31.2	32.8	33.7	29.3	28.9	26.7

Sources: Court of Auditors of the State of Rio Grande do Sul, Legislative Assembly of the State of Rio Grande do Sul

Bento Gonçalves also stands out as a regional hub of higher education. According to data from the Higher Education Census 2018 (Instituto Nacional de Estudos e Pesquisas Educacionais, 2018), local colleges and universities offered a total of 79 higher education courses, ranking Bento Gonçalves as the 7th city in the state in number of courses offered. According to the same survey, in 2018, 6,533 students were enrolled in any of the city's higher education institutions, which corresponded to 1.8% of the total students in Rio Grande do Sul. However, the number of enrolled students has dropped in the last few years: 4% from 2018 to 2017 and 17% since 2014 (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, 2019).

According to the Municipality of Bento Gonçalves, the city currently has eight higher education institutions in its territory (Município de Bento Gonçalves, n.d.). Some of these are listed among the best in the country, such as the University of Caxias do Sul (UCS), 42nd in the national ranking, and the State University of Rio Grande do Sul (UERGS) 163rd (Folha de S. Paulo, 2019). Another prominent institution is the Federal Institute of Education, Science and Technology of Rio Grande do Sul (IFRS), a public education institution with units in 16 municipalities in the state.

Over the years, these and other higher education institutions have contributed to the human capital training and development in Bento Gonçalves. However, due to its community DNA and central role in the region's development, it is relevant to present, at this point, an overview of UCS and its activities in the region. The information presented below will also contribute to comprehending the university's involvement with KCWS 2011 and subsequent events, as will be presented further.

4.2.1.2.1 The University of Caxias do Sul

The University of Caxias do Sul is a Community Institution of Higher Education, with direct action in the northeastern region of Rio Grande do Sul state. Founded in 1967, in Caxias do Sul (40 km from Bento Gonçalves), the University was established from the association of schools and colleges created in the 1950s and 1960s by entities such as the municipal government, the Diocesan Mitre of the Catholic Church and cultural associations and societies. Therefore, the university's origins are directly linked to the local community's initiative, which understood that higher education was an essential path for its development (Universidade de Caxias do Sul, n.d.).

In Bento Gonçalves, some undergraduate courses were offered shortly after the University constitution. However, the creation of a campus in the city would only occur in 1993, with the UCS Regionalization Project. Other six campuses would follow in the cities of Vacaria, Canela, Farroupilha, Guaporé, Nova Prata, and São Sebastião do Caí (Universidade de Caxias do Sul, 2017). Currently, considering its eight campuses, UCS affects more than 1 million inhabitants (Universidade de Caxias do Sul, n.d.).

In its little more than 50 years of existence, the University has expanded. There are 85 undergraduate courses, 70 specialisation courses, 18 Masters courses and 11 Doctorate courses. The University has about 800 qualified professors, 800 laboratories, 14 research centres, 17 Innovation and Development Centers, 72 research groups registered with the National Council for Scientific and Technological Development (CNPq) and 293 research lines. UCS also has 114 patent registrations at the National Institute of Intellectual Property (INPI). Throughout its existence, more than 100 thousand people have been trained by the university (Universidade de Caxias do Sul, n.d.).

From the perspective of KBUD, UCS is an agent aware of its role in the region's development. The University's declared mission is to "produce, systematise and

socialise knowledge with quality and relevance for sustainable development” under the vision of “being indispensable for the development sustained by knowledge” (Universidade de Caxias do Sul, n.d.). Besides, KBD is a strategic guideline for the UCS Institutional Internationalization Plan, one of the University's structuring goals (Panizzon, Fachinelli, Stecanella, Falavigna, Piccoli & Sartori, 2018).

Furthermore, in addition to teaching and research, the University promotes various initiatives to foster regional entrepreneurship and scientific and technological innovation. The University innovation agency, UCS INOVA, aims to provide a synergistic ecosystem for innovation and entrepreneurship through the articulation between the community and the academy. Among the initiatives under UCS INOVA umbrella are, for instance, the *IdeiaUCS*, a space for multidisciplinary interactions and technology debates within the University, and the *StartUCS*, an incentive and support program for the generation of startups through mentoring and direct interaction with the market (UCSiNOVA, n.d.).

Also, since 2015, the University maintains the Science, Technology and Innovation Park, the *TecnoUCS*. The aim is to exchange the knowledge produced at the university with development actors, i.e., companies, government and society, through R&D projects, technology transfer, technological services, and the development of innovative technology-based businesses. One of the park's most notable projects is UCSGRAPHENE, the first and biggest graphene production plant on an industrial scale in Latin America installed by a university. In operation since March 2020, it applies 15 years of advanced research in nanomaterials, generating high-quality graphene to provide innovative technology services to future-bearing sectors (UCSiNOVA, n.d.).

UCS institutional materials highlight its commitment to maintaining integration with the regional community through participation in different entities aimed at regional development, such as the Regional Development Councils (COREDEs), the Serra Gaúcha Metropolitan Region and the River Basin Management Committees (Universidade de Caxias do Sul, 2017). Also, representatives of the municipal, state and federal government, and civil society through class entities, participate in the Directing Council of the Foundation that maintains the University (Universidade de Caxias do Sul, n.d.).

4.2.1.3 Spatial development

As previously mentioned, Bento Gonçalves integrates – together with the municipalities of Antônio Prado, Carlos Barbosa, Caxias do Sul, Farroupilha, Flores da Cunha, Garibaldi, Ipê, São Marcos, Nova Pádua, Monte Belo do Sul, Santa Teresa, Pinto Bandeira and Nova Roma do Sul – the Metropolitan Region of Serra Gaúcha, created by Complementary Law No. 14,293 of August 2013. The central municipality in this metropolitan region is Caxias do Sul, with 517,451 inhabitants (Instituto Brasileiro de Geografia e Estatística, 2020).

Bento Gonçalves is the second municipality in number of inhabitants (121,803) and also an influence node within the metropolitan region. The city experienced very intense population growth during the 20th century. Torres and Caprara (2011) highlighted that, from 1876 to 2009, the city went from 248 to 106,999 inhabitants – an increase of 43,144.76%. Like that of several other cities in the region, such growth is not explained only by vegetative growth but also by the migratory balance (Torres & Caprara, 2011). Historically, the Serra Gaúcha region's development has been a factor of migratory attraction, both internal and external (COREDE Serra, 2016).

Bento Gonçalves currently has the highest demographic density in the Metropolitan Region – 445.2 inhabitants/km². However, it is necessary to clarify that in 2010, according to Census data, the demographic density in Bento Gonçalves was 280.86 inhabitants/km² (Instituto Brasileiro de Geografia e Estatística, 2010a). The indicator's variation is explained by the reduction in Bento Gonçalves' territorial area due to the Pinto Bandeira district's dismemberment, becoming an independent municipality on October 1, 2013.

Census data also indicated an urban population rate of 92.3% in Bento Gonçalves (Instituto Brasileiro de Geografia e Estatística, 2010a). There are no official data available for subsequent years. Meanwhile, according to the Municipal Council for Studies Guidelines and Projects, 47.7% of Bento Gonçalves territory is of urban occupation (Bento+20, 2020).

As in many other cities in Rio Grande do Sul and Brazil, Bento Gonçalves' urbanisation process intensified since the 1950s due to the expansion of national industrialisation processes and countryside's mechanisation (Torres & Caprara, 2011). However, it is important to highlight that these urbanisation processes, driven by rural exodus and migratory processes induced by economic development, brought some

challenges to the cities in the region (COREDE Serra, 2016). In the case of Bento Gonçalves, whose geomorphology imposes limitations on urban growth, there are issues such as irregular occupations and settlements in risk areas. IBGE data showed that in 2010, of the 36,528 households in Bento Gonçalves, 2,167 (5.9%) were in subnormal agglomerations¹². Data from 2019, still preliminary, indicated that this total went to 1,932 (4.8%) out of a total of 40,225 households. Although progress has been made, Bento Gonçalves still bares rates above the state average of 3.5% (Instituto Brasileiro de Geografia e Estatística, 2010b, 2019).

On the other hand, an interesting aspect of the spatial organisation of Bento Gonçalves concerns the relevance that the city gives to the protection of the cultural landscape and preservation of the rural zone. As previously presented, wine tourism and cultural tourism in traditional rural properties have become a differential of economic development in Bento Gonçalves. For this reason, the protection and preservation of these assets are widely included in the city's Strategic Master Plan (Municipal Complementary Law No. 200, 2018). Of the 185 articles in the law, 89 treat of the rural area, where the districts of Vale dos Vinhedos, São Pedro, Tuity and Faria Lemos are located, locus of many cultural and wine tourism activities.

In terms of environmental sustainability, a point of attention in Bento Gonçalves is basic sanitation. According to data from the National Sanitation Information System (SNIS), Bento Gonçalves has 100% of the urban population served by water supply services, household waste collection and selective collection. However, regarding the sanitary sewage service, SNIS points out that in 2017, only 0.62% of the urban population lived in households connected to the sewerage network (Atlas do Desenvolvimento Humano no Brasil, n.d.). The issue of sewage treatment, in fact, seems to be an issue for several municipalities in the region, which also operate with the removal of sanitary sewers only, without treating and sometimes throwing them into nearby watercourses or on the ground through sinks (COREDE Serra, 2016). In Bento Gonçalves, however, the issue has started to be addressed. In 2019, the Riograndense Sanitation Company (Corsan) initiated the construction of a Sewage

¹² IBGE names 'subnormal agglomerate' the form of irregular occupation of land owned by others - public or private - for the purpose of housing in urban areas and, in general, characterized by an irregular urban pattern, lack of essential public services and location in areas with restrictions for occupation. The data referring to 2019 are the quantitative estimates made by IBGE. This forecast will be confirmed or revised only after carrying out the demographic census.

Treatment Station with a capacity to treat 40% of the municipality's sewage (Sgorla, 2020).

Another point of attention is public security. Comparing data from the State Department of Public Safety of 2010 with data of the last three years (Table 5), the homicide rate increased by 320% from 2010 to 2018. Although it fell by 13% and 39% in 2019 and 2020, respectively, the rate remains above the state average. On the opposite trajectory are thefts, for instance, which fell 71% from 2010 to 2020 and are below the state rate (Secretaria da Segurança Pública do Rio Grande do Sul, n.d.). In July 2020, Bento Gonçalves joined the state program “Safe RS”, a transversal and structuring public security program to combat crime and implement preventive social policies. Executed in an integrated manner, in partnership with the Federal Government, the private initiative and civil society, the program seeks sustainable solutions to improve security in Bento Gonçalves (Moreira, 2020).

Table 5

Homicide and theft rates in Bento Gonçalves and RS State

	Geographic unit	2010	2018	2019	2020
Homicide rate (per thousand inhab.)	Bento Gonçalves	0.08	0.35	0.31	0.19
	RS State	0.15	0.19	0.15	0.15
Theft rate¹³ (per thousand inhab.)	Bento Gonçalves	19.46	12.83	8.59	5.71
	RS State	20.97	18.56	16.28	11.99

Source: RS State Department of Public Safety

Despite these points of attention, Bento Gonçalves' citizens have a positive perception of the quality of life in the city. The City Living Lab, the Living Laboratory of Knowledge Cities, linked to UCS's Graduate Program in Administration (PPGA), researched different cities in the Serra Gaúcha Metropolitan Region to investigate the level of citizens' satisfaction regarding health issues and security, well-being, recreation, mobility, inclusion and social participation, primary services, among others. In Bento Gonçalves, the "Satisfaction and well-being" item, which evaluated aspects such as satisfaction in living in the city and satisfaction in living in the place of

¹³ In Brazil, theft and robbery are typified as different crimes. The data presented in the table account for both occurrences.

residence, was the highest score in the vast majority of neighbourhoods (City Living Lab, 2021).

4.2.1.4 Institutional development

In terms of institutional development in Bento Gonçalves, it is possible to observe different participation spheres and groups of actors involved in the urban development governance process. The Regional Development Councils (COREDEs) are one of these spaces, created by State Law No. 10,283, of 1994, as bodies of discussion and decision regarding regional development policies and actions. COREDEs are responsible for producing diagnoses of regional needs and potential, preparing strategic development plans, guiding the state budget application in the region and monitoring the progress of defined actions and policies. Currently, the state of Rio Grande do Sul is divided into 28 COREDEs (Atlas Socioeconômico do Rio Grande do Sul, 2020).

Bento Gonçalves is part of COREDE Serra, made up of 32 municipalities. COREDE Serra includes part of the Metropolitan Region of Serra Gaúcha and concentrates 8% of the state's total population (Bertê, Lemos, Testa, Zanella & Oliveira, 2015). Among the groups of actors that compound COREDE Serra are local higher education institutions; representatives of the productive sectors such as EMATERs, Unions, Chambers of Industry and Commerce; local governments' representatives; and residents' associations.

COREDE Serra elaborated in a participatory manner, through micro-regional assemblies, the *Regional Development Strategic Plan 2015-2030*, which defines guidelines and projects for the region in infrastructure and logistics, economy, environment, tourism, energy and communications, housing, health and education (COREDE Serra, 2017). For this study's purposes, one of the most interesting aspects of the Plan is the inclusion of a guideline to strengthen the regional production matrix by developing technology-intensive sectors and inserting the current productive park in the new national development matrix.

This guideline resulted in a portfolio of KBUD projects that include: implementing technology parks by attracting national and foreign technology-intensive companies; promoting technology-intensive sectors; creating an Innovation Program; strengthening the TecnoUCS through the Triple Helix; identifying and developing the

regional innovation ecosystem; creating local productive arrangements in technology-intensive segments; and strengthening the Serra Technological Modernization Pole. However, the implementation of the projects is often hampered by state government budgetary constraints. To date, only a few of the projects listed in the Plan have made progress, including those led by UCS, such as TecnoUCS and the graphene production plant. Even so, the existence of the Plan and the fact that it is being discussed with the region's community indicate a level of KBUD awareness and the region's desire to move forward on this path.

Another notable local feature in terms of institutional development is local public managers and government leaders' ability to congregate in regional organisations to strengthen their institutional capacity. One such organisation is AMESNE (Municipalities of Northeast Upper Hillside Association). Founded in 1966 in Bento Gonçalves, AMESNE is currently composed of 36 municipalities, represented by their respective mayors. AMESNE aims to act on common interest issues and provide means for jointly facing problems that affect the associated municipalities (Associação dos Municípios da Encosta Superior Nordeste, n.d.).

In the same vein, since 2017, local legislatures have organised to form the Regional Parliament of Serra Gaúcha, which brings together representatives of the City Councils of 24 cities in the region. As with AMESNE, Parliament's objective is to join efforts in finding improvements and solutions to joint demands of the region's municipalities in the legislative sphere.

A third example is the Serra Gaúcha Intermunicipal Consortium for Sustainable Development (CISGA), of which Bento Gonçalves is part. In the Brazilian Public Administration, a consortium is a grouping of legal entities to provide their members, in an isonomic way, the acquisition of goods or services through self-financing. The CISGA was formed in 2011 by ten municipalities (currently they are 17) in the Serra Gaúcha region, aiming at the associated management of public services and the signing of accords to promote the region's sustainable development (Consórcio Intermunicipal de Desenvolvimento Sustentável da Serra Gaúcha, n.d.).

Bento Gonçalves' business community also stands out for its institutional leadership. One very active local body is the Bento Gonçalves Centre for Industry, Commerce and Services (CIC-BG). Founded in 1914 as a commercial association, CIC-BG has integrated other sectors in its composition over time, reaching the present day with more than 700 local companies from the industry, commerce and services

segments associated (Centro da Indústria, Comércio e Serviços de Bento Gonçalves, n.d.). With a long history of representing the local business community, currently, CIC-BG is one of the most structured and engaged entities in issues related to Bento Gonçalves' development.

CIC-BG acts directly in a series of initiatives such as the maintenance of the Bento Gonçalves Social Observatory and the Panorama Socioeconômico magazine publication, which, in partnership with UCS, annually monitors and reports the main development indicators of the city. CIC-BG also represents the business community of Bento Gonçalves in several other participation bodies, such as COREDE Serra, different Municipal Sector Councils and even at the National Conference of Cities. In 2006, CIC-BG led the Viva Bento Project, whose objective was to develop a strategic plan for the city by articulating the municipality's various entities. The work resulted in the Viva Bento 2015-2025 Report, a detailed action plan with proposals for different sectors, solemnly delivered to the mayor of Bento Gonçalves in 2016.

Viva Bento was the first step for other planning and governance initiatives for sustainable development, such as Bento+20. Officially created in 2019 by Municipal Law No. 6,472 under the name of Municipal Council for Studies, Guidelines and Projects of Bento Gonçalves, Bento+20 is a collegiate body to produce data, define guidelines, and plan the city's next 20 years, aiming to make it "more human, more sustainable and smarter" (Bento+20, 2020). Today, institutionalised as a planning unity, Bento+20 is composed of almost 30 local entities that include sectorial associations, unions, local universities and municipal government bodies.

In October 2020, Bento+20 delivered to the city a Masterplan, whose main purpose is to make Bento Gonçalves a smart and sustainable city until 2040. After intense research and benchmarking activity, the plan was prepared, involving about 200 people and more than 10,000 technical hours. Taking as a guideline the United Nations Sustainable Development Goals and ISO 37120 and ISO 37122 standards, ten thematic areas were defined: Technology, innovation and entrepreneurship; Education; Health; Safety; Industry, Commerce and Services; Tourism and Culture; Urbanism, Urban Mobility and Infrastructure; Environment and Sustainable Development; Citizenship; and Rural Development. In each area, guidelines and a detailed action plan were drawn up, including roles and responsibilities, deadlines and means to achieve the proposed primary objective: making Bento Gonçalves a smart and sustainable city.

4.2.2 Findings concerning the Case Study interviews

This section reports the findings of the nine interviews carried out with Bento Gonçalves' representatives. The interviewees were selected considering their involvement with the 4th KCWS in 2011 and/or their local representativeness in one of the four sectors, i.e., academia, civil society, the public sector and the private sector.

Accordingly, the following representatives were interviewed:

Table 6

Profiles of Bento Gonçalves interviewees

Category	Interviewee ID	Role and relevance
Local Organising Committee	Interviewee #1	UCS Professor, and KCWS Local Chair in 2011
Local Organising Committee	Interviewee #2	UCS Professor, and member of the Local Organising Committee in 2011
Local Organising Committee	Interviewee #3	UCS Professor, and CGI Director and member of the Local Organising Committee in 2011
Local Organising Committee	Interviewee #4	FISUL Professor, and member of the Local Organising Committee in 2011
Local Organising Committee	Interviewee #5	UCS Professor, and member of the Local Organising Committee in 2011
Academia	Interviewee #6	UCS Telediffusion Director, and KCWS attendee in 2011
Local government	Interviewee #7	Former mayor of Bento Gonçalves
Civil society	Interviewee #8	President of the Rio Grande do Sul Regional Development Council – Serra Gaúcha Region (COREDE Serra)
Private sector	Interviewee #9	Leading Furniture Company Executive Manager, and KCWS attendee in 2011

Source: the author.

Altogether, the interviews totalled over seven recording hours, plus 15 pages of written interviews. The complete content of the interviews, written or transcribed, was carefully analysed with the purpose of capturing key local actors' perceptions and

narratives about the KCWS in 2011 and its connection to KBUD initiatives and projects developed in Bento Gonçalves.

4.2.2.1 The Fourth KCWS in Bento Gonçalves

In line with the research objective of describing the particular settings and the context in which the KCWS was held, the background, circumstances and activities that made it possible to hold the 4th KCWS in Bento Gonçalves are described below. The description is based primarily on the interviewees' narratives collected during the interviews, complemented by document analysis of materials provided by the interviewees themselves or available on institutional websites.

In 2011, the 4th KCWS was a joint-conference with the IX Ibero-American Community of Knowledge Systems (ICKS) Conference. Like WCI, ICKS is a non-profit organisation of researchers and professionals of the Ibero-American countries interested in studying, researching, and disseminating Knowledge Systems and KBD (Comunidad Iberoamericana de Sistemas de Conocimiento, n.d.). The fact that the two events were held together is part of a story that began a few years earlier and compounds the context that took the KCWS to Bento Gonçalves.

It starts around 2003, with a collaboration agreement between UCS and *Tecnológico de Monterrey* (Tec), the higher education institution based in Monterrey, Mexico, to develop a distance learning program. One of the immediate outcomes of this agreement was to put professors and researchers from both institutions in contact for knowledge exchange and collaboration. Some of the Tec professors involved in this partnership were particularly dedicated to studying Knowledge Management and Knowledge-based Development disciplines. They invited UCS professors to join ICKS and form a Brazilian cell of the Community.

Over time these relationships became stronger. Tec Professors came to UCS to teach special disciplines in Graduate Programs, including in a postgraduate course in Knowledge Management. When WCI was founded, a UCS Professor integrated its International Advisory Board. In Brazil, ICKS' influence grew in the region. More members joined the Community, including other UCS professors, students, business people, and even community representatives interested in knowledge and development themes.

By the time the KCWS was held, there were two ICKS active cells in the region with regular meetings and debates, one in Caxias do Sul and the other in Bento Gonçalves. Also, by that time, the postgraduate course in Knowledge Management had already graduated several students, including managers and directors of local companies, who then had contact with KBUD and started to understand how it could contribute to the region's development. These events started by UCS are relevant because they connected local actors, especially researchers from the University, to some of the most engaged and cutting-edge international communities in the KDB discipline. Besides, these initiatives were the first steps in raising local awareness about knowledge cities and the potential of KBUD. Much of the local support that KCWS received in 2011 is due to these previous initiatives that set the stage and contributed to the community's comprehension of the proposed debate.

ICKS, like the WCI, holds annual meetings to gather the Knowledge Systems community and discuss specific topics of the field. Before Bento Gonçalves, ICKS conferences had taken place in cities like Medellín (Colombia), Guayaquil (Ecuador), Monterrey (Mexico) and even in Brazil, in Caxias do Sul, in 2005. In 2010, during the ICKS annual meeting, Bento Gonçalves was announced as the host of next year's conference. A local organising committee was formed then, composed mainly of UCS professors and researchers, many of whom were members of the local ICKS cells or were somehow involved in the events described above.

By that time, 'knowledge cities' was a topic of interest for ICKS too, as their 2011 Conference's theme would be "Knowledge-based Development and Innovation for Countries, Cities and Companies". Besides, some WCI Board members were simultaneously members of ICKS. Some of them started to consider the possibility of holding the KCWS and the ICKS Conference together, as the potential for synergy between both was clear. Then, when preparations for the ICKS event were already underway, the proposal was made to hold the two events together. Some of the interviewees mentioned that Israel was considered to hold the KCWS that year, but in the end, both events took place in Bento Gonçalves.

The same committee working on the ICKS Conference's organisation took over the production and execution demands of the KCWS. The 4th KCWS and the IX ICKS Conference took place on October 26 and 27, 2011, at the *Spa do Vinho Hotel*, considered the first international standard wine tourism complex in Brazil and one of the most picturesque hotels in Bento Gonçalves. According to the Organising

Committee interviewees, this venue was purposely chosen to transmit to the event's attendees the strength and the importance of the local identity, cultural heritage and traditional values of Italian immigrants, which, as previously seen, is one relevant knowledge asset in Bento Gonçalves' development.

The main local host partners of the 4th KCWS were UCS and the CGI (Furniture Innovation Management Centre). As stated earlier, UCS had been following developments in the KBD field for almost a decade. Also, UCS had established connections with WCI, as one of its Professors was on WCI International Advisory Board. Besides, some of the international Professors from the agreement with Tec were also part of the WCI Executive Board. In addition, as highlighted by one of the Organising Committee's interviewees, UCS's Rector at the time was very committed to the vision of UCS as a key agent in regional development and, therefore, he was very supportive of initiatives like the KCWS, with potential to create awareness and to broaden the discussions about the region's future.

As for CGI's participation, it was crucial in connecting the business sector to the event through the timber and furniture segment. Representatives of the industry attended the KCWS, and some companies were relevant sponsors of the event. Furthermore, the CGI's Director, who was also a Professor at UCS, integrated the Local Organising Committee and was directly responsible for the event's operational coordination. Another important aspect is that CGI had much capillarity among the productive sector organisations in Bento Gonçalves. It was due to this network that other entities such as SENAI (National Industrial Training Service), FIERGS (Federation of Industries of Rio Grande do Sul State), MOVERGS (Furniture Industries of Rio Grande do Sul State Association) and SINDMÓVEIS (Bento Gonçalves Furniture Industry Union) were involved in the event, some of which even contributing with sponsorship.

From the government sector, the Municipality of Bento Gonçalves and AMESNE were significant supporters and sponsors of the 4th KCWS. Also, different local business and organisations contributed effectively in order to make the event happen. These were: IBRAVIN (Brazilian Wine Institute), whose headquarters were in Bento Gonçalves, SBGC (Brazilian Society for Knowledge Management), SHRBS (Bento Gonçalves Hotels, Restaurants, Bars and Similar Union), SIMMME (Union of Metallurgical, Mechanical and Electrical Material Industries of Bento Gonçalves), Spa do Vinho (local hotel).

The general theme of the 4th KCWS was “Knowledge Cities for Future Generations”, specifically addressing aspects such as cultural tradition, knowledge and innovation in the community’s future. Renowned speakers came from all over the world, which reinforced the importance of the themes worldwide.

Altogether, the event received about 200 participants, an expressive amount, considering the representativeness of those who attended. In terms of media repercussions, UCS television and radio stations covered the event and also redistributed the material to regional TVs, radios and newspapers. Some speakers gave interviews, and newspaper articles were published.

An interesting arrangement, which marked this fourth edition of the KCWS, was the special presentations and meetings that some speakers had with local organisations. During the days that preceded and followed the event, some of the KCWS speakers and experts participated in meetings and gave specific speeches in organisations that sponsored or directly supported the event, such as the Bento Gonçalves City Hall, AMESNE and even in companies, talking about KBUD and specific issues directly related to each of the organisations. According to some of the interviewees, this arrangement brought local actors closer and increased engagement throughout the event. It also allowed these local actors to understand better how the KBUD and Knowledge Cities themes related to their organisations' concrete day-to-day issues, whether public, private or non-profit.

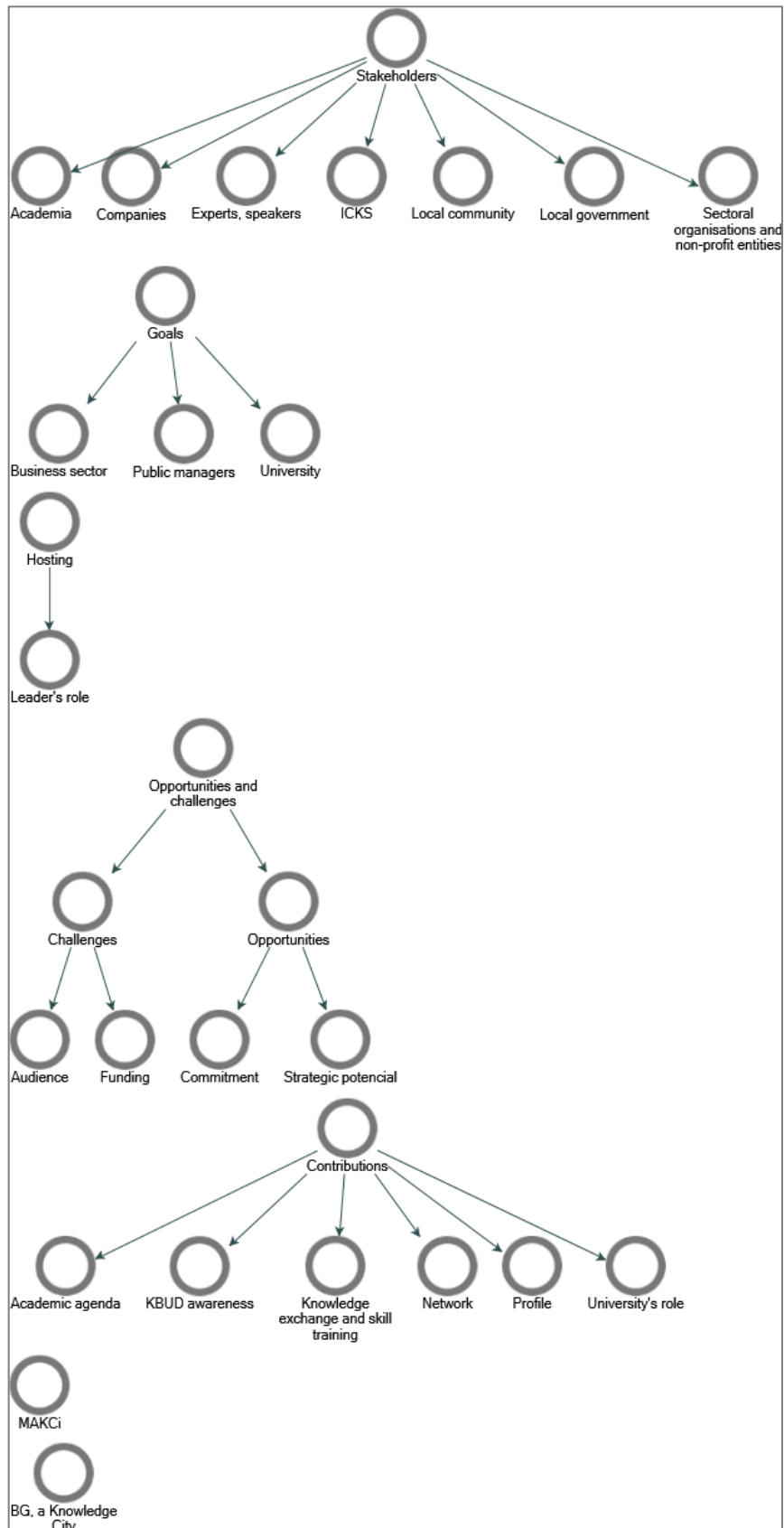
Thus, this was a brief narrative about the realisation of the KCWS in Bento Gonçalves. In the next section, a more in-depth view of aspects such as the objectives, contributions, and further developments of the event will be presented based on the interviews' content analysis.

4.2.2.2 Content Analysis of Bento Gonçalves interviews

For the interviews' analysis, categories based on the semi-structured interview questions (see Appendix C) were applied through structural coding method (Saldaña, 2009) using NVivo software. Pattern coding method (Saldaña, 2009) was used to identify emergent topics derived directly from the interviews' content. Figure 4 presents the hierarchical structure of codes. In total, seven categories and 23 codes were applied. More details on each category's content are presented below.

Figure 4

Coding Map of Bento Gonçalves interviews.



Source: the author, 2020. Developed in NVivo.

In the 'Stakeholders' category (70 references), citations about local agents who attended or were involved with the event in 2011 were coded. Similar to WCI interviews, 'companies' (16 references), 'academia' (13 references) and 'local government' (12 references) were again the most referenced triad. As the 4th KCWS was a joint event with the ICKS Conference, 'ICKS' (8 references) was also a frequently mentioned stakeholder. In the case of Bento Gonçalves, the particularity was the involvement of different types of 'sectoral organisations and non-profit entities' (11 references), which directly or indirectly contributed with the event, as was the case of AMESNE, SENAI, IBRAVIN, MOVERGS, SINDMÓVEIS, and others. 'Local community' (5 references), alluding to local small merchants and suppliers, was also cited as having played an essential role in supporting the event. Finally, the 'experts and speakers' (5 references) were cited as one of the summit's main differentials.

The 'Goals' category (9 references) included references to the multiple stakeholders' aims in taking part in the event. Learning from international experts was the main objective of those who attended the event. The 'business sector' (5 references) audience expressed an interest in learning about innovation, KBUD, sustainable development, and knowledge management. This group's participation was closely linked to the postgraduate course in Knowledge Management offered by UCS at the time. According to the private sector interviewee, many executives or managers of local companies, who were also students, were made aware of KBUD through the course and therefore recognised the opportunity to learn and exchange experiences that the event would provide.

By their turn, the 'municipalities representatives and public managers' (2 references) were interested in topics such as innovation and the future of cities and learning from city cases and experiences worldwide. As for the university (2 references), as highlighted by the academia interviewee, supporting the event was one more opportunity to contribute to the region's development and advance the commitment as a community university.

The 'Hosting' category (44 references) included references about the context, circumstances and activities related to the hosting of the KCWS. Most of its content was storytelling about how the event happened in Bento Gonçalves, what it took to organise the event in the city, how it was experienced, and so on, and has already been presented in the previous section. However, one topic in specific emerged from the speeches of different interviewees and was recurrent in the interviews, namely, the

crucial role of some 'local leaders' (14 references) in making the event happen. "It is clear that you need to have local leadership; you need to have people committed and anchored to a certain idea. That is how it all happened", highlighted one of the Organising Committee interviewees.

In the case of the 4th KCWS, different interviewees coincided in pointing out the strong leadership of UCS professors as the key factor in making the event feasible. It was said that their trajectory and credibility of their teaching and research work at UCS over the years contributed to taking the KCWS to Bento Gonçalves and engaging different actors in the event's proposal. According to another interviewee, the importance of these leaders lied in the fact that they were able to activate local networks that were crucial in different stages of the event (from initial preparation to participation during the conference, and later on in the continuity of some of the ideas).

The 'Challenges and Opportunities' category (14 references) included content about the main difficulties observed by the interviewees regarding the event and the possibilities for improvement. 'Funding' (4 references) was emphasized by Organising Committee interviewees as a challenge. According to them, at the time, the biggest challenge was getting sponsorship to fund the event and its logistics, which included bringing international speakers from different parts of the world. As mentioned before, most of Bento Gonçalves' companies and institutions are small, therefore with fewer resources available for sponsoring events and conferences. According to the interviewees, this difficulty was overcome with the involvement and sponsorship of several entities, local companies, UCS and the Municipality of Bento Gonçalves, who collaborated to make the event feasible.

Some Organising Committee interviewees also pointed out the challenge of achieving a balance between academics, government representatives, business leaders, and practitioners in terms of 'audience' (2 references). It was said that KBUD deals with specific subjects and, in a city like Bento Gonçalves, the group of local actors relevant to local development is not large. Thus, the challenge was to bring the right balance of representatives to the event to create a movement all across the city. According to the interviewees, this challenge was overcome thanks to the influence of those local leaders, who activated their networks, ensuring the main local actors' participation.

As for the opportunities, Organising Committee and Academia interviewees suggested that a greater effort could have been done to involve a broader audience,

such as universities and municipalities from the rest of the state or even the country. One of the interviewees evaluated that this would have allowed institutions directly involved with the event, such as UCS, to explore its 'strategic potential' (3 references) better. Different interviewees among those who do not belong to the Organising Committee mentioned an untapped opportunity of using the event to induce local actors to 'commit' (5 references) themselves to local development projects. These interviewees coincided on the expectation that, after the event, some groups of actors or local leaders would have addressed concrete initiatives, directly assuming commitments, plans or actions.

Regarding the content coded in 'Contributions' (72 references), the most significant number of citations were in 'KBUD awareness' (16 references) and 'university's role' (15 references). In all interviewees' groups, the perception is that one of the main contributions of the event in 2011 was to raise awareness on local actors about the themes of KBUD and knowledge cities. According to the civil society representative, "many regional and business leaders have been contaminated by the debate of the knowledge cities" due to the event.

Other interviewees also mentioned the effect on the business community. According to one of them, evidence of it is that CIC-BG, in partnership with UCS, included an entire section with Bento Gonçalves' capital system in their annual *Panorama Socioeconômico* magazine for a couple of years after the event. That demonstrated the local business sector's interest in monitoring the city's development progress through a KDB methodology. Also, according to different interviewees, this growth in KBUD awareness promoted by the event awakened participants to the importance of better understanding the attributes, problems and potentials of the city. In this sense, it also contributed to demonstrating the value of the research developed at UCS that, throughout the years, made evident different aspects of Bento Gonçalves urban development.

The perception of how much this growth in KBUD awareness has unfolded into local development initiatives differs among respondents. Some interviewees indicated that it was not translated into concrete local initiatives after the event. Those who share this view, in general, refer to these initiatives as if they were the exclusive responsibility of the public authorities. Therefore, a lack of action aimed at KBUD would be closely linked to the local authorities not having incorporated KBUD's premises in their planning and policymaking. On the other hand, other interviewees, including

government and civil society representatives and others form the Organising Committee, indicated that this growth in KBUD awareness did pave the way for different local initiatives, especially those developed by or in partnership with the university.

In line with that, recognition of the 'university's role' (15 references) is the next codified contribution. Interviewees indicated that the KCWS in 2011 was fundamental in increasing the UCS's influence over different development agents in the region and placing the University at the centre of the local KBUD movement. One interviewee highlighted that due to the event, collaboration and data sharing processes could be established between the University and different institutions, including the municipal government. This, in turn, allowed UCS to advance and consolidate research on the topics of the capital system and KBUD. The outcomes of these studies generated valuable insights that were shared with municipal management. According to the local government representative, the University acted as a translator, making the KBUD concepts more "palatable" so that the city administration could transform them into policies.

Another example cited by one of the Organising Committee interviewees was the technical mission of the region's mayors to the United States, coordinated by UCS at the request of AMESNE in 2018. The roadmap, which included visiting four American cities and their revitalization, urban mobility and KBUD initiatives, counted with 13 mayors of the region. One of the mission coordinators was also a KCWS Organizing Committee member, just as AMESNE sponsored the event in 2011.

According to the interviewee, this episode demonstrates the strength of KBUD awareness generated by the event, as many of those mayors interested in learning from the American experience attended the event in 2011. It also demonstrates UCS's influence on these actors since it was directly demanded by AMESNE to coordinate the mission. An influence that has remained over the years and continues to this day, according to the interviewee.

The academia representative pointed out that the KCWS consolidated and gave more visibility to this group of UCS researchers involved with the theme, who has become a KBUD reference at the national level. In 2019, for example, one of the professors was invited to make a presentation at the Chamber of Federal Deputies about the Brazilian Knowledge-Based Development Observatory. According to one of the Organising Committee interviewees, by bringing to the debate ideas such as the

university's central role in a development process, KCWS contributed to materialise UCS's protagonism in other spheres, expanding its influence on regional and even national levels.

Another mentioned contribution concerns 'knowledge exchange and skill training' (13 references). Among the interviewees who attended the event, there is a consensus that one of the most positive aspects of the event was the high quality of the content transmitted, mainly due to the high level of international speakers, who brought research and experiences from different parts of the world. One of the Organising Committee interviewees pointed out that KCWS is an accelerator, capable of connecting attendees with the best in terms of knowledge, and "having accessed this cutting-edge knowledge created a movement in the community, in people who attended the event". The private sector representative, for instance, reports that although initially his and his team interest was more about knowledge management in a company context, the debates about knowledge cities broadened the horizons of the entire group. Besides, this knowledge exchange and training were enhanced by the abovementioned arrangement in which on-site lectures were held at sponsoring organisations.

Contributions to the 'academic agenda' (12 references) were also cited by interviewees linked to the University, whether of the Organising Committee or not. Among the advances related to the 4th KCWS, the following were mentioned by the interviewees: the promotion of the postgraduate course in Knowledge Management; the consolidation of KBD as a line of research in the Graduate Program in Administration; an increase in the number of master's and doctoral studies on the subject; the strengthening of partnerships with researchers from other countries such as Mexico and Australia; publications in renowned journals of the field.

A milestone among these academic developments, frequently mentioned by the interviewees linked to UCS, was the Master's research carried out by student Anelise D'Arísbo, under the supervision of Professor Ana Cristina Fachinelli (D'Arísbo, 2013). The research, among other things, adapted the capital system indicators to the Brazilian data reality, identifying the complete capital system of Bento Gonçalves. After that, further research on the capital system, as a value-based tool, began to be developed by other researchers of the group (see Fachinelli, D'Arrigo & Giacomello, 2015; Fachinelli, Giacomello, Larentis & D'Arrigo, 2017; Silva, Bebber, Fachinelli, Moschen & Perini, 2019) culminating with the creation of the

Brazilian Knowledge-Based Development Observatory in 2018. The Observatory is an online data platform that makes it possible to visualize the assets and liabilities of any city in Brazil, according to the capital system model. According to one of the interviewees all this trajectory was inspired by the KCWS in 2011. The adherence of the model reverberated even beyond the academy, with the publication of Bento Gonçalves' capital system in CIC-BG's *Panorama Socioeconômico* magazine, as previously reported. Furthermore, according to one of the interviewees, the 2011 event expanded the KBD debate within UCS itself to the point that it became a guideline for the University's current Institutional Internationalization Plan, which can also be considered a legacy of the event, according to the interviewee.

Among the Organising Committee interviewees, a contribution cited with emphasis was creating or strengthening 'networks' (11 references). The interviewees of this group mentioned that the dynamics of the event favoured interaction, allowing the connection between professionals, researchers, and speakers from all around the world. At the institutional level, the event provided the opportunity to strengthen connections between UCS and other institutions such as ICKS and WCI.

Also, UCS's relationship with local institutions such as the Municipal Government and AMESNE was strengthened and enabled joint projects. The creation or strengthening of these connections also expanded the possibilities for academic dialogue, allowing collaboration between researchers from UCS and other parts of the world, as already pointed out. According to one interviewee, these collaborations significantly accelerated research development and KBUD application in the region.

The Organising Committee interviewees also highlighted that the event gave 'profile' (5 references) to Bento Gonçalves before the international participants and speakers. In the analysis of some interviewees, these experts visiting and getting to know some of the city's attributes personally contributed to its nomination in the MAKCi Award in the following years.

4.2.2.3 Comparing with the results of WCI interviews

By confronting the results of WCI interviews with those of Bento Gonçalves, it is possible to identify correspondences between various topics. As for the event's main stakeholders, the main groups pointed out were academia,

government and companies, both in WCI and Bento Gonçalves interviews. References to 'local community' and 'experts and speakers' also occurred in both cases. Even in the case of Bento Gonçalves, in which 'sectorial organizations' were mentioned, it can be associated with the occurrence of 'multi-stakeholder partnerships' mentioned in WCI interviews.

Regarding the 'Goals' of these stakeholders, Bento Gonçalves respondents mostly pointed out 'learning from international experts', 'learning from city cases and experiences worldwide' and 'contribute to the region's development'. These objectives are consistent with some of the interests of local hosts pointed out by WCI executives, namely, 'to learn about KBUD' and 'to leverage local KBUD initiatives'.

In the 'Hosting' category, some differences can be noted. The selection process for Bento Gonçalves as the host city did not occur in the manner indicated in the WCI interviews, in which cities bid to host the event. Instead, it was due to the institutional partnership between ICKS and WCI. Still, it can be inferred that the host was interested in holding an event on the KBUD theme since there was already a commitment to hosting the ICKS event.

One aspect that was extensively addressed in WCI interviews was the unique aspect of each KCWS, resulting from WCI's effort to maintain a constant dialogue with local hosts to meet their needs. In Bento Gonçalves, the realization of on-site lectures at sponsoring organizations about specific day-to-day issues corroborates this aspect. On the other hand, something that emerged only in Bento Gonçalves' interviews was the importance of local leaders in making the event happen. Bento Gonçalves's interviewees were categorical in stating that the event's execution depended a lot on the dedication of some specific people previously involved and engaged in the KBUD debate.

The category with the most matches is 'Contributions', as can be seen in Table 7. There is a significant coincidence between the contributions visualized by the event promoters and those perceived by the host city. There is also a great alignment when comparing the contributions (perceived by both parties) and the objectives in carrying out the event.

Table 7*Codes in the 'Contributions' category*

WCI Interviews		Bento Gonçalves Interviews	
<i>Code</i>	<i>References</i>	<i>Code</i>	<i>References</i>
'networking'	13 references	the creation or strengthening of 'networks'	11 references
'enhancement of local initiatives'	10 references	-	-
'growth of KBUD awareness'	7 references	'KBUD awareness'	16 references
'profile building'	7 references	'profile'	5 references
'development of academic agenda'	5 references	'academic agenda'	12 references
'knowledge exchange and skill training'	5 references	'knowledge exchange and skill training'	13 references
-	-	'university's role'	15 references

Source: the author, 2021.

These convergences indicate the success of KCWS in achieving its purposes. They also corroborate Bento Gonçalves' findings since WCI executives spoke based on the experience of other events. The interviews were not methodologically structured to obtain this generalization. Even so, the coincidence between the results is an indication that the findings are reliable.

4.2.2.4 Bento Gonçalves, a Most Admired Knowledge City

As beforementioned, in 2019, during the 12th KCWS held in Florianópolis, Brazil, the city of Bento Gonçalves received the MAKCi Award in the Emerging Knowledge City category. Considering that the objective of the MAKCi Award is to recognize cities that have advanced in the implementation of KBUD strategies (WCI, 2020), knowing the interviewees' perspective on the Bento Gonçalves award and any possible relationship with the 2011 KCWS was a topic in the interviews (see Appendix C). The resulting content, coded as 'MAKCi' (20 references), is presented below.

Not all interviewees see a connection between the KCWS 2011 and the MAKCi Award in 2019. Those who have this view also emphasized that, in their perception, there was no deliberate and structured effort of the local government to make Bento Gonçalves a knowledge city. "(...) I could not see, in the last ten years, that the government had a specific project for this. Of course that, in these ten years, several projects, mainly in the area of Tourism, Social Development, I think all this has contributed. But I honestly do not know if it was part of a plan or not – a plan for that specific purpose of being awarded. Perhaps it had been done without that goal, and it ended up resulting in it", pointed out one of the interviewees.

On the other hand, most of the interviewees associated Bento Gonçalves' award with UCS activities in the city. However, there are different perceptions of the university's role. Private sector and Organising Committee interviewees highlighted that UCS's contribution to the award was mainly in developing research that made evident the knowledge city attributes of Bento Gonçalves, attributes that emerge from historical and cultural processes. One of the Organising Committee interviewees explains that, although Bento Gonçalves was awarded in 2019, the city had been nominated for MAKCi since 2012. However, before 2019, more evidence of Bento Gonçalves' advances in terms of KBUD was needed. Then, "at the university, other theses started to be developed using the capital system and KBUD. Then we started to produce more content about it. And this, as it was being published, revealed more characteristics of Bento Gonçalves. And this is what made international experts recognise Bento Gonçalves as a knowledge city last year. But they recognised it based on the information that came from these studies", explains the interviewee.

Meanwhile, other interviewees, including representatives of local government and civil society, see UCS directly influencing planned and executed initiatives by transmitting KBUD concepts in the various knowledge transfer processes linked to the university. "(...) these concepts that were being germinated within the University of Caxias do Sul then began to be developed in the daily life of the city", explains the local government representative.

Furthermore, some interviewees pointed out that many Bento Gonçalves' citizens got very surprised when they saw the news on TV about the award. They did not expect Bento Gonçalves to be a Knowledge City. For these interviewees, this surprise is due to the distance between what society perceives and what is actually being measured. Also, knowledge transferring processes from the university to society

are always intricate, contributing to this perception difference. “As Bento Gonçalves is a city with higher education since the 1960s, there are many things related to the knowledge society that have been developed, but ended up not being in the common-sense debate, not being in the newspaper pages. Nonetheless, they have been contaminating the public and private sector in order to promote transformations”, explains the civil society representative.

4.2.2.5 What makes Bento Gonçalves a Knowledge City

Finally, drawing on the research objective of identifying local KBUD initiatives and achievements, the interview also sought to obtain the interviewees' perception of what makes ‘Bento Gonçalves a knowledge city’ (38 references). Cultural identity, and its deep connection with the traditions and values brought by Italian immigrants, is seen by the vast majority of interviewees as one of the main (knowledge) assets of Bento Gonçalves. According to one of the interviewees, “the Italian colony that settled here managed to transform what is the very basis of culture into economic value over time. So, for example, wine before being a product of economic value is a cultural value”. Another highlighted value is entrepreneurship, seen as a cultural heritage of the first immigrants who arrived in the region and directly associated with the city's economic development. “So the family businesses themselves, the local culture itself, and what Italian immigrants did here at the beginning, everything became a reason, a differential, an object of developing an economic activity”, highlighted another interviewee. “The manual quality of our immigrants, who had to come here and make their own chair, their own table for meals, their own houses, has evolved, adding technology, study, knowledge, and today Bento Gonçalves is the largest value-added furniture hub in the country. In other words, everything that made us emerge today is the base of our economy”, pointed out another interviewee. According to the local government representative, this cultural identity also functions as a regional amalgam, favouring the approach and collaboration of not only neighbouring farmers and wine producers, for instance but also the joint action of the municipalities in the region.

Another typical KBUD aspect pointed out by the interviewees corresponds to the endogenous development processes. One of the interviewees, for example, highlighted this characteristic in the tourism segment: “When you come here to

Bento, you feel something genuine, something natural, something that emerges from our culture. So this authenticity, I think, is what generates this value. Our tourism is based on real stories, on real values. It is not artificially produced". According to another interviewee, "Bento Gonçalves, by the development of furniture and wine, understood that the wine chain is extremely interesting, and it can add much more to us. We started to invest in tourism, in wine tourism. Bento is the country's first wine tourism city. So we link wine with tourism, and then we add 52 other sectors of our economy, ranging from restaurants, cultural processes, handicrafts, hotels, events, seminars, and so on".

This ability to integrate different production chains was also pointed out as a differential by the academia representative, for whom "it is possible to perceive that the industrial, commercial and services sectors act in an integrated manner in the construction of the future of the city".

Factors linked to the institutional domain of KBUD, such as participation, engagement and leadership, are also essential in a knowledge city and were mentioned by the interviewees. One of the aspects often cited concerns the high level of engagement and participation of local business people in development and city management issues. Representatives from all groups indicated a high participation rate by business sectors in local spheres, such as councils, committees and associations. This was said to be something in which Bento Gonçalves differs from other cities in the region. "We are a small community, with around 120 thousand inhabitants. This work is made easier. It is difficult to get the entire business community of São Paulo to join in favour of this type of goal, but here it is easier. Because businessmen are united in various associations, which permeate the whole society and contribute a lot", highlighted the private sector representative. Another factor often pointed out is the ability to form new leaders not only in the public sector but in the different segments, including the business sector. The academia representative pointed out that Bento Gonçalves has stood out for its succession processes that have provided integration and continuity for the city's development over the years.

One more factor pointed out by most of the interviewees concerns the city's educational level. They highlighted the quality of primary, secondary and, mostly, higher education. According to different interviewees, the university's role, especially UCS, in the Bento Gonçalves' development process is notable, not only

in the training of professionals and practitioners but also in research development. "I particularly credit this development to the strengthening of higher education in the region, a very important role developed by UCS, and now by the countless existing colleges too", highlighted one of the interviewees. It was also pointed out that training and knowledge were competitive differentials that allowed the advancement of Bento Gonçalves' economic activities. Local government representative pointed out that because it is located in a mountainous region, with rugged terrain, far from the capital, far from the major consumer markets, the city needed to invest in adding value through education and workforce's qualification to prosper.

One last point brought by the civil society representative is that, in recent years, the theme of KBUD has been incorporated in the Regional Strategic Planning through the inclusion of strategies aimed at fostering technology-intensive sectors. The interviewee pointed out that this movement occurred, in large part, due to the influence of courses and activities on the theme promoted by UCS. The strategy, however, has been facing resistance from the more traditional productive sectors, which require government resources to be invested in activities that, according to them, have historically promoted the development of the region. This conflict is also perceived in the speech of another interviewee, who argued, on the other hand, that investments in innovation and technology should focus on traditional sectors and not on the development of new ones. The civil society representative said that this is a constant debate in the Regional Development Council's meetings to define public investment priorities. However, some advances were made, such as the consolidation of the UCS Science, Technology and Innovation Park, the TecnoUCS, and the creation of a regional innovation program, the Inova RS, both initiatives belonging to the Regional Strategic Planning.

In sum, what becomes clear from the interviewees' responses is that what makes a knowledge city is a collection of attributes and characteristics. This was directly pointed out by two of the Organising Committee interviewees. "So this is a very important point. A knowledge city will not be recognized by one, two or three characteristics. It is a systemic set of data and information that reveals the characteristics aligned with the vision of what a knowledge city is, which is defined based on the categories of the capital system", explained the interviewee.

4.3 DISCUSSION

Bento Gonçalves stands out on the national scene in terms of development. The data collected shows the city well above the average in most of the observed indicators. With the MAKCi Award in 2019, the city also gained an international reputation as a knowledge city. These achievements did not happen overnight, however. Urban development is a complex process, largely affected by events of the present and past. In the case of Bento Gonçalves, history and the Italian ancestors' cultural traditions were knowledge resources used to promote economic activities and development. Throughout the years, the city was able to transform intangible aspects of knowledge such as cultural identity and traditional values into economic development (Millar & Ju Choi, 2010) in different sectors, such as the furniture, wine, and tourism segments.

Meanwhile, on the trail of cities like Austin, Texas, which achieved urban development by promoting its cultural legacy while developing new knowledge-based sectors and activities (Baum, Yigitcanlar, Horton, Velibeyoglu & Gleeson, 2007), Bento Gonçalves aims at the future with projects such as the TecnoUCS Technology Park and the graphene production plant, the UCSGRAPHENE. They are examples of locally developed research and innovation to create high value-added products, a distinctive KBUD approach with great potential for generating economic prosperity (Edvardsson et al., 2016).

From the social and institutional perspective, the business community and civil society's capacity to organize and form institutions that act and lead in the urban development process is remarkable. Bento Gonçalves universities are extremely relevant agents in this process, as well as in the socio-cultural development of the city through the formation of human and social capital.

Considering these and other factors mentioned throughout this study, it is clear that Bento Gonçalves has several KBUD initiatives and achievements. Nevertheless, hosting the 4th KCWS in 2011 has generated some other contributions to the city in this regard. The interview analysis indicated that knowledge exchange was one of the main contributions of the event. The KCWS, as an international event with the field's leading experts and researchers, was a facilitator for knowledge transfer on topics related to KBUD and knowledge cities. Consequently, KCWS also contributed to raising KBUD awareness among the local actors who attended the event. KBUD

awareness, as defined by one of the interviewees, is this understanding of what a knowledge city is and what it is made of, and it is fundamental for the engagement of local actors in any KBUD initiative.

Events may also facilitate cooperation and provide the opportunity for developing collaboration capacity (Bernardino et al., 2017; Liu, 2019). They can bring together actors and partners that do not often interact, enabling information flow, cooperation, and innovation (Schüßler, Ruling & Wittneben, 2014). In Bento Gonçalves, the KCWS strengthened pre-existing relationships and allowed new connections between local actors and leading academics, professionals, and policymakers from all around the world in collaborative networks. As previously seen, local actors' ability to establish and nurture collaboration through partnerships is essential for the success of a KBUD process (Yigitcanlar et al., 2017). In some cases, these connections and relationships have extended to the institutional level, favouring joint projects, such as the AMESNE's technical mission to the United States coordinated by UCS.

Besides, KCWS provided the opportunity for Bento Gonçalves to get profile as a city engaged with leading development strategies such as KBUD. In the case of an international conference, which draws together leading national and international specialists and practitioners in their fields, this effect is intensified (Dwyer et al., 2000).

Contributions and developments in the academic sphere were also significant, given that UCS was the leading partner institution of the 4th KCWS. Those included publication of co-authored papers in renowned journals of the KBUD field, leveraging of UCS postgraduate courses, increased master's and doctoral studies on the subject, and others, as presented throughout the study. In the case of a community university like UCS, whose institutional identity is so deeply intertwined with the region, the academic advances that project the university nationally and internationally, to some extent, also project the city, or the region. For example, when a UCS professor was invited to present the Observatory of Knowledge-based Development project to the Chamber of Federal Deputies, this was also projecting the region's development on a national scale.

Up to this point, similar contributions were noted in other KCWS events and mentioned during the WCI Executives' interviews. However, in Bento Gonçalves one more valuable contribution was pointed out. Since its foundation, UCS has been a university deeply involved in the region's development process. The 4th KCWS,

however, contributed to elevating UCS to the role of a protagonist in local development. As seen in previous sections, having the university moving from a supporting role to a more entrepreneurial one is key in any KBUD strategy (Alizadeh, 2010; Etzkowitz & Zhou, 2017). The KCWS not only conveyed this vision to the participants but also evidenced UCS as an agent capable of leading this movement. The University has played this role in different ways over the years. For instance, developing cutting-edge research in several areas, including KBUD; training and graduating citizens, including the city's political and business leaders, carrying out innovative projects, such as UCSGRAPHENE; integrating regional and local planning and management bodies as the COREDEs and the Municipal Councils.

The fact that this contribution was mentioned only in Bento Gonçalves' interviews suggested that its occurrence may be associated with a particular context. As presented before, although a relevant hub in the region, Bento Gonçalves is a small city with only 120 thousand inhabitants. Throughout its history, the city has developed based on endogenous assets and values such as entrepreneurship and cultural tradition. Meanwhile, UCS is a community university founded with the purpose of contributing to the development of the region. Years before the 4th KCWS, the University was already engaging in projects in the KBD field. In fact, the event in 2011 was largely due to the institutional collaborative partnerships established years before between UCS and other universities dedicated to the subject, such as the Tec de Monterrey. Besides, UCS professors and researchers were already actively engaged in projects on the topics of KBUD and knowledge cities by the time the event occurred. These are some – and certainly not all – elements of Bento Gonçalves' context that need to be considered when analysing the contributions of the 4th KCWS.

The context is also relevant when considering how those contributions developed. As a university with a community identity, UCS is highly distributed and permeated in the region. Social and community identity can enhance the knowledge exchange process (Millar & Ju Choi, 2010). In this way, UCS's presence in different municipalities also makes it an integrating element and facilitates the exchange of knowledge between cities in the region. By connecting to an international event such as KCWS, UCS had the potential to take to other development agents in the region all the event's cutting-edge content, expanding the reach of these ideas. Its capillarity also makes the effects of the connections made during the event even more relevant. The

results of the partnerships established with organizations such as AMESNE, for example, are reinforced by the regional identity of both institutions.

UCS's role can also be perceived through the studies produced by this group of researchers directly involved with KCWS in 2011. Many of these studies were presented to the municipal government and supported the city's planning and policymaking. This is also a critical aspect for KBUD: providing city administrations, planners and policymakers with data and knowledge for informed decisions and evidence-based policies (Yigitcanlar, 2014b; Yigitcanlar et al., 2017). Research developed by UCS also supported other sectors' planning, such as local industry, commerce and services, which turned to the Capital System taxonomy to understand and monitor the city's development, as described about CIC-BG and the *Panorama Socioeconomico* publication. Within the University, the discussion about KBUD has grown and consolidated to be included as a strategic guideline in UCS's Institutional Internationalization Plan.

Another initiative connected to the event is the Brazilian Observatory for Knowledge-Based Development of UCS's Graduate Program in Administration. With the purpose of creating an easily accessible system that allows citizens to monitor their cities' KBUD, the Observatory contributes to democratize and humanize civic knowledge and vision about the city, which are fundamental aspects of KBUD's institutional perspective (Yigitcanlar & Lönnqvist, 2013). Besides, as the Observatory allows monitoring every Brazilian city, it contributes to KBUD at the national level.

One more KBUD achievement of Bento Gonçalves is the MAKCi Award received in 2019. In the years right after the 4th KCWS, Bento Gonçalves started being nominated for MAKCi. At the same time, UCS researchers have advanced with the studies mentioned above, producing evidence that supported the 2019 nomination that resulted in Bento Gonçalves' Award. The MAKCi Award recognizes cities around the world for their successful KBUD strategies. The award in 2019, therefore, is a confirmation of Bento Gonçalves' progress. It is relevant to point out that the University led this entire Award process. From the development of the studies to data gathering and preparation of the nomination document, everything was carried out by UCS researchers.

Actually, common to all the examples presented is the university's leadership and action, whether developing research and delivering results to society, connecting groups or producing innovation. Strong leadership, with meaningful networks and

partnerships to support it, is one essential component for developing a prosperous knowledge city (Reffat, 2010). In this sense, as relevant as UCS's institutional leadership in this case is the leadership exercised by UCS professors and researchers, who often took the lead in city's development and planning initiatives and projects. These professors and researches put their networks, their research and their knowledge as resources for the advancement of the community. And this adds to the university's role as a protagonist in Bento Gonçalves' development.

Highlighting UCS in this role was one of the main contributions of the 4th KCWS to Bento Gonçalves' development. It is necessary to recognize, though, that the interviewees in Bento Gonçalves were very much inserted in the university context. However, the document analysis found evidence of UCS's constant activity in matters of local development. University representatives participate in the main local planning bodies; UCS professors direct or integrate relevant sectoral organizations; the University even provides the physical structure for, for example, COREDE Serra meetings or the Popular Consultations held periodically. And, of course, UCS effectively acts as an innovation and technology development agent by furthering projects such as the graphene production plant.

Overall, as could be grasped by this study, the KCWS contributions were not a direct and wrapped set of outcomes and achievements. Instead, they composed a web of potentials and enablers that could (or still can) unfold in different ways. They depended on stakeholder's engagement and leadership to continue and unfold into plans, actions and results.

Data collection did not identify the existence of a plan structured by the city with goals and measures to become a knowledge city, as occurred in cities like Monterrey, Mexico, and Melbourne, Australia. However, in October 2020, the Bento+20 Masterplan was launched, with guidelines and goals and actions to make Bento Gonçalves a smart and sustainable city by 2040. Developed collaboratively by entities from different sectors, the Masterplan is institutionalized through the Municipal Council for Studies, Guidelines and Projects, of which UCS and other local universities are members. The plan is still timid in involving and sharing responsibilities with local universities, which have only been included in a few specific initiatives. Even in actions that aim to advance in aspects such as innovation and technology, the responsibility seems to fall almost entirely on the municipal government.

To become a smart and sustainable city, Bento Gonçalves will need a systemic approach that includes a governance model capable of integrating all city actors and all development dimensions. KBUD provides a strategic and integrated approach to the transition of smart and sustainable cities (Chang et al., 2018; Michelam et al., 2020; Sabatini-Marques et al., 2020). However, KBUD places the university in a central position as a critical asset for the formation, generation, exchange, circulation and commercialization of knowledge and innovation (Edvardsson et al., 2016).

The institutionalization of collective learning led by the university is another fundamental aspect of KBUD that can contribute to making Bento Gonçalves smarter and more sustainable. In addition, KBUD highlights the importance of creating new or reconfiguring existent institutional arrangements in a combination that favours the collaborative action of academia, government, the private sector and civil society to produce innovation and economic development (Etzkowitz & Zhou, 2017; Yigitcanlar et al., 2017). If Bento Gonçalves wants to become truly smart and sustainable, not losing sight of KBUD's strategic approach is a recommendation.

This study's main objective was to analyse how an international event on the theme of knowledge-based development could contribute to the local KBUD of the host city. It was found that contributions may occur through knowledge transfer on the trending topics addressed at the event. This knowledge exchange process also gives the audience and those involved in the event KBUD awareness. When effective leadership and connections exist, this awareness can enable action for city development.

Therefore, another contribution of great relevance concerns the relationships and networks to which the event connects. An international event can work as a networking platform, accelerating collaboration between the best professionals, researchers and students from different parts of the world. From these connections comes learning, collaboration and partnerships in initiatives that can range from academic research to the implementation of KBUD plans and projects. Moreover, because it is a highly qualified international networking platform, the event also promotes the host city for a very qualified group of professionals and thinkers worldwide, contributing to the city's image. However, these connections' potential is largely linked to local leaders' capacity to enrich and nurture these networks over time, making them evolve and grow.

The event can also contribute to making these local leaders emerge and elevating them to the role of protagonists of local KBUD. The involvement of the various local actors, especially the academy, in the development processes is one of KBUD's premises. KCWS favours the interaction of these actors and helps their positioning within this process. This may be the most relevant contribution of an international event for the local KBUD. Although most of these contributions have been pointed out in the literature, it is still necessary to consider the context's effect on the object of study.

In the interviews, continuity was pointed out as one of the main challenges of holding an event such as KCWS. An event is a definite point in space and time, a spark. Nevertheless, in general, whoever promotes, organizes or participates in an event focused on city development may hope that the flame will remain lit, that someone will transform the ideas and aspirations discussed at the event into plans, actions, results and hopefully impacts.

At the beginning of this study, the literature review demonstrated that events can go beyond contributions and generate effective impacts in the economic, social, environmental and institutional fields. But for that, it must be part of a structured development program instead of a dispersed and fragmented enterprise (Richard & Wilson, 2004). Inserting and working upon trajectories, taking the event as part of a more integrated development approach can maximize its benefits for a range of different stakeholders and enable the achievement of more meaningful goals (Kassens-Noor et al., 2015; Richards, 2017). The experience of other cities that tried to leverage their development process with events showed that a strategy for the post-event period, designed and planned with local actors' support and commitment, is essential (Bernardino et al., 2017).

Therefore, continuity depends largely on the level of engagement and empowerment of the local actors involved with the event. That is why raising a local actor to the role of KBUD's protagonist is such a significant contribution of KCWS. In the case of local hosts, governments often change, people move, priorities shift. That is why other agents' protagonism, i.e., university, private sector, and civil society, is so relevant. When the development process's leadership is shared with more perennial institutions, such as the university, planning is more likely to be realized.

5 CONCLUSION

This study's objective was to analyse how an international event on the theme of knowledge-based development can contribute to the local KBUD of the host city. To do that, the study also proposed to analyse the context in which the KCWS event was held in the Brazilian city of Bento Gonçalves. By exploring the relationship between the event and the local KBUD initiatives and achievements, the study also intended to shed light on the event's role in the city's knowledge-based development.

A qualitative approach was adopted to fulfil these objectives, including a semi-structured interview-based qualitative analysis and a case study as research strategies. Data collection encompassed the gathering of secondary data through document analysis and semi-structured interviews with two main groups, i.e., members of the WCI Executive Board and representatives of Bento Gonçalves.

The analysis of the collected data indicated several KBUD initiatives and achievements in Bento Gonçalves. Some of them go back to an older historical context. Others are related to the event held in 2011, such as the city's MAKCi Award in 2019. Among the most relevant contributions of KCWS to Bento Gonçalves' KBUD are those associated with the university's role in local development. KCWS contributed to increasing the hosting university's influence over different regional development agents and placed it at the centre of the local KBUD movement. From this, other effects and other KBUD initiatives were developed in the city, even in the region.

Therefore, the KCWS's role in the KBUD of the host city was that of an enabler, promoting the exchange of knowledge, increasing awareness, building networks, and highlighting development actors' relevance to the KBUD process. The contributions are deeply connected to the event's central theme: KBUD and the knowledge cities. Should the event be on a different topic, there might be different effects. The way those contributions developed in Bento Gonçalves is linked to the context in which the city is inserted. The outcomes could also be different if it were not a small city, where the central university is already on a path to expand its relevance in the local development process.

Even so, Bento Gonçalves' results are a powerful signalization for the various Brazilian cities inserted in similar contexts and wishing to follow the KBUD path. Inserting local universities in this process is a key success factor. And an event like KCWS can not only promote the city's intent but also help it bring together the various

actors relevant to the development process and encourage them to build shared understandings enabling engagement in joint actions.

When this research started in 2019, the world was not alert due to the Covid-19 pandemic yet. The situation changed drastically in 2020, and to date, practically all countries on the globe have to maintain restrictions and social isolation measures. It is certain that, for some time yet, events like the 4th KCWS will not be held. These are circumstances that currently need to be considered when talking about events. However, the situation invites us to reflect on some aspects, such as, for example, accessibility to academic and business events. By migrating to virtual platforms, many events expanded their reach and considerably increased their number of attendees. Meanwhile, some event's effects, such as building relationships and networking, or immersion, are lost without social interaction.

Certainly, the events and the way to carry them out will no longer be the same after the Covid-19 pandemic. Analysing and understanding these changes was not the scope of the research. However, whatever the format will be, understanding the results events can bring and how they can contribute to the objectives at hand, especially the local development ones, will continue to be relevant. For this reason, the present study keeps its relevance. The research makes a contribution by offering an empirical perspective of how an international event can contribute to promoting the KBUD of a city. From an academic perspective, the research adds to the Urban Development and Knowledge-based Urban Development bodies of study in Brazil. Additionally, the research also offers a contribution by providing a record and telling the story of the 4th KCWS and how it relates to Bento Gonçalves' development. Finally, it is expected that the findings of this study may serve as a reference for city managers, policymakers and executives interested in building or improving their local development strategies. Attentive to it, this conclusion section ends with a listing of lessons learned from Bento Gonçalves' experience, which may, as well, serve other cities with similar contexts or goals.

An overall lesson is that KBUD is a tangible and viable local development strategy, even for small cities or cities located outside the central urban axes. Furthermore, the Bento Gonçalves' case revealed some fruitful initiatives that cities can employ under the flag of a KBUD strategy:

- a) Prioritizing endogenous economic activities based on local knowledge resources and intangible assets, such as cultural identity and traditional values;

- b) Placing the local university as a key agent of the development process, establishing with it strategic partnerships for knowledge transfer and innovation development;
- c) Setting a strong leadership process, with meaningful networks and institutional partnerships to support it;
- d) Creating institutional conditions for the engagement and participation of the business community and civil society in city development and management processes;
- e) Hosting international events on themes related to city development. On this specific initiative, which was the focus of this study, some other lessons can be drawn from the case of Bento Gonçalves:
 - i. The local university has a relevant role in carrying out events of this type since it has the means to seek and establish collaborative institutional partnerships with other universities and institutes focused on promoting events such as the KCWS;
 - ii. Local leaders play an essential role in activating local networks and anchoring the ideas in the community. That is why it is crucial to have some of these leaders on the event's organizing committee, acting directly from the initial preparations to the post-event;
 - iii. Especially, Bento Gonçalves demonstrated that university professors and researchers' leadership can be a differential in bringing the event to the city. Besides, their research, knowledge and networks may also facilitate the unfolding of the event's discussions into actions for the city's development;
 - iv. Funding the event can be a challenge. In Bento Gonçalves, this issue was overcome by seeking sponsorship with various organizations from different sectors. This arrangement also favoured these organizations' engagement since they not only took part in the event but also had individual lectures held in their headquarters;
 - v. Engaging local actors around the event is essential to obtain results in city development. The involvement of the four sectors of the quadruple helix, i.e., government, companies, university and civil society, provides representation, facilitates knowledge exchange and collaboration, and expands the reach of the ideas, concepts and experiences addressed during the event, creating awareness citywide;

- vi. Involving a broader audience, such as municipalities across the country and national and international institutions, is a way of bringing visibility to the host city and establishing strategic partnerships;
- vii. Using the event to induce local actors' commitment to development projects is a path to the continuity of ideas, plans and initiatives. Events such as the KCWS can create the ideal environment for signing cooperation agreements or launching action plans;
- viii. Therefore, having a strategy for the post-event period, designed and planned with local actors' support and commitment, can generate even more effective contributions to the city. This was an untapped opportunity in Bento Gonçalves case;
- ix. Finally, the implementation and continuity of the ideas discussed at the event depend a lot on the local actors' level of engagement and leadership over time. For this reason, sharing this leadership with perennial institutions, such as business and civil society associations and the university, is a strategy that contributes to the realization of the development process.

Thus, the final lesson learned is that international events do contribute to the knowledge-based development of cities. The case of Bento Gonçalves teaches that the breadth of these contributions depends largely on the historical context and the local institutional settings and capacities, aspects that this study sought to identify and understand. The obtained results pointed to some of the paths that can be taken by other cities, as presented right above. However, this is just a glimpse into the relationship between events and knowledge-based development. Undoubtedly, there is yet much to be explored about it in the future.

5.1 LIMITATIONS OF THE STUDY

The following limitations should be kept in mind when interpreting the findings and insights of this study:

The researcher is not a resident of the object city and was also unable to carry out field research due to the restrictions imposed by the Covid-19 pandemic. This may

have prevented the apprehension of tacit aspects relevant to the study. The possibility of carrying out data collection *in loco* would have added to the research.

The interviews conducted in this study captured the perspective of actors deeply involved with the event under investigation and, therefore, may not represent all local stakeholders' views. Besides, there may have been some unintended bias by the researcher when conducting and analysing the interviews.

Regarding the interviews' analysis, a limitation of this study was not applying the KBUD framework as a structure for content analysis. The interviews were analysed using *a posteriori* categories based on the interview questionnaire structure. However, a coding frame applying KBUD framework dimensions as *a priori* categories could have resulted in a greater alignment between the results obtained and the research objectives. Therefore, the researcher recognises that the study did not achieve perfect alignment between the research question and the findings.

Still in relation to the analysis, Bento Gonçalves' characterization and indicator analysis were done in a qualitative way. The use of a consolidated assessment model, such as KBUD/AM, would have added objectivity and comparability to the analysis.

In addition, a single case study does not allow the generalization of obtained results. Analysing other host city cases could have provided a gain in empirical generalization.

These are the issues not met by this study. As these limitations may generate potential consequences on the study's findings, readers are asked to consider them when interpreting the research results.

5.2 RECOMMENDATIONS FOR FUTURE STUDIES

Future studies could continue exploring the other KCWS host cities' cases and analysing the relationship between the event and local development. In line with Eisenhardt's (1989) approach to multiple case studies, new research could draw on replications, contrasts, and extensions to obtain theoretical generalizations.

The contributions identified in this study also pointed to the investigation of the impacts generated by the event. From the trajectories of the contributions and focusing on KBUD, one could seek to measure and analyse the direct and indirect impacts connected to the event.

Another suggestion for investigation lies in network analysis. This study identified that most of the event's developments and contributions occurred due to the networks and relationships built during the event. Mapping these networks and connections, exploring their central nodes and system of influences would significantly enhance the understanding of the event's contributions to local development.

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APPENDIX A – CASE STUDY PROTOCOL

I) Overview of the Case Study Project

<p>Overview</p>	<p>The case study is part of a broader study that aims to analyse how an international event on the theme of knowledge-based development can impact the local KBUD of the host city.</p> <p>The research approaches this relationship by considering the potential contribution of an international event, the Knowledge Cities World Summit (KCWS), on the local knowledge-based development of host cities.</p> <p>Among the 12 cities that have hosted the KCWS, Bento Gonçalves was purposively selected as a single instrumental case study due to the unique observation characteristics the city provides.</p> <p>Bento Gonçalves hosted the 4th Knowledge Cities World Summit in 2011. After that, the city deliberately aimed at a knowledge-based development strategy, through the capital system model (Fachinelli, Carrillo & D'Arísbo, 2014). In 2019, during the 12th KCWS that took place in Florianópolis and eight years after holding the event, Bento Gonçalves was granted the Most Admired Knowledge City Award (MAKCi Award), which aims to identify and recognise communities around the world engaged in formal and systematic knowledge-based development processes (Garcia, 2010).</p> <p>With an estimated population of approximately 120 000, Bento Gonçalves is an important industrial and tourist centre in the Rio Grande do Sul State, in Brazil. Known as the Brazilian Capital of Wine, the city stands out mainly for its wine production and the development of the furniture industry (Município de Bento Gonçalves, 2020).</p> <p>Other reasons for selecting Bento Gonçalves are:</p> <ul style="list-style-type: none"> • Smaller cities are easier to measure the impact because there are fewer international events occurring there; • The time interval of 8/9 years is adequate to see the ideas developed during the conference turning into policies, and policies being implemented, and producing results; • For the convenience of the researcher (language, proximity, culture, etc.).
<p>Objectives of the case study</p>	<p>Analysing and describing how the 4th KCWS contributions the local knowledge-based urban development of Bento Gonçalves, by:</p> <ul style="list-style-type: none"> • Narrating the history of the KCWS in Bento Gonçalves; • Describing the contextual conditions that led the city to host the event; • Identifying and analysing the KBUD improvements achieved by Bento Gonçalves; • Identifying the relationship between the KCWS and KBUD improvements achieved by Bento Gonçalves; • Analysing event stakeholders' role in the KBUD improvements that occurred in Bento Gonçalves due to the event, if any; • Analysing the effect of the KCWS on Bento Gonçalves' national and international image.
<p>Relevant Readings:</p>	<p>The theoretical framework encompasses literature on the topics of:</p> <ul style="list-style-type: none"> • International events (Getz, Hall, Hiller, Richards) • Knowledge-based Development (Carrillo, Knight, Yigitcanlar)

Research timeframe:	2019-2020
Analysis period:	2010-2019
Case study site:	City of Bento Gonçalves, Rio Grande do Sul State, Brazil

II) Field Procedures

1. Sources of evidence	<p>Semi-structured interviews</p> <ul style="list-style-type: none"> • Also, consider open-ended Narrative Interviews (Storytelling) <p>Documentation and archival records</p> <ul style="list-style-type: none"> • Websites (Bento Gonçalves City Hall, City Council, UCS, UERGS); • Formal studies or evaluations • Local newspaper online archives; • Organisational or institutional files. • Documents referred in interviews (to be requested). <p>Secondary data analysis</p> <ul style="list-style-type: none"> • Regional studies (Fecomércio-RS, Bento Gonçalves' Socioeconomic Panorama; Embrapa Uva e Vinho); • Local indicators on national databases: IBGE, PNAD, FEE-RS, RAIS, Atlas Brasil;
2. Data collection procedures	<ul style="list-style-type: none"> • Initial skype meeting with Prof. Ana Cristina Fachinelli (facilitator) to present the research project; • Develop and validate the interview scripts; • Identify interviewees; • Schedule the interviews; • Conduct the interviews (via Skype); • Transcribe the interviews; • Collect relevant documents and records; • Collect relevant statistics and indicators; • Constantly: evaluate the need for changes and adaptations in collection instruments;
2.1 Interviewees selection	<p>Purposive sampling: KCWS stakeholders (quadruple-helix):</p> <ul style="list-style-type: none"> • Public sector representatives; • Private sector representatives; • Civil society representatives; • Academy representatives <p>+</p> <ul style="list-style-type: none"> • KCWS Local Chair and other people involved in the event organisation • People to talk about KBUD dimensions (from city hall?)

2.2 Interview scheduling	<ul style="list-style-type: none"> • Identify the interviewees; • Contact interviewees via email or phone ↳ explain the research purpose and check their interest and availability in participating in an online interview; • Schedule interview; ↳ Send calendar invite; • Elaborate sheet containing information on the schedule and the interviewees (name, credentials, contact information, interview date and time, duration, medium, etc.) • Send Informed Consent Form in advance; • Prepare for the interview (add on skype, test link, etc.); • Send calendar reminder two days before the interview.
2.3 Conducting interviews	<ul style="list-style-type: none"> • Conduct a pilot test to check questions <p>On the interview:</p> <ul style="list-style-type: none"> • Thank the interviewee for the availability and collaboration; • Introduce yourself and introduce the research; • Briefly explain research purpose and potential contributions; • Reinforce Informed Consent Form messages (confidentiality, authorisation to record, remind them that they may decline to answer any question, etc.); • Indicate the anticipated length of the interview; • Conduct the interview, using a script; • Take notes of key information; • Try to get answers to all questions; • Manage time; • In the end, thank them again and make yourself available for additional information or questions.
2.4 Documental data collection	<ul style="list-style-type: none"> • Identify documents or records relevant for the case study; • During contact with interviewees, request documents and records that complement or further topics discussed; • Search for documents on official repositories; • Search for documents referred to in academic publications (articles, thesis, essays); • Documents to consider: event program, attendance registers, brochures, maps and charts, newspaper clippings and articles, social media, photos and videos; • Screen and filter relevant information.
2.5 Data collection storage	<ul style="list-style-type: none"> • Create a case study database; • Categorise and organise data by type, date and theme; • Make backups of all data collected; • Consider sharing case study database through online drive.
2.6 Data analysis	<ul style="list-style-type: none"> • Transcribe and analyse the interviews, speeches and testimonies; • Analyse documents and records; • Develop data content analysis; • Triangulate data, including literature review findings and semi-structured interview on WCI Board findings; • Conduct comparative evaluation of Bento Gonçalves indicators based on the Knowledge-Based Urban Development Assessment Model (KBUD/AM) (Yigitcanlar, 2014); • Identify alternative explanations of the results and identify any information that is needed to distinguish between these.

III) Case Study Questions

Questions	Likely sources of evidence
<p>Knowledge-based Development of Bento Gonçalves:</p> <ul style="list-style-type: none"> • What are the KBUD attributes of Bento Gonçalves? • Which strategies, policies and initiatives were implemented to develop these attributes? • When did these strategies, policies and initiatives start? 	<p>Interviews</p> <p>Secondary data</p> <ul style="list-style-type: none"> • Regional studies (Fecomércio-RS, Bento Gonçalves' Socioeconomic Panorama - Annual); • Local indicators on national databases: IBGE, PNAD, FEE-RS, RAIS, Atlas Brasil; <p>Documentation and archival records</p> <ul style="list-style-type: none"> • Policy documents, local legislation, newspaper articles
<p>Preparing for the 4th KCWS – expectations, goals and preparations:</p> <ul style="list-style-type: none"> • Why getting involved (organising, promoting, sponsoring or participating) with the event? • Expectations, aims, previous knowledge on the topics covered by the conferences; • How was the application and selection processes for hosting the event? 	<p>Interviews</p> <p>Documentation and archival records</p>
<p>Hosting the 4th KCWS:</p> <ul style="list-style-type: none"> • How was the event? • How similar/different was the event, compared to other events usually held in the city? In what way was the event innovative? • What were the most relevant topics presented and discussed? • How did these topics connect to the social, economic and political context of Bento Gonçalves at the time? • What were the direct contributions of the event for the city and region? (visitors, media coverage, infrastructure, income, etc.) • Were there activities and discussions developed during the event that contributed to the KBD of the city? How? • What was the overall evaluation of the event? What were the pros and cons of hosting the event? 	<p>Interviews</p> <p>Documentation and archival records</p> <p>Newspaper articles</p> <p>Policy documents</p> <p>KCWS's archival records</p>
<p>The KCWS contributions to the KBUD of Bento Gonçalves:</p>	<p>Interviews</p> <p>Documentation and archival records</p>

<ul style="list-style-type: none"> • Were there city strategies, policies and initiatives related or affected by the KCWS? How did the event affect them? • How did the event contribute to the knowledge-based development of the Bento Gonçalves? (Public policies? Agenda-setting? Research interest? Engaging stakeholders? profiling the city nationally and internationally?) • What other factors contributed to the recent (last 10 years) development of Bento Gonçalves? • What could have been (or can be) done to enhance the KBUD strategies, policies and initiatives? 	<p>Policy documents, local legislation, newspaper articles</p>
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IV) Guide for Case Study Report

Consider:

- Linear-analytic structure
- Narrative structure
- Context approach

What makes an exemplary case study? (Yin, 2003)

- The case report must be significant (in theoretical terms or in policy or practical terms)
- The case report must be complete (all relevant data were collected and analysed)
- The case report must consider alternative perspectives
- The case report must display sufficient evidence (present evidence that supports and challenges findings)
- The case report must be composed in an engaging manner (clear writing)

APPENDIX B – GUIDE FOR WCI EXECUTIVE BOARD INTERVIEWS

1. What are the main goals of KCWS to achieve in host cities? What are the key criteria in selecting the KCWS host cities, and are the goals and criteria well aligned?
2. Who are the key local actors/stakeholders of KCWS host cities? What is their agenda/aim in hosting KCWS, and how well are they aligned in achieving KCWS's goals?
3. What are the significant achievements of host cities due to KCWS, and what other potential impacts can KCWS trigger in host cities?
4. How can the contributions of KCWS to the host cities be measured? Are there any tools, methods or studies for this?
5. What are the major challenges restricting the bigger impact of KCWS on host cities (e.g., achieving thriving knowledge-based development and building international image, and so on)?
6. Is there a follow-up on the communities where the events were held? Does the WCI Board keep track of those contributions and impacts we have been talking?
7. What do you expect for the future of KCWS?
8. Are there any other issues or comments you would like to raise?

APPENDIX C – GUIDE FOR BENTO GONÇALVES INTERVIEWS

Group: Local Organising Committee

1. What was your role/participation during the Knowledge Cities World Summit (KCWS) in 2011?
2. How was Bento Gonçalves selected to host the event?
3. What other actors/institutions were involved with the event in 2011?
4. What were these actors/institutions' goals in organizing/sponsoring/supporting/participating in the event?
5. How was the event? What were your general impressions of the event at the time?
6. What was the relevance of the topics presented and discussed at the event for Bento Gonçalves' context at the time?
7. What were the main contributions of the event to the city of Bento Gonçalves?
8. What were the main challenges of making the event? What opportunities could have been better explored?

In 2019, Bento Gonçalves was recognized as one of the Most Admired Knowledge Cities, receiving the MAKCi Award.

9. What makes Bento Gonçalves a knowledge city?
10. Hosting the KCWS in 2011 may have any relation with this recognition as a knowledge city? How?
11. Are there any other topics or comments you would like to raise?

Group: Private Sector

1. Your company participated and supported the event in 2011. What were the company's goals/expectations in supporting and participating in the event?
2. How was the event? What were your general impressions of the event at the time?
3. What was the relevance of the topics presented and discussed at the event for the company's demands or strategies?
4. And for the context of Bento Gonçalves?

5. What were the event's contributions to the company?
6. What were the main contributions of the event to the city of Bento Gonçalves?
7. In relation to the event, were there any opportunities that could have been better explored?

In 2019, Bento Gonçalves was recognized as one of the Most Admired Knowledge Cities, receiving the MAKCi Award.

8. What makes Bento Gonçalves a knowledge city?
9. Hosting the KCWS in 2011 may have any relation with this recognition as a knowledge city? How?
10. Are there any other topics or comments you would like to raise?

Group: Local government

1. Did you attend the event in 2011? If so, how was the event? What were your general impressions of the event at the time?
2. What was the relevance of the event to the context of Bento Gonçalves at the time?
3. What were the main contributions of the event to the city of Bento Gonçalves?
4. In relation to the event, were there any opportunities that could have been better explored?

In 2019, Bento Gonçalves was recognized as one of the Most Admired Knowledge Cities, receiving the MAKCi Award

5. What makes Bento Gonçalves a knowledge city?
6. Hosting the KCWS in 2011 may have any relation with this recognition as a knowledge city? How?
7. What strategies, policies and actions implemented in recent years contributed to Bento Gonçalves reaching this development level?
8. What are the main actors/agents involved in the implementation of these strategies, policies or actions, in addition to Municipal Management?
9. What are the roles played by these actors/agents in the development of Bento Gonçalves?
10. Are there any other topics or comments you would like to raise?

Group: Civil Society

1. Did you attend the event in 2011? If so, how was the event? What were your general impressions of the event at the time?
2. What was the relevance of the event to the context of Bento Gonçalves at the time?
3. What were the main contributions of the event to the city of Bento Gonçalves?
4. In relation to the event, were there any opportunities that could have been better explored?

In 2019, Bento Gonçalves was recognized as one of the Most Admired Knowledge Cities, receiving the MAKCi Award

5. What makes Bento Gonçalves a knowledge city?
6. Hosting the KCWS in 2011 may have any relation with this recognition as a knowledge city? How?
7. How does COREDE work? How does society representation and participation occur?
8. What are the main actors/stakeholders that COREDE represents, congregates? What are the objectives of these stakeholders?
9. What are the main plans and projects developed by COREDE that involve the context of Bento Gonçalves?
10. Are there any other topics or comments you would like to raise?

Group: Academia

1. The University not only participated and but was the main partner of the event in 2011. What were the university's goals/expectations in supporting and hosting the event?
2. How was the event? What were your general impressions of the event at the time?
3. What was the relevance of the topics presented and discussed at the event for the university's demands or strategies?
4. And for the context of Bento Gonçalves?
5. What were the event's contributions to the university?
6. What were the main contributions of the event to the city of Bento Gonçalves?
7. In relation to the event, were there any opportunities that could have been better explored?

In 2019, Bento Gonçalves was recognized as one of the Most Admired Knowledge Cities, receiving the MAKCi Award.

8. What makes Bento Gonçalves a knowledge city?
9. Hosting the KCWS in 2011 may have any relation with this recognition as a knowledge city? How?
10. Are there any other topics or comments you would like to raise?

APPENDIX D – INFORMED CONSENT FORM



Termo de Consentimento Livre e Esclarecido

Prezado(a) Senhor(a),

Gostaria de convidá-lo(a) a participar como voluntário(a) da Pesquisa “Contribuições de eventos internacionais para o Desenvolvimento Urbano Baseado no Conhecimento: o caso do Knowledge Cities World Summit em Bento Gonçalves”, realizada pela pesquisadora Larissa Diana Michelam, dentro do Programa de Mestrado em Cidades Inteligentes e Sustentáveis, da Universidade Nove de Julho – UNINOVE.

A partir da metodologia de estudo de caso, a pesquisa investiga o evento internacional Knowledge Cities World Summit (KCWS) e suas possíveis contribuições para o desenvolvimento da cidade de Bento Gonçalves, que recebeu a 4ª edição do evento em 2011.

Este Termo de Consentimento é necessário para garantir que o(a) senhor(a) entenda o objetivo de seu envolvimento e que concorde com as condições de sua participação. Se tiver perguntas antes ou mesmo depois aceitar o Termo, o(a) senhor(a) poderá esclarecê-las com a pesquisadora responsável.

Objetivo da pesquisa: Analisar como um evento internacional pode contribuir para o Desenvolvimento Urbano Baseado no Conhecimento da cidade onde foi realizado.

Procedimentos da pesquisa: sua participação se dará por meio da realização de uma entrevista, através de plataforma de comunicação online (ex.: Skype ou Google Meet), com duração estimada de 1 (uma) hora. A entrevista será gravada e posteriormente transcrita para análise.

O(A) senhor(a) tem a garantia de que sua privacidade será preservada e todos os dados e informações pessoais obtidos em função da pesquisa serão tratados com confidencialidade. Na elaboração e divulgação dos resultados deste estudo, referências ao conteúdo da entrevista serão feitas de maneira a preservar sua identidade e mantê-lo(a) anônimo(a), a menos que o(a) senhor(a) expresse seu consentimento em ter sua identidade divulgada.

O(A) senhor(a) não terá despesas e nem será remunerado(a) pela participação na pesquisa. O(A) senhor(a) tem o direito de não responder a qualquer pergunta e de interromper sua participação quando quiser, sem que nenhum dano e/ou prejuízo ocorra.

Caso deseje, o(a) senhor(a) poderá solicitar um resumo dos resultados, quando a pesquisa estiver concluída.

Caso o(a) senhor(a) tenha dúvidas, ou para mais informações sobre a pesquisa, por favor entre em contato com:

Pesquisadora responsável:
Larissa Diana Michelam
E-mail: larissamichelam@gmail.com
Telefone: (11) 99183-7786

Orientadora da pesquisa:
Profa. Dra. Tatiana Tucunduva Philippi Cortese



APPENDIX D – INFORMED CONSENT FORM (Cont.)

E-mail: tatianatpc@uni9.pro.br

Comitê de Ética em Pesquisa (CEP) UNINOVE:

Endereço: Rua Vergueiro nº 235/249 – 12º andar. Bairro Liberdade. São Paulo – SP. CEP 01504-001.

Telefone: (11) 3385-9010

E-mail: comitedeetica@uninove.br

*Obrigatório

Endereço de e-mail *

Seu e-mail

Nome completo: *

Sua resposta

RG: *

Sua resposta

*

Declaro que, após ter recebido as informações necessárias e lido este Termo de Consentimento Livre e Esclarecido, concordo em participar desta pesquisa.

Ao clicar no botão abaixo, o(a) senhor(a) concorda em participar da pesquisa nos termos acima apresentados. Uma cópia deste Termo será enviada para o e-mail informado.

Caso não concorde em participar, apenas feche a página no seu navegador.

Uma cópia das suas respostas será enviada para o endereço de e-mail fornecido

Enviar

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