Initiation, Marketing and Branding of Smart City Projects: A Study of Decision Processes

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ABSTRACT

Today, smart city areas and initiatives are found throughout the world, yet little research has been completed into the processes whereby decisions concerning the initiation, marketing, and branding of smart city projects have been taken. The present study examined these processes via interviews with 18 smart city managers, followed by an online World Café convened to discuss emerging issues. Interviewees were asked to relate stories of how decisions had been reached, which stakeholders had been prioritised, the extent of citizen co-creation in project initiation and branding, and the main difficulties involved. An argumentative narrative discourse methodology was employed to analyse the interview transcripts, which revealed a number of disparities between the suggestions of extant place branding literature and current practice where smart city projects were concerned.

Key words: smart cities, argumentative discourse analysis, storytelling, new project development, World Café.

SUMMARY STATEMENT OF CONTRIBUTION

The study explores stakeholder influences on decisions about the development and marketing (including branding) of smart city initiatives. It highlights the critical role of local government in smart city decision making concerning new project development, marketing, and branding. The realities of marketing smart cities are outlined using commentaries

provided by managers actually in charge of executing smart city operations. Reasons for the frequent absence of citizen involvement in smart city decision making are proffered.

Introduction

This paper examines the processes underlying decisions concerning the selection of smart city area initiatives and projects and their marketing and branding. It explores stakeholder influences on new project selection and branding, the parties responsible for the marketing and branding of new projects, the pressures and problems involved, and the main factors behind problems and pressures. Issue relating to the possible co-creation of projects and brand images with smart city residents are investigated, together with the barriers inhibiting co-creation. The development of smart city districts and initiatives is an international phenomenon (see Manville, 2014; Angelidou, 2017; Giffinger et al., 2015; Yigitcanlar et al., 2018). Several hundred smart city areas operate across the world (Organisation for Economic Co-operation and Development, 2020), and are especially numerous in China, North America, India and Western Europe (Tokoro, 2015). Although a voluminous literature surrounds the concept of the smart city (Araral [2020] reported the publication or presentation at conferences of at least 17,000 papers about smart cities between 2014 and 2019), important gaps in the literature exist regarding how decisions concerning the initiation, marketing and branding of smart city projects are taken, and the main influences involved. The present research examined these matters within the United Kingdom. A series of interviews with smart city managers was conducted, the results of which were explored in further depth via a World Café.

Smart city situations

The term ‘smart city’ is used to describe several contrasting situations (for examples see Kummitha & Crutzen, 2017; Guedes et al., 2018; Saxena & Al-Tamimi, 2018; Crutzen et al.,

2019; Singh & Singla, 2020). These include (i) individual or collections of ad hoc initiatives applied across entire urban conurbations, (ii) pre-existing business parks converted into smart city areas, (iii) places within cities specially designated as smart city districts (and typically receiving governmental technology-related financial support), and (iv) new purpose-built smart city urban areas. Guedes et al. (2018) surveyed 807 managers of places referred to as smart cities yet was unable to identify any consensus regarding the participants' understanding of the term. Indeed, according to Yigitcanlar et al. (2018), the smart city concept 'has evolved to mean almost any form of technology-based innovation in the planning, development, operation and management of cities' (p.146). Singh and Singla's (2020) review of academic literature on smart cities published between 2000 and 2017 found 24 different definitions.

Nevertheless, most definitions associate a 'smart city' with the application of information and communication technology (ICT) to improve an area's infrastructure (Ruhlandt, 2018; Yigitcanlar et al., 2018; Ryan & Gregory, 2019); to create 'business-friendly' environments with plentiful supplies of digitally skilled labour and high quality financial and business support services (Deakin & Husam, 2011; Van Dijk & Teuben, 2015; Foth, 2017); to facilitate environmental protection (Riffat et al., 2016; Apurva et al., 2017); and to promote the use of Artificial Intelligence, Big Data, and the Internet of Things (Kyriazopoulou, 2015; Ryan & Gregory, 2019; Cugurullo, 2020; Yigitcanlar et al., 2020). Noting the numerous and disparate definitions of 'what a smart city is', Centre for Cities (2014) began its review of smart city definitions with that of IBM, i.e., that a smart city is 'one that makes optimal use of all the interconnected information available today to better understand and control its operations and optimise the use of limited resources' (Cosgrove et al., 2011). Essentially, a smart city uses a system of communication and information technologies to improve the quality of services and to address urban challenges via a

technologically enabled infrastructure (Deakin & Husam, 2011). Smart city initiatives can cover anything from power distribution, transport systems, streetlights, through to rubbish collection and health issues. New projects can help keep traffic flowing (e.g., public transport routes which are adjusted in real-time according to demand; intelligent traffic light systems used to improve congestion), can use city resources more efficiently (e.g., attaching sensors to refuse containers to report in real-time their nearness to full capacity), can improve energy efficiency (e.g., smart energy meters designed to incentivise reduced energy consumption), can upgrade street lights to LED technology (hence allowing lights to be adjusted or dimmed based on real-time data), and can make cities safer (e.g., applying technology to boost incident response times and employing real-time video data to prevent crime (Marr, 2020). These improvements are made possible by technology that allows for the creation of spaces wherein humans and technology interact in more connected, intelligent, and automated ways.

The role of technology in a smart city, according to Mishra (2013), is to leverage information to make better decisions, facilitate advanced analytics solutions, and provide an 'interactive model of the relationships that exist among the city's core systems, including the economy, housing, education, transportation, government services and utilities' (p.2). Technology, Mishra (2013) continued, helps city leaders to discover patterns and trends in data efficiently and cost effectively. Resources may be coordinated more efficiently, and inefficiencies can be addressed (see Camero & Alba, 2019). Hashem et al. (2016) observed how smart city technology has transformed many areas of urban life, especially within fresh smart city developments.

Most smart city developments have been initiated by national and/or local governments. In Europe some smart city areas were created with financial support from the European Union (European Commission, 2018). In various parts of the world some smart city initiatives have been established as private/public partnerships. Regardless of how they

began, official documentation issued at the time of the formation of smart city areas usually stated that they had two primary aims: (i) to improve an area's international competitiveness (see Albino et al., 2015; Araral, 2020; OECD, 2020), and (ii) to enrich residents' quality of life (see Kostatis et al., 2015; Engelbert et al., 2019). In the UK (and in several other countries) smart city initiatives were frequently instigated in or alongside economically and socially deprived areas, in the hope that incoming investment would raise local living standards (cf. Freudendal-Pedersen et al., 2019). Manville (2014) reported publications of the European Parliament confirming that the main objective of one third of all EU-supported smart city developments was the reduction of poverty, and this aim has been prominent in smart city initiatives in other parts of the world (see, for example, White House, 2015; Government of India, 2018).

Smart cities and smart city initiatives as products

Smart city areas and initiatives are not static pre-existing objects. They are products designed by city officials, although various stakeholders may hold different opinions about what a smart city product should involve (Mogilevich, 2020; Kubey, 2021) and, as with other products, the development of smart city areas and initiatives needs to follow some sort of design process (Stark et al., 2017). A substantial volume of literature in the place marketing domain has argued the case for regarding city places as products, which can be packaged and advertised and marketed internationally using specific branding techniques (see Ashworth & Voogd, 1990; Kotler et al., 1999; Kavaratzis & Ashworth, 2005; Grebosz-Krawczyk, 2021). As a product, a city place is associated with 'a whole set of physical and socio-psychological attributes and beliefs' that differentiate one city place product from another', thus defining the place's brand position relative to competing city places (Kavaratzis & Ashworth, 2005, p. 510). Hence, according to Kotler et al. (1999), 'places are, indeed, products, whose identities and values must be designed and marketed' (p. 10). As regards new urban developments,

each urban renewal project involves 'the creation of an identity with its own experiential value, which is profoundly original and uncopiable' and which 'touches upon such points as structure, functions, and the sort of activities and events' that characterize the image of the place (Florian 2002, p. 24). A city place's unique brand identity serves, according to Kavaratzis and Ashworth, (2005), firstly to recognise the existence of a place, secondly to cause place customers to perceive the place to possess qualities superior to those of competitors, and thirdly, to allow the place to be consumed in a manner commensurate with the objectives of the place.

The smart city product itself, according to the European Commission (2015), involves an area that employs technological solutions to improve the management and efficiency of the urban environment. Giffinder et al. (2007) identified six main dimensions of the smart city: smart economy, smart mobility, smart environment, smart people, smart living, and smart governance. Yongge et al. (2017) similarly defined the smart city product as a conglomeration of characteristics, including the macro environment, urban design and architectural characteristics, community infrastructure, community management and services, transportation system, municipal administration and services, air quality, and the personal quality of neighbourhood residents. Nam and Pardo's (2011) review of the meaning of the term 'smart city' emphasised the user-friendly nature of an area for its stakeholders made possible by 'an enormous presence' of ICT technologies but characterised also by the human perspective of 'creativity' and innovative and transformative change (p.4).

'Product development' in the city context has been said to entail 'sophisticated strategies involving large scale investment in local attractions, environmental improvement, property development, flagship projects and "spectacle events"' (Millington et al., 1997 p.20). New product development approaches to city places emerged, according to Bramwell (1998) as city managers began to regarding places as products and (i) to plan and guide their

marketing with reference to a strategic vision and related goals, and (ii) to aim to satisfy the needs and demands of identified target users, selected according to strategic objectives. Hence, Bramwell (1998) continued, a city place product should be developed in order to be 'related as closely as possible to the demands of targeted customers' (p. 41). Barke (1999) characterised place new product development as the third phase of city marketing. Initially, city marketing managers would be concerned largely with promoting and 'selling a city; then the emphasis would shift to image creation and maintenance; moving finally to high profile city product development including changes in the built environment.

Bennett and Savani (2004a) found direct parallels between the new product development (NPD) practices of urban regeneration units in the UK (and in two other countries) and the NPD practices recommended by academic literature, including the stages followed in the NPD process. As products, smart cities and smart city initiatives must be branded and the brands adopted need to be managed as in a systematic manner (Paliwal, 2020).

Aims of the present research

The present investigation was completed in the UK, where many areas within large urban conurbations have been designated as smart districts and supported by national and local government. Examples include East London Tech City, the Manchester Corridor, Liverpool KQ, and Newcastle Science Central. Concurrently, ad hoc smart city-wide initiatives have been executed in many cities without their being confined to pre-designated areas, e.g., city-wide systems for transport and traffic control, for energy conservation, district lighting, healthcare, and personal security. Management teams, normally funded in the main by local and/or national government, undertake overall control of smart city activities. The present study examined how decisions were taken vis-à-vis the initiation and management of smart

city projects and their marketing to stakeholders, such as commercial investors, national and local government funders, equipment suppliers, and local residents. Hence the study addressed the following questions:

1. How exactly were decisions taken, who was involved and why and how were they involved?

2. How were new projects marketed and branded?

The research contributes to a number of theoretical conversations in the place marketing and new product development fields. Place branding theorists have paid scant attention to *smart city* branding and related marketing communications issues and the academic literature on new product development, while examining NPD in relation to conventional urban conurbations, has not addressed smart city NPD issues. In terms of general urban development theories, the findings from the present study caste light on the critical role of local government in smart city NPD and marketing.

Few prior studies in the smart city domain have questioned the smart city managers who *actually* run smart city operations. In the course of doing this, the present investigation uncovered important evidence on why citizen involvement in smart city decision making is frequently absent (a matter that has received much attention in the smart city literature), and why (unexpectedly) businesses seem to play a limited role in decision making processes. The outcomes to the research also raise questions about the use of segmented branding for smart city projects.

Choosing and marketing smart city activities

Selection of new projects

Critics have complained that smart city initiatives tend to favour businesses rather than citizens and that new projects frequently fail to consider the backgrounds and/or the needs of local people (see for example Hollands, 2008; Kitchin, 2014; Morozov & Bria, 2018; Sovacool et al., 2019). According to Freudendal-Pedersen et al. (2019), national or local government funding is normally awarded in the belief that fresh commercial investment will naturally raise local living standards, including those of residents with low-incomes and few ICT skills (Shelton et al., 2015; Madden, 2018; Appio et al., 2019). A substantial body of literature has suggested that globalisation and competition among cities has resulted in urban politicians and governing regimes adopting economic ideologies that favour the corporate sector (e.g., Hunter, 1953; Peterson, 1981; Scott & Storpe, 2015; Ruhlandt, 2018) and which drive out concerns for citizens (Engelbert et al., 2019). Successful cities require infrastructures that support the needs of business (see World Bank, 2019). Hence, it has been alleged, city officials are induced to initiate the urban revitalization projects that are most likely to attract private investment (Glaeser & Resseger, 2009). Close relations between local politicians and business leaders develop, and the latter become better able to promote their favoured urban projects (Peterson, 1981). Community participation in choosing projects might not be welcome in such circumstances (Borkowska & Osborne, 2018; Engelbert et al., 2019).

Logan and Molotch (1987) claimed that powerful networks of business interests and local politicians exert excessive influences on urban development processes and damage the interests of neighbourhood residents and other vulnerable groups. To the extent that this occurs, many challenges are likely to confront certain groups of smart city residents. Usually, according to Madden (2018), government support is channelled into fresh commercial initiatives under the assumption that a globally competitive smart city will automatically be a good place to live. Yet, inequalities will necessarily arise as incoming

smart city employees coexist alongside a sizable secondary low-skilled workforce that maintains a district's physical infrastructure and provides catering and leisure services (Shelton et al., 2015; Madden, 2018; Appio et al., 2019). Caprotti (2014) noted how low-paid workers could become the "new urban poor", living in sub-standard accommodation but "within or adjacent to flagship smart urban projects" (p. 2469) and experiencing lower life expectancy, higher infant mortality, various health problems and financial insecurity.

Smart city marketing and branding

Marketing activity is required in order to reach several actual and potential smart city stakeholders, e.g., possible corporate investors, existing businesses, local residents, local and national politicians, 'smart employees', suppliers of ICT equipment, community pressure groups, and commercial, community and political interests in adjoining areas (see Anttiroiko, 2014; Chan et al., 2019; Molinillo et al., 2019; Vulfovich, 2020; Christofi et al., 2021). According to Ker and Simpson (2021), marketing to smart city residents is necessary in order 'to explain, communicate and narrate the expected benefits of how smart city technology can improve everyday life', e.g., cleaner air, safer roads and/or tidier streets (p.2). Farthing (2015) argued that a major benefit of marketing for smart city citizens is the transmission to residents of 'incredibly targeted product and service information and special offers based on a person's known behaviour and preferences' (p.1). Sensors and other devices that speak to each other, Farthing (2015) continued, create an 'immense lake' of information on the routines, preferences, shopping habits and general behaviour of every smart city inhabitant, and this data can then be matched with social media profiles and data on the online purchases of individuals (p.1).

Smart city branding

Zenker and Braun (2010) defined a place brand as 'a network of associations in the consumers' mind based on the visual, verbal, and behavioural expression of a place, which is embodied through the aims, communication, values, and the general culture of the place's stakeholders and the overall place design' (p. 3). The purpose of place branding, Zenker and Braun (2010) continued, is to develop a brand management structure with target group-specific sub-brands and a place (e.g., city) umbrella brand. This can be difficult however, because an urban place has many audiences and hence its brand will have many dimensions (Blichfeldt, 2005). As regards smart city branding it is the case that, in the words of Grebosz-Krawczyk (2021), 'authorities responsible for smart city branding and marketing are not wondering *whether or not* to brand, but rather *how* to brand' (p. 2). Smart city branding differs from more general place branding in a number of respects. According to Kumar and Panda (2019), place branding in general terms involves 'strategies developed for marketing, branding, positioning, repositioning, and regeneration of any state, region, city, area or a locality' (p. 261). It seeks to 'develop a positive positioning of place image in the public mind that differentiates among different places, (p. 262). Smart city branding tends to emphasise the application of technology and ICT to develop and improve services within an area (Huertas, Moreno & Pascual, 2021), superior innovation (Boisen et al., 2018), sustainability and resource saving (Ahvenniemi et al., 2017), reduced environmental degradation (Monfaredzadeh, & Berardi, 2015), and the use of ICT to improve the quality of life. Huertas et al. (2021) noted that since the "smart" dimension of a smart city's identity generates expectations of technological excellence, it was essential to communicate the place's smartness within its branding. Lombardi et al. (2011) similarly observed the prominence of the employment of images of the use of modern technologies to create innovative transport systems, better urban infrastructures and logistics, and green and efficient energy systems in the brand identities of many smart city developments.

Two types of smart city brand are required. The first involves brands that relate to entire collections of smart activities within a municipality. UK examples include 'Digital Birmingham' (associated with a logo labelled '# Smartbrum'); 'City Verve' (a Manchester entity covering 21 organisations under the tag line 'Smart Innovative Inspiring Manchester'); 'Connected Liverpool'; and Newcastle's generic smart city brand 'Urban Foresight'. The second kind of brand relates to individual brands for specific initiatives, e.g., Manchester's 'Dimmer' project (a city lighting initiative), 'Triangulum' (relating to the Manchester Corridor), and 'Ebb and Flow' (an energy conservation project). Liverpool has separate brands for its 'Mother' initiative (involving connected sensors within houses [see end note 1); its 'ARM' project (an Internet of Things initiative), and for several other programmes. At the time of writing, Birmingham had 27 separately branded smart city initiatives (e.g., 'City4Age' [health services] and PURE COSMOs [support for SMEs]), each with a separate logo and/or other unique forms of imagery.

Branding dilemmas

Academic interest in smart city branding has focused on smart city area brands rather than the branding of specific projects (Maček et al., 2019; Vulfovich, 2020; Yu & Kim, 2020) especially regarding the portrayal (or absence) of local communities in brand images (Hollands, 2015; Kummitha & Crutzen, 2017; Grebosz-Krawczyk, 2021). Commercial interests within a smart city area might favour a brand that displays commercial advantages, whereas local politicians and other community representatives may want a brand that projects local history and culture (cf. Bennett & Koudolova, 2001; Bennett & Savani, 2004b). Kitchin (2014), Calzada & Cobo (2015), Morozov & Bria (2018) and others have observed that many UK smart city places are ethnically diverse and multi-cultural as well as being economically deprived. These factors militate against the presence of a sense of community, unity of purpose, or a common interest among residents.

Mandolfo, Chen and Noci (2020) noted how, for new product development in general, 'new media has enabled ubiquitous access to content and information *(relating to possible new products*), as well as the opportunity for users to generate their own content' thus 'creating many opportunities for co-creation in the development process' (p.1). Co-creation, defined as 'a collaborative new product development activity in which consumers dynamically contribute and select various elements of a new product offering' (p. 4) encompasses a range of activities, such as proposing ideas for new product or service development or for product improvement, or evaluating alternatives. Through co-creation, smart city initiatives might employ citizen and other stakeholders' knowledge to gain insights into fresh possibilities, and potential problems of their implementation (Roberts & Darler, 2017). Research has recognised, however, that citizens are not homogenous, especially vis-à-vis motivations to participate in co-creation activities, and that some have far more resources to participate than others (see Leino & Puumala, 2021). Also, co-creation has been found to be susceptible to participant self-selection and to lack of trust in the process (O'Hern & Rindfleisch, 2009).

According to Freudendal-Pedersen et al. (2019) a smart city area brand is required that 'balances, serves and satisfies' all interested parties (p.4). However, Freudendal-Pedersen et al. (2019) described the creation of such a brand as a 'wicked' problem without any straightforward answers (p.4). Smart city managers 'walk on quicksand', Freudendal-Pedersen et al. (2019) continued, and take numerous social, political, and economic risks when branding smart city areas and projects (p.4**).** Critics have protested that smart city promotional messages and brand images often fail to respect the backgrounds and/or the needs of existing residents (cf. Hollands, 2008; Kitchin, 2014; Morozov & Bria, 2018; Sovacool et al., 2019) and instead favour commercial interests (see Shelton et al., 2015; Allam & Newman, 2018; Madden, 2018; Appio et al. 2019).

Zelenskaya and Elkanova (2021) suggested place brand multidimensionality as a possible solution to these issues, i.e., the employment of a *portfolio* of sub-brands, each targeting a particular genre of stakeholder. This may be useful for area branding if different stakeholders attach disparate meanings to the same brand (Merrilees et al., 2012). Sub-branding could leverage the overall place brand across markets and segments and be difficult for competitors to copy.

Materials and methods

The research progressed via interviews with individual smart city managers followed by a World Café. In early 2021, thirty self-described UK smart cities were identified from Internet sources (e.g., Computer World, 2019; Department of International Trade, 2020). Further examination of the websites of the 30 self-described smart cities revealed that 24 appeared to be actually and currently engaged in smart city activities. The heads of the management teams of the 24 smart cities were approached by email; 18 (75%) agreeing to participate in the study. Teams varied in size from five to 12 people, with an average of seven. Eight of the interviewees were female All were graduates, six had social science degrees, four had degrees related to urban studies, four had qualifications in software or other forms of engineering, and four had degrees in business and management. The age of a participant was not queried in view of its marginal relevance for the investigation. However, most interviewees appeared to be in their 30s or 40s, with only three seeming to be at the upper end of the age spectrum. On average the participants had been involved with smart city planning for six and a half years. Details of the participants are given in Table 1.

TABLE 1. PARTICIPANT PROFILE

Job Title	Period in Post	Gender	Number of Employees in Unit	Educational Background	Examples of Work Undertaken

Smart City Programme Director	11	Male	7	Software / Engineering	Developing Technical Infrastructure. Energy Initiatives. IT Skills Development.
Digital City Director	5	Female	6	Social Science	ICT Initiatives. Transportation Systems Technology. National Health Service Local Digital Initiatives.
Smart City Co-ordinator	7	Male	9	Urban Studies	Urban Space Development. Transportation Systems. Housing Estate Technology.
Smart City Co-ordinator	7	Female	5	Business / Management	Traffic Control Technology. Energy Initiatives. Street Lighting.
Smart City Co-ordinator	4	Male	7	Social Science	Low Emissions Initiatives. Energy Initiatives. Citizen Needs Research.
Smart City Strategy Executive	4	Female	6	Social Science	Surveillance Devices for Open Public Spaces. Water Supply Initiatives. Traffic Control.
Smart City Project Manager	3	Female	9	Business / Management	Building Technological Infrastructure in Housing Developments. Citizen Needs Research. Street Lighting.
Smart City Project Manager	5	Male	12		Urban Space Development. Energy Initiatives. Managing Relations with Local Universities.
Smart City Project Manager	8	Female	9	Business / Management	Low Emissions Technology. Pedestrian Transport Infrastructure. Traffic Control.
Smart City Technology Planning Manager	9	Male	11	Software / Engineering	Street Surveillance Systems. IT Skills Development. Renewable Energy Initiatives.
Smart City Strategy and ICT Manager	12	Male	5	Social Science	Air Quality Monitoring and Control. Preventative Maintenance using Artificial Intelligence. Waste Recycling Systems.
Urban Development Manager (Smart City Projects)	6	Female	3	Business / Management	Sensor Network Systems. Housing Technology Prototypes. Waste Management Initiatives.
Smart City Innovations Manager	3	Male	4	Software / Engineering	Emergency Response Systems. Smart Car Parking. Noise Reduction Initiatives.
Smart City Development Manager	5	Female	4	Urban Studies	Pollution Control Systems. Urban Maintenance. Transportation Management.
Smart City Development Manager	7	Male	7	Urban Studies	Energy Conservation. Public Transport Improvement. Pedestrian Control Systems.
Smart City Development Manager	6	Female	7	Urban Studies	Housing Estate Monitoring. Noise Reduction. Street Mobility Improvement.
Smart City Project Lead	8	Male	5	Software / Engineering	Smart Grid Infrastructures. Air Quality Improvement. Waste Recycling Systems.

Planning Executive (Smart City)	7	Male	11	Social Science	Renewable Energy Systems. Urban Maintenance. Air Quality Improvement.

Each unit was supported by local government employees. The number of local authority employees available to assist a smart city team ranged from eleven to 'more than 50'. All 18 of the smart city places covered by the investigation contained or were immediately adjacent to areas of economic and social deprivation. One smart city district in the sample was alongside a Borough where 53% of resident children lived in households with incomes below the official poverty level. Comparable figures for the remaining 17 areas varied from 26% to 47% (Department of Work and Pensions, 2020). Results from the interviews were further explored in a World Café attended by 14 of the original interviewees.

The interviews

Documentation (promotional materials, newspaper and magazine reports and other grey literature) relating to each smart city area was examined and followed by individual online interviews with the 18 smart city managers. Fifteen of the participants were heads of units, three were deputy heads. The interviewees were asked to relate stories describing events that occurred during the initiation of new projects and their subsequent marketing and branding. Thus, to investigate the first of the study's main research questions, namely how were decisions taken, who was involved, how and why, the participants were invited to include in stories information on which parties were the most influential, the positions adopted by various stakeholders, why certain options had been disregarded, nature of disagreements, how disputes were resolved, and how decisions had been rationalised and justified (cf. Van Eemeren & Grootendorst, 2004; Hajer & Dassen, 2014). Probing questions then obtained insights into specific events. For the second main research question, i.e., how new projects were marketed and branded, the interviewees were asked for stories about their activities and

relationships with other interested parties regarding the formation and execution of marketing activities, discussions about branding, who decided brand imagery and other brand content, which stakeholders were mainly involved and why?

A 'story' in the present context was defined by Hajer (2005) as 'a condensed sort of narrative that connects different discourses', representing an excellent medium for interviewees to ensure they are understood (p. 448). Krueger (2010) argued that stories reveal motivations, identify memorable events, and describe the main factors influencing behaviour far better than answers to straightforward questions. Thus, storytelling was an appropriate means for establishing within the present study how and why specific options were selected for consideration (Fischer & Gottweis, 2012; Freudendal-Pedersen et al., 2019), while others were ignored (Hajer & Dassen, 2014). Research into urban planning processes has found storytelling to constitute a valuable means of collecting information (for details see Van Hulst, 2012; Söderström et al., 2014). Allegedly, stories 'clarify opaque, complex and problematic issues' (Lynch et al., 2018, p.50) not easily explored via a linear set of interview questions.

Stories and argumentative discourse

Hajer (2006) contended that because stories are 'narratives on social reality' based on discursive understandings of issues (see end note 2), they are often presented *in attempts to gain their acceptance* (p.16). Typically, Hajer (2006) continued, reasons and justifications for accepting the contents of a story are offered. Accordingly, Hajer's (2006) method of argumentative discourse analysis was employed to deconstruct the participants' stories. Argumentation in this context refers to '*giving*' an argument, and *not* to 'having' an argument. Research in urban planning has found argumentative discourse analysis to be an effective device for establishing decision making processes and outcomes, as it 'embraces the

complexity of the organisational, social, political and policy context in which developments are introduced and supported' (see Lynch et al. 2018, p.46). Hence, interview transcripts were analysed to identify argumentative structures within stories and the main rhetorical suggestions the stories implied (cf. Thompson & Zhou, 2000; Jordan, 2001), i.e., the claims made by the participants and the reasons and/or evidence given in support of them.

Transcripts were analysed firstly by the authors physically using Quirkos software (quirkos.com) (Fleiss' kappa [calculated in Excel] = .78 indicating sound agreement) and secondly via the KH Coder package (khcoder.net/en), which examined word frequency, word co-occurrence and word proximity among the interviewees' comments. Argumentative components are frequently associated with words such as think, believe, should, ought (Stab and Gurevych, 2014) which provide linguistic clues to the thrust of an argument (Cohen, 1987).

Results and discussion

Participants' stories usually began, unprompted, with details of when and how their units had been initiated. To nudge interviewees into deeper storytelling modes, they were asked to 'tell me the story of the things that happened when your unit has taken decisions about new projects and about their marketing and branding, who influenced decisions (and why), what difficulties and conflicts occurred and how were they resolved, what events were the most memorable'? The main elements of this (long) initial question were repeated by the interviewer as a story progressed. Where appropriate, a participant was asked to relate the story behind the failure of a project (cf. John, 2021). Analysis of the interview transcripts revealed six main themes arising from the participants' stories. The first concerned collaborative decision-making with local government officers (and the problems experienced) but not with businesses, the second related to units' limited involvement with marketing, and

the third to methods for conducting citizen research. Themes four to six concerned political influences on decisions, the general absence of co-creation with citizens, and segmented branding. These are discussed below.

Collaborative decision-making

In all 18 cases, major decisions concerning new projects and their marketing and branding were taken collaboratively in meetings between smart city managers and municipal officials: occasionally (in four cases) with invited ICT supplying companies in attendance. Typically, the smart city unit would itself proffer its own ideas or would act as a conduit for ideas suggested by other stakeholders (e.g., university representatives, business trade associations, suppliers). These ideas were presented to the smart city unit's local government authority, which had the final word. Suggestions for projects that offered financial savings relative to current situations were usually welcomed by local authority decision takers, as were infrastructure improvements that would be popular with voters (as discussed below).

Paucity of inputs from businesses

An interesting aspect of stories regarding decision making processes was the general absence of inputs from businesses, in contrast to the predictions of much prior literature on the topic (e.g., Glaeser & Resseger, 2009; Morozov & Bria, 2018; Scott & Storpe, 2015; Ruhlandt, 2018; Engelbert et al., 2019). Interviewees' stories presented two kinds of explanation for this situation. Firstly, it was usually the case that a local government authority owned and managed most of a smart city area's infrastructure and *itself* operated ICT systems within the area. Consequently, it was alleged (directly in nine cases) that there was little need for businesses to be involved in plans for new developments. Secondly, it was suggested (directly in eight cases and indirectly in half a dozen more) that few local government officials possessed a (digital) business mindset, and this militated against the involvement of

businesses in decision making. As one interviewee observed: '*there is a lack of fresh people with business nous coming into public administration, and the ones who are there have an old-fashioned mindset with no awareness of the modern commercial world or of the need for multi-stakeholder management*'. Another participant commented that

> *smart city decision making is still influenced by people who spent their formative years in an industrial era – their conceptions of what's important, how business works, how value is created, all apply to an industrial structure and means of production that are not relevant to a digital world where assets are intangible, and change is continuous.*

Several interviewees claimed that local authority officials who possessed such mindsets were not interested in mixing with managers of (especially high-tech) companies.

Limited involvement with marketing

Two of the interviewees stated that marketing was a low priority, and both denied that their units had undertaken any 'branding' whatsoever. A third participant stated that all marketing and branding activities had been contracted out to a trusted consultancy, which reported to the smart city unit. The unit then passed the consultant's recommendations to the local authority and a meeting with municipal officials ensued to accept, reject, or modify the consultant's proposals. The remaining 15 units liaised with the marketing departments of their local authorities to create and execute marketing activities and to implement brands. In all 15 cases the local authority marketing department led discussions, with smart city managers assuming a secondary role. Marketing activities arising from decisions were undertaken by local government staff, with little involvement of smart city managers. Overall, the interviewees had little to say about the formation and execution of branding decisions, which were left to local authority officials. No mention was made of the latter

having considered any conflicts between the inclusion of imagery relating to local history and culture in a smart city brand versus the portrayal of commercially attractive images. When questioned about the matter, all the participants remarked that they were not aware of local authority marketing departments having even considered the matter. '*If it* (the brand image) *looks nice, it's in, and that's the end of the matter'*, one participant commented. '*Neither they* (the local authority marketing department) *nor us really care about pictures or coloration* (of a brand image); *we're far too busy. All we need is a* (brand) *name to identify the project so that everybody is talking about the same thing'* stated another.

Methods for conducting citizen research

In terms of argumentative structure, the strongest arguments relating to marketing were contained in stories about the widespread introduction of sensors and their beneficial use for marketing purposes, notably for marketing research (sometimes referred to by the participants as 'citizen research'). Arguments typically involved rejections of expressions of concern about privacy and possible misuse of personal data that were occasionally voiced by smart city area residents and local newspapers (see Van Zoonen [2016] for a review of academic literature concerning this matter). The application of sensor-driven systems to local amenities, traffic flows, shopping malls, crime prevention surveillance, and within houses (see end note 1) was deemed to provide huge benefits to citizens. Without prompt, eleven of the 18 participants offered some form of argument to support the ubiquitous use of sensors. On average the interviewees' comments and rationalisations regarding sensors were about a fifth longer and were more detailed than statements about any other issue, indicating perhaps the importance the participants attached to the matter (cf. Hajer, 2006).

As regards marketing (citizen) research, the extensive application of sensors was said to have made redundant the use of questionnaire surveys for assessing citizens' opinions. In

the words of one interviewee, '*surveys are like a photograph, they show things at just a single moment in time, few people bother to fill them* (i.e., questionnaires) *in and those who do are rarely representative of real public opinion*'. Another participant opined that sensors '*located* everywhere' collect '*huge amounts of data on what happens in real time – night-time as well as in the day*' and generate '*rich feedback*' on citizens' actual needs. Further positive comments rationalising and justifying the presence of sensors were that the data collected could be used and reused for many different purposes, cost very little, and led to improved smart city decision making. Sensors on roads and walkways, in shopping malls, in garbage bins, and in housing developments resulted in large financial savings, enabled closer monitoring of elderly residents, improved management of traffic flows, and led to a '*better understanding of living environments'*. Citizens increasingly accepted a sensor dominated society because, as one interviewee put it, '*citizens now expect public services to be delivered like Amazon or Ebay; our new (sensor driven) system is able to meet 75% of the communication needs of IoT devices*'.

Political influences

The interviewees were unanimous in stating that the main influence on decisions came from local elected politicians, and that local government was the ultimate decision taker where smart city activities were concerned. Relations with local government were complex, one interviewee commented, but it was always the case that '*the unit gives advice, the mayor's office decides*'. Another participant stated that '*we are more or less an operative acting unit of the municipality*'. Three considerations were put forward by the participants to explain the predominance of local government in smart city decision making. Firstly, local government owns substantial parts of the housing stock of many of the (often economically and socially deprived) smart city areas covered by the study, so that the application of new technologies within and around houses owned by a local authority was a matter of critical interest to local

government officials. Municipalities also own libraries, healthcare facilities, roads, traffic management equipment and other infrastructure within smart city areas.

Secondly, and importantly, local politicians are elected by local voters and since decisions regarding the provision of local amenities, local job opportunities, and local traffic infrastructure affect local voters personally, it is unsurprising that local politicians demand the final say in all matters concerning local urban development. '*Politicians always choose projects that give them the most publicity*' one participant opined. '*Programmes pivot according to political priorities*', commented another, creating difficulties in that, in the words of a third interviewee, '*project priorities change as the governing political party changes'*. Hence, funding for a project could suddenly disappear following a local election. Certain projects suggested by smart city managers would be ignored by local authority decision makers if they were likely to prove sensitive for the local governing political party. Thirdly, smart city management units are small (typically five or six people) and need to draw on local authority employees for assistance. The latter are paid by local government, which will also contribute significantly (sometimes entirely) to the funding of a smart city unit.

Lack of co-creation

Although the presence of multiple stakeholders was *recognised* by the participants, it was not reported to have figured prominently in decision making processes relating to either the choice of projects or their marketing and branding. This was regretted, however, and was attributed mainly to lack of interest in smart city affairs among stakeholders. None of the interviewees stated that the exclusion of certain stakeholders was a deliberate policy. Individual businesses and business support organisations rarely contacted smart city units directly, and hardly ever provided unprompted feedback. Several of the units had attempted

to communicate with residents in order to secure citizen involvement in smart city decision making but had failed. '*We tried setting up a citizens' panel, but there was no interest from the public*' one interviewee reported, and '*the only contacts came from opposition politicians*' (i.e., politicians not belonging to the ruling party) the person continued. Another participant stated that '*reach out* (to residents) *is very difficult and often very expensive, so it's not really worthwhile'.* Also, according to seven of the interviewees, the few people who did give feedback were usually well-educated and had relatively higher incomes.

Nine of the participants raised the issue of low levels of ICT-literacy among residents of typically low-income areas. Communicating information about and promoting smart city activities typically required the use of technical jargon: 4G, 5G, Internet browsers, platforms, downloads, networks, apps, google drives, pdfs, etc., and this language meant little or nothing to many (perhaps most) of the pre-existing residents of economically and socially deprived areas. Indeed, the very term 'smart city' was meaningless to many local inhabitants. It is relevant to note in this connection that levels of general literacy are typically low in economically and socially deprived districts. In England, 16.4% of the adult population has been estimated to be functionally illiterate, with one in 20 adults having a reading age of a five-year-old, and one in seven lacking basic literacy skills ((NLT, 2017). The Office for National Statistics (2020) reported that although the Internet was used by 94% of the UK population, the figure fell to 81% among the disabled and that 4.1 million adults living in social housing were offline. '*New services*' stated one participant, '*are used by affluent tech-savvy white people*'. A second interviewee observed how, in his smart city area, '*the disabled, people of colour, senior citizens and the poor are left out of the digital economy*'.

Segmented branding

Similar communication methods were used by all the smart city units in the sample, namely social media, a website, contacts with the press, and videos. Apart from the two smart city areas with managers who denied having any brands, all the interviewees reported that their units applied (with local authority assistance) segmented brands for disparate initiatives. One brand would be used for an energy conservation scheme, a different brand for a housing development, another for attracting commercial investment, and so on. Brands differed with respect to the level of language (simple or sophisticated) used to describe them and to the complexity of the imagery employed. Despite the low level of interest in branding reported by the interviewees, it appears that units and/or local authority marketing departments recognised the need to employ disparate brand images for different audiences and that each stakeholder group would need to be targeted in a different way (cf. Kavaratzis, 2004; Kavaratzis & Ashworth, 2009; Oguztimur & Akturan, 2016).

General marketing communications messages were also segmented. In the words of one participant,

> *all our communications are highly targeted based on what kind of message we want to send, depending on what the people we want to influence are like, where they are, their aims, and what kinds of initiatives and things we want them to be involved in*.

An unanticipated result emerging from *all* the participants was the paucity of assertive communications designed to attract commercial investment. Systems existed to *receive*, process, and respond to businesses making enquiries about possibly moving to or extending their operations within smart city districts, but deliberate and extensive outreach was rare. A major reason for this may relate to the previously mentioned heavy influence of political factors in smart city decision making, causing smart city managers to angle their marketing and image building activities towards local politicians rather than to outside companies. A

further possibility, referred to by four of the interviewees directly and three participants indirectly, is that companies involved in setting up a smart city area (and pre-existing resident businesses) would not want fresh competitors to enter the district. '*Existing businesses don't want to be crowded out and do not welcome new competition*' one interviewee stated. Hence, she continued, attracting fresh businesses to the area was not a top priority. Further explanations mentioned by the participants for lack-lustre communications aimed at securing entry to an area by outside firms were that *investors are not interested in coming to a poor area*'; that '*although a smart city is supposed to make new (business) start-ups cheaper, our projects cannot possibly achieve this goal and we do not want this to figure in our objectives*', and that '*local government employees are supposed to do the canvassing, and these people are not in any way business minded and cannot be bothered to do it*'.

One participant claimed that '*local authority officers don't always know what they want; they don't want retail, but what else do they want*?'. Retail companies were not perceived by this participant as the kind of enterprise that were likely to create the better paid jobs for local citizens that were sorely needed in economically deprived areas. Another interviewee commented that it was '*almost impossible*' to come up with smart city projects that would induce companies to enter one smart city district rather than to set up in comparable areas in other cities.

As regards organisational factors underlying the above findings, the participants' stories indicated the existence of generally harmonious relations among smart city units, local government officials and other stakeholders. No serious conflicts were reported to have occurred during decision making processes concerning either new project selection or marketing and branding although, according to one interviewee, '*spirited discussions*' sometimes took place. Probing questions revealed two likely reasons for the absence of conflict. Firstly, since most discussions necessarily involved technical ICT and/or

engineering issues, the people involved tended to focus on finding solutions to technical problems. Decision making vis-à-vis technical issues normally involved co-operation between smart city managers, local government officials and other stakeholders. One participant gave the example of organising the provision of electricity and lighting and the siting of sensors within a park, as opposed to having to decide where the park would be located in the first place. A possibility mentioned by several of the interviewees was that because smart city managers knew that all major decisions would be taken ultimately by local politicians (and would be heavily influenced by political considerations), there was little point in raising contentious topics.

Most of the interviewees suggested that marketing was a secondary issue so far as they were concerned. To investigate this further, each interviewee was asked to state the 'biggest problem' the person had experienced in relation to marketing. The commonest answer was that budgets were inadequate and/or had been recently cut, particularly budgets for marketing and communications with citizens. '*We have a website and that's about it for communicating with people in the area and with the outside world*' one interviewee commented, continuing to state that '*getting resource for marketing is a no hope activity*'. Another participant stated that '*marketing is really a secondary issue that nobody wants to spend money on; it follows our innovations, but it's not really seen as important*'. Most smart city marketing activities were executed by local government marketing departments, and several interviewees reported a lack of enthusiasm within these departments for smart city assignments. '*Marketing a* (smart city) *project is usually an afterthought*' one participant opined. Moreover, there did not appear to be much evaluation of smart city marketing activities by local government officers. In nine cases, marketing audits were ad hoc and did not follow any timescale. The marketing of three of the units was audited annually by their

local authority, while three units had never been subject to a marketing audit. No obvious determinants of the intensity or frequency with which units were audited became apparent.

Findings from a follow-up World Café

To investigate the key themes emerging from the interviews in greater depth, the interviewees were invited to attend a half day online World Café (Brown & Isaacs, 2005; Steier et al., 2015). Fourteen individuals participated. Three online rooms (using Collaborate software) were established, each visited by four or five people. After 20 minutes each person moved to a different room containing a new combination of people. Four questions were presented to the groups. Firstly, and in relation to interviewees' earlier comments regarding collaborative decision-making and given that local government is invariably the primary decision-maker vis-à-vis smart city affairs, what rhetorical devices did the participants employ to influence local government officer's decisions? Secondly and with respect to the abovementioned theme concerning co-creation, what 'nudging' techniques were most effective to encourage citizen feedback and involvement? Thirdly, how did the smart city managers explain the finding from the interviews that many businesses currently resident in smart city areas did not welcome attempts to attract (competing) external businesses to enter an area? Fourthly, with regard to citizen research, did the widespread use of sensors for market (citizen) research generate negative feedback from residents? Advantages of the World Café process include its informal structure (resulting in frank discussion [Estacio & Karic, 2016]) and the sharing of collective knowledge (Brown & Isaacs, 2005). Kitzie et al. (2020) observed how the method is useful for exploring topics from multiple perspectives and for ensuring that contextual factors (e.g., political, and cultural considerations) are explored.

As regards the first of the questions, namely the use of devices to influence municipal decision takers, several participants suggested that the establishment and operation of

'innovation hubs' constituted an excellent means for translating information on projects into persuasive messages for presentation to local authority officials and politicians. Innovation hubs had a high status among local authority officials and politicians, and proposals advanced by their representatives were usually taken seriously, more so than suggestions put forward by individual smart city managers, and especially in relation to large, complex, and holistic projects. Question two, concerning the application of nudging techniques to encourage citizen participation, elicited few recommendations. Many nudging practices '*create serious legal difficulties because of their possible harmful effects on residents*', one participant stated, and they required full political support. Also, the heterogeneity of smart city residents was a problem for the application of nudges since, as one group member put it, '*the individualisation of* (nudging) *incentives for each resident group is so expensive that it is not normally feasible'*. The predominant issue relating to citizen involvement, according to the various groups, was that of ICT illiteracy among residents. Hence, 'digital inclusion' programmes were essential and local government funders should be petitioned to devote more resources to improving citizen's ICT competence.

Question three, regarding the paucity of attempts to attract incoming businesses, was explained in several ways. Firstly, because few outside businesses wanted to set up local operations in economically depressed areas, they would only do so if they received government subsidies. '*They want us to pay for all their stuff*' (equipment and set up costs) *and what's the real benefit for the area*?' opined one participant. Secondly, local authority decision makers usually prioritised the nurture and expansion of indigenous *local* businesses, especially SMEs. Thirdly, a potential external investor would need to see a convincing business case before considering entry, and smart city units and local government departments did not usually have the resources to provide enterprises with meaningful help in preparing this type of document. Fourthly, smart city development was concerned mainly

with technical development issues, which absorbed so much time and energy that the attraction of outside investment could not receive the attention it deserved.

The fourth question asked whether privacy concerns had arisen consequent to the installation of sensors. Residents rarely raised such concerns, it was alleged. '*Some people complain about everything, but the vast majority simply don't care*' (about monitoring by sensors), one participant commented. Several group members mentioned the importance of transparency of activities while data from sensors was collected. 'Open data' demonstrated to citizens the benefits of data acquisition via sensors. However, a couple of the participants pointed out that open data could be and often was appropriated by private companies, which then used the data for their own commercial ends.

Conclusion and managerial implications

The study examined constructs related to the branding of projects, decision-making processes, new project development and (potential) co-creation. The basic answer to the question as to how decisions were taken and executed is that nearly all significant decisions on new project development and marketing were taken by local government politicians and employees, albeit collaboratively with smart city managers, and that marketing occupied a secondary role. Inputs from commercial interests on decision-making were limited. Smart city managers provided ideas for new projects and acted as a conduit for transmitting the ideas of others (equipment suppliers for instance) to local authority employees, with whom little substantial conflict was reported. These findings could be explained in large part by the reality that, typically, local authorities owned infrastructure assets, controlled resources, and provided local government employees to assist smart city managers. Consequently, there was little need for smart city managers to regard marketing as a top priority, as the marketing function was usually executed by local authority staff. Given this situation, political

imperatives and electoral considerations exerted influences on decisions, making for complex decision-making environments. In particular, a change in local political leadership could result in alterations in project development priorities. Marketing communications with stakeholders were deliberately segmented, and the multiple branding of initiatives was the norm. This may be due to the diversity of the multiple projects typically undertaken by a smart city unit, and also perhaps to the influence of professional marketing employees in local authority marketing departments. It seems that each stakeholder was targeted separately.

Little consideration was afforded to possibilities for co-creating smart city area brands with local residents and/or for including the history and culture of a district in brand imagery. Several interviewees voiced their regret over this, and had tried to communicate with local citizens vis-à-vis the matter, but had failed. Reasons for citizen non-involvement often related to apathy, ICT illiteracy, and the fact that socially and economically deprived people had other things on their minds. This outcome is not in accord with much academic literature which has argued that city brands should emphasize local characteristics (see for example Aitken & Campelo, 2011; Hollands, 2015; Kummitha & Crutzen, 2017), and that a technology-based smart city brand which ignores the absence of social cohesion among residents is unlikely to be sustainable in the longer term (e.g., Hollands, 2008; Merrilees et al., 2012; Grebosz-Krawczyk (2021); Maziashvili & Kowalik, 2021). According to Braun et al. (2013), a place brand is 'substantially characterised' by its local inhabitants, who can 'make or break the whole branding effort' (p. 23). Grebosz-Krawczyk (2021) examined the websites of 90 smart cities with populations of between 300,000 and one million across 21 countries, concluding that smart city brands founded on the participation of residents were significantly more likely to survive than brands imposed in a top-down manner. This proposition is based on the grounds that a brand which reflects the lived experience of the

majority of the community is essential to achieve authenticity and commitment from *all* stakeholders.

As with branding, lack of citizen participation in the choice of new smart city project developments was the norm in areas covered by the present sample, and this situation appears to apply elsewhere. Cowley, Joss and Dayot (2017) examined 68 smart city initiatives in six UK cities, finding that only three of the 68 provided any direct means for citizens to influence official decisions on smart city urban development. Lack of citizen participation was the norm in the smart city areas covered by the present sample. One possible reason for this involves 'the digital divide' that prevents ICT-illiterate people from using virtual means of participation (online feedback apps for instance). Yet, much smart city literature insists that citizen participation in projects is important because it gives citizens the capacity to (re)appropriate taxpayer sourced resources and harnesses the skills and knowledge of citizens in the development of projects that satisfy citizens' self-defined needs (Glaeser & Resseger, 2009; Kitchin, 2014; Madden, 2018; Engelbert et al., 2019). The European Union proposed the application of open innovation (i.e., measures to integrate knowledge from disparate stakeholders to instigate and exploit innovation [Gassmann & Enkel, 2004]) as a means for involving residents in smart city initiatives (see Ahn et al., 2019), although the EU recognised that not all citizens have the time, skills, or motivation to participate in open innovation activities (cf. Paskaleva, 2011). According to a substantial volume of empirical literature cited by Pedersen (2020) open innovation has, in reality, rarely been employed to enable an area's residents to apply proper influence on public sector policy making. Freudendal-Pedersen et al. (2019) similarly noted that open innovation has been employed within smart city areas mainly to address minor problems, and not large-scale difficulties (such as how to initiate, brand and market smart city developments in multi-cultural contexts).

Nevertheless, the interviewees recognised the desirability of citizen participation in decision making and, ipso facto, that marketing ('citizen') research has a role in smart city design. In the words of one interviewee (speaking in the context of installing sensors and other IoT devices in houses within estates owned by local government),

> *if customers have been involved in the co-design and co-production of a smart city service then the chances are that they are far more likely to adopt and use the service once you deploy it but achieving this is very difficult.*

The difficulties associated with obtaining citizen feedback were voiced by several other participants in the study. '*We tried a number of nudging techniques to arouse interest*' among local residents, an interviewee stated, but all of them failed. Another participant reported the almost total lack of response to invitations to citizens to attend public meetings, even when incentives (e.g., food and drink, small gifts for attendees' children) had been offered.

Implications

The first of the research questions covered by the study asked how decisions were taken, who was involved and why and how were various parties involved? Decision-taking was dominated by local government, with smart city managers fulfilling an advisory role. Yet smart city literature has routinely noted the benefits of involving residents in the decision-making process. Arguably, therefore, local government executives, in conjunction with smart city managers, need to find new ways of inducing residents to participate in smart city project development. This might be achieved by greater use of digital tools (online communications obviate the need for 'Town Hall meetings'), more extensive profiling of citizen segments, and through visually appealing physical presences in shopping and recreation areas to gather feedback (Horby, 2021). Lodewijckx (2021) recommended targeting younger residents, who

can influence older generations and are perhaps more ready to contribute ideas. Pastor (2021) reported the successes achieved vis-à-vis citizen participation via online 'community engagement platforms' wherein requests for citizen interactions are mixed in with information that residents are keen to obtain, e.g., employment opportunities or news about changes in benefits. Hospitality could be offered at half or full-day participation festivals organised by a full-time local authority 'participation champion' (cf. Myerson, 2004). Smart city managers in different locations might exchange ideas for securing citizen engagement through a central government agency (Lodewijckx (2021).

Research question two concerned how new projects were marketed and branded. Marketing was undertaken mostly by local government marketing departments. Responsibility for improvements in smart city marketing must therefore lie with local government. A central national government agency might be established to help local departments to adopt the latest place marketing methods, advanced market segmentation techniques, and effective market research methods. The agency could encourage the adoption of a marketing orientation among local authority marketing managers and could disseminate relevant and up-to-date information on approaches to place marketing, including successful methods applied in other countries. Smart city managers used data from sensors as their primary method for conducting market research. Clearly, wider and more sophisticated approaches to market research are required. Some sort of training facility is needed to instruct smart city about this and other aspects of marketing. A central government agency, an Institute, or a body comparable to the US/UK/ Canada Charities Aid Foundation might undertake this function.

Several specifically managerial issues and difficulties arise from the findings of the study. Many of the participants reported the presence of 'silo attitudes' among local authority officers and politicians, extending to anti-business mindsets in a number of cases. Marketing

and branding were often considered to be side issues and hence were not resourced adequately. It is not clear what smart city managers can do about this, other than leading by example and by (i) vigorously espousing the benefits of marketing and branding, and (ii) seeking closer liaison with local authority marketing departments in attempts to change negative attitudes towards marketing among certain local government officials. This pre-supposes of course that smart city managers are themselves sympathetic to marketing and branding and recognise its importance for both external and internal (citizen feedback) purposes.

A second problem expressed by a number of the interviewees was the apparent opposition of some existing businesses within a smart city area to measures designed to attract inward investment, on the (reasonable from their point of view) grounds that incoming businesses might create unwelcome new competition. Yet inward investment is needed to provide jobs for local residents and to stimulate economic growth. Thus, separate campaigns directed towards existing business might be useful in order to emphasize the additional employment (and hence greater employee spending power) and extra sub-contracting opportunities that new entrants will bring.

To the extent that the contributions of local authority marketing departments are, as one participant put it, '*not innovative and constantly seeking to maintain the status quo*', smart city managers might consider pressing local government officers to outsource the marketing of smart city areas and their initiatives to external marketing consultancies which possess expertise in the place marketing and branding fields. As regards the need to obtain more citizen input to decisions concerning the choice of new projects and the brand imagery to be attached to them, smart city managers must acknowledge the fact that ICT illiteracy among residents of economically and socially deprived areas is a long-term problem likely to take many years to resolve, and hence that greater attention should be given to using pictures

and imagery accompanied by easy-to-read messages when seeking the opinions of residents. Visually attractive pop-up information booths daubed with cartoon characters could be useful, as might face-to-face contacts with residents approached in high street locations in manners similar to the activities of charity high street fundraisers ('chuggers').

Areas for further research

The reported absence of substantial involvement of businesses in the decision-making processes of the smart cities examined does not correspond with the commonly expressed view that the corporate sector exerts excessive influence on the formation of smart city development projects (e.g., Hollands, 2008; Scott & Storpe, 2015; Shelton et al., 2015; Morozov & Bria, 2018; Appio et al., 2019; Sovacool et al., 2019). This result may be unique to the UK and could be due in large part to the dominance of local government in determining smart city affairs, as discussed in previous sections. The details and causes of politicians' attitudes regarding smart city activities merit further investigation. ICT illiteracy has not featured prominently in smart city literature. Lam and Ma's (2019) review of studies of smart city operations found only eleven papers with material on the effects of the digital divide among smart city residents. Additional research is needed concerning this matter and, in particular, its implications for appropriate ways of communicating with digitally illiterate citizens.

Another issue requiring investigation is the identification and analysis of some of the underlying assumptions that guide certain smart city decision makers, e.g., that a high-tech district is automatically an attractive place in which to live (cf. Madden, 2018; Freudendal-Pederson et al., 2019). Also worthy of further study is the question of whether business growth inside a smart city area *actually* depends on the delivery of high-quality ICT-related services and, if so, how the connection between growth and improved infrastructure can be

marketed to potential investors (Baron, 2012). A couple of the interviewees commented on this matter. '*Sometimes, ordinary service modifications are cloaked in the guise of the smart city moniker*' one participant observed, implying that certain heavily promoted initiatives are in fact little more than routine service updates that do not significantly improve an area's business infrastructure. '*Fancy marketing of a new project is good for the politicians, but it doesn't improve people's lives'* the person continued. '*Many smart cities are not really smart cities at all, they are not really active, they just take the money from the government and carry on as before'* stated a second interviewee; '*they are much gloss but very little substance*'.

End notes

1. A smart home is a residence equipped with smart technologies that provide tailored services for users. Smart technologies monitor, control and support residents, allegedly enhance their quality of life and, for the elderly and/or disabled, promote independent living. Sensors integrated into home appliances via wireless systems make it possible to monitor and track residents as they watch TV, cook, sleep, clean and complete other domestic activities. Users can remotely control household appliances, thus decreasing the burden of everyday household activities (see Marikyan et al., 2019).

2. Hajer (2002) defined discourse as a communication in speech or writing that contains 'an ensemble of ideas, concepts, and categories' through which meaning is assigned to entities or events (p. 63). Discourse analysis seeks to 'describe the forms, practices, patterns, structures, and functions of everyday discourse, and also the procedures and mechanisms through which participants - - - lend and attribute order, coherence, and meaning to this discourse' (Van Rees, 2007, p.1455). Importantly, discourse analysis may be employed to examine how a discourse serves an interviewee's standpoint on an issue.

References

Ahn, J. Roijakkers, N. Fini, R. & Mortara, L. (2019). Leveraging open innovation to improve society: Past achievements and future trajectories. *R&D Management*, 49(3), 267-278.

Ahvenniemi, H., Huovila, A., Pinto-Seppä, I. & Airaksinen, M. (2017). What are the differences between sustainable and smart cities? *Cities*, 60, 234-245.

Aitken, R., & Campelo, A. (2011). The four Rs of place branding. *Journal of Marketing Management*, 27(9-10), 913–933.

Albino, V., Berardi, U. & Dangelico, R. (2015). Smart cities: Definitions, dimensions, performance, and initiatives. *Journal of Urban Technology*, 22, 3-21.

Allam, Z. & Newman, P. (2018). Redefining the smart city: Culture, metabolism and governance. *Smart Cities*, 1(1), 4–25.

Angelidou, M. (2017). The role of smart city characteristics in the plans of fifteen cities. *Journal of Urban Technology*, 24(4), 3-28.

Anttiroiko, A. (2014). *The political economy of city branding*. London, Routledge.

Appio, F., Lima, M. & Paroutis, S. (2019). Understanding smart cities: Innovation ecosystems, technological advancements, and societal challenges. *Technological Forecasting and Social Change*, 142, 1-14.

Apurva, S., Tailor, S. & Rastogi, N. (2017). Smart materials for smart cities and sustainable environment. *Journal of Materials Science and Surface Engineering*, 5(1), 520-523.

Araral, E. (2020). Why do cities adopt smart technologies? Contingency theory and evidence from the United States. *Cities,*106, 102873.

Ashworth, G. & Voogd, H. (1990). *Selling the city: Marketing approaches in public sector urban planning*. London, Belhaven Press.

Barke, M. (1999). City marketing as a planning tool. In M. Pacione (Ed.), *Applied geography: Principles and practice,* London, Routledge, pp. 486-496.

Baron, M. (2012). Do we need smart cities for resilience? *Journal of Economics and Management,* 10, 32-46.

Bennett, R. & Koudelova, R. (2001). Image selection and the marketing of downtown areas in London and New York. *International Journal of Public Sector Management,* 14(3), 205-220.

Bennett, R. & Savani, S. (2002a). New product development practices of urban regeneration units: A comparative international study. *International Journal of Nonprofit and Voluntary Sector Marketing,* 9(4), 291-308.

Bennett, R. & Savani, S. (2004b). The rebranding of city places: An international comparative investigation. *International Public Management Review*, 4(2), 70-87.

Blichfeldt, B. (2005). Unmanageable place brands? *Place Branding and Public Diplomacy*, 1, 388-401.

Boisen, M., Terlouw, K., Groote, P. & Couwenberg, O. (2018). Reframing, place promotion, place marketing, and place branding: Moving beyond conceptual confusion. *Cities,* 80, 4-11.

Borkowska, K. & Osborne, M. (2018). Locating the fourth helix: Rethinking the role of civil society in developing smart learning cities. *International Review of Education*, 64(3), 355-372.

Bramwell, B. (1998). User satisfaction and product development in urban tourism. *Tourism Management,* 19(1), 35-47.

Braun, E., Kavaratzis, M. & Zenker, S. (2013). My city-my brand: The different roles of residents in place branding. *Journal of Place Management and Development*, 6(1), 18-28.

Brown, J. & Isaacs, D. (2005). *Creating hospitable spaces: The World Café*. Berrett-Koehler, San Francisco, CA.

Calzada, I. & Cobo, C. (2015). Unplugging: Deconstructing the smart city. *Journal of Urban Technology*, 22(1), 23-43.

Camero, A. & Alba, E. (2019). Smart city and information technology: A review. *Cities*, 93, 84-94.

Centre for Cities (2014). What is a smart city? London, Centre for Cities. Accessed at https://www.centreforcities.org/reader/smart-cities/what-is-a-smart-city on 14 September 2022.

Chan, C., Peters, M. & Pikkemaat, B. (2019). Investigating visitors' perception of smart city dimensions for city branding in Hong Kong. *International Journal of Tourism Cities*, 5(4), 620-638.

Christofi, M., Iaia, L., Marchesani, F. & Masciarelli, F. (2021). Marketing innovation and internationalization in smart city development: A systematic review, framework, and research agenda. *International Marketing Review*, 38(5), 948-984.

Cohen, R. (1987). Analysing the structure of argumentative discourse. *Computational Linguistics*, 13(1/2), 1-24.

Computer World (2019). Best smart cities in the UK. *Computer World*, 13 May 2019, accessed on 16 July 2021 at www.Which is the smartest city in the UK?

Cowley, R., Joss. S. & Dayot, Y. (2017). The smart city and its publics: insights from across six UK cities. *Urban Research & Practice*, 11(1), 1-26.

Cosgrove, M., Harthoorn, W., Hogan, J., Jabbar, R., Kehoe, M., Meegan, J. & Nesbitt, P. (2011). *Smarter cities series: Introducing the IBM city operations and management solution*. Armonk, NY, IBM Corporation. Accessed at http://www.redbooks.ibm.com/redpapers/pdfs/redp4734.pdf on 14 September 14 2022.

Crutzen, N., Van Bockhaven, J., Schaltegger, S. & Giffinger, R. (2019). Guest editorial. Sustainability Accounting, *Management and Policy Journal*, 10(4) 646-653.

Cugurullo, F. (2020). Urban artificial intelligence: From automation to autonomy in the smart city. *Frontiers in Sustainability. Cities* 2:38, 1-14.

Deakin, M. & Husam, A. (2011). From intelligent to smart cities. *Intelligent Buildings International,* 3(3), 133-139.

Department for International Trade (2020). *UK smart cities directory*. London, DIT, accessed on 16 July 2021 at 872bceb6be2ad3facad169d6bb718bb3_DITSmartCitiesDirectory.pdf (eventscloud.com).

Department of Work and Pensions (2020). *Children in low-income families: Local area statistics.* London, Department of Work and Pensions.

European Commission (2018). *Smart cities: Cities using technological solutions to improve the management and efficiency of the urban environment.* Brussels, European Commission.

Engelbert, J., van Zoonen, L. & Hirzalla, F. (2019). Excluding citizens from the European smart city: The discourse practices of pursuing and granting smartness. *Technological Forecasting and Social Change,* 142, 347-353.

Estacio, E. & Karic, T. (2016). The World Café: An innovative method to facilitate reflections on internationalisation in higher education. *Journal of Further and Higher Education,* 40(6), 731-745.

European Commission. 2015. *Smart cities*. Accessed at https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_en#what-are-smart-cities on 22 August, 2022.

Farthing, S. (2015). Marketing in a smart city. *Digital Marketing Magazine*, 2 June 2015, accessed at digitalmarketingmagazine.co.uk/digital-marketing-data/marketing-in-a-smart city/2031 on 25 August 2022.

Fischer, F. & Gottweis, H. (2012). The argumentative turn revisited. In F. Fischer and H. Gottweis, (Eds), *The argumentative turn revisited*, Durham UK, Duke University Press, pp. 1–27.

Florian, B. (2002). The city as a brand: Orchestrating a unique experience. In T. Hauben, M. Vermeulen & V. Patteeuw, *City branding: Image building and building images*. Rotterdam, NAI Uitgevers, pp. 18-29.

Foth, M. (2017). The next urban paradigm: Cohabitation in the smart city. *IT-Information Technology*, 59, 259-262.

Freudendal-Pedersen, M., Kesselring, S. & Servou, E. (2019). What is smart for the future city? Mobilities and automation. *Sustainability*, 11, 1-21.

Gassmann, O. & Enkel, E. (2004). Towards a theory of open innovation: Three core process archetypes. *The R&D Management Conference*, Lisbon, 7-9 July 2004, pp. 1-18.

Giffinder, R., Fertner, C., Kramar, H., Kalasek, R., Pichler–Milanović, N. & Meijers, E. (2007). Smart cities: Ranking of European medium-sized cities. Vienna, Centre of Regional Science, Vienna Uuniversity of Technology. Accessed at https://www.smartcities.eu/download/smart_cities_final_report.pdf on 25 August 2022.

Giffinger, R., Kramar, H., Haindlmaier, G. & Strohmayer, F. (2015). *European smart cities 4.0.* Vienna: Centre of Regional Science, Vienna UT. Accessed at https://www.smart-cities.eu on 13 January 2021.

Glaeser, E. & Resseger, M. (2009). Inequality in cities. *Journal of Regional Science,* 49(4), 617-646.

Government of India (2018). *Smart cities mission*. Delhi, Ministry of Housing and Urban Affairs.

Grebosz-Krawczyk, M. (2021). Place branding (r)evolution: The management of the smart city's brand. *Place branding and public diplomacy,* 17(1), 93-104.

Guedes, A., Alvarenga, J., Goulart, M., Rodriguez, M. & Soares, C. (2018). Smart cities: The main drivers for increasing the intelligence of cities. *Sustainability,* 10, 1-19.

Hajer, M. (2002). Discourse analysis and the study of policy making. *European Political Science,* 2(1), 61-65.

Hajer, M. (2005). Rebuilding ground zero: The politics of performance. *Planning Theory & Practice*, 6(4), 445-464.

Hajer, M. (2006). Doing discourse analysis: Coalitions, practices, meaning. In M. Brink & T. Metze, *Words matter in policy and planning,* Utrecht, The Netherlands, Knag/Nethur, pp. 13-20.

Hajer, M. & Dassen, T. (2014). *Visualizing the challenge for 21st Century urbanism*. Rotterdam, NAI010 Publishers.

Hashem, I., Chang, V., Anuar, N., Adewole, K., Yaqoob,I., Gani, A., Ahmed, E. & Chiroma, H. (2016). The role of big data in smart city. International Journal of Information Management, 36 (5), 748-758.

Hollands, R. (2008). Will the real smart city please stand up? *City,* 12(3), 303-320.

Hollands, R. (2015). Critical interventions into the corporate smart city. *Cambridge Journal of Regions, Economy and Society,* 8(1), 61-7.

Huertas, A., Moreno, A. & Pascual, J. (2021). Place branding for smart cities and smart tourism destinations: Do they communicate their smartness? *Sustainability*, 13(19), 10953.

Hunter, F. (1953). *Community power structure: A study of decision-makers*. Chapel Hill, University of North Carolina Press.

John, F. (2021). *Storytelling and market research.* New York, Routledge.

Jordan, M. (2001). Some discourse patterns and signalling of the assessment – basis relation. In M. Scott & G. Thompson (Eds), *Patterns of text: In Honour of Michael Hoey,* Amsterdam, John Benjamin's Publishing Company, pp. 159-192,

Kavaratzis, M. (2004). From city marketing to city branding: Towards a theoretical framework for developing city brands. *Place Branding and Public Diplomacy*, 1(1), 58–73.

Kavaratzis, M. (2007). City marketing: The past, the present and some unresolved issues. *Geography Compass*, 1(3), 695-712.

Kavaratzis, M. & Ashworth, G. (2005). City branding: An effective assertion of identity or a transitory marketing trick? *Tijdschrift voor Economische en Sociale Geografie*, 96, 506-514.

Kavaratzis, M. & Ashworth, G. (2009). Beyond the logo: Brand management for cities. *Journal of Brand Management,* 16(8), 520–531.

Ker, J. & Simpson, J. (2021). The vital role of marketing in smart cities. *Business Reporter Magazine,* 2 April 2021. Accessed at https//business-reporter.co.uk/2020/11/19 on 15 July 2021.

Kitchin, R. (2014). The real-time city? Big data and smart urbanism. *GeoJournal*, 79, 1-14.

Kitzie, V., Pettigrew, J., Wagner, T. & Vera, A. (2020). Using the World Café methodology to support community-centric research and practice in library and information science. *Library and Information Science Research*, 42(4), 101050.

Kostakis V., Bauwens M. & Niaros V. (2015). Urban reconfiguration after the emergence of Peer-to-peer infrastructure: Four future scenarios with an impact on smart cities. In D. Araya (Ed), *Smart cities as democratic ecologies*, London, Palgrave Macmillan, pp. 116-124.

Kotler, P., Asplund, C., Rein, I. & Haider, D. (1999). *Marketing places Europe*. London, Financial Times Prentice Hall.

Krueger, R. (2010). Using stories in evaluation. In J. Wholey, H. Hatry, & K. Newcomer (Eds), *Handbook of practical program evaluation*, 3rd edition. San Francisco, Jossey-Bass, pp. 404-424.

Kubey, K. (2021). The invention of public space shows the city as a product of negotiation. *The Architect's Newspaper*, 23 August 2021. Accessed at https://www.archdaily.com/967236/the-invention-of-public-space-shows-the-city-as-a-product-of-negotiation on 31 August 2021.

Kumar, N. & Panda, R. (2019). Place branding and place marketing: A contemporary analysis of the literature and usage of terminology. *International Review on Public and Nonprofit Marketing*, 16, 255-292.

Kummitha, R. & Crutzen, N. (2017). How do we understand smart cities: An evolutionary perspective? *Cities*, 67, 43-52.

Kyriazopoulou, C. (2015). Smart city technologies and architectures: A literature review. In M. Helfert, K. Krempels, C. Klein, B. Donellan & O. Guiskhin (Eds), *Proceedings of the*

2015 International Conference on Smart Cities and Green ICT Systems, Lisbon, Portugal, 20–22 May 2015, pp. 1-12.

Lam, P & Ma, R. (2019). Potential pitfalls in the development of smart cities and mitigation measures: An exploratory study. *Cities,* 91, 146-156.

Logan, J. & Molotch, H. (1987). *Urban fortunes: The political economy of place*. Berkeley, University of California Press.

Lombardi, P., Giordano, S., Farouh, H. & Yousef, W. (2012). Modelling the smart city performance. *Innovation: The European Journal of Social Science Research*, 25(2), 137-149.

Lynch, J., Glasby, J. & Robinson, S. (2018). If telecare is the answer, what was the question? Storylines, tensions, and the unintended consequences of technology supported care. *Critical Social Policy,* 39(1), 44-65.

Maček, A., Ovin, R. & Starc-Peceny, U. (2019). Smart cities marketing and its conceptual grounds. *Naše gospodarstvo/Our Economy*, 65(4), 110–116.

Madden, P. (2018). Will smart cities inevitably worsen social inequality? *Huffpost,* 26 January 2018. Accessed at https://www.huffingtonpost.co.uk/entry/will-smart-cities-inevitably-worsen-social-inequality_uk_5a689271e4b06bd14be506e4 on 20 November 2020.

Manville, C. (2014). *Mapping smart cities in the European Union*. Brussels, European Parliament.

Marikyan, D., Papagiannidis, S. & Alamanos, E. (2019). A systematic review of the smart home literature: A user perspective. *Technological Forecasting and Social Change*, 138,139-154.

Marr, B. (2020). *The smart cities of the future: 5 ways technology is transforming our cities*. Forbes Enterprise Tech, 2 July, 2020. Accessed at

https://www.forbes.com/sites/bernardmarr/2020/07/02/the-smart-cities-of-the-future-5-ways-technology-is-transforming-our-cities/?sh=5bc553b673f8 on 09 September 2022 .

Maziashvili, M & Kowalik, I. (2021). City citizenship behaviour and participation in promotion. *Place Branding and Public Diplomacy*, in press.

Merrilees, B., Miller, D. & Herington, C. (2012). Multiple stakeholders and multiple city brand meanings. *European Journal of Marketing*, 46(7/8), 1032-1047.

Millington, S., Young, C. & Lever, J. (1997). A bibliography of city marketing. *Journal of Regional and Local Studies*, 17(2), 16-42.

Mishra, M. (2013). Role of technology in smart governance: 'Smart city, safe city'. *SSRN*, August 15, 2013. Accessed at https://ssrn.com/abstract=2310465 on 8 September 2022.

Mogilevich, M. (2020). *The invention of public space: Designing for inclusion in Lindsay's New York.* Minnesota, University of Minnesota Press.

Molinillo, S., Anaya-Sánchez, R., Morrison, A. & Coca-Stefaniak, J. (2019). Smart city communication via social media: Analysing residents' and visitors' engagement. *Cities*, 94, 247-255.

Monfaredzadeh, T. & Berardi, U. (2015). Beneath the smart city: Dichotomy between sustainability and competitiveness. *International Journal of Sustainable Building Technology and Urban Development*, 6(3), 140-156.

Morozov, E. & Bria, F. (2018). *Rethinking the smart city: Democratizing urban technology*. New York, Rosa Luxemburg Foundation.

Nam, T. & Pardo, T. (2011). Conceptualizing smart city with dimensions of technology, people, and institutions. *Proceedings of the 12th annual international conference on digital government research*, June 12–15, College Park, MD, USA, pp. 282–291.

National Literacy Trust (2017). *Adult literacy statistics*. London, National literacy Trust.

Organisation for Economic Co-operation and Development (2020). *Smart cities and inclusive growth*. Geneva, OECD.

Oguztimur, S. & Akturan, U. (2016). Synthesis of city branding literature (1988–2014) as a research domain. *International Journal of Tourism Research*, 18, 357–372.

Office for National Statistics (2020). *Internet users*, 2020. London, Office for National Statistics.

Paliwal, M. (2020). City branding (place branding): Meaning, stages and examples. *Planning Tank*, 19 September 2020, accessed at https://planningtank.com/city-insight/city-place-branding on 31 August 2021.

Paskaleva, K. (2011). Smart cities: A nexus for open innovation? *Intelligent Buildings International*, 3(3), 153-171.

Pedersen, K. (2020). What can open innovation be used for and how does it create value? *Government Information Quarterly*, 37(2), 101459.

Peterson, P. (1981). *City limits*. Chicago, University of Chicago Press.

Riffat, S., Powell, R. & Aydin, D. (2016). Future cities and environmental sustainability. *Future Cities and Environment*, 2, 1-23.

Ruhlandt. R. (2018). The governance of smart cities: A systematic literature review. *Cities*, 81, 1-23.

Ryan, M. & Gregory, A. (2019). Ethics of using smart city AI and big data: The Case of four large European cities. *The Orbit Journal*, 2(2), 1-36.

Saxena, S. & Al-Tamimi, T. (2018). Visioning 'smart city' across the Gulf Cooperation Council (GCC) countries. *Foresight*, 20(3), 237-251.

Scott, A. & Storpe, M. (2015). The nature of cities: The scope and limits of urban theory. *International Journal of Urban and Regional Research*, 39(1), 1-15.

Shelton, T., Zook, M. & Wiig, A. (2015). The 'actually existing smart city'. *Cambridge Journal of Regions. Economy and Society*, 8(1), 13-25.

Singh, A. & Singla, A. (2020). Constructing definition of smart cities from systems thinking view. *Kybernetes*, 50(6), 1919-1950.

Söderström, O., Paasche, T. & Klauser, F. (2014). Smart cities as corporate storytelling. *City*, 18(3), 307-320.

Sovacool, B., Kester, J., Noel, L. & de Rubens, G. (2019). Energy injustice and Nordic Electric Mobility: Inequality, elitism, and externalities in the electrification of vehicle-to-grid (V2G) transport. *Ecological Economics*, 157(part C), 205-217.

Stab, C. & Gurevych, I. (2014). Identifying argumentative discourse structures in persuasive essays. In A. Moschitti, B. Pang and W. Daelemans (Eds), *Proceedings of the 2014 conference on empirical methods in natural language processing*, October 25-29, 2014, Doha, Qatar, Association for Computational Linguistics, pp. 46–56.

Stark, R., Buchert, T., Neugebauer, S., Bonvoisin, J. & Finkbeiner, M. (2017). Benefits and obstacles of sustainable product development methods: A case study in the field of urban mobility. *Design Science*, 3(e17), 1-30.

Steier, F., Brown, J. & Mesquita da Silva, F. (2015). The World Café in action research settings. In P. Reason & H. Bradbury (Eds), *The Sage handbook of action research*, Thousand Oaks, CA., Sage Publications, pp. 211-219.

Thompson, G. & Zhou, J. (2000). Evaluation and organisation in text: The structuring role of evaluative disjuncts. In S. Hunston & G. Thompson (Eds), *Evaluation in text: Authorial stance and the construction of discourse,* Oxford, Oxford University Press, pp. 121-14.

Tokoro, N. (2015). *The smart city and the co-creation of value: A source of new competitiveness in a low-carbon society.* Tokyo, Springer.

Van Dijk, A. & Teuben, H. (2015). *Smart cities: How rapid advances in technology are reshaping our economy and society.* The Hague, Deloitte.

Van Eemeren, F. & Grootendorst, R. (2004). *A systematic theory of argumentation; The pragma-dialectical approach.* Cambridge, Cambridge University Press.

Van Hulst, M. (2012). Storytelling, a model of and a model for planning. *Planning Theory*, 11(3), 299-318.

Van Rees, M. (2007). Discourse analysis and argumentation theory: The case of television talk. *Journal of Pragmatics*, 39, 1454-1463.

Van Zoonen, L. (2016). Privacy concerns in smart cities. *Government Information Quarterly,* 33(3), 472-480.

Vulfovich, R. (2020). The importance of 'smart city' characteristics for a city brand: Comparative perspective. In: Chugunov A., Khodachek I., Misnikov Y. & Trutnev D. (Eds) *Electronic governance and open society: Challenges in Eurasia. EGOSE 2019, Communications in computer and information science*, vol 1135. Springer, Cham, pp. 55-70.

White House (2015). *Administration announces new smart cities initiative to help communities tackle local challenges and improve city services.* Washington DC, Office of the Press Secretary, The White House.

World Bank (2019). *Information and communications for development 2018: Data-driven development.* Washington DC, World Bank.

Yigitcanlar T, Desouza, K., Butler, L. & Roozkhosh, F. (2020). Contributions and risks of artificial intelligence (AI) in building smarter cities: Insights from a systematic review of the literature. *Energies,* 13(6):1473, 1-38.

Yigitcanlar, T., Kamruzzaman, M., Buys, L., Loppolo, G., Sabatini-Marques, J., da Costa, E. & Yun, J. (2018). Understanding smart cities: Intertwining development drivers with desired outcomes in a multidimensional framework. *Cities*, 81, 145-160.

Yongge, N., Dong, L., Niu, Y. & Deng, F. (2017). Resident-defined measurement scale for a city's products. *Landscape and Urban Planning*, 167, 177-188.

Yu, E. & Kim, J. (2020). The relationship between self-city brand connection, city brand experience, and city brand ambassadors. *Sustainability*, 12(3), 1-13.

Zelenskaya, E. & Elkanova, E. (2021). Designing place brand architecture: The potential of a sub-brands strategy. *Journal of Product and Brand Management*, 30(1), 167–179.

Zenker, S. & Braun, E. (2010). Branding a city: A conceptual approach for place branding and place brand management. *Proceedings of the 39th EMAC Annual Conference 2010*, Frederiksberg, Denmark, pp. 1-8.