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## The promise of coworking environments: a content analysis of the positioning of collaborative workspaces in Amsterdam

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Victor Cabral\* and Willem van Winden

Centre for Applied Research on Economics and Management,  
Amsterdam University of Applied Sciences,  
Wibautstraat 3B, 1091 GH Amsterdam, The Netherlands

Email: v.cabral@hva.nl

Email: w.van.winden@hva.nl

\*Corresponding author

**Abstract:** The emergence of collaborative workspaces is a remarkable feature of contemporary cities. These spaces have appeared rapidly, catering for the locational needs of self-employed workers, start-ups and small-size companies. The objective of this paper is to provide an analysis of four categories of collaborative workspaces (accelerators, incubators, coworking spaces and FabLabs). For the case of Amsterdam, we conducted a website content analysis to assess how these spaces position and present themselves towards potential users. The empirical evidence shows that these spaces promise a variety of benefits, ranging from business development to access to social networks. This diversity illustrates the emergence of distinct work settings in an economic environment characterised by the need to work in a social environment that at the same time stimulates networking and collaboration.

**Keywords:** collaborative workspaces; positioning; collaboration; business benefits; accelerators; incubators; coworking spaces; FabLabs.

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**Biographical notes:** Victor Cabral has a specialisation in marketing and management and teaches at the Amsterdam School of International Business of the Amsterdam University of Applied Sciences (AUAS). He obtained his executive MSc in Business Studies at the Amsterdam Business School, University of Amsterdam. In 2015, he joined the centre for applied research on economics and management of the AUAS, where he is doing research on social networks and innovation within collaborative workspaces.

Willem van Winden is an urban economist specialised in urban innovation and policy. He obtained his PhD at the Tinbergen Institute, Erasmus University Rotterdam. Since 2008, he works as a Professor of Urban Knowledge Economy and Strategy at the Amsterdam University of Applied Sciences. Moreover, he works as an Advisor for several cities and organisations, including Urbact (Europe's largest exchange and learning program promoting sustainable urban development), EUniverCities (a network of European cities and universities), the International Architecture Biennale 2016, Rotterdam, HafenCity, Hamburg, Amsterdam Smart City, Amsterdam, and Creating Urban Tech, Berlin.

## 1 Introduction

In the last decade, there has been an increase in the number of workers with work place flexibility (e.g., Grzywacz et al., 2007; Putnam et al., 2014). Workplace flexibility can be seen as the opportunity to adjust where, when and how to work (Hill et al., 2008; Lai et al., 2009). This rise can be explained by on the one hand the increasingly flexible approach from firms as to where staff can perform their jobs (e.g., Useem and Harrington, 2000) and on the other hand the rapid growth in the number of entrepreneurs, freelancers, and start-ups (OECD, 2016; Startuphub, 2017). Many are ‘digital workers’, freed from restraints of office or factory-based employment (Terranova, 2000). Implicitly, they have the choice to work from a variety of places such as from home, traditional offices, or other public spaces that can host individuals beyond the realms of home and work (a.k.a. ‘3rd places’ Oldenburg, 1999). Typically, they want to be in social environments where communication with other like-minded individuals is possible, and at the same time can serve as a breeding place that stimulates collaboration and innovation (e.g., Chesbrough, 2006; Botsman and Rogers, 2011). To service this growing group of workers, there has been a rise of collaborative workspaces that provide work places within a social environment (Spinuzzi, 2012; Gandini, 2015). Spaces such as accelerators, incubators, coworking spaces, and FabLabs have appeared at a rapid pace, catering for free-lancers, self-employed workers, start-ups, and small-size companies (e.g., Capdevila, 2013; Waters-Lynch et al., 2016).

To attract independent entrepreneurs and small companies, collaborative workspaces try to differentiate by promising different benefits to their potential users. These benefits vary from social environments, to environments for networking, to places for knowledge sharing and learning. In delivering such benefits, collaborative workspaces can differentiate by means of the design of the interior of spaces and by applying managerial mechanisms, such as organising events and managing access to different communities (e.g., Parrino, 2015; Fuzi, 2016).

Yet, for many workers it is unclear which spaces to select because it is not clear which benefits such spaces bring and how they are delivered. In order to have a clear understanding of how collaborative spaces present themselves to their users and which benefits they promise, an insight in collaborative workspaces seems warranted.

This paper identifies different profiles of collaborative workspaces and tries to understand how they differ in presenting their benefits to their users in terms of space, organisational setup, and community aspects. The research is done in Amsterdam, which is a city that shows a concentration of such spatial configurations. We investigate the following two research questions:

- 1 Which benefits are promised by different categories of collaborative workspaces?
- 2 How do collaborative workspaces claim to deliver these benefits?

First, we review relevant literature on the rise and range of collaborative workspaces (Section 2). Next, we explain our methodological approach (Section 3). Our results are presented in Section 4 and Section 5 concludes. Finally, the limitations are discussed in Section 6.

## 2 Literature

In this section, based on a literature review, we discuss the emergence of various types of collaborative workspaces. Also, we review studies that help to understand how the spatial, managerial and community aspects of collaborative workspaces might have an impact on collaboration and business success.

### *2.1 Explaining the rise of collaborative workspaces*

One of the drivers for the emergence of collaborative workspaces is the shift towards flexible work approaches by firms in modern knowledge economies. Emblematic for these flexible practices is how companies look at the location where work can be performed. Advancements in mobile technology make it possible to have workers perform work activities in other places besides the conventional offices (Brown and Green 2012). The traditional office, where people sit at fixed desks, working from 8:00 to 17:00, is rapidly being transformed into mobile workplaces. People do not necessarily need traditional offices to connect with colleagues and to be productive. This can be done through the use of mobile technology, and face-to-face time can be created only for specific activities. Mitchell (2010) calls this ‘post-sedentary spaces’: environments that are available via networks of information technology. Due to mobility and technological connectivity, the office is no longer a fixed place.

Arthur (1994) conceptualised this phenomenon as ‘boundaryless work’. With boundaryless work, jobs are designed in such a way that workers sustain extra-organisational networks or activities and traditional firm boundaries are broken. Terranova (2000) coined the term ‘digital workers’, freed from the constraints of the traditional office or factory-based work thanks to new mobile technologies. In advanced economies, there has been a rise in the number of such workers. A study by Intuit (2016) has stated that 40% of the US workforce will be freelancers or self-employed workers by 2020. In Europe, 16.1% of the total workforce was self-employed (OECD, 2016). At the same time, Europe is showing a rapid rise with regards to start-ups. Startuphub (2017), a website that provides an analysis of the start-up ecosystem across Europe, reports over 800,000 start-ups in Europe alone. These start-ups raised 16 billion Euros in 2017, which is twice as much as what was raised in 2015 (Atomico, 2017). For many of these start-ups, workplace flexibility and a better work-life balance is an often cited advantage to launch such a venture (DeFelice, 2017).

An implication of work location flexibility is that workers can perform their work in a broad variety of places. They can work at home, in libraries, cafés, and collaborative work offices. Felstead et al. (2003) provide evidence suggesting that self-employed workers increasingly carry out work in a variety of different places that go beyond home-based environments but also on the move. Helbrecht (2011) discusses formal and informal work environments and describe the functions of neighbourhoods in the knowledge economies. Cafés, restaurants, and social centres are used to coordinate, arrange and moderate projects and contacts. Additionally, there is supporting evidence that in project-based production, teams come together in new social settings in order to generate knowledge and ideas (Maskell et al., 2006). Rallet and Torre (2009) discuss three types of places for such temporary geographical encounters. They call places such as trade shows, conferences or exhibitions ‘transitory places’; they also introduce places

specifically dedicated to facilitating interactions, such as ‘platform teams’ or ‘project teams’, and thirdly they discuss more common places, such as coffee houses, where workers can travel to in order to meet, or used by individuals who need to travel to locations away from their usual workplace. These developments indicate that for such workers, executing work activities is not limited anymore to either home or office contexts and as a result new inspirational work environments are sought. Collaborative workspaces emerge as a potential response to these trends and provide work environments for such workers.

## *2.2 A range of collaborative workspaces*

In parallel with trends in boundaryless work, and the rising number of mobile workers, there has been a rise of new workspaces that facilitate productive activity alongside social interactions. Schmidt et al. (2014) introduce ‘innovation and creativity labs’, spaces which temporally unite specialised competencies in a single place. They are “...configurations that enable organizations to be open to external creative influences, as well as generating and promoting knowledge and innovations...” [Schmidt et al., (2014), p.236]. Capdevila (2013) applies the term ‘localised spaces of collaborative innovation’. These are spaces of innovation communities that are localised but do not belong to an organisation. One of the main characteristics of such spaces is that they share information and tools among the members and they encourage the free sharing of knowledge [Capdevila, (2013), p.3]. Oksanen and Ståhle (2013) introduce the term ‘innovation spaces’. These are spaces that “...enable interaction, nurture social capital, accelerate start-ups, generate artistic activities, and support the flow of ideas...” [Oksanen and Ståhle, (2013), p.815]. They denote that such space with shared areas, support people’s motivation, ability, and opportunity to share knowledge and experiences.

Studies on innovation spaces have introduced different configurations of collaborative spaces. Terms and descriptions occurring refer to accelerators, incubators, coworking spaces, and FabLabs. Accelerators offer programs helping start-ups to fine-tune their businesses and prepare for upscaling through mentoring, access to shared workspaces, networks of specialists, and capital (Cohen, 2013). Estimates of the number of accelerators range from 300+ to over 2,000, spanning six continents. Incubators, as a separate category, differ from accelerators in the sense that mentorship services and potential networks are not part of a start-up program but are available and can be asked for upon the need of the workers. Generally, incubators are described as organisations that constitute or create a supportive environment which is conducive to the development of new firms (Grimaldi and Grandi, 2005; Chan and Lau, 2005). Workers in incubators can receive an integrated package of services such as shared workspace, coaching, networking, and access to capital (DIA, 2018). Coworking spaces, as a third category, are shared workspaces where independent entrepreneurs or small companies work in shared open-plan office environments (Spinuzzi 2012). Unlike accelerators and incubators, coworking spaces do not offer any forms of formal mentoring. Yet, similarly to both types, coworking spaces offer both offices facilities as well as extra services such as access to on and offline communities, workshops, and networking events. FabLabs (fabrication laboratories but sometimes also named as makerspace, hackspace) are small-scale open workspaces offering (personal) fabrication (Menichinelli, 2011). A FabLab is normally equipped with an array of flexible fabrication tools (such as 3D printers) that cover several materials, with the aim to make ‘almost anything’.

Waters-Lynch et al. (2016) organised the development of such spaces in a dimension of ‘work-learn-play third spaces’. In an overview in which the development of collaborative spaces is shown over time, the first types of spaces were incubators in the end of the 1950s. These were categorised as learning third spaces. During the 1990s, hackerspaces and FabLabs arose as play third spaces, and in the 2000s coworking spaces and accelerators originated as learning and work third spaces.

These studies describe the recent development of innovative spaces aiming to service users who want to work in social environments, and, as such, it generates an initial framework of analysis into how they claim to promise a variety of benefits to the users.

### *2.3 Collaborative workspaces: the need for clear differentiation*

Collaborative workspaces are businesses themselves, and like any business they need to differentiate and communicate their points of difference with its competitors, so that potential clients can understand the claimed differences and have a clear idea what benefits they get from spaces (Armstrong and Kotler, 2005). Clearly positioning a firm or brand is the key strategic framework for an organisation’s communications (Jewell, 2007). Armstrong and Kotler (2005) describe this process of positioning as “...the act of designing the company’s offering and image so that they occupy a meaningful and distinctive competitive position in the target customers’ minds”. Spaces may emphasise the distinguishing features of their brand and they may try to create a suitable image (Maggard, 1976). This is particularly important in markets that are competitive and where entry barriers for new spaces are low and when workers can easily shift to alternative locations (Porter, 1979).

Various positioning strategies can be discerned (Fill and Turnbull, 2016). Bhat and Reddy (1998) make a distinction between functional and expressive positioning. Functionally positioned brands emphasise the product attributes and benefits, while expressive brands emphasise the social benefits that a brand can bring. In the context of collaborative workspaces the functional promise embraces shared office spaces in social environments with all the required amenities where one can work and develop their business. Other attributes may be start-up programs, networking events and social activities. The expressive approach considers the spaces as places to network where new relations can be established, friends can be made, or where new business deals can be completed. Such strategies are not comprehensive nor discrete (Fill and Turnbull, 2016).

Collaborative workspaces have an array of possibilities to differentiate themselves from competing spaces (e.g., Waters-Lynch et al., 2016). Our focus is on two types of differentiators: differentiation by means of spatial design and differentiation through managerial mechanisms, such as facilitative tools and the community setup. With regards to the spatial point of view, there is a vast body of literature that highlights the role of space as an influencer of collaboration and social networking. Sailer and Penn (2007) showed that the spatial configuration of an office shaped the formation and structure of intra-organisational networks, since different office layouts corresponded with distinct network structures. Research on network structures within an academic department was shown to be driven by distances separating agents, as well as office locations of agents (Wineman et al., 2009). Heerwagen et al. (2004) state that spaces that offer accessibility, visibility and short walking distances, entice networking behaviour. Other researchers have studied how spatial design influences interactive human behaviour. Oksanen and

Stähle (2013) denote that spaces with shared physical spaces, such as having shared working rooms, support people's motivation, ability, and opportunity to share knowledge and experiences. Williams (2013) introduced the 'engage/disengage' model. 'Engage' relates to engaging with people, information and ideas by actively looking for them as well as by having serendipitous situations. Physical environments that enhance engagement are communal areas, lounge corners, canteens, coffee corners. 'Disengage' relates to distancing from others in order to stimulate thinking and focus through silent and private solo-work. Spaces for disengagement are private booths with small single-user tables in corridors, or quiet relax areas. Jenkins (2008) describes such contexts as a human-ecosystem. Basically, the physical space should be designed with social, cultural, and behavioural elements of human interaction in mind. The environment that is offered to those working within it, then constitutes the key factor of how comfortable they will feel to establish interactions with others (Stilgoe, 2005). As such, collaborative workspaces can manage space to stimulate social networking amongst users and through those means differentiate from other spaces.

Managerial mechanisms are also applied to differentiate from other spaces. These mechanisms play a role in stimulating interaction, tie formation, and collaboration. Research by several scholars has outlined a number of such mechanisms, such as facilitative tools and community management. Facilitative tools are mechanisms which can 'push' interaction, networking and collaboration among members (Capdevila, 2013; Parrino, 2015). Some studies focus on, e.g., the bridging role of facilitators (or moderators, hosts, brokers) (Garrett et al., 2014; Cabral and van Winden, 2016). Facilitators can play a role in coordinating and connecting members to each other in order to generate new products or services. Others have focused on tools such as networking events, services, and support (Muhrbeck et al., 2011; Fabbri and Charue-Duboc, 2014; Parrino, 2015). Such tools stimulate users to interact, share knowledge, and learn from each other. Other mechanisms influencing social interaction is the community management of spaces. To stimulate networking and social interaction, studies on network management suggest that the management of users in organisations, influences interaction practices which in turn can enable business performance and contribution to cross-fertilisation (Boschma, 2005; Tata and Prasad, 2008; Bergh et al., 2011; Cohendet et al., 2014). Management of the community is often manipulated by having selection procedures, selective admission processes, or having an industry focus (Moriset, 2013, Fuzi, 2016). Since many organisations want to help in achieving successful communication and learning amongst actors, the management of users is used to assure that the cognitive bases of actors are close to each other (Boschma and Lambooy, 1999). People with similar knowledge or expertise may learn from each other in an efficient way and at the same time they can extend their cognitive scopes (Nooteboom 2000). Careful selection of users facilitates community-building and the sense of belonging, which in turn is critical in stimulating trust and business development (Gundolf and Jaouen, 2005; Tata and Prasad, 2008; Bergh et al., 2011).

To sum up, there are a rising number of workers and start-ups with workplace flexibility, seeking social environments that stimulate social networking and collaboration. At the same time, different forms of collaborative workspaces have emerged that aim to service such users. As any other business, collaborative workspaces benefit from clear positioning towards those potential users, by presenting organisational platforms, facilitative tools and community setups. In our next section, we explain our

methods to create insight in how different forms of collaborative workspaces differentiate themselves.

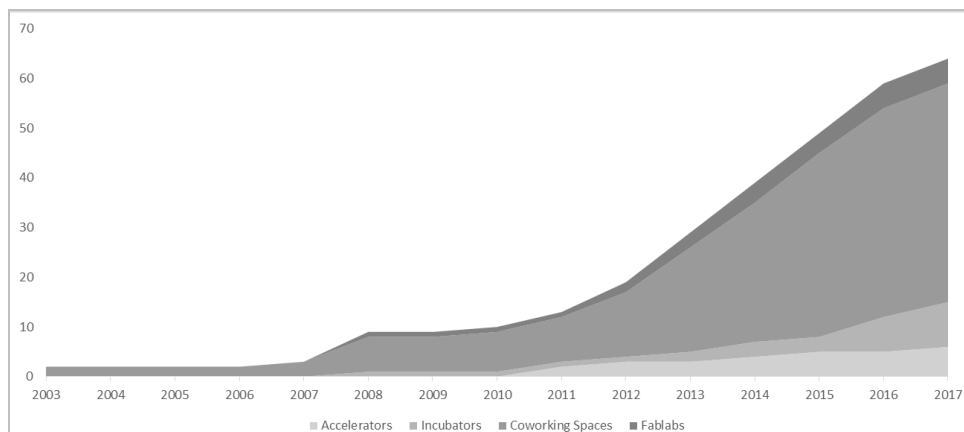
### 3 Methods

The aim of this paper is to analyse which benefits different types of collaborative workspaces promise to users, and how they claim to deliver them. This research was carried out in the city of Amsterdam. Before elaborating on the operationalisation, we explain the city selection.

#### 3.1 City selection

The knowledge-intensive and innovation-driven economy makes Amsterdam an attractive city for young talent, entrepreneurs, start-ups, hobbyists, and freelancers (Smeeke, 2011). These workers are often flexible in where to perform their work and in order to develop their business, generate knowledge and novel ideas, social interaction and collaboration is sought in modern and innovative spatio-temporal environments. This group of workers has grown rapidly in Amsterdam. Damen (2016) reports that Amsterdam hosts between 100,000 and 150,000 micro-organisations (entrepreneurs, self-employed workers, start-ups) and this number is increasing rapidly. Another trend is that firms in the Netherlands strongly promote distance and remote working. TNO, a Dutch organisation for applied research, expects that by 2020, around 30% of the Dutch firms provide location and time flexibility to their employees (TNO, 2014). These trends indicate that in Amsterdam more and more work practices are performed outside organisations and many of these workers work in collaborative workspaces. To this end, Amsterdam was chosen as a case study area for the identification and presentation analysis of collaboration-enhancing workspaces (see Figure 1 for the yearly increase of collaborative workspaces in Amsterdam).

**Figure 1** Yearly increase of collaborative workspaces in Amsterdam



### 3.2 Operationalisation

In the first part of this research, we identify different types of collaborative workspaces. Next, we clarify how they differ in the benefits they promise towards the potential users. To identify collaborative workspaces *online desk research* was the main source; to examine how the spaces differ in promising added value, *content analysis* of online websites was conducted.

#### 3.2.1 Identifying spaces

Following the literature review, we define collaborative workspaces as open-plan environments that provide workspaces to start-ups, independent entrepreneurs, self-employed workers, and small-size companies with physical characteristics that enable unaffiliated users to interact with each other. These range from having shared working rooms and shared meeting spaces (coffee places, cafeterias, lounges) to having shared technical and physical infrastructure (e.g., equipment, machines). To facilitate interaction between users, collaborative workspaces may apply various organisational tools. These range from mentorship programs to workshops to having social events. Besides this, collaborative workspaces also aim to manage the community to increase the chances of interaction. In some occasions through stringent selection procedures, in other occasions by having an admission process. To reduce the scope of spaces, the following types of spaces were excluded: basic multi-tenant buildings, spaces pertaining to multinationals, large companies, or universities, and spaces such as pubs, coffee houses, and libraries.

To identify collaborative workspaces that fit the description, *online desk research* was the main source, and the online search terms used were ‘collaborative workspaces Amsterdam’, ‘collaborative innovation spaces Amsterdam’, ‘coworking spaces Amsterdam’, ‘shared workspaces Amsterdam’, ‘joint workspaces Amsterdam’. This led us to sites such as coworker.com, launchdesk.nl, foursquare.com, sharedesk.net which provided further directions to websites of different spaces. The primary analysis of these websites was performed by understanding website sections such as ‘Who are we?’, ‘What do we do?’, ‘About us’, etc. The analysed material allowed for a classification of the spaces according to their business model. The refinement and classification of spaces was based on the available definitions of groups of spaces which followed from the literature review and that allowed us to apply the operational description of collaborative workspaces. This resulted in a list of 64 spaces which were placed under four existing categories of collaborative workspaces: accelerators, incubators, coworking spaces, and FabLabs (in this paper the term FabLab is chosen to encompass various spaces where people come together to fix things, and make new things in a social environment. This category also includes spaces that call themselves makerspaces or hackerspaces). The description of the four categories, theoretical reference, and characteristics of the categories of spaces are displayed in Table 1.

#### 3.2.2 Analysis of spaces by performing website content analysis

In step 2, we assessed what value these spaces promise to their potential users and how they claim to do this. This was done by analysing primary source data and performing website content analysis of the different spaces. All the websites of the population of



accelerators, incubators, and FabLabs, were analysed. The category of coworking spaces had the largest population in Amsterdam (44). A selection of ten websites was chosen which include representative multinational coworking spaces such as WeWork and Spaces. Further inclusion of sites seemed to garner repetitions of meanings that were already encountered. See Table 2 for the sample selection. After this, texts, pictures and videos were extracted from the websites and Atlas.ti software was used for the analysis.

**Table 1** Characteristics of collaborative work spaces

Category	Operational description and reference	Characteristics
Accelerators	Accelerators offer programs that help start-ups to fine-tune their businesses and prepare for upscaling through mentoring, access to shared workspaces, networks of specialists and capital (Cohen, 2013)	Shared working environment Acceleration program including mentorship, and access to human and financial resources
Incubators	Incubators assist emerging businesses by providing a variety of services such as access to specialised professionals, flexible space, shared equipment, and administrative services (Grimaldi and Grandi, 2005)	Shared working environment Access to specialised mentors and industry specialists
Coworking spaces	Open-plan office environments where workers work next to other unaffiliated professionals for a fee (Spinuzzi, 2012)	Shared working environment Organisational platform (e.g., events, on and offline communities, workshops)
FabLabs	FabLabs (fabrication laboratories) are small-scale work spaces offering (personal or shared) fabrication (Menichinelli, 2011)	Shared working environment Shared fabrication facilities

Next, to generate insight into each of the four categories of collaborative workspaces, the extracted text was coded. We defined variables related to *which* business benefits are claimed to be delivered, and *how* such benefits are delivered. This was done per category of collaborative workspace. Assigning codes to the extracted text and to code families was a process which was performed through cross-checks with fellow researchers. Table 3 displays an overview of the variables, the codes which were developed within each variable and theoretical reference.

- *Business benefits*: For this study the variables *collaboration* and *generic* business development were chosen as business benefits. These are alleged benefits for the users of collaborative workspaces which followed from previous studies (Capdevila, 2013; Oksanen and Ståhle, 2013; Schmidt et al., 2014; Waters-Lynch et al., 2016).

An example of a quotation related to the variable ‘collaboration’ is “...on the campus you will encounter scientists, artists, philosophers, designers, engineers and entrepreneurs all working together...” This quotation received the code ‘work together’ and was placed under this variable. An example of a quotation related to ‘generic business development’ is “...we do not only support you in scaling your business. We are also focused on personal and team development.” This quotation was coded with ‘scaling’, ‘personal development’ and was placed under this variable.

- How are the benefits delivered?: For this study the variables *physical characteristics*, *facilitative tools*, and *community management* were chosen as mechanisms to deliver benefits.
  - 1 *Physical characteristics*: This variable relates to spatial arrangements that encourage and enable collaboration between different actors, i.e., a physical environment aimed at creating and facilitating an internal community (e.g., open-plan office environments, shared rooms, shared equipment). An example of a quotation that was placed under this variable is "...This space has been designed for interaction and serendipity but also calmness and reflection together with impact makers like yourself..." This quotation received the code 'design for interaction'.
  - 2 *Facilitative tools*: This variable relates to whether spaces have strategic mechanisms to facilitate the users in their business development or in facilitating relational encounters. Examples are: having community hosts, providing workshops; providing educational programs; and providing feedback and support; giving access to financial capital and human resources. An example of a quotation that was placed under this variable is "...a full calendar of business events, speakers and networking lunches..." This received the codes 'events', and 'lunches' and was placed under this variable.
  - 3 *Community management*: This variable relates to whether spaces manage in and external communities/networks as a way to promote knowledge-exchange and collaborations. Examples of how internal communities can be managed are f.i. by having an industry or business focus; having admission procedures and other entry policies to select users. External communities/networks can be managed by facilitating access to partners, suppliers, corporate institutes, alumni, etc. An example of a quotation is: "From Amsterdam to Johannesburg, Singapore to San Francisco, we have evolved into a rapidly expanding, diverse global network of over 15,000+ members in 80+ locations." This was coded with 'international network' and was placed under this variable.

Next, to determine which *benefits* different categories of spaces promise to deliver, the number of quotations pertaining to each business benefit was summed up. Afterwards, the ratio between collaboration and generic business development was calculated per space category. The next step was to highlight which business benefits were mentioned the most. Codes that were linked to more than ten quotations within the sample were determined as significant. These first steps enabled us to deduce which benefits are promised by each of the four categories of spaces.

In order to determine *how* the different types of collaborative workspaces claim to deliver the benefits, 24 co-occurrence tables were made, combining the variables related to *which* business benefits are delivered and *how* they are delivered ( $2 \times 3 \times 4$  space categories). An example of a co-occurrence is illustrated by the following quotation: "We make you part of a strong community (*how*) focused on collaboration and problem solving (*business benefit*)". In each sample, ten co-occurrences were considered as a significant number. These steps resulted in four tree diagrams displaying which benefits are offered by each category of space and how they are delivered. The thickness of the lines represents the number of occurrences which were revealed from the data.

**Table 2** Number of collaborative workspaces in Amsterdam, analysed websites and sample

Type	Total number of spaces in Amsterdam	Nr. of websites analysed	Sample
1 Accelerators	6	6	<p>1 <a href="https://www.rockstart.com">https://www.rockstart.com</a></p> <p>2 <a href="https://www.startupbootcamp.org">https://www.startupbootcamp.org</a></p> <p>3 <a href="https://www.innoleaps.com/">https://www.innoleaps.com/</a></p> <p>4 <a href="http://collider.io/amsterdam/">http://collider.io/amsterdam/</a></p> <p>5 <a href="http://fashionforgood.pluginandplaytechcenter.com/">http://fashionforgood.pluginandplaytechcenter.com/</a></p> <p>6 <a href="https://themaingredient.co/">https://themaingredient.co/</a></p>
2 Incubators	9	9	<p>1 <a href="http://amsterdam.impacthub.net/">http://amsterdam.impacthub.net/</a></p> <p>2 <a href="http://www.starthubovertoom.nl/">http://www.starthubovertoom.nl/</a></p> <p>3 <a href="http://b-buildingbusiness.com/amsterdam/">http://b-buildingbusiness.com/amsterdam/</a></p> <p>4 <a href="https://letitgrow.org/">https://letitgrow.org/</a></p> <p>5 <a href="https://www.prodock.nl/">https://www.prodock.nl/</a></p> <p>6 <a href="http://www.scalehub-amsterdam.com/">http://www.scalehub-amsterdam.com/</a></p> <p>7 <a href="https://tq.co/">https://tq.co/</a></p> <p>8 <a href="http://www.kitchenrepublic.nl/home/">http://www.kitchenrepublic.nl/home/</a></p> <p>9 <a href="http://vrbase.co/">http://vrbase.co/</a></p>
3 Coworking spaces	44	10	<p>1 <a href="https://www.spacesworks.com/">https://www.spacesworks.com/</a></p> <p>2 <a href="http://www.thethinkinghut.com/">http://www.thethinkinghut.com/</a></p> <p>3 <a href="https://www.a-lab.nl/">https://www.a-lab.nl/</a></p> <p>4 <a href="http://www.thestartuporgy.com/">http://www.thestartuporgy.com/</a></p> <p>5 <a href="http://b-buildingbusiness.com/">http://b-buildingbusiness.com/</a></p> <p>6 <a href="https://www.wework.com">https://www.wework.com</a></p> <p>7 <a href="http://bouncespace.eu/">http://bouncespace.eu/</a></p> <p>8 <a href="http://www.startdock.nl">http://www.startdock.nl</a></p> <p>9 <a href="http://workspace6.com/">http://workspace6.com/</a></p> <p>10 <a href="http://freedomlab.org/">http://freedomlab.org/</a></p>
4 FabLabs	5	5	<p>1 <a href="https://laglab.org/">https://laglab.org/</a></p> <p>2 <a href="http://www.techinc.nl/">http://www.techinc.nl/</a></p> <p>3 <a href="http://makersiversity.org/">http://makersiversity.org/</a></p> <p>4 <a href="http://waaq.org/nl">http://waaq.org/nl</a></p> <p>5 <a href="https://www.zb45.nl/">https://www.zb45.nl/</a></p>

**Table 3** Variables, theoretical references, and developed codes

	<i>Variable</i>	<i>Theoretical references</i>	<i>Developed codes</i>
Business benefits	Collaboration	Moriset (2013), Schmidt et al. (2014), Gandini (2015), Capdevila (2013)	Collaboration, connect to new people, creating together, cross-overs, sharing knowledge, serendipity, work together
	Generic business development	Spinuzzi (2012), Waters-Lynch et al. (2016)	achieve goals, create success, grow, innovation, learn, personal development, scaling, team development, working
How are benefits delivered?	Physical characteristics	Heerwagen et al. (2004), Oksanen and Stähle (2013)	Collaborative work space, creative environment, customised work environment, design for interaction, event spaces, equipment, lounge area, meeting rooms, office essentials, overview of projects, overview of users, shared rooms, variety of spaces, work space
	Facilitative tools	Chan and Lau (2005), St-Jean and Audet (2012), Garrett et al. (2014), Cabral and van Winden (2016), Cohen (2013)	Access to resources, courses, events, funding, host, informal events, in-house experience, lunch, mentors, pitches, providing feedback and support, start-up program, supplementary services, workshops
	Community management	Boschma (2005), Moriset (2013), Parrino (2015), Cohendet et al. (2014), Cabral and van Winden (2016)	Alumni, business phase of members, community, entry mechanisms, external network, flexible terms, industry focus, internal network, International community, international network, investors, memberships, partners, same industry, similar people, variety of industries, variety of users

We also created a positioning map which is represented graphically in Figure 7. In this step the number of quotes was systematically summed and ratios were calculated related to two dimensions:

- 1 the ratio of quotations related to external and internal community management (external/internal)
- 2 the ratio of quotations related to physical characteristics aiming for serendipitous encounters and organised facilitative tools (focus on serendipity/focus on organised facilitation).

See Table 4 for the code overview representing the two dimensions.

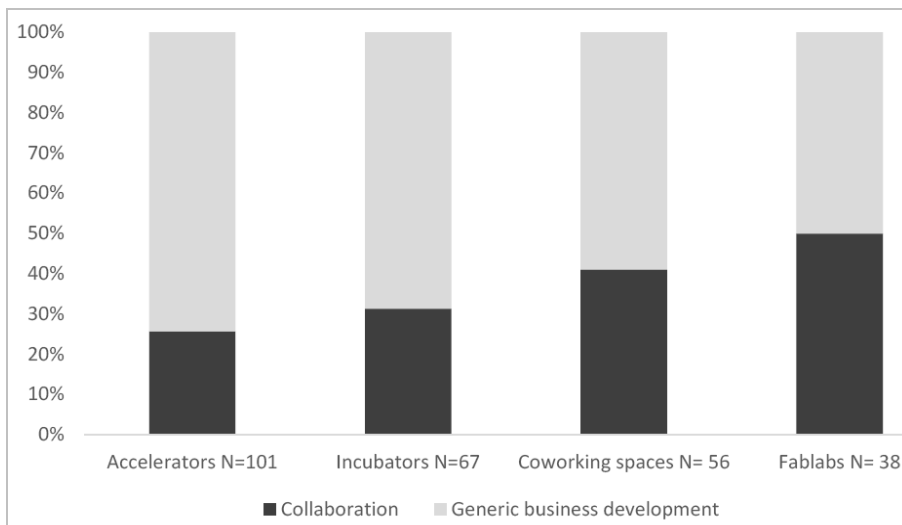
**Table 4** Dimension, focus, and codes used for the positioning map

<i>Dimension</i>	<i>Focus</i>	<i>Codes</i>
Community management	Focus on internal	Community, host, internal network, international community, similar people, staff, variety of industries, variety of users
	Focus on external	Alumni, external network, international network, investors, partners
Organisational mechanisms for networked collaboration	Focus on serendipity	Collaborative work space, creative environment, customised work environment, design for interaction, event spaces, equipment, lounge area, meeting rooms, office essentials, overview of projects, overview of users, shared rooms, variety of spaces, work space
	Focus on organised facilitation	Access to resources, courses, events, funding, host, informal events, in-house experience, lunch, mentors, pitches, providing feedback and support, start-up program, supplementary services, workshops

## 4 Results

The extracted texts yielded 602 quotations with a total of 990 assigned codes. The results show that there are different approaches in the different collaborative space categories.

**Figure 2** Promised value ratio collaboration vs. generic business development



On the broadest level, results show that the four categories of spaces promise a combination of both collaboration and business development opportunities (see Figure 2). Accelerators, incubators, and coworking spaces highlight business development opportunities to a higher extent than collaboration opportunities. FabLabs present a balance of both business development and collaboration benefits. In terms of how the collaborative workspaces position themselves towards potential users, results reveal that there are differences in the focus of employed organisational mechanisms and in the scope of networks that they may provide.

Accelerators have a highly structured program which forges bridges to external networks. Incubators, FabLabs, and coworking spaces accentuate internal networks and communities more than access to external networks. Meanwhile, the organisational mechanisms that they apply are less formal than the ones of accelerators. Thus, the results show differences in levels of employed organisational mechanisms and access to communities across the different spaces. Interestingly, all categories of spaces promise a combined benefit of business development opportunities with access to communities. The positioning strategies of the spaces are presented in Figure 7 (scale of the axis is omitted to provide the relative position of the collaborative workspaces)

In this next part, we discuss the results per space category regarding *what* benefits are promised and *how* they are delivered.

#### 4.1 *Accelerators*

Accelerators promise opportunities for scaling, growing, and learning for their users. They stimulate users to develop an idea into a scalable, successful business and contribute to this by creating social environments where connections to new people can be made. Typically, they offer start-up programs in which start-ups are connected to others as part of the program. Based on the empirical data, accelerators provide collaborative opportunities by facilitating connections and collaboration mainly with external parties. The next quotation is representative for their claimed benefits:

“Join our accelerator program where we help you build, validate and scale your business and find the best international product/market fit. We help you better understand product design, market fit and business models by enabling you to directly work with relevant suppliers, users, professionals and other stakeholders in energy.” Accelerator 1

Many have created an organisational platform to facilitate external linkages, including a combination of mentoring, access to capital and a vast offer of networking opportunities. Accelerators claim to give continuous support to their users to make connections to relevant stakeholders. On their websites, they highlight events and pitches as moments where such connections are made and where feedback and support is provided. Such events and business pitches are presented as key moments for start-ups to find solutions for problems they might face. Typically, accelerators organise events and pitches with additional moments for networking, requests for advice, and discussion with specific audiences, including venture capitalists, industry specialists, corporate representatives, and other stakeholders. The following quotation represents these claimed opportunities:

“...X is an international event series bringing together startups and seasoned entrepreneurs for a session of pitching and problem solving. The risk-free environment allows for startups to pose their biggest challenges to an experienced audience of entrepreneurs, founders and investors – providing direct feedback, support and hopefully, a handful of great contacts.” Accelerator 1

The management of external communities is promoted as a way to forge connections and potential collaborations. According to the data, accelerators promote strategic cooperation between start-ups and multinational enterprises for the innovation processes of their users. This next quotation is an exemplification of this:

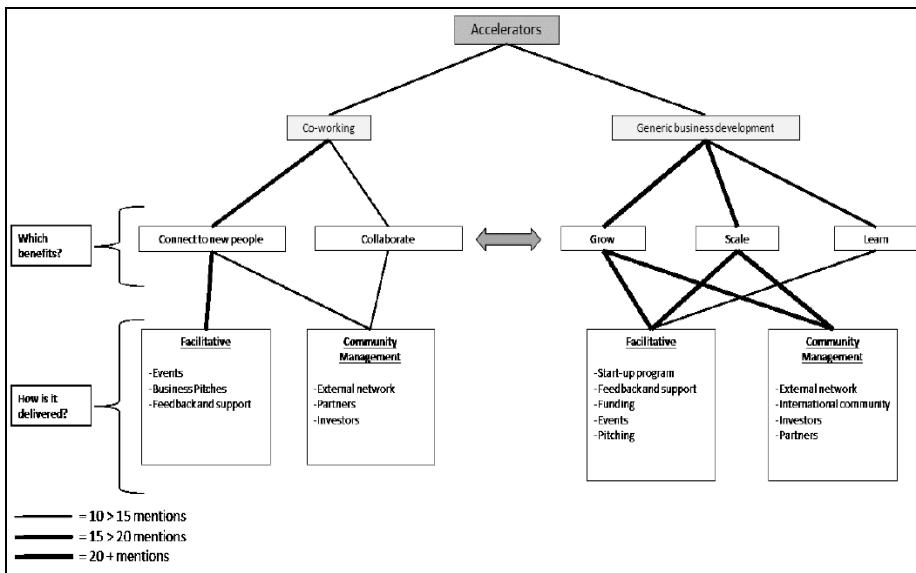
“We are highly selective over which brands can be part of our accelerator. They have to be open to new ideas, have the time to work with our startups, and potentially offer trials, pilots, or first deals. We work with the big dogs like X, who have the market influence to make your startup a success, who are flexible, looking to collaborate and remember what it’s like to be in your shoes.” Accelerator 3

For generic business development, the combination of the facilitative platform and community management promotes business growth, scaling, and learning. The international network of relevant mentors, partners, investors, in combination with organised events where business ideas are presented, is claimed to support the process for early-stage firms in scaling and growing.

“With branches in Colombia and the Netherlands, events in 25+ cities across the globe and a vast network of startups, experts and investors, X offers an international community to startups. This way they can best prepare themselves for global scaling.” Accelerator 2

Figure 3 displays the alleged benefits of accelerators and the strategic means to deliver the benefits.

**Figure 3** Accelerators, benefits and delivery of benefits



## 4.2 *Incubators*

According to the empirical data, incubators promise social environments for collaboration, growth and learning. This following quotation is representative for the claimed benefits of incubators:

“...X has evolved into a collaborative global community that now inspires, connects and enables people across the world to sustainably impact society. We are a dynamic place where people meet and collaborate with each other. We build bridges between startups, creatives, and corporates and bring them together, setting up ways to connect with-, learn from and grow with each other.” Incubator 1

The alleged collaboration is facilitated by offering access to both internal and external networks. Internal networks are mostly presented through access to local and international incubator communities. By joining an incubator, workers have access to a wide range of contacts and, as such, become part of an (inter)national community that is allegedly focused on collaboration and solving problems for each other. Some incubators also have a specialisation (e.g., focus on virtual and augmented reality, agriculture, or maritime industries) and by connecting people with similar interests, such incubators present an accelerated process related to solutions or opportunities for local or global issues of workers.

External networks are presented through partnerships with local and international firms. These partners are portrayed as contributors to finding collaborative solutions for the workers at the incubators. Such collaborative solutions often entail outsourcing of innovation-oriented processes of the partners to start-up companies. At the same time, through such cooperation, workers have access to resources such as networks, finances, and expertise that might be inaccessible or unaffordable for them.

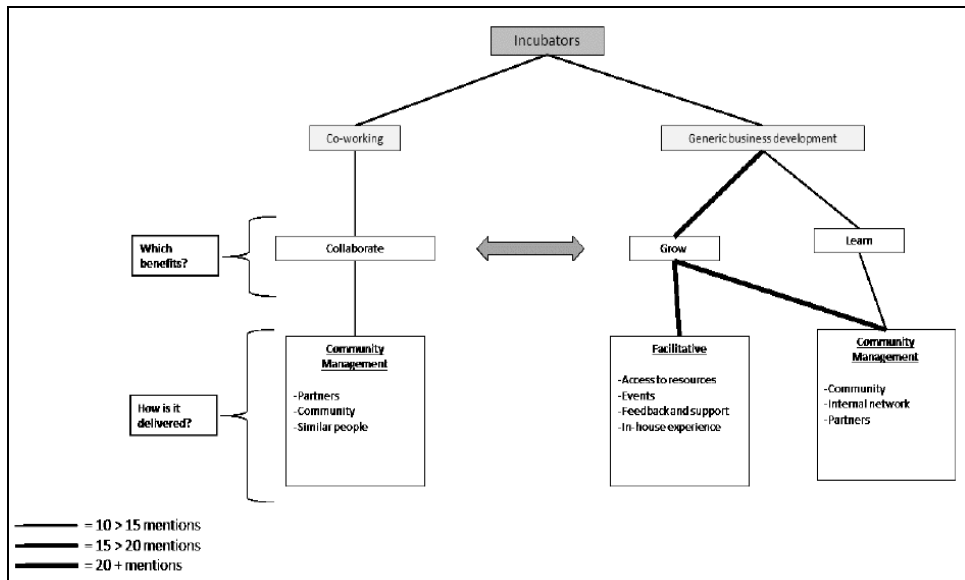
Regarding generic business development, growth and learning is promoted through a combination of facilitative tools and community management. Growth is facilitated through access to resources and networks, such as knowledge, talent, and expertise that help existing businesses in growing. Events are moments when such access to networks is facilitated. At such events, organisers, fellow users, and partners share experiences and aim to help with problems. This entails that the internal community and partners play an essential role in providing such experience and knowledge. Incubators claim that by working with a strong community of internal and external professionals they stimulate the entrepreneurial climate and improve access to talent, capital, networks, knowledge and markets. At the same time, by becoming part of such networks, incubators claim to add value by being a platform that builds bridges between the start-ups and corporates and brings them together, setting up ways to connect, learn, and grow with each other.

“We help virtual and augmented reality startups and freelancers grow by providing them with a wide range of resources and by making them part of a strong community focused on collaboration and solving problems for each other.” Incubator 9

Figure 4 displays the alleged benefits of incubators and the strategic means to deliver the benefits.



Figure 4 Incubators, benefits and delivery of benefits



### 4.3 Coworking spaces

Coworking spaces promise social environments that foster productivity and generic business production, where, if wanted, connections can be made to other local people. Coworking spaces emphasise the office component and attract users by renting places for working and where the social aspect is an additional benefit. The following quotation is representative for these promised benefits:

“Welcome to X, your place to work. Where you’ll watch businesses grow because of people and ideas. Where you’ll surround yourself with those who love what they do.” Coworking space 1

Coworking spaces claim that their social environments are conducive to making connections to new people. Such connections are mostly from internal networks. The communities that coworking spaces aim to cultivate is what makes coworking spaces unique. Coworking spaces create such communities by offering informal moments (e.g., by organising joint lunches, having centralised coffee drinking machines) which strongly stimulate serendipitous encounters. Coworking spaces also organise formal moments, such as business events, networking lunches. However, this is promoted to a lesser extent than the informal opportunities aiming for serendipity. Such casual encounters are claimed to add value either on a professional level or on a personal level. Internal networks are also presented as enrichment of the work-life experience.

“Start up a conversation while you wait for your coffee or introduce yourself over lunch, and you may just find a partner for your next big venture. The energy of the Spaces community is contagious – and even if you don’t find a new business associate, you may find a new friend. Add a full calendar of business events and you’ll see just how hard we work to keep you engaged.” Coworking space 2

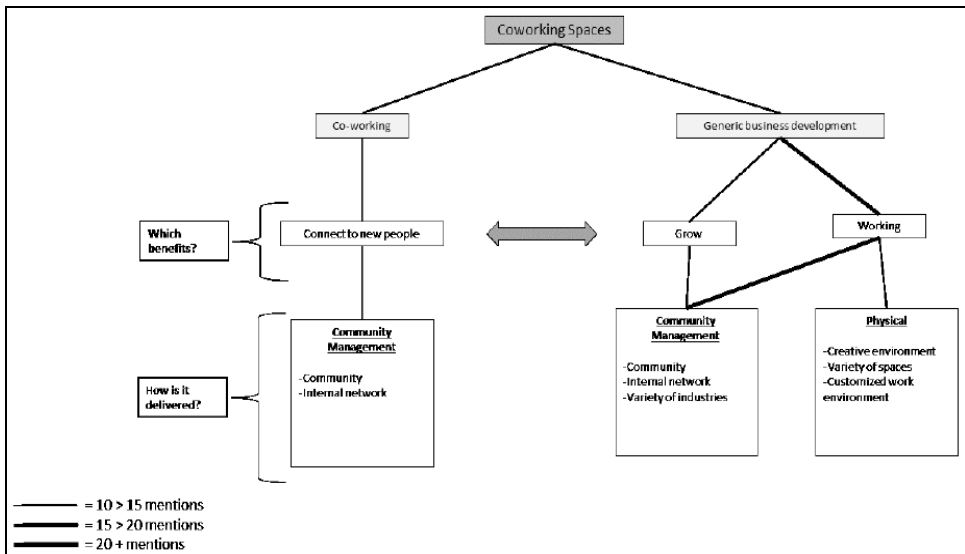
Regarding business development, coworking spaces claim that the combination of their premises and internal community are conducive to generic productivity and growth of businesses. They emphasise the physical environment as a space that provides all facilities that workers need, offering a variety of spaces ranging from private customisable offices to socially-oriented workspaces. The combination of the physical space with co-location of other members is claimed to stimulate the working process. This is said to have an activating effect that pushes workers to bring out the best in themselves. Especially because generally, workers joining coworking spaces have shared interests, drives and attitudes. Coworking spaces claim that being surrounded with such a community stimulates productivity and growth.

This next quotation represents this promised benefit:

“Are you in need of a more inspiring work environment that helps your company to flourish? X offers a variety of fully enclosed, lockable, serviced office spaces in Amsterdam starting at 25m2 to customized spaces. All offices can be fully furnished according to your wishes. Bring your company into a creative startup ecosystem that enables you to bring out the best in yourself. When you rent an office space, you become a member of the community and get access to everything X has to offer; enjoy our fresh, daily lunch, get fit in our gym, attend our events, be part of our online community and meet with new coworkers every day.” Coworking space 5

Figure 5 displays the alleged benefits of coworking spaces and the strategic means to deliver the benefits.

**Figure 5** Coworking spaces, benefits and delivery of benefits



#### 4.4 FabLabs

FabLabs offer social work environments where users work next to others, and where sharing knowledge and opportunities for learning are highly promoted. This next quote is a representation for claimed benefits of FabLabs:

“We combine co-working space with clean and messy workshop space, machines and tools. Really what we’re doing isn’t about the space though, it’s about people. Through our spaces we bring together people with all kinds of creative and technical expertise. All members are encouraged to pass on their experiences and expertise to others.” FabLab 3

Concerning coworking, the websites of FabLabs promote knowledge sharing as a benefit. Knowledge sharing happens during courses, events, and workshops for both internal users and external publics that use the facilities. One of the ways FabLabs are able to generate knowledge sharing because of the availability of in-house experts.

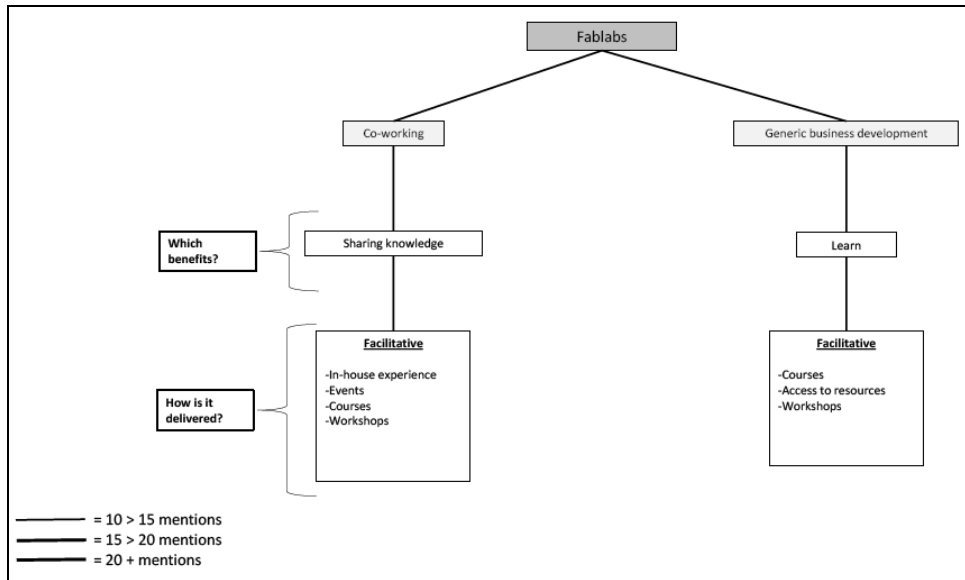
“Our experts can guide creative workshops from start to finish and design with you. We can organize a public debate, or an evening to share the results with the public.” FabLab 5

Most FabLabs also create opportunities for knowledge sharing by giving access to equipment (e.g., 3D printers, steel and woodworking machines). Such machines can be used under the condition that afterwards the knowledge is shared with other users of the space.

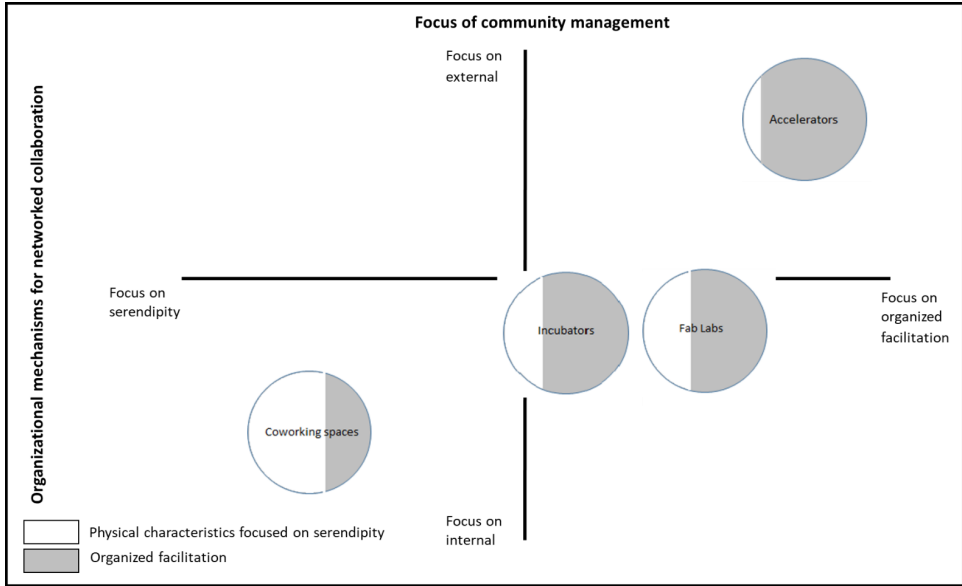
With regards to business development FabLabs promote themselves as locations for learning. Access to the machinery and equipment during organised courses and workshops facilitates learning. Such courses and workshops are meant for people who want to get a better understanding of the machines or and how to apply it in their business development.

“You can find out what a 3D printer can do and learn how to create, customize and print your own 3D designs! The workshop will be concluded with the 3D print diploma, which will allow you to work on your creations every Tuesday at X.” FabLab 4

Figure 6 FabLabs, benefits and delivery of benefits



**Figure 7** Relative position of the different collaborative workspaces according to the level of organisational mechanisms and the focus of community management (see online version for colours)



## 5 Conclusions

This paper analysed four categories of collaborative workspaces (accelerators, incubators, coworking spaces, and FabLabs) regarding the benefits that they claim to provide for their users. The different categories were analysed in terms of space, organisational setup, and community aspects. The content of websites was analysed to deduce what benefits the four categories of spaces promise to workers and how they differ in delivering these. Content analysis was used for developing codes related to physical, facilitative, and community elements. In order to determine the promised benefits for workers in collaborative workspaces two business benefits were chosen, collaboration and generic business development, which are complementary and not mutually exclusive.

In line with literature on innovation spaces, our evidence suggest that different categories of spaces position themselves differently toward their potential users, ranging from places for generic productivity to places to learn, experiment, and grow (Grimaldi and Grandi, 2005; Waters-Lych et al., 2016). This study adds to this knowledge by presenting a deeper understanding regarding the specification of benefits that is promised and how they are delivered from the point of view of the spaces. In competitive markets in which spaces aim to attract growing groups of self-employed workers, start-ups, and small businesses (OECD, 2016), it is important to differentiate and clearly communicate the core points of difference. The results show that collaborative workspaces offer a combination of collaboration and generic business development benefits towards workers who seek to advance their business in social environments. In all categories of spaces the claimed promises are built around social environments where small businesses can

develop in different forms whilst social networks facilitate the workers. We shall revisit here the main differences regarding the proposed value and its importance.

Accelerators and incubators put a relatively strong emphasis on generic business development, positioning themselves around the elements of growing and scaling. Fostering connections to relevant others is presented as a mediator for growth. Coworking spaces and FabLabs present a balanced mix of coworking benefits and generic business development. Coworking spaces highlight themselves as places to work with the additional benefit of making connections to new people. FabLabs clearly have as a focal point that their environments are conducive to learning and knowledge sharing.

Regarding benefits and delivery modes, accelerators present their offering around growing and scaling, and focus on external community management and formal facilitative elements to deliver this. Accelerators emphasise the value of external networks and present possibilities to make connections to corporations, partners, and investors. Connections with external networks is moderated through facilitative elements such as start-up programs, mentors with corporate affiliations, events and organised moments for presentation of ideas to an array of audiences. Incubators claim to be conducive for collaborative opportunities, by offering access to internal communities and external networks. Business development opportunities range from growing to learning. Incubators facilitate collaboration by presenting access to events, internal and external networks, and in-house specialists. Compared to accelerators, incubators present the facilitative elements less frequently. Coworking spaces differentiate themselves by offering places for working and growing in which the physical attributes of the environment play a role in stimulating the workers. They offer a variety of inspirational and creative environments that can be customised according to the wishes of workers. In order to differentiate from traditional offices, coworking spaces promise added value by giving access to internal networks, and coworking communities. Lastly, FabLabs differentiate themselves by offering shared environments that give opportunities to workers for experimenting and producing with local equipment and machinery. FabLabs also offer many courses and workshops in the usage of such equipment for both internal and external users. As such, FabLabs deliver benefits of learning and sharing knowledge to users by applying physical and facilitative components. Though learning about machines and using them in shared environments workers are enticed to share ideas and experiences.

We conclude, based on our empirical findings, that the broad category of collaborative workspaces represents a variety of spatial configurations providing space to develop businesses, promote collaborative work, and enable access to important resources, such as people, equipment, knowledge, and finances. For location-flexible workers and start-ups who seek a workspace combined with social networking and collaboration, it is relevant to know which spaces moderate interaction and exploit co-presence to foster joint work and learning. For collaborative workspaces it is therefore paramount to promote a careful and conscious differentiation. The dynamics empirically observed in Amsterdam indicate that collaboration and innovation processes have become increasingly diversified. The formats identified in this paper complement this general development in various ways. While providing spaces for work, social interaction and innovation, collaborative workspaces also provide the setting to deal with the innovation challenges of workers, and the increasing transformation of labour markets, and of the knowledge economy more generally. In increasingly flexible business

environments, collaborative workspaces provide conditions for knowledge workers, to combine their knowledge domains and shared experiences in new, dynamic market environments.

In light of the limited nature of literature highlighting the differentiation of collaborative workspaces regarding benefits and delivery modes, this research has attempted to clarify this. Managerially, this research offers insight into how collaborative workspace managers can convey clear information towards potential users regarding what their spaces stand for and how they differ from competing spaces. This is particularly relevant in markets that are increasingly competitive and where workers have growing need for expressive and functional information regarding where to work. The results also have implications for entrepreneurship promotion policies that should take localised interfirm dynamics more into account as a source of innovation. Theoretically, a specification of the benefits and delivery modes of collaborative workspaces in the larger pool of innovation spaces can provide a useful framework for future research. The empirical part provides a first attempt to better understand collaborative workspaces and how they contribute to the growing group of workers with work-location flexibility. As such, it sheds light on collaborative innovation and networking practices that embody new types of social capital in an increasingly flexible urban economy.

## **6 Limitations**

In performing desk research external validity issues arose, resulting from city selection and sample selection. The research was performed in one single case study area: Amsterdam. Amsterdam was chosen because it is a representative area for this phenomenon. This is supported by existing literature in the field of innovation spaces and coworking. With the knowledge that there are many metropolitan areas with similar characteristics, the goal of this paper is providing insight into how collaborative working environments establish themselves in one case study area and to give an indication of how this could be in similar regions. With regards to the population of spaces and sample selection, our online search revealed a great diversity in the sizes across the different types of spaces. There are significantly more coworking spaces than the other three categories of spaces (accelerators, incubators, FabLabs). Regarding coworking spaces we selected a representative sample, and from the other categories of spaces we analysed the entire population. This approach complicates making statistically meaningful comparisons. However, the goal of this paper is making a first step in providing insight into how collaborative workspaces position themselves in an exploratory inductive manner and not in a quantitative manner. Future research could be dedicated to further examine this.

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