# Perception of Value in Public-Private Ecosystems: transforming the Dublin Docklands through smart technologies

*Research-in-Progress*

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## Abstract

*Our study explores the potential for developing a hybrid business model for public-private ecosystem that emerged around the smart cities project in Dublin Docklands Strategic Development Zone. We focus on stakeholders' expectations in relation to value creation and value capture, trying to understand to what extent the interests of stakeholder groups are diverse, and whether it is possible to create consensus that delivers economic, social, and environmental value for participants. The findings of this study seek to advance the literature on the business models of hybrid organisations and to test some assumptions of the research on the governance of public-private partnerships.*

**Keywords:** business models, value creation, value capture, smart cities, public-private partnerships

## Introduction

How do public-private partnerships create their business models? Business models serve as cognitive blueprints that help organisations envisage the outcomes of their chosen strategy, and describe the mechanisms of value creation and value capture (Zott, Amit, & Massa 2011). In the private sector, value is

usually understood as economic value. Consequently, the feasibility of a business model is assessed on its profitability (Afuah 2014) or the match between a narrative test (whether the story makes sense) and the numbers test (whether the model is economically viable) (Magretta 2002). In public-private partnerships, which are defined as "an arrangement of roles and relationships in which two or more public and private entities coordinate/combine complementary resources to achieve their separate objectives through joint pursuit of one or more common objectives" (Lawther 2002: 33, cited in Rufin & Rivera-Santos 2012), the understanding of value is extended beyond economic value to include social and environmental outcomes. Scholars note that the objectives of public organisations do not usually "map directly to common measures used to assess entrepreneurial value creation and capture in private sector" (Klein, Mahoney, McGahan, & Pitelis 2013: 74). As a result, evidence shows that the participants of public-private partnerships often start their collaboration without a clear idea of desired outcomes and the measures to assess them (Stadtler 2016). While the literature on business models argues that some degree of flexibility is beneficial for the development of a viable business model (McGrath, 2010), it also warns against a poor understanding of business model components, which might prevent organisations from realising value from their resources and capabilities and hamper business model innovation (Johnson, Christensen, & Kagermann 2008).

It is not clear whether public-private partnerships engage all participants in the creation of economic, social, and environmental outcomes, or whether some partners only contribute to certain types of value, and a broader array of value outcomes emerge as a sum of collective efforts within the partnership. In other words, do private partners adopt a hybrid logic (at least for the purposes of participation in private-public partnership) or do they focus on creating and capturing economic value, with public partners left responsible for delivering social and environmental outcomes? Answering this question might help managing the alliances between public and private organisations by forming adequate ex ante expectations and focusing the efforts of governance either on integrating the multitude of value outcomes into the value narrative of all partners, or on finding the best mix of public and private participants to deliver all necessary types of value.

Our study explores the perception of value creation and value capture among the stakeholders within public-private ecosystem of Dublin Docklands Strategic Development Zone. We define public-private ecosystem as a tripartite public-private partnership (Stadtler 2016) which has a loose structure and is created around a broad objective of urban regeneration through implementation of smart and sustainable technologies. Dublin Docklands is a particularly interesting setting for our research because it is perceived as an extension of the city centre which combines dramatically different communities; a well-established inner city community entwined with the changing fortunes of the docklands following containerisation and mechanisation, and a newer resident high-skilled workforce employed in sectors such as finance, technology, services, and law. Therefore, on the north side, the wealth and modern architecture of the International Financial Services Centre (IFSC) is just one tram stop from the dilapidated fronts of former warehouses. The striking shape of the Convention Centre is located 500 meters from Sheriff Street with its working-class population. Having suffered a large setback due to the banking crisis and subsequent recession, the area is now undergoing a new phase of development which encompasses the primary central parcels previously scheduled to have been completed around the time the bespoke development authority would have been wound down in 2012 (Moore 2008). Furthermore, this newly developing area is contiguous with Dublin Port, which strives to become increasingly attractive as a destination of cruise ships bringing tourists to Ireland. The Docklands public-private smart district ecosystem is currently at the early stage of development, which enables us to address the perceptions of public and private stakeholders before they have seen any outcomes of their participation in the ecosystem. It is therefore a completely subjective set of expectations that is typical for the early stages of business model creation.

Our study builds upon business model research (e.g., Spieth, Schneckenberg, & Ricart 2014; Zott et al. 2011) and the literature on the governance of public-private partnerships (Klein et al. 2013; Rufin & Rivera-Santos 2012; Stadtler 2016). We seek to bridge these two literatures in order to understand how the narratives of value creation and value capture differ within public-private partnerships. As our research is set within the context of smart cities, we also seek to provide insights into the perception of smart technologies as the source of economic, social, and environmental value among private and public sector stakeholders.

# Conceptual Background

## *Business Models: Explaining Value Creation and Value Capture*

A business model is a reflection of a firm's chosen strategy (Casadesus-Masanell & Ricart 2010) which outlines mechanisms through which an organisation creates value for its customers and captures value for itself (Zott et al. 2011). Business models exist to assist managers in explaining, running, and developing their business (Spieth et al. 2014). Explaining the business is crucial for communication with all stakeholders of an organisation, from employees and members of the board of directors, to investors and customers. In running the business, business models serve as a frame of reference for decision-making: all decisions made by managers have to be consistent with the chosen business model. Finally, business models enable organisations to grow the business by highlighting main resources, capabilities, and processes that contribute to value creation and value capture (Johnson et al. 2008).

While business model scholars have produced an extensive body of research on business models of individual for-profit organisations, business models of alliances and partnerships have attracted much less attention. Sabatier, Mangematin and Rousselle (2010) treat alliances purely as a source of resources and capabilities in their exploration of European biopharmaceutical companies. In a similar vein, Ritala, Golnam, and Wegmann (2014) focus on the value of 'coopetition' resulting from the inclusion of competitors into the firm's business model. What we do not know is what happens to the initial business model once organisations have formed an alliance? Does a new business model emerge or do initial business models co-exist as constellation of loosely coupled dominant logics[1]? Partnerships between public and private organisations make a particularly interesting case for the study of this question because the dominant logics of these partners are so different, starting with the different understanding of what desired value outcomes should be (Klein et al 2013; Zhang, Wan, Jia, & Gu 2009). While business model research has started to address the case of hybrid organisations which seek to create different types of value (Santos, Pache, & Birkholz 2015; Wilson & Post 2013), a more complex case of public-private partnerships is yet to be explored from the business modelling perspective.

## *Governance of Public-private Partnerships*

The traditional view of a public-private partnership is a contractual relationship between a public sector organisation and a private sector organisation formed to deliver "public and quasi-public goods and services for the welfare of a third party" (Zhang et al. 2009), where this third party is a society as a whole or a sub-group of population. More recently, this definition was extended to include public-private partnerships for development (which focus on a societal issue as a key objective) and tripartite partnerships which include a target community group as a partner (Stadtler 2016). We argue that this definition can be extended even further to include loosely coupled types of partnerships which we call public-private ecosystems. While traditional business ecosystems are defined as "a network of interconnected organisations, organised around a focal firm or a platform, and incorporating both production and use side participants" (Autio & Thomas 2013: 205), public-private ecosystems are networks of interconnected public and private organisations, organised around a focal project or societal issue, and seeking to deliver economic, social and/or environmental value to a society.

Research on the governance of public-private partnerships, which builds upon the research on governance in corporate alliances, recognises the distinct features of public-private partnerships that do not allow us to apply the findings from the private sector directly to the cross-sector context. In their conceptual paper, Rufin and Rivera-Santos (2012) suggested that public-private partnerships have more complex and less complete contracts, use non-equity financial hostages and metagovernance, rely on formal procedures rather than on trust, and are characterised by a narrower scope relative to firm alliances. Looking at the governance processes in public-private partnerships, Kort and Klijn (2011) found network management activities to be positively related to perceived outcomes of stakeholders. Zhang et al. (2009) focused on antecedents of public-private partnerships and found that shared values and prior ties are positively linked

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[1] The dominant logic of the firm is defined as "the way in which managers conceptualise the business and make critical resource allocation decisions—be it in technologies, product development, distribution, advertising, or in human resource management"(Prahalad & Bettis 1986: 490).

to the success of a partnership. Unfortunately, shared values are difficult to agree on in public-private initiatives, because private organisations traditionally define economic value as their primary objective, while public organisations see social/environmental value as core to their mission.

Literature on the management of hybrid organisations (Batillana & Dorado 2010; Pache & Santos 2013; Santos et al. 2015) provides some insights into strategies that help managers reconcile commercial and social logics of value creation and capture within one organisation. This stream of research highlights the challenges of combining different ways of thinking about value and suggests that some degree of decoupling is beneficial to achieving a required diverse range of outcomes. It is less clear whether these insights can be useful in the governance of public-private partnerships which tend to lack a centralised strategising function and often start without a clear identification of desired outcomes by all partners (Stadtler 2016). Our study makes a first step towards testing the boundaries of the theory of hybrid organisations by looking at the different types of value that the participants of a public-private ecosystem expect their respective organisations to create and capture within this ecosystem.

## *Smart Cities Development: Technology for Sustainability*

Today's Smart City initiatives are the legacy of the effort to support environmental protection and economic competitiveness internationally. Collating the two in the phrase *sustainable development*, the World Commission on Environment and Development (1987) sought to provide an ethical imperative to environmental awareness while maintaining economic growth in European nations. The need for a principled approach emerged from a series of European and global meetings centred around more sustainable energy use and the transition away from fossil fuels. In this context, technology is seen as a tool for effectively managing finite environmental resources for growing urban populations. The last two decades has seen the concept of smart cities becoming more and more integrated into the European development goals (Caragliu, Bo & Nijkamp 2011). Smart cities are found to be particularly fitting because their ultimate aim is to help citizens and city management to move towards a more environmentally conscious behaviour in the face of increasing urbanisation. They also play their role in contributing to global competitiveness in terms of economic development. Cities are increasingly seen as the "drivers of growth in the wider city region" (Williams & Redmond 2006: 3), the engines of economic development, and international showcases, representing the rest of the country. Smart city projects contribute to these overarching agendas by offering improvement in various facets of city-life. These improvements are usually designed to impact cities along six main components: smart mobility, smart environment, smart people, smart living, smart governance, and smart economy (Giffinger, Fertner, Kramar, Kalasek, Pichler-Milanović & Meijers 2007).

A smart city project not only aids the technological instrumentation of the city fabric, but also promotes environmental and social resilience, and democratic participation spearheaded by private-public partnerships. Unsurprisingly, great potential is attributed to these initiatives in having a positive effect on many different aspects of urban living; however, it has proven problematic to effectively capture where the value is created for the different stakeholders in smart cities (Baccarne, Mechant & Schuurman 2014). Smart Cities can be seen as sources of revenue generation for cities through information-technology enabled services, such as public transport cards or smart parking as well as through achieving more resource-efficient ways of city management. Both types of processes in the smart city context are based on data collected by various sensory devices produced by technology companies. Additionally, the city provides a perfect platform for experimentation in a real-life context, an exceptional opportunity for the companies to develop and test new digital solutions. Thus, there is also substantial commercial interest to engage in Smart City projects. Fundamentally, the smart city vision centres around the quality of life of the citizen, spanning financial, social and environmental values. The concept of 'Quality of Life' is closely related to sustainable development and the Quality of Life index is currently calculated from economic measures such as GDP and various subjective indicators of welfare and wellbeing in society (Dieter, Rokicka & Leaman 2014). The complexity of smart city projects therefore emerges from the manifold directions that they can take, but also from the diverse interests on the part of the collaborating private and public partners in the process. It will therefore also be of interest to explore in what forms stakeholders refer to quality of life while looking towards economic, environmental, or social value creation.

# Method

## *Sample*

We interviewed 27 stakeholders that have an interest in the development of Dublin Docklands Strategic Development Zone. As the study was initiated with the support of Dublin City Council, our first respondents were recommended to us by the dedicated Smart Cities team within this government agency. We then used a snowballing approach to extend the sample. Each of our interviews included a question "who would you recommend us to speak to in relation to this project?" This proved to be a fruitful approach, and our final sample includes a diverse set of participants representing both public and private interests (see Table 1 for a summary of our sample). The internal diversity of the sample enabled us to get insights into different perspectives which reflect the complexity of public-private partnerships in general and Smart Cities projects in particular.

| Table 1: Summary of the sample | |
| --- | --- |
| **Stakeholder group** | **Number of interviews** |
| Large corporate entities (*multinational corporations and large-scale utilities*) | 4 |
| Local authorities/government agencies | 4 |
| Local community (*a community centre representative*) | 1 |
| Local businesses (*SMEs in the area and business support organisations*) | 4 |
| Sustainability research and practice (*university research on smart cities, sustainability quangos*) | 4 |
| Urban planners | 4 |
| External advisors (*consultants and quangos*) | 4 |
| Smart technology solutions (*technical network management companies*) | 2 |

**Table 1. Summary of the sample**

## *Data Collection*

We have developed a questionnaire which was used to conduct semi-structured interviews. The questions mainly focused on smart urban development, sustainability, and participants' expectations in relation to the Docklands project. It has become evident when we started the interview process that for many stakeholders the engagement in the project was a new and unchartered territory. Consequently, we gave our subjects an opportunity to talk about their vision of the future for this project and their role in it.

The interviews were mainly conducted face-to-face by one or two researchers, except for one interview conducted by Skype. The interviews took place in a location that was convenient for the participant and typically lasted about 60 minutes. All interviews were recorded and transcribed verbatim except for the Skype interview where the interviewee did not agree to a transcribed interview and instead manual notes were taken by the interviewer. The transcripts were sent back to interviewees who were given an opportunity to revise them if desired.

The interview data was complemented by secondary data which included documents shared with us by interviewees, such as development plans for the area, and materials from other research centres on Smart Cities (e.g., Fraunhofer Institute). This secondary data helped us to prepare for interviews and allowed us to put the insights from our qualitative enquiry (which inevitably relies upon subjective interpretations of individual agents) into a broader context of objective actions happening within Smart Cities projects.

### *Data Analysis*

The transcripts were separately read by three researchers before initial insights were discussed by the entire research team. We focused on the themes of value creation and value capture, which are fundamental for understanding the creation of business models in the context of public-private partnerships. Subsequent data coding was done using MaxQDA 11 software. Our codes were broadly based on the literature reviewed above. *Value created (potentially)* was captured by asking "what does your organisation do (or can do) in the context of Docklands project?" We then focused on distinguishing between *economic value*, *social value*, and *environmental value*. *Value captured* was split into three sub-codes, following evaluation frameworks reviewed by Stadtler (2016). To identify the interviewees' vision of *first-order effects* (immediate results of collaboration) we asked them "what would be a successful outcome of this project for your organisation?" To identify the *second-order* and *third-order effects* (mid-and long-term outcomes of collaboration within an ecosystem) we asked our interviewees to imagine how Docklands would look in 2020 and 2050 if all initiatives of the project are implemented as planned. We have not yet progressed to more sophisticated analysis of data, so the insights presented in this paper are based on our first crude understanding of the main themes in the interview data. In further analysis, we plan to delve deeper into each first-level code in order to identify more fine-grained differences between groups of stakeholders and within each stakeholder group.

## Results

### *Perception of Value Creation among Public and Private Stakeholders*

Table 2 below shows how the participants of Docklands public-private ecosystem perceive the value that their organisations can create within this project.

| Table 2: Value creation | | | |
|---|---|---|---|
| **Stakeholder group** | Economic | Social | Environmental |
| **Large corporate entities** | | | |
| Interview 1 | ✓ | ✓ | |
| Interview 2 | ✓ | | ✓ |
| Interview 3 | ✓ | ✓ | |
| Interview 4 | ✓ | ✓ | ✓ |
| **Local authorities / government agencies** | | | |
| Interview 1 | ✓ | ✓ | ✓ |
| Interview 2 | ✓ | ✓ | ✓ |
| Interview 3 | | ✓ | ✓ |
| Interview 4 | ✓ | | |
| **Local community** | | | |
| Interview 1 | | ✓ | |
| **Local businesses** | | | |
| Interview 1 | ✓ | ✓ | |
| Interview 2 | ✓ | ✓ | ✓ |
| Interview 3 | ✓ | | ✓ |
| Interview 4 | ✓ | ✓ | |
| **Sustainability research and practice** | | | |
| Interview 1 | | ✓ | ✓ |
| Interview 2 | ✓ | | ✓ |
| Interview 3 | | | ✓ |
| Interview 4 | | ✓ | |
| **Urban planners** | | | |
| Interview 1 | | ✓ | ✓ |
| Interview 2 | ✓ | ✓ | ✓ |
| Interview 3 | ✓ | ✓ | ✓ |
| Interview 4 | ✓ | ✓ | ✓ |
| **External advisors** | | | |
| Interview 1 | ✓ | | |
| Interview 2 | ✓ | ✓ | |
| Interview 3 | ✓ | ✓ | |
| Interview 4 | ✓ | | ✓ |
| **Smart technology solutions** | | | |
| Interview 1 | ✓ | ✓ | |
| Interview 2 | ✓ | | |

**Table 2. Perception of value creation**

Although coming from a relative small sample size, we see that most stakeholders view their potential contribution to the Docklands ecosystem as happening along several value dimensions. Economic value is mentioned most often (78% of interviews), followed by social value (70% of interviews), and by environmental value (56% of interviews).

### *Perception of Value Capture among Public and Private Stakeholders*

All stakeholder groups expect that the Docklands ecosystem will create economic, social, and environmental value in the short-, medium-, and long-term perspectives. Economic value capture is prominent in the short-term expectations of stakeholders (52% of responses) and becomes slightly less so in the long-term (41% of second-order effects, 47% of third-order effects). Social value is expected to emerge in medium-term perspective (44% of responses, relative to 28% in short term and 16% in long-term). Environmental value is mostly discussed in relation to the long-term outcomes (37% of responses, relative to 21% in the short term and 15% in medium term). Analysis of value expectations by the stakeholder group delivers predictable results: *local businesses*, *large corporate entities*, *external advisors* and the members of *smart technology solutions* group prioritise economic value capture; *local authorities*, *local community* and

*urban planners* prioritise social value; and members of *sustainability research and practice* group prioritise environmental value.

## Discussion

"Smart cities will only happen through partnerships and collaboration, and the right partnerships and collaboration…. the local authorities [are there] not to make all of those happen but to enable, enable through the functions that they have" (Interview 2, sustainability research & practice stakeholder group).

Bringing together public and private organisations to formulate a working business model for a smart city district is a challenging task. The literature suggests that the objectives of public and private organisations are so divergent that it is difficult to discuss value creation and value capture (Klein et al 2013). The early results of our study challenge this dualistic view of the public-private partnerships. We see that, while not all stakeholders focus on economic, social, and environmental value at the same time, there is no clear divide between the private and the public sector. The degree of coupling between different types of value varies. Some of our interviewees work for hybrid organisations, where it is impossible to draw the line between commitment to delivering economic value and commitment to delivering environmental or social value. Others recognise the importance of one type of value over another, but still strive to deliver on more than one value dimension. We also found evidence of self-selection into this public-private ecosystem, because the private companies at the forefront of smart technologies are often engaged in R&D activities that have potential implications for sustainability and for the social life of communities.

While the smart technologies discussed were broadly similar across the public-private spectrum, public sector interviewees referred more broadly to a range of infrastructure needs in keeping with their responsibilities. This included hard infrastructure such as bridges and transport provision, including electric vehicles and cycling, whereas private sector interviewees focussed more on wired and wireless networking infrastructure and the test-bedding of sensors and software systems. Large corporations had the capacity to invest in sensing networks with potential environmental benefits such as flooding and air pollution sensors. In contrast, start-ups were associated more with software-only products such as various resource-sharing apps rather than products focussed on social and environmental value. It was considered that while "there may be a social dividend, there's not a big financial payback from something like that, unless they've invented some fantastic, you know, energy technology that no one has thought of that is going to produce energy out of nothing" (Interview 3, local businesses group). Other interviewees (e.g. Interview 4, external advisor group) regarded the docklands as a significant opportunity for boosting locally-based cleantech companies developing products with both high environmental and economic value.

Our respondents acknowledge the importance of network management, which is consistent with the findings of Kort and Klijn's study (2011). The interviews also repeatedly emphasised the need for coordination and strategic planning which integrates all types of value into one shared business model canvas for Docklands. This speaks for the potential to reduce a degree of decoupling which currently exists between the individual business models of participants.

There are two potential grand visions for the business model of Docklands. We named them "Silicon Docks" (the actual name used by multiple interviewees) and "Docklands Revitalised" (again, following the narrative in several interviews). The Silicon Docks model seeks to replicate the success of Silicon Valley by creating a vibrant space for high-tech companies, supporting entrepreneurial culture, and attracting investors and visitors alike to this European hub of technology and business. This model places economic value first, and intends to create other types of value as a positive side effect of the economic success of the project. The Docklands Revitalised model seeks to build upon unique heritage of Docklands area and closely follow the needs of local communities in the development of smart and sustainable urban infrastructure. This second model prioritises social value, but acknowledges that other types of value have to be created in order to make this business model viable.

Quality of life emerges as a topic, in some cases prompted in relation to place-making, in ten of the interviews and particularly among those with either a specific responsibility for the area's development or otherwise resident or working in the area. Among these, only one represented a multinational corporation

and referred more to the quality of life of tech sector employees living in the docklands. The overlap between quality of life and the two narratives may be further explored to indicate why this is the case, as well as exploring which of these models delivers the most efficient use of core assets and has the best alignment with the expectations of stakeholders in relation to value creation.

## Acknowledgements

## References

Afuah, A. 2014. *Business Model Innovation: Concepts, Analysis, and Cases*. Routledge.

Autio, E., and Thomas, L. D. W. 2013. "Innovation Ecosystems: Implication for Innovation Management", in *The Oxford handbook of innovation management*, M. Dodgson, D. M. Gann, and N. Phillips (eds.), Oxford: OUP, pp. 204-228.

Baccarne, B., Mechant, P. and Schuurman, P. 2014. "Empowered Cities? An Analysis of the Structure and Generated Value of the Smart City Ghent", in *Smart City - How to Create Public and Economic Value with High Technology in Urban Space*, R. P. Dameri and C. Rosenthal-Sabroux (eds.), Springer International Publishing, pp. 157-182.

Battilana, J. and Dorado, S. 2010. "Building Sustainable Hybrid Organisations:The Case of Commercial Microfinance Organisations", *Academy of Management Journal* (53:6), December, pp. 1419-1440.

Caragliu, A., Bo C. D., and Nijkamp, P. 2011. "Smart Cities in Europe", *Journal of Urban Technology* (18:2), August, pp. 65–82.

Casadesus-Masanell, R., and Ricart, J. E. 2010. "From Strategy to Business Models and onto Tactics", *Long Range Planning* (43:2-3), April-June, pp. 195-215.

Dieter, E., Rokicka, E. and Leaman. J. 2014. *Welfare State at Risk -Rising Inequality in Europe*. Springer International Publishing.

Giffinger, R., Fertner, C., Kramar, H., Kalasek, R., Pichler-Milanović, N., & Meijers, E. 2007. *Smart Cities: Ranking of European Medium-sized Cities*. Centre of Regional Science (SRF), Vienna University of Technology, Vienna, Austria. http://www.smart-cities.eu/download/smart_cities_final_report.pdf

Johnson, M. W., Christensen, C. M., and Kagermann, H., 2008. " Reinventing Your Business Model", Harvard Business Review (86:12), December, pp. 57-68.

Klein, P. G., Mahoney, J. T., McGahan, A. M., and Pitelis, C. N. 2013. "Capabilities and Strategic Entrepreneuship in Public Organisations", Strategic Entrepreneurship Journal (7:1), March, pp. 70-91.

Kort, M., and Klijn, E. H., 2011. "Public–private Partnerships in Urban Regeneration Projects: Organizational Form or Managerial Capacity?" *Public Administration Review* (71:4), July-August, pp. 618-626.

Magretta, J. 2002. "Why business models matter" Harvard Business Review (80:5), May, pp. 86-92.

Moore, N. 2008. *Dublin Docklands Reinvented: The Post-Industrial Regeneration of a European City Quarter*.Four Courts Pr Ltd.

Pache, A. C., and Santos, F. 2013. "Inside the Hybrid Organisation: Selective Coupling as a Response to Competing Institutional Logics", Academy of Management Journal (56:4), August, pp. 972-1001.

Prahalad, C. K., and Bettis, R. A. 1986. "The Dominant Logic: A New Linkage Between Diversity and Performance", *Strategic Management Journal* (7:6), November-December, pp. 485-501.

Ritala, P., Golnam, A., and Wegmann, A. 2014. "Coopetition-based Business Models: The Case of Amazon.com", *Industrial Marketing Management* (43:2), February, pp. 236-249.

Rufín, C., and Rivera-Santos, M. 2012. "Between Commonwealth and Competition: Understanding the Governance of Public-Private Partnerships", *Journal of Management* (38:5), September, pp 1634-1654.

Sabatier, V., Mangematin, V., and Rousselle, T. 2010. "From Recipe to Dinner: Business Model Portfolios in the European Biopharmaceutical Industry", *Long Range Planning (43:*2-3), April-June, pp. 431-447.

Santos, F., Pache, A. C., and Birkholz, C. 2015. "Making Hybrids Work", *California Management Review* (57:3), Spring, pp. 36-58.

Spieth, P., Schneckenberg, D., and Ricart, J. E. 2014. "Business Model Innovation—State of the Art and Future Challenges for the Field", *R&D Management* (44:3), June, pp. 237-247.

Stadtler, L. 2016. "Scrutinizing Public-Private Partnerships for Development: Towards a Broad Evaluation Conception", *Journal of Business Ethics* (135:1), April, pp. 71-86.

Williams, B. and Redmond, D. 2006. *Ideopolis: Knowledge City Region: Dublin Case Study*. Work Foundation.

Wilson, F., and Post, J. E. 2013. "Business Models for People, Planet (& Profits): Exploring the Phenomena of Social Business, a Market-based Approach to Social Value Creation", *Small Business Economics* (40:3), April, pp.715-737.

World Commission on Environment and Development. 1987. *Our Common Future*. Oxford: Oxford University Press.

Zhang, Z., Wan, D., Jia, M., and Gu, L. 2009. "Prior Ties, Shared Values and Cooperation in Public—private Partnerships", *Management and Organization Review* (5:3), November, pp. 353-374.

Zott,C., Amit, R., and Massa, L. 2011. "The Business Model: Recent Developments and Future Research", *Journal of Management* (37:4), July, pp. 1019-1042.