

# JOURNAL OF ENVIRONMENTAL MANAGEMENT & SUSTAINABILITY

REVISTA DE GESTÃO AMBIENTAL E SUSTENTABILIDADE – GeAS

Received: 18 Oct. 2022 - Approved: 24 Jan. 2023 Responsible editors: Andreza Portella Ribeiro Evaluation Process: Double Blind Review https://doi.org/10.5585/geas.v12i1.23099 e-ISSN: 2316-9834



# **The EESSGG proposition for stakeholder-oriented urban** management performance: a theoretical perspective

Donizete Beck School of Political Sciences, University of Haifa, Israel Graduate School of Administration, Nove de Julho University, Brazil dferreir@campus.haifa.ac.il donizetebeck@uni9.edu.br doni@beck.science

Cite as - American Psychological Association (APA)

Beck, D. (2023). The EESSGG proposition for stakeholder-oriented urban management performance: a theoretical perspective. *J. Environ. Manag. & Sust., 12*(1), 1-27, e23099. https://doi.org/10.5585/geas.v12i1.23099

#### Abstract

**Purpose:** To investigate the most appropriate urban performance measures for stakeholderoriented urban management

**Method:** This study performed a research synthesis by analyzing a sample of 47 papers gathered from the Scopus database.

**Originality/Relevance:** Since urban performance measures are useful for meeting stakeholder needs in urban management, this study is original in proposing a useful set of urban performance measures for scholars and practitioners to orient their policies, investigations, and decision-making to create value for urban stakeholders.

**Results/Findings:** The main finding is the proposition of a set of three dimensions of urban performance measures based on the Urban Studies literature for stakeholder-orientation in urban management, i.e. Environmental, Economic, and Social Sustainability, Global Cities, and Governance-related measures (designated as EESSGG). Urban management based on EESSGG core values and measures would turn local governments able to create value for urban stakeholders and urban networks of technical and human resources; and then foster urban development. Differently from firms, urban management has a wider range of issues, is more complex, is non-profitable oriented, and has other different challenges. EESSGG is more appropriate to urban management than the classical Environmental, Social, and Governance (ESG) for stakeholder-orientation in businesses.

**Social/Managerial Contributions:** EESSGG is an optimal tool for urban planners and policymakers fostering a stakeholder-oriented urban management, and then, a democratic urban governance.

**Keywords:** Urban Performance; Stakeholder-Orientation; Urban Sustainability; Stakeholder Theory; Urban Management.

#### Propondo EESSGG para o desempenho da gestão urbana orientada à stakeholders: uma perspectiva teórica

#### Resumo

**Objetivo:** Investigar as medidas de desempenho urbano mais apropriadas para uma gestão urbana orientada a stakeholders.

Método: Este estudo fez uma síntese da pesquisa de 47 artigos extraídos da Scopus.



**Originalidade/Relevância:** Haja visto que medidas de desempenho urbano são úteis para satisfazer as necessidades dos stakeholders da gestão urbana, a originalidade deste estudo é a proposição de uma série de medidas de desempenho urbano para acadêmicos e profissionais. Assim, estratégias urbanas baseadas em tais medidas podem criar valor para stakeholders urbanos.

**Resultados:** A principal contribuição é propor medidas de desempenho urbano baseadas na literatura de Estudos Urbanos, as quais permitem avaliar o quão uma gestão é orientada aos stakeholders, são elas: "Environmental, Economic, and Social Sustainability, Global Cities, and Governance" (EESSGG). Uma gestão urbana baseada na EESSGG permite aos governos locais criarem valor para stakeholders e formar redes urbanas de recursos técnicos e humanos, promovendo o desenvolvimento urbano. A gestão urbana é mais complexa e não tem fins lucrativos. Por isso, EESSGG é mais apropriado para a gestão urbana do que o clássico empresarial "Environmental, Social, and Governance" (ESG).

**Contribuições Sociais/Gerenciais:** EESSGG é uma ferramenta eficaz para planejadores urbanos e formuladores de políticas públicas promoverem uma gestão urbana orientada aos stakeholders, e consequentemente, uma governança urbana democrática.

**Palavras-chave:** Desempenho Urbano; Orientação aos Stakeholders; Sustentabilidade Urbana; Teoria dos Stakeholders; Gestão Urbana.

# Propuesta de EESSGG para el desempeño de la gestión urbana orientada a los actores: una perspectiva teórica

#### Resumen

**Objetivo:** Investigar las medidas de desempeño urbano más apropiadas para la gestión urbana para los stakeholders.

**Método:** Este estudio aplicó la síntesis de investigación de 47 artículos extraídos de Scopus. **Originalidad/Relevancia:** Medidas de desempeño urbano son útiles para satisfacer las necesidades de los stakeholders de la gestión urbana. Así, este estudio propone medidas de desempeño urbano para académicos y profesionales. Por lo tanto, estrategias urbanas basadas en tales medidas pueden crear valor para los stakeholders urbanos.

**Resultados:** La principal contribución es proponer medidas de desempeño urbano basadas en la literatura de Estudios Urbanos, las cuales son importantes para evaluar cómo se orienta una gestión hacia los stakeholders, ellas son: "Environmental, Economic, and Social Sustainability, Global Cities, and Governance" (EESSGG). Una gestión urbana basada en la EESSGG permite a los gobiernos locales crear valor para los stakeholders y formar redes urbanas de recursos técnicos y humanos, promoviendo así el desarrollo urbano. La gestión urbana es compleja y no tiene fines lucrativos. Por eso, EESSGG es más adecuado para tal que el clásico empresarial "Environmental, Social, and Governance" (ESG).

**Contribuciones Sociales/Gerenciales:** La EESSGG es una herramienta eficaz para que los planificadores urbanos y los hacedores de políticas públicas promuevan la gestión urbana orientada a los stakeholders y, en consecuencia, la gobernanza urbana democrática.

**Palabras clave:** Desempeño Urbano; Orientación a los Stakeholders; Sostenibilidad Urbana; Teoría de los Stakeholders; Gestión Urbanística.

#### Introduction

Cities have been understood as complex systems in which urban managers have faced many challenges in a wide range of measurable aspects and dimensions. Thus, the task of measuring urban performance and its many dimensions has gained more relevance





(Bettencourt et al., 2010), such as socioeconomic, environmental, sustainable development, urban mobility, urban smartness, and so forth (Caragliu et al., 2012; Shmelev & Shmeleva, 2018; Molinaro et al., 2020; among others). Importantly, urban performance measures are critical for both practitioners and scholars to create significant theoretical studies and impactful policies for urban regeneration and sustainable urban strategies (Beck & Storopoli, 2021).

Stakeholder-orientation in urban management plays a crucial role in urban governance by developing local communities and promoting stakeholder value creation among urban stakeholders (Beck & Storopoli, 2021; Schwab & Vanham, 2021; Beck & Ferasso, 2023b). However, due to the diversity of dimensions in measuring urban performance (Bettencourt et al., 2010), the most different urban stakeholders will have different needs, aspirations, interests, and the meaning of urban performance may vary among stakeholders (Freeman, 1984; Beck & Storopoli, 2021).

In this way, there is a gap in the literature on how urban management can explore measures of urban performance to manage urban policies and urban systems for urban stakeholders (Beck & Storopoli, 2021; O'Brien, 2020). Thus, the purpose of this paper is to investigate what are the most appropriate urban performance measures for stakeholder-oriented urban management. For this purpose, we performed a research synthesis (Cooper, 2017), gathering data from the Scopus database with a sample of 47 papers.

The main finding of this paper is our proposition of a set of three dimensions of urban performance measures based on the literature in urban studies for stakeholder-orientation in urban management, i.e. Environmental-Economic-Social Sustainability, Global, and Governance-related criteria (designated as EESSGG). In this way, we fill the gap in the literature on stakeholder theory and urban management suggested by Beck and Storopoli (2021) on what should be taken into account when measuring urban performance for stakeholder-orientation in urban governance. Also, we synthesized the leading urban performance indicators.

After this introduction, there is the theoretical background section presenting the significant stakeholder-orientation advances in urban management as well as the importance of the research gap of this study. Then, the method section reveals how the research was conducted. In the results section, we presented scholars' main urban performance indicators. In the discussion section, we discuss those main urban performance measures through the lens of stakeholder theory, proposing that EESSGG are the most appropriate urban performance measures in stakeholder-oriented urban management. Finally, in the conclusion section, we presented the main findings, contributions to the theory and for practitioners, social contributions, an agenda for future studies, and our limitations.





#### **Theoretical Background**

Stakeholders are understood as those "who can affect or are affected by the achievement of an organization's purpose" (Freeman, 1984, p. 49). A stakeholder-oriented management system treats all stakeholders equally regarding fair rights and duties among the management and all of their stakeholders (Schwab & Vanham, 2021; Beck & Ferasso, 2023a). The principles of stakeholder capitalism are (Freeman & Liedtka, 1997; Freeman, Martin, & Parmar, 2007): (1) stakeholder cooperation; (2) complexity; (3) continuous creation; (4) emergent competition; (5) stakeholder engagement; and (6) stakeholder responsibility.

Stakeholder theory is a traditional management approach which can be equally applicable to urban management (Chakrabarty, 2001). In urban management, stakeholders are those who can affect or are affected by the achievement of the purpose of urban management, in which urban governance has been charged by municipal and local governments (Beck & Storopoli, 2021).

The intellectual structure of stakeholder theory in urban management is composed of two principal components, which are the urban strategy (Freeman, 1984; Mitchell, Agle, & Woods, 1997; Arnstein, 1969; Timur & Getz, 2008; among others) and the urban marketing (Byrd, 2007; Lucarelli & Berg, 2011; Kavaratzis, 2004; Kotler, Haider, & Rein, 1993; among others). According to Beck and Storopoli (2021), the intellectual structure has evolved in mainstream research by dividing the component of urban strategy into two principal components - the sustainable urban strategy and the power of networks, and the urban marketing component has remained in mainstream research.

The urban strategy and the urban marketing components of the intellectual structure have highlighted the importance of urban management being structured on two axes: (1) environmental; and (2) bottom-up governance (Beck & Storopoli, 2021; Beck & Vigoda-Gadot, in press). Concerning the environmental axe, urban managers should care about sustainability issues and natural resources management, in which environmental performance is aimed to be achieved (e.g. Timur & Getz, 2008; Beck et al., in press). As for the axe of bottom-up governance, the governance ought to be not only collaborative, but also stakeholder participation is a mandatory requisite for stakeholder-orientation in urban management because it builds fruitful relationships among corporations, other organizations, and the local government as well as it promotes a positive environment to create value for urban stakeholders (Arnstein, 1969; Byrd, 2007; among others).

One of the points Beck and Storopoli (2021) suggested is the lack of performance measures for stakeholder-orientation in urban management. Although the literature has advanced either in terms of urban performance measuring (Bettencourt et al., 2010; Kitchin, Lauriault, & McArdle, 2015) or in measuring firm performance and financial markets in





stakeholder capitalism - based on the environmental, social and governance movement (Clarke, 2020; Freeman & Liedtka, 1997; Freeman et al., 2007; Fama, 2020; Grove, Clouse, & Xu, 2020), nothing has been done on urban performance measures in terms of stakeholderoriented urban management (Beck & Storopoli, 2021). The current research proposes to fill that gap in the literature.

#### Method

Considering that the purpose of this paper is to investigate what are the most appropriate urban performance measures for stakeholder-oriented urban management, this study was divided into two stages: First, we conducted a research synthesis (Cooper, 2017) to synthesize the most urban performance measures and their related-dimensions in urban studies, it is needed because it provides the primarily urban performance measurements used in urban studies. Second, we applied the theorizing deductive approach (Bhattacherjee, 2012; Whetten, 1989) to the constructs of urban performance and stakeholder-orientation in urban management by setting a proposition linking these two constructs on a theoretical basis.

#### **Stage 1: Research Synthesis**

Research syntheses are rigorous and transparent tools for reviewing and synthesizing theoretical or methodological development of a research-specific topic (Cooper, 2017). Since this research does not reveal the state of the art of urban performance research, it is not necessary to conduct an extensive systematic literature review. Nonetheless, a research synthesis on urban performance is needed to rigorously ensure solid backgrounding for discussing urban performance and connecting the constructs of urban performance and stakeholder-orientation in urban management.

On the Scopus database, which is considered the most comprehensive scholarly database in social sciences, we gathered 83 articles using the following search expression: TITLE-ABS-KEY ("Urban Performance") AND (PUBYEAR < 2021) AND (LIMIT-TO (DOCTYPE, "ar")). This search expression retrieves articles containing the term "urban performance" in the title, abstract and/or keywords published before 2021

We read the abstract to ensure that all of them actually address "urban performance" in urban management. Hence, the introduction of 83 articles, excluding 36 pieces from our sample, in which 34 of them were not about urban management (the majority were related to urban artistic performance), and 2 of them are actually only one and were in our sample due to an error on the Scopus search mechanism (i.e. Maia, Netto, & Da Costa, 2019). Therefore, the final sample has 47 papers.

After that, in the analysis, we separated all the measures used in the 47 papers for





urban performance measuring, and then we analyzed and synthesized the urban performance main approaches. Table 1 shows the main approaches to urban performance measuring and their respective references.

#### Table 1

The Mainstream Approaches on Urban Performance in the literature of Urban Studies

Approaches	References	
Socioeconomic and demographic	(Brown & Kirby, 1971; Xu et al., 2020; Wang et al., 2017; Apreda, D'Ambrosio, & Di Martino, 2019; Webster & Wu, 1999a; Webster & Wu, 1999b; Zhao & Zhang, 1995; Greasley, John, & Wolman, 2011; Portnov & Schwartz, 2009; Jiao et al., 2020; Lozano et al., 1974; Arbabi, Mayfield, & Dabinett, 2019; Wu & Webster, 1998; Nicolas, Kim, & Chi, 2020; Caputo, Pasetti, & Ferrari, 2019; Cohen, 1996; Parrado et al., 2013; Webster, 1998; Caragliu, Del Bo, & Nijkamp, 2011; Golubchikov, 2006; Bettencourt et al., 2010; Shmelev & Shmeleva, 2018; Agnoletti et al., 2015; McCarthy, 2000; Duarte & Ultramari, 2012; Molinaro et al., 2020; Kitchin, Lauriault, & McArdle, 2015; Caragliu & Del Bo, 2012; Kourtit, Nijkamp, & Suzuki, 2020; Caragliu & Del Bo, 2018; Trovato & Giuffrida, 2014; Moraci, Fazia, & Errigo, 2018; Moertiningsih, Nurgandarum, & Nurfanty, 2020; Marchand, 1987; Caragliu et al., 2012)	
Environmental	(Stossel, Kissinger, & Meir, 2015; Apreda, D'Ambrosio, & Di Martino, 2019; Pasetti, & Ferrari, 2019; Parrado et al., 2013; Shmelev & Shmeleva, 2018; Molinaro et al., 2020; Kitchin, Lauriault, & McArdle, 2015; Arcidiacono & Ronchi, 2019; Maia, Netto, & Da Costa, 2019; Moraci, Fazia, & Errigo, 2018; Moertiningsih, Nurgandarum, & Nurfanty, 2020; Staniscia, Spacone, & Fabietti, 2017)	
Smart Cities	(Nicolas, Kim, & Chi, 2020; Caragliu, Del Bo, & Nijkamp, 2011; Shmelev & Shmeleva, 2018; Caragliu & Del Bo, 2012; Kourtit, Nijkamp, & Suzuki, 2020; Caragliu & Del Bo, 2018; Maltese, Mariotti, & Boscacci, 2016; Moraci, Fazia, & Errigo, 2018; Caragliu et al., 2012)	
Urban Design, Built Environment and Territory	(Noyman et al., 2019; Chang et al., 2019; Charlton et al., 2015; Chokhachian et al., 2020; Seles & Afacan, 2019; Moertiningsih, Nurgandarum, & Nurfanty, 2020; Caragliu et al., 2012)	
Public Administration and Government	(Greasley, John, & Wolman, 2011; Parrado et al., 2013; Webster, 1998; McCarthy, 2000; Molinaro et al., 2020; Kitchin, Lauriault, & McArdle, 2015; Cesme et al., 2017)	
Energy Efficiency	(Wang et al., 2017; Chang et al., 2019; Keirstead, 2013; Maltese, Mariotti, & Boscacci, 2016)	
Sustainability and Sustainable Development	(Chang et al., 2019; Keirstead, 2013; Stossel, Kissinger, & Meir, 2015; Chokhachian et al., 2020; Agnoletti et al., 2015)	
Transportation and Mobility	(Xu et al., 2020; Duarte & Ultramari, 2012; Cesme et al., 2017)	
Benchmarking	(Wang et al., 2017; Keirstead, 2013)	
Global Cities	(Wang et al., 2017)	
Note. Own elaboration.		

Stage 2: Deductive Approach for Theory Development

According to Bhattacherjee (2012, p. 29), the theorizing deductive approach has been



widely used in social sciences "to extend or modify existing theories to explain a new context, such as by extending theories of individual learning to explain organizational learning." Here, we are exploring performance and stakeholder-orientation in urban management. Along the deductive approach, "certain concepts, propositions, and/or boundary conditions of the old theory may be retained, and others modified to fit the new context" (Bhattacherjee, 2012, p. 29).

We proposed a set of propositions to link the constructs of urban performance and stakeholder-oriented urban management. Propositions are "associations postulated between constructs based on deductive logic" (Bhattacherjee, 2012, p. 27), and constructs "are abstract concepts specified at a high level of abstraction that are chosen specifically to explain the phenomenon of interest" (Bhattacherjee, 2012, p. 26). In the theoretical plane, constructs have been used to explain phenomena, and propositions have been used to explore how constructs and concepts relate to each other (Whetten, 1989).

To assure theoretical quality, constructs, propositions, and hypotheses must have logical consistency, explanatory power, falsifiability, and parsimony (Bhattacherjee, 2012; Whetten, 1989). The use of propositions can benefit research in theoretical terms of suggestions for further studies, having a straightforward rationale and clear grounding, providing accessibility and utility for scholars and a wider audience, and amplifying the transferability of emergent concepts (Gioia, Corley, & Hamilton, 2013).

Moreover, "propositions demonstrate to quantitatively oriented researchers that qualitative findings can offer good guidance in developing emergent concepts into measurable constructs" (Gioia et al., 2013, p. 25). Evidently, propositions through a deductive approach are helpful tools for the research purpose of investigating what the most appropriate urban performance measures for stakeholder-oriented urban management are.

#### **Results and Discussion**

This section is divided into two parts: (1) the first one presents a research synthesis on urban performance, which reveals the mainstream approaches of urban performance in literature; and (2) the last one provides a proposition for the most appropriate urban performance measures for a stakeholder-oriented urban management taking the literature into account.

# **Research Synthesis on Urban Performance**

This subsection presents the research synthesis on urban performance in urban studies. When reading the papers in the sample of this research synthesis, we identified ten mainstream approaches in which urban performance has been discussed in urban studies: (1)





socioeconomic and demographics; (2) environmental; (3) smart cities; (4) urban design, built environment, and territory; (5) public administration and governmental; (6) energy efficiency; (7) sustainability and sustainable development; (8) transportation and mobility; (9) benchmarking; and (10) global cities.

Socioeconomic and demographics approach. In terms of socioeconomic and demographics, urban performance has been related to the ability of: (1) creating opportunities, e.g., employment, businesses, industries, and leisure (Cohen, 1996; Webster, 1998; Webster & Wu, 1999a; Kitchin, Lauriault, & McArdle, 2015; Brown & Kirbt, 1971; Marchand, 1987; Caragliu, Del Bo, & Nijkamp, 2011; McCarthy, 2000); (2) improving the neighborhood quality for the urban stakeholders, e.g., infrastructure, public service facilities, health, safety, security, education, and mobility (Xu et al., 2020; Wang et al., 2017; Zhao & Zhang, 1995; Nicolas, Kim, & Chi, 2020; Kourtit, Nijkamp, & Suzuki, 2020; Moraci, Fazia, & Errigo, 2018); (3) having an efficient allocation of wealth, supplies, and resources, counterbalancing socioeconomic costs and benefits (Webster & Wu, 1999a; Webster & Wu, 1999b; Wu & Webster, 1998); and (4) optimizing the urban logistics, transportation, and mobility, e.g., improving urban accessibility and connectivity within and beyond the municipal limits (Pornov & Schwartz, 2009; Jiao et al., 2020; Arbabi, Mayfield, & Dabinett, 2019). The most used socioeconomic and demographic measures for measuring performance are employment, gross domestic product, urban attractiveness, safety and security, income, human and social capital, population density and size, working age population, and research and development expenditure.

*Environmental approach.* Urban performance focused on environmental issues mainly consider (Markert et al., 2011; Apreda, D'Ambrosio, & Di Martino, 2019; Caputo, Pasetti, & Ferrari, 2019; Moertiningsih, Nurgandarum, & Nurfanty, 2020; Shmelev & Shmeleva, 2018; Moraci, Fazia, & Errigo, 2018; Arcidiacono & Ronchi, 2019; Staniscia, Spacone, & Fabietti, 2017; Maia, Netto, & Da Costa, 2019; Martins et al., 2021; Bordim et al., 2022; Ramon et al., 2022): (1) climate change; (2) sustainable mobility; (3) sustainable built-environment; (4) managing data and ICTs technologies to improve environmental policies and systems; (5) urban resilience; (6) pollution issues; and (7) problems stemmed from soil permeability. The most used environmental measures for measuring performance are energy efficiency, air pollution, meteorological, waste management, policies, urban forestation, water and sanitation management, ecology, noise, radiation and environmental transportation.

*Smart cities approach.* Socioeconomic and environmental concerns have been considered crucial for smart cities (Macke et al., 2018; Macke et al., 2019; Beck et al., 2020; Michelam et al., 2020; Beck & Conti, 2021; Corsi et al., 2022). However, although the literature has shown





that social and environmental issues matter to smart cities, the most used urban performance indicators have been those related to economic problems, e.g., wealth per capita measures (Caragliu, Del Bo, & Nijkamp, 2011; Caragliu & Del Bo, 2012; Caragliu, Del Bo, Kourtit, Nijkamp, & Suzuki, 2012; Caragliu & Del Bo, 2018; Nicolas, Kim, & Chi, 2020). The massive use of ICTs by urban managers for socioeconomic and environmental issues is the remark of smart cities (Shmelev & Shmeleva, 2018; Moraci, Fazia, & Errigo, 2018), e.g., on energy efficiency (Maltese, Mariotti, & Boscacci, 2016) and on safety and security issues (Kourtit, Nijkamp, & Suzuki, 2020; Lustosa et al., 2020; Lima et al., 2022). The most used measures to measure urban performance are ICTs and general infrastructure, smart policies, innovation, smart mobility, and smart buildings. The main challenge of the smart city relies on giving the same weight given to the economic dimension to the social and environmental challenges.

*Urban design, built environment and territory.* Urban performance has been related to efficient employment of the urban density, efficiency of buildings, efficient spatial distribution, thermal efficiency, urban forestation, sky view factor, and open and public spaces. As for the urban design, the built environment, and the urban territory, the literature has shown that urban performance has multi-facet ways of understanding: (1) by emphasizing the urban capacity to have stay events, in which people enjoy more time in an urban area (Noyman et al., 2019); (2) by emphasizing the urban capacity to have clusters, in which the size, the persistence, and the diversity of their members shed lights on their importance in the urban context (Noyman et al., 2019); (3) by having an urban design that explores and saves more energy (Chang et al., 2019; Chokhachian et al., 2020); (4) by providing walkability and comfort for pedestrians (Charlton et al., 2015; Seles & Afacan, 2019); (5) by having a higher quality of the soil infrastructure (Moertiningsih, Nurgandarum, & Nurfanty, 2020); and (6) by providing an attractive, sustainable, and quality urban place and structural design to urban stakeholders (Caragliu et al., 2012; among others).

*Public administration and governmental approach.* Research on urban performance in public and governmental affairs has shown the importance of: (1) political leadership in government activity (Greasley, John, & Wolman, 2011; McCarthy, 2000); (2) exploiting urban data and ICTs to improve urban policies and governance (Cesme et al., 2017; Kitchin, Lauriault, & McArdle, 2015; Reis et al., 2021); and of (3) considering the stakeholders' satisfaction with urban policy performance, in which the trust of urban stakeholders on the administration is a key for its assessment (Parrado et al., 2013). In this way, urban policies should be developed by considering the following points (Webster, 1998; McCarthy, 2000; Molinaro et al., 2020): (1) acknowledge sustainability and socioeconomic issues; (2) meet the needs of urban stakeholders in terms of public services, systems, and resource allocation; and to (3) foster





urban partnerships for urban development and efficiency of urban services and systems. The most used public administration and government measures for urban performance are urban policies and services, governance and institutional arrangement, digital infrastructure, and local government efficiency.

*Energy efficiency approach.* Although energy efficiency is a topic inserted in environmental, sustainability and sustainable development approaches, the literature has deeply explored energy efficiency as a mainstream topic in market and urban studies. On urban performance, the literature on energy efficiency has shown that it can be one of the proxies for urban sustainability (Wang et al., 2017; Teixeira et al., 2021). Therefore, it should be embedded in urban design and infrastructure (Chang et al., 2019; Keirstead, 2013; Maltese, Mariotti, & Boscacci, 2016). Therefore, the energy efficiency per si can reveal how a city has performed in its sustainable development. In short, energy demand and consumption, solar energy, the adoption of public buildings on solar energy, and energy policies are the leading measures of energy efficiency for urban performance.

Sustainability and sustainable development approach. Although energy efficiency has been the most used approach to study urban sustainability (Chang et al., 2019; Jastrzębska, 2022; among others), other important issues must be considered. As for real sustainability and sustainable development, not only the environmental dimension but the socioeconomic one should also be taken into account (Agnoletti et al., 2015; among others). Furthermore, urban resilience also matters, in which a city can face disasters and chaotic contexts, having a resilient infrastructure, governance and urban system (Staniscia, Spacone, & Fabietti, 2017; Arcidiacono & Ronchi, 2019; Molinaro et al., 2020). In other words, on sustainable related issues, the city should consider harmonic development on its social, economic, and environmental dimensions as well as fomenting resilience within the urban system. Thus, the city will meet the needs of its current and future stakeholders without harming the environment.

*Transportation and mobility approach.* In urban transportation and mobility, urban managers and scholars ought to improve urban performance by lowering fixed travel costs and time (Xu et al., 2020; Majewski, 2022), by providing better conditions and accessibility to urban stakeholders to go to work, study, have leisure activities, and businesses (Duarte & Ultramari, 2012), and by exploiting data-driven urban governance to promote more efficient urban policies and systems as in the case of urban transportation and traffic lights management (Cesme et al., 2017; De Oliveira et al., 2022). To measure the urban performance on transportation and mobility, scholars have used measures for the availability of cars, the capacity of the public transportation infrastructure, the quality of the public transportation services, the degree to





which urban mobility is environmental-friendly, the mobility index, and the urban geocharacteristics. Also, measures can be utilized for each specific type of transportation (e.g., pedestrian, bicycle, and automobile means) as well as for the analysis of the transit (see Cesme et al., 2017).

*Benchmarking approach.* Benchmarking is a systematic search to solve problems efficiently, which has been applied to urban studies promoting energy efficiency (Wang et al., 2017; Keirstead, 2013). According to Keirstead (2013, p. 576), "there are at least three fields in which benchmarking techniques have been applied to urban environments: urban competitiveness, urban sustainability, and urban infrastructure systems". This way, benchmarking techniques can enhance urban performance in many urban issues, and further studies should explore this incipient approach.

*Global cities approach.* Global Cities have urban performance assessed through a multidimensional approach, which they consider is related to a vibrant economy, a productive R&D system, a vibrant culture, livability, accessibility, and sustainability (Wang et al., 2017; Molinaro et al., 2020). Even smart cities have considered a global environment as a characteristic of a post-industrialized and globalized context as a factor for the growth, development and performance success of the cities (Caragliu & Del Bo, 2012), as well as the urban stakeholders inserted in a global context, can benefit the urban locality with more networking and opportunities (Caragliu et al., 2012). Instead of indicators, the Global Power City Index, the Global Cities Index have been used by scholars as a proxy for global cities (as seen in Wang et al., 2017; Molinaro et al., 2020). In sum, considering a city as a global one will indicate that its performance and competitiveness are superior to those without this global status.

After identifying the approaches and measures of urban performance in literature, to achieve this paper's research goal, the following subsection discusses and provides a theoretical proposition for the relationship between two constructs - stakeholder orientation in urban management and urban performance. In other words, in the following subsection, we investigate what the most appropriate urban performance measures for stakeholder-oriented urban management are.

# Urban Performance for Stakeholder-Orientation in Urban Management

Differently from a shareholder-focused and a state-focused perspective, managing for stakeholders assumes the assumption that all stakeholders should be equally treated and have





fair rights and duties toward the management (Schwab & Vanham, 2021). In business management, there is the - *Environmental, Social*, and *Governance* movement - (known as ESG), in which the business activities and programs should acknowledge all of these three dimensions (Fama, 2020; Grove et al., 2020; O'Brien, 2020). However, as firms are profitoriented, the ESG movement has probably not highlighted the role of the economic dimension in firms due to the explicitly profitable orientation of businesses.

Considering that urban sustainability and bottom-up governance have been the distinctive characteristics of stakeholder-orientation in urban management (Beck & Storopoli, 2021), the underlying base of urban performance measures for stakeholder-orientation would be very different, mainly because urban management is not profit-based. Instead, an essential role of urban management is to manage sustainable urban strategies and marketing and cooperate with the urban networks to create value for all urban stakeholders, enhancing sustainable urban development (Beck & Storopoli, 2021).

Not only *environmental*, *social*, and *governance* issues but also *sustainable economic* performance matter in stakeholder-oriented management (Freeman & Liedka, 1997; Freeman et al., 2007;). The reason for considering economic sustainability is that emergent competition and stakeholder collaboration are mandatory elements in stakeholder-based economies (Freeman & Liedka, 1997). Adding the *economic* dimension is not only justified by the stakeholder capitalism principles but also because it is one of the three dimensions of the triple bottom line of sustainability, playing a critical role in leading cities toward sustainable urban development (Beck & Storopoli, 2021). In addition, local and *global* stakeholders should be considered in stakeholder-oriented management (Schwab & Vanham, 2021).

Scholars and practitioners should be aware of handling urban performance measures in terms of data availability, biases, overuse or misuse of variables, and interpretation of the whole urban context (Hair, Black, Babin, & Anderson, 2019; Dess & Robinson, 1984; Bettencourt et al., 2010; Kitchin et al., 2015). Thus, scholars and practitioners will often have to deal with the absence of some measures, choosing appropriate available measures as proxies for *environmental-economic-social sustainability, global, and governance-related issues* (hereafter *EESSGG*). Regarding sustainability, the environment, economic, and social dimensions should be equally considered to foster sustainable development.

*Environmental measures* for stakeholder-orientation in urban governance could be derived from all of the measures mentioned earlier in the 'environmental' dimension (which are related to air pollution, meteorology, waste management, environmental policies, urban forestation, water and sanitation management, ecology, radiation, and environmental transportation) as well as from some measures of 'urban design, built environment, and territory' (e.g., those related to higher urban density and building efficiency), 'energy efficiency' (e.g., those related to energy demand and consumption, solar energy, and energy policies),





'sustainability and sustainable development' (e.g., on urban resilience, and ecology), and 'transportation and mobility' approaches (e.g., those related to environmental-friendly mobility). Considering sustainable environmental measures is relevant because governments have broadly claimed many urban environmental issues to promote urban management systems and sustainable development, and by citizens, civil society, academia, and tourists who demand sustainable policies (Beck & Storopoli, 2021).

*Economic measures* for stakeholder-orientation in urban governance could be derived from some measures of 'socioeconomic and demographic', 'smart cities', 'energy efficiency', and 'transportation and mobility' approaches. As previously revealed, employment rate, GDP, working age population, and income measures have been the most used measures for measuring economic performance. Patents have also been considered another important proxy for economic dynamism, which have shown the degree of urban innovativeness, mostly used in smart cities (Bettencourt et al., 2010; Molinaro et al., 2020; Shmelev & Shmeleva, 2018).

Furthermore, measures for energy demand and consumption could also be essential in terms of energy efficiency to avoid unnecessary costs of wasting energy. Likewise, transit measures could be used to improve urban logistics. The development of the urban economy matters to urban stakeholders since macro/microeconomics elements are necessary to enhance urban development and attractiveness. In this way, microeconomics and macroeconomics have been critical for governments, industry, citizens, communities, investors, and financial institutions to make sustainable urban management systems and foster sustainable development (Beck & Storopoli, 2021).

Social measures for stakeholder-orientation in urban governance are derived from some measures of the 'socioeconomic and demographic' (e.g. those related to security and safety, human and social capital, life expectancy, affordable social services, and early access to services), 'smart cities' (e.g. smart mobility), and 'transportation and mobility' approaches. As previously discussed about socioeconomic performance of cities, inclusiveness, accessibility of stakeholders to urban services and facilities (e.g. related to health and educational systems), and quality of life for citizens (Beck & Storopoli, 2021).

*Global measures* for stakeholder-orientation in urban governance could be derived from measures of the 'sustainability and sustainable development' and 'global cities' approaches. Although global measures already consider the socioeconomic, environmental, and sustainable dimensions previously discussed (Caragliu & Del Bo, 2012; Wang et al., 2017; Molinaro et al., 2020), indexes of global cities are only available for a few cities, that is, the limitations of these indexes are the lack of data on the vast majority of towns and small cities. Thus, research centers and universities should develop metrics for a wider measurement of to what extent a city could be considered global. According to Caragliu et al. (2012), higher





networking and opportunities a city has due to its insertion in the global context, more urban stakeholders would be benefitted from the globalized scenario. Therefore, global cities are very attractive and may have a critical role in stakeholder capitalism (Schwab & Vanham, 2021), even more in terms of the power of networks in a stakeholder-oriented urban management (Beck & Storopoli, 2021).

Governance-related measures for stakeholder-orientation in urban governance could be derived from some measures of the 'smart cities', and 'public administration and government' approaches. In terms of smart city measures, policy-related measures have been used to help scholars and practitioners to understand the intensity of smart policies and their impact on society, e.g. health security and personal security policies (Caragliu & Del Bo, 2018; Kourtit, Nijkamp, & Suzuki, 2020). As for municipal public administration and governance in their strict sense, urban performance would be understood as how the overall or sectorial urban policies have been effectively evolved to create value for society as well as for governance structure, political stability, bureaucratic quality, government honesty, urban regulations, corruption, and so on (Greasley, John, & Wolman, 2011; Caragliu & Del Bo, 2018; Nicolas, Kim, & Chi, 2020; Molinaro et al., 2020). Thus, in order to create value for urban stakeholders (Beck & Storopoli, 2021), in relation to urban governance, the urban management should be transparent, intense in terms of efficiency, accountable, based on stakeholder engagement, and based on ethics.

Thus, considering all evidence discussed above on stakeholder-orientation in urban management, our unique proposition is: In a stakeholder-oriented urban management, the urban performance would be better measured through environmental-economic-social sustainability, global, and governance-related measures (EESSGG).





# Figure 1

ESG (business-oriented) versus EESSGG (city-oriented)

Stakeholder-orientation In Businesses (traditional): ESG	Stakeholder-orientation In Urban Management (New Proposition): EESSGG
	Environmental
	Economic and
Environmental	Social
(E)	Sustainability
	Sustainability
Social	(EESS)
(S)	Global City
	(G)
Governance	(8)
(G)	Covernance
	Governance
	(G)

*Note.* Illustrates the differences between ESG for stakeholder-orientation in Business with the EESSGG for stakeholder-orientation in urban management

In this way, EESSGG has three dimensions, which are important to be taken into account in the assessment of stakeholder-orientation in urban management: (1) Environmental, economic, and social sustainability (EESS); (2) global (G); and (3) governance (G).

# Conclusions

This research achieved the research purpose by proposing a set of three dimensions of urban performance measures based on the literature in urban studies for stakeholderorientation in urban management, i.e., Environmental-Economic-Social Sustainability, Global, and Governance-related measures (EESSGG), and core-values. These urban performance measures are valuable tools for urban managers to take care of stakeholder-oriented urban policies and assess the urban performance of stakeholder-orientation in urban management (Beck & Storopoli, 2021).

This paper also synthesized the literature of urban studies on urban performance by providing an organized framework of the main urban performance measures as well as a brief contextualization of these measures for each one of their approaches, which are: (1) the





socioeconomic and demographic; (2) environmental; (3) smart cities; (4) urban design, built environment, and territory; (5) public administration and government; (6) energy efficiency; (7) sustainability and sustainable development; (8) transportation and mobility; (9) benchmarking; and (10) global cities. The measures found in the literature and synthesized in this work are helpful for urban managers, practitioners, and scholars for multiple purposes in urban planning or academic affairs.

Our theoretical contribution and novelty is the proposition of EESSGG measures for urban performance in stakeholder-oriented urban management. EESSGG measures are more appropriate than the ESG measures commonly used in the assessment of stakeholderorientation performance in firms (as for ESG, see: Fama, 2020; Grove et al., 2020), because urban management has a broader range of issues, and is more complex than firms, is nonprofitable oriented, and has other different challenges. Environmental, economic, and social sustainability are vital in strategizing stakeholder-orientation in urban management since stakeholder theory is rooted in ethics, convergence, freedom, and social responsibility. Urban global connections and insertion in the global context also play a critical role in meeting the demands of urban stakeholders as well as attracting them. Moreover, accountable, efficient, and stakeholder engagement in urban governance are elementary for urban performance.

The main implications of this study for practitioners are: (1) urban planners and urban managers will be able to assess their urban performance in terms of stakeholder-orientation by using the EESSGG measures; (2) EESSGG measures could be a valuable guide to direct urban managers and planners to foster sustainable urban development, to strengthen global cooperation among cities and states worldwide, and to improve the urban governance as a whole; and (3) the primary measures used to measure urban performance in the literature of urban studies synthesized in this study could help urban managers, planners and scholars to choose measures to be considered in assessing urban performance in a desired specific dimension or sectorial policy.

The social contributions lie in strengthening democracy within cities and local communities and enhancing a better urban performance in urban governance, urban policies, and urban systems in varied urban dimensions due to the stakeholder-orientation in urban management. Thus, urban management based on EESSGG core values and measures would turn local governments able to create value for urban stakeholders, foster urban development, and enhance the urban networks of technical and human resources.

As for implications for future studies, further research should consider: (1) exploring the EESSGG measures in empirical and case studies of municipal urban management around the world; (2) developing a broader and easier to replicate measurement of global cities in order to reach a much higher quantity of cities than the existing ones; (3) if it would be possible to adapt or expand EESSGG from stakeholder-oriented urban management to the public





administration field; (4) exploring the EESSGG measures as a proxy for urban performance to scrutinize the relationship between stakeholder salience and urban performance in an integrative model similar to the proposed by Agle et al. (1999) and theoretically grounded in the study of Beck and Storopoli (2021); (5) investigating the role of EESSGG in the process of stakeholder value creation in urban governance, sustainable urban strategy, power of networks, and urban marketing of urban management (Beck & Storopoli, 2021; Beck & Ferasso, 2023b); (6) investigating how EESSGG could theoretically contribute to the integration of stakeholder theory and resource-based view in the context of urban management (Freeman, Dmytriyev, & Phillips, 2021); (7) proposing quantitative models for EESSGG in multilinear regression and maturity indicators and combining EESSGG with other indexes, e.g., Institutional Development Index (Coutinho et al., 2019; De Souza et al., 2022; Santos et al., 2022).

The major limitation of this study is that we extract data only from the Scopus database, which we believe is the most comprehensive scholarly database regarding social sciences and urban planning. Further research should make amends to include other databases such as Web of Science. In addition, while we explicitly reported our full search expression, future studies should expand it to include unforesighted topics and contexts.

# References

Agnoletti, C., Bocci, C., Iommi, S., Lattarulo, P., & Marinari, D. (2015). First- and Second-Tier Cities in Regional Agglomeration Models. *European Planning Studies*, *23*(6), 1146-1168. https://doi.org/10.1080/09654313.2014.905006

Apreda, C., D'Ambrosio, V., & Di Martino, F. (2019). A climate vulnerability and impact assessment model for complex urban systems. *Environmental Science and Policy*, 93, 11-26. https://doi.org/10.1016/j.envsci.2018.12.016

Arbabi, H., Mayfield, M., & Dabinett, G. (2019). Urban performance at different boundaries in England and Wales through the settlement scaling theory. *Regional Studies*, *53*(6), 887-899. https://doi.org/10.1080/00343404.2018.1490501

Arcidiacono, A., & Ronchi, S. (2019). Ecosystem services and naturebased solutions. A project of urban resilience for Rocinha. *Territorio*, (90), 94-99. https://doi.org/10.3280/TR2019-090011

Arnstein, S. R. (1969). A Ladder Of Citizen Participation. Journal Of The American Institute





Of Planners, 35(4), 216-224.

- Beck, D., Levy, W., & Conti, D. (2020). The Tourism Under the Perspective of the Smart Sustainable Cities. Organizações & Sustentabilidade, 8(2), 103-117. http://dx.doi.org/10.5433/2318-9223.2020v8n2p103
- Beck, D., & Conti, D. M. (2021). The Role of Urban Innovativeness, Smart Governance, and
  Smart Development in the Urban Smartness. *Humanidades & Inovação*, *8*(49), 141151.
- Beck, D., & Storopoli, J. (2021). Cities through the lens of Stakeholder Theory: A literature review. *Cities*, *118*, 103377. DOI: https://doi.org/10.1016/j.cities.2021.103377
- Beck, D., & Ferasso, M. (2023a). How can Stakeholder Capitalism contribute to achieving the Sustainable Development Goals? A Cross-network Literature Analysis. *Ecological Economics*, 204, 107673. https://doi.org/10.1016/j.ecolecon.2022.107673
- Beck, D. F., & Ferasso, M. (2023b). Bridging 'Stakeholder Value Creation' and 'Urban Sustainability': The need for better integrating the Environmental Dimension.
   Sustainable Cities and Society, 89, 104316.

https://doi.org/10.1016/j.scs.2022.104316

- Beck, D., Storopoli, J., Cunha, J. C., Vigoda-Gadot, E. (in press). Strategic Resource Management in Private, Public, and Mixed-Owned Organisations in Cities: The Power of Strategic Urban Networks. *International Journal of Services, Economics and Management*.
- Beck, D., & Vigoda-Gadot, E. (in press). Stakeholder-orientation in the Governance of Israeli Cities and Local Communities: A Qualitative Meta-Analysis. *Israel Affairs*.

Bettencourt, L.M.A., Lobo, J., Strumsky, D., & West, G.B. (2010). Urban scaling and its deviations: Revealing the structure of wealth, innovation and crime across cities. *PLoS ONE*, *5*(11), art. no. e13541. https://doi.org/10.1371/journal.pone.0013541

Bhattacherjee, A. (2012). Social Science Research: Principles, Methods, and Practices (2.ed.). Tampa, USA: Open Access Textbooks.

Bordim, M. H. S., Longo, R. M., & Bordim, B. S. (2022). Urban environmental sustainability:





analysis of the influence of vegetation in environmental parameters. *Journal of Environmental Management & Sustainability*, *11*(1), e19447. https://doi.org/10.5585/geas.v1i1.19447

- Brown, A., & Kirby, R.F. (1971). Measuring urban performance. *Journal of Cybernetics*, *1*(4), 32-54. https://doi.org/10.1080/01969727108542901
- Byrd, E.T. (2007). Stakeholders in sustainable tourism development and their roles: applying stakeholder theory to sustainable tourism development. *Tourism Review, 62*(2), 6-13.
- Caputo, P., Pasetti, G., & Ferrari, S. (2019). Implementation of an urban efficiency index to comprehend post-metropolitan territories—The case of Greater Milan in Italy. Sustainable Cities and Society, 48, art. no. 101565.

https://doi.org/10.1016/j.scs.2019.101565

- Caragliu, A., Del Bo, C., & Nijkamp, P. (2011). Smart cities in Europe. *Journal of Urban Technology*, *18*(2), 65-82. https://doi.org/10.1080/10630732.2011.601117
- Caragliu, A., & Del Bo, C. (2012). Smartness and European urban performance: Assessing the local impacts of smart urban attributes. *Innovation*, *25*(2), 97-113. https://doi.org/10.1080/13511610.2012.660323
- Caragliu, A., Del Bo, C., Kourtit, K., Nijkamp, P., & Suzuki, S. (2012). In search of incredible cities by means of super-efficiency data envelopment analysis. *Studies in Regional Science*, *42*(1), 129-144. https://doi.org/10.2457/srs.42.129
- Caragliu, A., & Del Bo, C. (2018). The economics of smart city policies. *Scienze Regionali*, 17(1), 1-104. https://doi.org/10.14650/88818
- Cesme, B., Dock, S., Westrom, R., Lee, K., & Barrios, J.A. (2017). Data-driven urban performance measures: Case study application in the district of Columbia. *Transportation Research Record*, 2605(1), 45-53. https://doi.org/10.3141/2605-04
- Chakrabarty, B. K. (2001). Urban management: Concepts, principles, techniques and education. *Cities*, *18*(5), 331-345. https://doi.org/10.1016/S0264-2751(01)00026-9
- Chang, S., Saha, N., Castro-Lacouture, D., & Yang, P.P.-J. (2019). Multivariate relationships between campus design parameters and energy performance using reinforcement



learning and parametric modeling. *Applied Energy*, *249*, 253-264. https://doi.org/10.1016/j.apenergy.2019.04.109

Charlton, J., Giddings, B., Thompson, E.M., & Peverett, I. (2015). Understanding the interoperability of virtual city models in assessing the performance of city centre squares. *Environment and Planning A*, *47*(6), 1298-1312.

https://doi.org/10.1177/0308518X15594904

Charlton, J., Giddings, B., Thompson, E.M., & Peverett, I. (2015). Understanding the interoperability of virtual city models in assessing the performance of city centre squares. *Environment and Planning A*, *47*(6), 1298-1312.

https://doi.org/10.1177/0308518X15594904

Chokhachian, A., Perini, K., Giulini, S., & Auer, T. (2020). Urban performance and density: Generative study on interdependencies of urban form and environmental measures. *Sustainable Cities and Society*, 53, art. no. 101952.

https://doi.org/10.1016/j.scs.2019.101952

- Clarke, T. (2020). The Contest on Corporate Purpose: Why Lynn Stout was Right and Milton Friedman was Wrong. *Accounting, Economics, and Law: A Convivium, 10*(3), art. no 20200145. https://doi.org/10.1515/ael-2020-0145
- Cooper, H. (2017). *Research synthesis and meta-analysis* (5th ed.). Thousand Oaks: SAGE Publications, Inc.

Corsi, A., Pagani, R., e Cruz, T. B. R., de Souza, F. F., & Kovaleski, J. L. (2022). Smart sustainable cities: characterization and impacts for sustainable development goals. *Journal of Environmental Management & Sustainability*, *11*(1), e20750. https://doi.org/10.5585/geas.v11i1.20750

Coutinho, S. M. V., Abilio, C. C. C., Vasconcellos, M. da P., & Alvarenga, N. C. A. (2019). Smart cities indicators: the emergence of a new cliché. *Journal of Environmental Management & Sustainability*, 8(2), 386-402. https://doi.org/10.5585/geas.v8i2.13574

De Oliveira, G. G., Iano, Y., Vaz, G. C., Negrete, P. D. M., Negrete, J. C. M., & Chuma, E. L.

(2022). Intelligent Mobility: A Proposal for Modeling Traffic Lights Using Fuzzy Logic





and IoT for Smart Cities. In International Conference on Soft Computing and its Engineering Applications (pp. 302-311). Springer, Cham. https://doi.org/10.1007/978-3-031-05767-0\_24

- De Souza, C. F. C., Iano, Y., de Oliveira, G. G., Vaz, G. C., Reis, V. S., & Neto, J. M. (2022). Institutional Development Index (IDI): Calculation for Municipalities in the Metropolitan Region of Campinas (Brazil). In *Proceedings of the 7th Brazilian Technology Symposium (BTSym'21)* (pp. 245-255). Springer, Cham. https://doi.org/10.1007/978-3-031-08545-1\_23
- Dess, G. G., & Robinson Jr., R. B. (1984). Measuring organizational performance in the absence of objective measures: the case of the privately-held firm and conglomerate business unit. *Strategic management journal*, *5*(3), 265-273.
- Duarte, F., & Ultramari, C. (2012). Making Public Transport and Housing Match: Accomplishments and Failures of Curitba's BRT. *Journal of Urban Planning and Development*, 138 (2), 183-194. https://doi.org/10.1061/(ASCE)UP.1943-5444.0000107
- Fama, E. F. (2020). Contract Costs, Stakeholder Capitalism, and ESG. *European Financial Management*, 27(2), 189-195. https://doi.org/10.1111/eufm.12297
- Freeman, R. E. (1984). Strategic Management: A Stakeholder Approach. Boston: Pitman.
- Freeman, E., & Liedtka, J. (1997). Stakeholder capitalism and the value chain. *European Management Journal*, *15*(3), 286-296. https://doi.org/10.1016/S0263-2373(97)00008-X
- Freeman, R. E., Martin, K., & Parmar, B. (2007). Stakeholder capitalism. *Journal of business* ethics, 74(4), 303-314. https://doi.org/10.1007/s10551-007-9517-y
- Freeman, R. E., Dmytriyev, S. D., & Phillips, R. A. (2021). Stakeholder theory and the resource-based view of the firm. *Journal of Management*, 47(7), 1757-1770. https://doi.org/10.1177/0149206321993576
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational research methods*, *16*(1),



15-31. https://doi.org/10.1177%2F1094428112452151

Golubchikov, O. (2006). Interurban development and economic disparities in a Russian Province. *Eurasian Geography and Economics*, *47*(4), 478-495. https://doi.org/10.2747/1538-7216.47.4.478

- Greasley, S., John, P., & Wolman, H. (2011). Does government performance matter? the effects of local government on urban outcomes in England. *Urban Studies*, *48*(9), 1835-1851. https://doi.org/10.1177/0042098010380955
- Grove, H., Clouse, M., & Xu, T. (2020). Stakeholder Capitalism Strategies and Opportunities for Corporate Governance. *Journal of Governance and Regulation*, 9(4), 59-68. https://doi.org/10.22495/jgrv9i4art5
- Hair, F. J. Jr., Black, W. C., Babin, J. B., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th edition). Cheriton House: Cengage Learning, EMEA.
- Jastrzębska, E. (2022). Implementation of Sustainable Development Goal 12 in Cities: Best Practices. *Studia Ecologiae et Bioethicae*, *20*(3), 13-24.

https://doi.org/10.21697/seb.2022.17

- Jiao, L., Xu, Z., Xu, G., Zhao, R., Liu, J., & Wang, W. (2020). Assessment of urban land use efficiency in China: A perspective of scaling law. *Habitat International*, *99*, art. no. 102172. https://doi.org/10.1016/j.habitatint.2020.102172
- Kavaratzis, M. (2004). From city marketing to city branding: Towards a theoretical framework for developing city brands. *Place branding*, *1*(1), 58-73.

Keirstead, J. (2013). Benchmarking urban energy efficiency in the UK. *Energy Policy*, 63, 575-587. https://doi.org/10.1016/j.enpol.2013.08.063

Kitchin, R., Lauriault, T.P., & McArdle, G. (2015). Knowing and governing cities through urban indicators, city benchmarking and real-time dashboards. *Regional Studies, Regional Science*, 2(1), 6-28. https://doi.org/10.1080/21681376.2014.983149

Kotler, P., Haider, D. H., & Rein, I., (1993). *Marketing Places: Attracting Investment, Industry, And Tourism To Cities, States, And Nations*. New York: Free Press.

Kourtit, K., Nijkamp, P., & Suzuki, S. (2020). Comparative urban performance assessment of





safe cities through data envelopment analysis. *Regional Science Policy and Practice*, https://doi.org/10.1111/rsp3.12276

- Lima, L. B. D., Iano, Y., Noritomi, P. Y., Oliveira, G. G. D., & Vaz, G. C. (2022). Data Security, Privacy, and Regulatory Issues: A Conceptual Approach to Digital Transformation to Smart Cities. In *Proceedings of the 7th Brazilian Technology Symposium (BTSym'21)* (pp. 256-263). Springer, Cham. https://doi.org/10.1007/978-3-031-08545-1\_24
- Lozano, E.E., Sena, M., Heitzmann, D., & Cheng, C.-H. (1974). Level of Services and Degree of Accessibility: Spatial Urban Simulation Model. *Regional Studies*, *8*(1), 21-45. https://doi.org/10.1080/09595237400185031
- Lucarelli, A., & Berg, P. O. (2011). City Branding: A State-Of-The-Art Review Of The Research Domain. *Journal Of Place Management And Development, 4*(1), 9-27.
- Lustosa, T. C., Iano, Y., Oliveira, G. G. D., Vaz, G. C., & Reis, V. S. (2020, October). Safety Management Applied to Smart Cities Design. In *Proceedings of the 6th Brazilian Technology Symposium (BTSym'20)* (pp. 498-510). Springer, Cham. https://doi.org/10.1007/978-3-030-75680-2\_55
- Macke, J., Casagrande, R. M., Sarate, J. A. R., & Silva, K. A. (2018). Smart city and quality of life: Citizens' perception in a Brazilian case study. *Journal of Cleaner Production*, 182, 717-726. https://doi.org/10.1016/j.jclepro.2018.02.078
- Macke, J., Sarate, J. A. R., & Moschen, S. A. (2019). Smart sustainable cities evaluation and sense of community. *Journal of Cleaner Production*, 239, 118103. https://doi.org/10.1016/j.jclepro.2019.118103

Maia, J.L.M., Netto, V.M., & Da Costa, B.L.G. (2019). Urban form and atmospheric pollution: Assessing impacts in Rio de Janeiro. *Urbe*, *11*, art. no. e20180145. https://doi.org/10.1590/2175-3369.011.001.E20180145

Majewski, J. (2022). Sustainable Mobility in the Cities and Agglomeration Areas. *Studia Ecologiae et Bioethicae*, *20*(3), 33-43. https://doi.org/10.21697/seb.2022.22

Maltese, I., Mariotti, I., & Boscacci, F. (2016). Smart city, urban performance and energy.





Green Energy and Technology, 25-42. https://doi.org/10.1007/978-3-319-31157-9\_2

- Marchand, C. (1987). The short term performance of Canadian urban economies, 1957-1980. *Environments*, *19*(1), 38-47.
- Markert, B., Wuenschmann, S., Fraenzle, S., Figueiredo, A. M. G., Ribeiro, A. P., & Wang,
  M. (2011). Bioindication of atmospheric trace metals–with special references to
  megacities. *Environmental Pollution*, *159*(8-9), 1991-1995.

https://doi.org/10.1016/j.envpol.2011.02.009

Martins, A. P. G., Negri, E. M., Saldiva, P. H. N., Ribeiro, A. P., Oliveira, A. D., Ferreira, M.
L., ... & Lafortezza, R. (2021). Green infrastructure to monitor and minimize the impacts of air pollution. *Estudos Avançados*, *35*(102), 31-57.

https://doi.org/10.1590/s0103-4014.2021.35102.003

- McCarthy, L. (2000). European Integration, Urban Economic Change, and Public Policy Responses. *Professional Geographer*, *52*(2), 193-205. https://doi.org/10.1111/0033-0124.00217
- Michelam, L., Tucunduva, T., Yigitcanlar, T., & Vils, L. (2020). Knowledge-based urban development as a strategy to promote smart and sustainable cities. *Journal of Environmental Management & Sustainability*, 9(1), e18740. https://doi.org/10.5585/geas.v9i1.18740
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review*, 22(4), 853–886.
- Moertiningsih, S., Nurgandarum, D., Nurfanty, O. (2020). Permeability characteristics of unplanned settlements in Jakarta. *International Journal of Scientific and Technology Research*, *9*(3), 1999-2003.
- Molinaro, R., Najjar, M.K., Hammad, A.W.A., Haddad, A., & Vazquez, E. (2020). Urban Development Index (UDI): A comparison between the city of Rio de Janeiro and four other global cities. *Sustainability*, *12*(3), art. no. 823.

https://doi.org/10.3390/su12030823



- Moraci, F., Fazia, C., & Errigo, M.F. (2018). Smart tools for energy resilient city. *Annales de Chimie: Science des Materiaux*, *4*2(4), 459-470. https://doi.org/10.3166/ACSM.42.459-470
- Nicolas, C., Kim, J., & Chi, S. (2020). Quantifying the dynamic effects of smart city development enablers using structural equation modeling. *Sustainable Cities and Society*, *53*, art. no. 101916. https://doi.org/10.1016/j.scs.2019.101916
- Noyman, A., Doorley, R., Xiong, Z., Alonso, L., Grignard, A., & Larson, K. (2019). Reversed urbanism: Inferring urban performance through behavioral patterns in temporal telecom data. *Environment and Planning B: Urban Analytics and City Science*, 46(8), 1480-1498. https://doi.org/10.1177/2399808319840668
- O'Brien, J. (2020). The moral foundations of stakeholder capitalism. *Law and Financial Markets Review, 14*(1), 1-4. https://doi.org/10.1080/17521440.2020.1724373
- Parrado, S., van Ryzin, G.G., Bovaird, T., & Löffler, E. (2013). Correlates of Co-production:
   Evidence From a Five-Nation Survey of Citizens. *International Public Management Journal*, *16*(1), 85-112. https://doi.org/10.1080/10967494.2013.796260
- Portnov, B.A., & Schwartz, M. (2009). On the importance of the 'location package' for Urban growth. Urban Studies, 46(8), 1665-1679. https://doi.org/10.1177/0042098009105504
- Ramon, M., Ribeiro, A. P., Theophilo, C. Y. S., Moreira, E. G., de Camargo, P. B., de
  Bragança Pereira, C. A., ... & Ferreira, M. L. (2022). Assessment of four urban forest
  as environmental indicator of air quality: a study in a brazilian megacity. Urban *Ecosystems*, 1-11. https://doi.org/10.1007/s11252-022-01296-7
- Reis, V. S., Iano, Y., Oliveira, G. G., Lustosa, T. C., Miranda, M. A., Mesquita, O. D. S., ... & Padilha França, R. (2021). A Discussion of the Challenges Small Towns Face in Reaching the Promising Scenario of Electronic Government Intelligent Cities. In *Proceedings of the 5th Brazilian Technology Symposium* (pp. 571-581). Springer, Cham. https://doi.org/10.1007/978-3-030-57566-3\_56

Santos, P. A., Iano, Y., Jordão, K. C. P., Vaz, G. C., Oliveira, G. G. D., Sampaio, I. A., & Chuma, E. L. (2022, March). Analysis of the Relationship Between Maturity Indicators



Using the Multivariate Linear Regression: A Case Study in the Brazilian Cities. In *The International Conference on Cyber Security Intelligence and Analytics* (pp. 203-210). Springer, Cham. https://doi.org/10.1007/978-3-030-97874-7\_26

Schwab, K., & Vanham, P. (2021). Stakeholder Capitalism: A Global Economy that Works for Progress, People and Planet. New Jersey: John Wiley & Sons

Seles, E., & Afacan, Y. (2019). Exploring the relationship between health and walkability. *Open House International*, *44*0(1), 44-52. https://doi.org/10.1108/OHI-01-2019-B0006

Shmelev, S.E., & Shmeleva, I.A. (2018). Global urban sustainability assessment: A multidimensional approach. Sustainable Development, 26(6), 904-920. https://doi.org/10.1002/sd.1887

Staniscia, S., Spacone, E., & Fabietti, V. (2017). Performance-Based Urban Planning: Framework and L'Aquila Historic City Center Case Study. *International Journal of Architectural Heritage*, *11*(5), 656-669.

https://doi.org/10.1080/15583058.2017.1287977

Stossel, Z., Kissinger, M., & Meir, A. (2015). Assessing the state of environmental quality in cities - A multi-component urban performance (EMCUP) index. *Environmental Pollution*, 206, 679-687. https://doi.org/10.1016/j.envpol.2015.07.036

Schwab, K., & Vanham, P. (2021). Stakeholder Capitalism: A Global Economy that Works for Progress, People and Planet. New Jersey: John Wiley & Sons.

Teixeira, M. A. C., Ramos, H. R., & de Oliveira, A. (2021). Perspectives of New Alternative Materials to Silicon for the Production of Photovoltaic Solar Cells: A Systematic Literature Review. *Revista Nacional de Gerenciamento de Cidades*, 9(71), 48-61. https://doi.org/10.17271/2318847297120212953

Timur, S., & Getz, D. (2008). A Network Perspective On Managing Stakeholders For Sustainable Urban Tourism. International Journal Of Contemporary Hospitality Management, 20(4): 445-61.

Trovato, M.R., & Giuffrida, S. (2014). The choice problem of the urban performances to support the Pachino's redevelopment plan. *International Journal of Business* 



Intelligence and Data Mining, 9(4), 330-355.

https://doi.org/10.1504/IJBIDM.2014.068458

- Wang, X., Li, Z., Meng, H., & Wu, J. (2017). Identification of key energy efficiency drivers through global city benchmarking: A data driven approach. *Applied Energy*, *190*, 18-28. https://doi.org/10.1016/j.apenergy.2016.12.111
- Webster, C.J. (1998). Sustainability and public choice: a theoretical essay on urban performance indicators. *Environment and Planning B: Planning and Design*, *25*(5), 709-729. https://doi.org/10.1068/b250709

Webster, C.J., & Wu, F. (1999a). Regulation, land-use mix, and urban performance. Part 2:
Simulation. *Environment and Planning A*, *31*(9), 1529-1545.
https://doi.org/10.1068/a311529

Webster, C.J., & Wu, F. (1999b). Regulation, land-use mix, and urban performance. Part 1: Theory. *Environment and Planning A*, 31(8), 1433-1442. https://doi.org/10.1068/a311433

Whetten, D. A. (1989). What Constitutes a Theoretical Contribution? *Academy of Management Review*, *14*(4), 490–495. https://doi.org/10.5465/AMR.1989.4308371

- Wu, F., & Webster, C.J. (1998). Simulation of natural land use zoning under free-market and incremental development control regimes. *Computers, Environment and Urban Systems*, 22(3), 241-256. https://doi.org/10.1016/S0198-9715(98)00044-1
- Xu, S., Liu, T., Jia, N., Wang, P., Liu, P., & Ma, S. (2020). The effects of transportation system improvements on urban performances with heterogeneous residents. *Journal of Management Science and Engineering*, *5*(4), 287-302. https://doi.org/10.1016/j.jmse.2020.09.002

Zhao, X., & Zhang, L. (1995). Urban Performance and the Control of Urban Size in China. Urban Studies, 32(4-5), 813-846. https://doi.org/10.1080/00420989550012906

