

Location Choice  
and  
Business Performance  
of  
Design Entrepreneurs

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## **Abstract**

The purpose of this research is to study the locational behaviors of design entrepreneurs and their level of business success. It analyzed the possible factors that may influence on design entrepreneurs' location decisions, and the possible location (creative centered area) and other advantages that play a role in upgrading the performance of design businesses.

On the basis of a questionnaire, conclusions have been reached that: For a design entrepreneur who considers tolerance level, or urban amenity factors important, he has larger possibilities to locate his business in a creative centered area. Evidence proves that large share of gay population, artist population, and foreign-born group indeed attract design business to locate in the city. Next to that, design entrepreneurs are attracted to places with large amount of cafes, and they avoid cities with higher crime rate. For design companies which is located in a creative centered area, and if the founder has more experience of being an entrepreneur, the company will have higher chance in achieving an above average business performance. To accelerate business success, the design entrepreneur could also grow his entrepreneurial experience, his company's age, and expand the employment level of the company.

## **Keywords**

Design entrepreneurs, creative class, locational behavior, urban amenities, tolerance, business performance, entrepreneurial experiences.

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## Chapter 1. Introduction

### 1.1 Research Question

As creativity is becoming more important in economic transformation, creative occupations are becoming more attractive for the growth of firms and cities.

The importance of the creativity has been studied by many researchers, from Alfred Marshall, to Jane Jacobs, Edward Glaser, Peter Hall, and Paul Romer. Marshall (1890) generally raised the modern discussion of idea-generation in urban economics, Jacobs (1969) pointed out the tight correlations between creativity and urban areas, Glaser (1994) tested the importance of idea generation by skills-growth connection, Hall (1998) considers creativity and innovation as a sort of generic determinant of global urban culture itself, Romer (2007) emphasizes on the creativity's rising importance in his theory of new growth economies.

Florida (2002) indicated in his book *The Rise of the Creative Class*, that if cities want to succeed, they need to highlight the rise of creativity, social freedom and bohemian lifestyles. Furthermore, he suggested that creative and talented people are attracted to high combination of urban amenities, aesthetic assets, tolerance, and job opportunities. But is this the real case?

From the study of Dutch fashion design entrepreneurs of Wenting Atzema, and Frenken (2010), evidence has been found that with regard to fashion design entrepreneurs' location decision, urban amenities are considered important. Designers located in the Amsterdam cluster do not benefit from agglomeration economies as such. Instead, they profit from the superior networking opportunities with peers, both within and outside the cluster.

Building on the research of Wenting, et al (2010), to what extent urban amenities and agglomeration economics can explain the locational behavior of Dutch fashion designers, and based on Florida's discussion on the rise of creative class, this report will further investigate on the locational behaviors of design entrepreneurs and their business success, from both same and different perspectives.

Therefore, the main interest of this research is to study the location choice of **design entrepreneurs**, and the location impact on the entrepreneur's business performance. It leads to the following main research questions:

#### **1) What factors affect design entrepreneurs' location decisions?**

## ***2) What are the most important factors that help to achieve better business performance for design entrepreneurs?***

The first question aims to investigate on the location choices of design entrepreneurs, it studies the possible impacts from the aspects of a city's tolerance level, urban amenity level, aesthetics level and the accessibility to potential employees. The second question aims to investigate on the potential location and other advantages which help to boost design entrepreneurs' business performance. The two questions are later translated into seven hypotheses, which will be further discussed in detail in Chapter 2.2.

### **1.2 Research Methodology**

The method of this study is based on literature reviews and quantitative analysis.

Theoretically, this report builds on the research of Wenting, Atzema, and Frenken (2010), who studied the locational behavior and entrepreneurial success of Dutch fashion design entrepreneurs, by examining the effects on urban amenities, and agglomeration economics. Base on the main findings of Wenting et al (2010), the theory of Florida (2002) on creative class, and other literatures, seven hypotheses were set up. The hypotheses are formulated in two sets, which dedicate to study designer entrepreneurs' location choice and business success respectively.

The hypotheses are tested in two quantitative models. To collect the correct data and test the hypotheses in the empirical studies, a questionnaire was formulated. The questionnaire was spread out both online and offline. Before the official launch of the survey, a short pilot interview session was conducted, the pilot interview session enables the researcher to improve on the questionnaire based on the feedbacks.

### **1.3 Research Structure**

The rest of this report is built as following.

Conceptual frameworks and literatures are summarized in Chapter 2. Theory discussions are focused on the concept of creative class, entrepreneur's location behavior in the creative field, and the importance of geographic location on Start-up firm's performance. Then, key factors will be given and hypotheses will be raised to answer the two main research questions. The chapter ends with the measurements on key concepts which are used in the hypotheses. Chapter 3 follows with the methodology, which covers the topic of research design, data collection, descriptive statistics on business performance, and empirical settings of certain variables, followed by a list of assumptions.

Chapter 4 gives explanation on model set-ups, and clarifies on variable specifications. In the end of this chapter, two empirical models for testing the hypothesis are formulated. The following chapter, Chapter 5, is dedicated to explain the empirical study results, followed by the test on hypotheses and answering research questions. Chapter 6 will discuss on the data limitations present in the models. In the end, Chapter 7 will first summarize the main findings, followed by a comparison on the commonalities and dissimilarities between the research results and literature findings. The chapter ends with recommendations for future research.



## Chapter 2. Literature Review

Before starting the scientific research, it is crucial to understand the literature background. This chapter will summarize relevant theories and literatures that this research is based on. Starting with Section 2.1, the discussion on creative class, entrepreneur's location behavior in the creative field, and the importance of geographic location on Start-up firm's performance. Section 2.2 formulates seven hypotheses based on the factors discussed. Section 2.3 describes the measurements on key concepts which are used in the hypotheses.

### 2.1 Concepts

This section covers the discussion on conceptual frameworks and literatures for this research.

The research is dedicated to study the business location decisions of design entrepreneurs, and whether the location environment impacts the company's business performance. Therefore, some relevant topics could be relevant to research on, such as traditional locational factors (eg. land cost, accessibility to markets, or public transportation, agglomeration economies), knowledge spill-overs, proximity to institutions, accessibility to specialized knowledge/ technology, etc. However, literatures in this section will mainly cover: Florida's theory of creative class, Wenting, Atzema, and Frenken's study on the locational behavior of Dutch fashion design entrepreneurs, Marshall's agglomeration economics, and literatures on market segmentation, and collaboration.

#### 2.1.1 Creative Class

Florida (2002) raised the concept of creative class, in which includes two groups, the superior-creative core group and creative professionals. The fundamental function of super-creative core group is considered to be creative and innovative, such occupations including artists, designers, media workers, engineers, architects, actors, scientists, etc. Beyond this core group, the creative class also includes "creative professionals", who are knowledge-based workers in the fields of high-tech sectors, financial services, legal and health-care sectors, and business management. The primary job of the creative professionals is problem solving, 'draw on complex bodies of knowledge to solve specific problems' (Florida, 2002). These workers in the creative class bring growth and economic stimulation to a city, as a result, business and corporations will follow the work force for the benefits of their creativity and innovation. However, meanwhile there are many researchers have critiques on Florida's creative class. Glaser (2004) criticized this theory because emphasizing on the rise of creativity lifestyle and social freedom is not unique, and is fundamentally true. Besides Glaser, Markusen (2006) also pointed out the fuzzy causal logic about creative class's relationship to urban growth.

Despite the critiques, Florida deserves the credibility of putting together the importance of the rise of creativity, social freedom and bohemian lifestyles (Glaser, 2004). Therefore, this report will still use Florida's creative class as a fundamental theory for the research discussion and model set up, due to two reasons: first, the main studied group in this report, design entrepreneurs, can be seen as creative class individuals, so understanding what attracts creative class individuals also suggests what attracts design entrepreneurs with their companies. Second, design entrepreneurs may need to hire creative class workers, so they may be forced to locate their company in the places that are attractive to creative class workers.

Next to the discussion from previous paragraphs, Florida (2002) also suggested that the economy is transforming and moving into a creative economy, and the conception of the creative economy must be expanded beyond science, technology, and design to include all applications of creativity. In other words, creativity and diversity<sup>1</sup> are basic drivers of innovation and regional and national growth (Florida, 2003). The creative class theory argues that due to the globalization of communication and technology, the work force no longer needs to follow the companies'. Instead, the work force chooses where to live according to personal preference, and companies will follow. In other words, cities no longer need to invest in becoming appealing to companies but the work force.

Based on this theory, Florida (2002) has found a strong positive correlation between cities and creative talented individual. The result shows that creative class workers are attracted to places with high levels of active outdoor recreation, which was considered as urban amenities by Florida. Besides urban amenities, a city's openness and tolerance towards diversity also attracts creative class workers. In his later work, Florida (2005) added aesthetics as another important factor. He proposed that aesthetics cities which are tolerant and open to cultural and ethnical diversity can attract creative and talented people. This view is opposite to the traditional views in urban economics, where people are supposed to be attracted by job opportunities or amenities (Marlet and Woerkens, 2005). However, evidence has been found by Marlet and Woerkens (2005) to support Florida's theory, in the study on Dutch city's attractiveness to the creative class. They discovered that Randstad area (Amsterdam, Rotterdam, Den Haag, and Utrecht) has the highest share of the creative class compared to rest of the country. However, the growth in the share of Dutch creative class is no longer growing in the creative centers but tends to move towards regions

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<sup>1</sup> Diversity, measured by the Gay Index (the share of gay group in overall population), a reasonable proxy for an area's openness to different kinds of people and ideas, according to *The Rise of The Creative Class* (Florida, 2002)

just outside the agglomerated Randstad region, for example, Amersfoort, Nijmegen and Den Bosch. Next to that, it is concluded that tolerance cannot explain the share and growth of location patterns of Dutch creative class. Instead, the location pattern can be largely explained by amenities, accessibility of job and aesthetic assets. As a result, Dutch policy makers have been trying to stimulate local economics by attracting the creative class.

### **2.1.2 Business Location Choice**

In the perspective of business location, according to Boarnet (1994), business prefers to locate in places with high combination of urban amenities and aesthetics. Thus, as a conclusion combined from both Florida and Boarnet's points of view, business are attracted to places with high level of urban amenities and aesthetics. Creative and talented people are attracted to high combination of urban amenities, aesthetic assets, tolerance, and job opportunities. However, Wenting, Atzema, and Frenken (2010) argued that although urban amenities and city reputation attract design business (fashion design entrepreneurs), there is no positive impact on economic success.

Wenting, Atzema, and Frenken (2010) studied to what extent the locational behavior of Dutch fashion design entrepreneurs can be explained by urban amenities, or by agglomeration economics<sup>2</sup>. They conducted a survey to explain the locational behavior, the survey was completed by 275 fashion design firms out of 511 in the Netherlands.

The study reached conclusions that 1) spin-off firms with entrepreneurs who have employee experience in a fashion design firm prior to start-up are more likely to survive for longer periods of time; 2) spin-off firms are tend to collaborate more with other fashion design start-ups; 3) Amsterdam-based fashion design entrepreneurs are more active towards collaboration, and they are more likely to be spin-off firms; 4) the importance of gaining experience and building networks attracts young designers to Amsterdam, however, they benefit more from good networking opportunities than locating in the Amsterdam cluster area. Locating in the Amsterdam fashion design cluster does not improve the income of entrepreneurs; 5) although urban amenities and city reputation attract fashion design entrepreneurs, there is no positive impact on economic success of entrepreneurs. Actually, entrepreneurs locate in Amsterdam mostly gave up soon after they didn't succeed on earning sufficient level of income; 6) collaboration and previous working experience are crucial determinants of economic success.

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<sup>2</sup> Agglomeration economics: this concept will be introduced and explained in the following section

### 2.1.3 Agglomeration Economics

From the author's perspective, when it comes to business location decisions for design entrepreneurs, it is possible that they value the factors discussed above (urban amenities, aesthetic assets, tolerance, and job opportunities, etc.), and the general agglomeration economics.

The notion of agglomeration economics was raised by Marshall (1890), its role is increasing the competitiveness for firms clustered in limited geographical areas. Next to that, Marshall (1920) also proposed that the cluster formation is associated with localization economics or Marshallian economics that arise from co-location between firms active in the same industry.

Economic geographers further made similar remarks on the agglomeration economics, Jacobs (1968) suggested that firms primarily benefit from proximity to other firms in the same industry. Glaeser and Gottlieb (2009) supported Marshall's argument that agglomeration economies exist when productivity rises with density. Gordon and McCann (2000), Porter (2000) interpreted the term as the economic explanation of efficiency of firms located in the spatial cluster of industries. Based on Marshall's theory, Parr (2002) came up with the definition of 'localization economics', which are external to firm and internal to the industry. Saxenian (1994) linked the Marshallian agglomeration economics to the real case of Silicon Valley; she concluded that the social settings in Silicon Valley provide advantage of communication of new ideas across firms.

Based on the Marshall's (1890) study on *Principles of Economics*, it is common to distinguish 3 different sets of Marshallian economics, for example see also Gordon and McCann (2000). First, such urban concentration creates labor market pooling and benefits firms by reducing labor search costs and improving the match between labour supply and demand. Secondly, firms benefits from input-output flows in cluster due to the reduction in transport and transaction costs. The third set of theories argues that the speed of knowledge spillovers among firms increases, yields advantages, and facilitates innovation. The explanation is that the mutual learning among firms in clusters is efficient (Gordon and McCann, 2000), and requires no financial compensations.

Based on Gordon and McCann's view, Wenting, Atzema, and Frenken (2008) argued that the first two benefits from agglomeration economics are in line with Adam Smith's theory of economic growth in which growth promotes efficiency through increased opportunities for division of labor, while the third set of agglomeration economies of knowledge spillover is different because it concerns a pure externality. One of the main critics in the explanation of urban agglomeration is that restricting external advantages to occur only within the industry may ignore an importance source of

externality, which according to Jacobs (1968) can become an important source of knowledge spillover. Next to that, Wenting et al.(2010) concluded the argument from economists<sup>3</sup> that it is necessary to have social networks instead of simple co-location in a cluster for knowledge spillovers. Sorenson (2003) suggested that co-location is however expected to be beneficial for firms' performance since the density of social networks is higher within clusters than between clusters.

With regard to the approach to the measurement agglomeration economics, there are various approaches. Glaser and Gottlieb (2009) summarized the functions of agglomeration economies are simply reductions in the transport costs of goods, people, and transmitting ideas, which will lead to more efficient labor markets, and facilitate the flow of knowledge. They found it is difficult to estimate the magnitude of agglomeration economies because agglomeration economies can be resulted by different reasons and it is hard to define. Despite that, they use per capita gross metropolitan product (GMP<sup>4</sup>) as a measurement. According to Wenting et al. (2010), Amsterdam is considered as the cluster location for the fashion design entrepreneurs; they distinguished the benefits caused by co-location and benefit arising from social networks by using the size of the social-professional network as the proxy for knowledge spillovers.

#### ***2.1.4 Agglomeration Economics and Entrepreneurship***

Porter (2000) raised the definition of clusters as geographic concentrations of interconnected companies and associated institutions, linked by commonalities and complementarities in a particular field, such as specialized suppliers, service providers, firms in related industries, and associated institutions (eg. universities, standards agencies, trade associations). Therefore, firms in a cluster compete but also cooperate. Based on this definition, Porter (2000) argues that clusters have competitive success in particular business areas, and they are a striking feature of every national, regional, state, and even metropolitan economy, especially in more advanced nations. This prevalence of clusters reveals important insights about the microeconomics of competition and the role of location in competitive advantage. In Porter's point of view (2000), entrepreneurship can be stimulated by clusters since it lowers entry barriers, and enhance the performance through efficiency gains.

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<sup>3</sup> Uzzi, 1997; Hite and Hesterley, 2001; Bathelt, 2005; Boschma and Ter Wal, 2007; Giuliani, 2007; Morrison, 2008

<sup>4</sup> GMP: is defined as market value of all final goods and services produced within a metropolitan area in a given period, which is usually one year. (Source: Regional Economic Accounts, 2012, Bureau of Economic Analysis)

Wenting et al. (2010) indicated that new entrants often emerge as spin-offs through learning knowledge from parent company rather than from knowledge spillovers in the cluster. Wenting's (2008) study investigated into global high fashion design industry suggested a high correlation between the performance of parents and spin-offs, which further indicated that entrepreneurs benefit from the previous working experience. Moreover, Wenting et al. (2010) pointed that the emergence of clusters is a 'snowball process' as most spin-offs locate close to their parent firms and thus leading to geographically localized knowledge spillovers.

Although the concept of agglomeration economics was raised based on traditional manufacturing industries, Wenting et al. (2010) suggested the theory can also be applied to cultural industries. Next to that, Scott (2006) indicated that trust is important for interaction and knowledge spillover in a creative field, while Banks et al. (2000) suggested that interaction, collaboration and networking are vital important. It is notable that the cultural industry referred by Wenting et al (2010) is similar to the notion of 'creative field' by Scott (2006): "the locationally-differentiated web of production activities and associated social relationships that shapes patterns of entrepreneurship and innovation in the new economy. ... The creative field functions as a site of (a) entrepreneurial behaviour and new firm formation, (b) technical and organizational change, and (c) the symbolic elaboration and re-elaboration of cultural products".

### 2.1.5 Market Segmentation

Besides the factors discussed below, it is interesting to look at whether the market segmentation can also be an influential factor for design entrepreneurs when it comes to business location choices.

According to Kotler and Keller (2011) in *Marketing management*, companies divide markets into groups of consumers or segments with distinct needs and wants. To identify the most effective approach of market segmentation requires the manager to have a keen understanding of consumer behavior and precise business strategic thinking. Similarly, Freytag and Clarke (2001) hold the opinion that the best way to segment a market depends on what part of the scale the company's focus lies. With certain segment, firms can utilize knowledge to perform more efficiently and effectively than their competitors (Glazer, 1991). It is important because segmentation is an overall way to identify different target groups, to make strategic decisions, and to allocate the resources (Plank, 1985).

Next to that, Kotler and Keller (2011) emphasized the four main methods of market segmentation are geographic<sup>5</sup>, demographic, behavioral, and psychographic segmentation, while according to Thomas (2007), geographic segmentation is the most common form of market segmentation.

In the study of Wenting et al (2010), market segmentation is divided by the price level of the fashion product, because fashion design entrepreneurs active in a large, mass-consumer market on average earn more steady and higher average incomes than design entrepreneurs active in a volatile, competitive market, which offers products with low prices.

### 2.1.6 Collaboration

The collaboration level of a company could also be relevant to its business performance. Wenting et al (2010) defines collaboration as the collaboration level of one design entrepreneur with the other design entrepreneurs (in the process of production, marketing, and also information and knowledge exchange).

Robson and Bennett (2000) stated that collaboration does not have statistical relationship with a firm's profitability. According to Singh and Mitchell (1996), entry collaboration with an industry incumbent provides the company with immediate sales benefits and a higher possibility of survival. Next to that, entry collaborations with either incumbent or other entrants can build a base for longer term growth and a larger growth constraint. In their later study on the same topic, Singh and Mitchell (2005) further emphasized the tight relationship between collaboration and business growth. First, whether the entrepreneurs choose to collaborate and who to collaborate with will have lasting impact on their business strategy and performance. Second, evidence is found that no matter what entry route a business takes, a successful business and business with collaborations often attracts more partners. As a result, collaborative business can become increasingly entrenched in the industry and will achieve long-term growth, i.e., the contribution from collaboration to business performance will in turn contribute to a higher level of collaboration.

Recent years study from Keppel-Palmer (2012) shows that the most effective and impactful brands are companies who use collaborative approach in business development. From a survey conducted by Mckinsey Quarterly (Buhin & Chui, 2010), they define networked enterprises as the emerging company who use collaborative technology intensively to extend the organization's reach to

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<sup>5</sup> Geographic segmentation: customer, location, region, urban/rural/classification, etc.

Demographic segmentation: Age, gender, occupation, socio-economic group, etc.

Behavioral segmentation: Rate of usage, benefits sought, loyalty status, readiness to purchase

Psychographic segmentation: Personality, lifestyles, attitudes, class

customers, partners, and suppliers. They argued that highly networked enterprises are 50% more likely than other organizations to report market share gains and higher profit margins, which indicates a higher level of business success.

## 2.2 Hypotheses

The research from Wenting et al. (2010) inspired me to dive into the **Revealed Preference** of designer entrepreneurs in the case of making locational choices, and to further explore the causality relationship between design companies' location factor and their economic success.

Revealed preference was raised by Paul Samuelson in 1938, given that the consumer chooses one option out of a set of alternatives before purchasing, the option is the preferred option. Accordingly, given that the design entrepreneurs choose one location out of all the options, the final choice shows the revealed preference of their business locational choices.

Based on the findings from Florida (2002) and Boarnet (1994) that business is attracted to places with high level of urban amenities and aesthetics, creative people are attracted to places with high combination of urban amenities, aesthetic assets, tolerance, and job opportunities; next to that, based on Marlet and Woerkens (2005)'s conclusion on Dutch creative class that the share and growth are explained by amenities, accessibility of job and aesthetic assets, I raise the first set of hypotheses that Dutch design entrepreneurs tend to locate their business in places with high level of tolerance, urban amenities, aesthetics, and accessibility to potential employees. The four factors will be measured in multiple approaches accordingly, which will be in the discussion in Chapter 3.

From the study of Dutch fashion design entrepreneurs of Wenting et al. (2010), networking and previous working experience are crucial determinants of economic success, while locating in Amsterdam cluster area does not have positive impact on the income for fashion design entrepreneurs. To challenge this conclusion, this report will test if there is positive relationship between locating in creative centered area and the economics success for Dutch design entrepreneurs. Hence, I raise the second set of hypotheses that collaboration, previous working or entrepreneurial experience, and locating in creative centered area have positive impact on Dutch design entrepreneurs' business performance.

Therefore, discussion in this report will be divided into two main parts: 1). Locational choice and 2). Business performance of Dutch design entrepreneurs



Main research questions and hypotheses are elaborated as follow:

**(1) What factors affect design entrepreneur's location decisions?**

**H<sub>1</sub>:** Design entrepreneurs who consider tolerance level important are more likely to locate business in creative centered area;

**H<sub>2</sub>:** Design entrepreneurs who consider urban amenities important are more likely to locate business in creative centered area;

**H<sub>3</sub>:** Design entrepreneurs tend to locate business in creative centered area when they consider high level of aesthetics is important;

**H<sub>4</sub>:** Design entrepreneurs tend to locate business in creative centered area when they consider easy access to potential employees is important.

**(2) What are the most important factors that help to achieve better business performance for design entrepreneurs?**

**H<sub>5</sub>:** Collaborations and design entrepreneurs' business performance are positively related.

**H<sub>6</sub>:** Previous entrepreneurial experience have positive impact on design entrepreneurs' business performance.

**H<sub>7</sub>:** Locating in creative centered area have positively influence on design entrepreneurs' business performance.

## 2.3 Key Concept Measurements

### 2.3.1 Measurements of Indicators for Locational behavior:

#### 2.3.1.1 Tolerance level

As Florida (2002) suggested in *Rise of the Creative Class*, given that individuals are free in terms of location choices, tolerance and openness towards cultural and ethnical diversity can be indicated by Gay Index: share of population that is homosexual people (Gates, et al. 2010). Gay Index was considered as a good measure for diversity because gay community has been subject to a particularly high level of discrimination, thus homosexuality represents the last frontier of diversity in the society. Therefore, Bishop (2000) and Florida (2005) argue that places that welcome gay people are open to various other groups (Bishop, 2000; Florida, 2005). The other measure is Melting Pot Index, which is concentration and composition of foreign-born population. The Melting Pot Index measures the openness towards immigrants or foreigners in a region, whose presence can be regarded as a drive of economic growth (Florida, 2005; Hui, 2005).

On the basis of Florida's idea, Hansen (2007) used non-Western foreign-born persons as a share of total population, and all foreign-born people as a share of total population to discuss the tolerance situation in Sweden. Ottaviano and Peri (2006) measured the cultural diversity in US cities by using non-US-born residents as a share of total population.

With regard to Bohemian Index (a location quotient that measures the percentage of artists divided by the percent of total population in a region compared to the total national population), Florida (2002) argues that is a direct measure for urban amenity because it counts the producers of amenities with reliable census data at the MSA<sup>6</sup> level. However, this research will use it as a measurement for tolerance level because it shows the openness towards cultural and diversity, same as Gay Index, and Melting Pot Index.

Therefore, in this study, to measure tolerance and diversity, Gay Index, Melting Pot Index, and Bohemian Index will be concerned. To indicate the location preference from design entrepreneurs, the following factors are concerned: to what extent design entrepreneurs choose to locate business in where people with different lifestyles and sexual preferences feel welcome; where has a large share of artists; or where foreign-born people feel welcome.

### 2.3.1.2 Urban Amenities

In the early studies according to Ullman (1954), Mueser and Graves (1995), amenity was mainly explained by natural amenities such as climate and environmental beauty. In recent literatures, Glaeser and Saiz (2001) measured urban amenities by number of museums, number of amusement and recreational service establishments, eating and drinking establishments per capita, health establishments per capita, teacher/pupil ratio per capita. In another study of Glaeser, Kolko, and Saiz (2001), the four critical urban amenities are rich variety of services and consumer goods (restaurants, theaters, etc.), aesthetics and physical setting (architectural beauty and weather), speed (the range of services and jobs available in a metropolitan area), and good public services (good schools and less crime). Crime is seen as a salient disamenity of cities; Cullen and Levitt (1999) have shown a causal effect of crime and city depopulation.

Also, Florida (2002) pointed out that Coolness Index based on the percentage of population ages 22 to 29, measures nightlife (number of bars, nightclubs) and culture amenities (number of art galleries and museums per capita), also indicates the level of urban amenity. Beyond Florida's measurements,

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<sup>6</sup> MSA: Metropolitan statistical area. a geographical region with a relatively high density of human population. (Nussle, 2008)

Wenting et al. (2010) suggested that, for fashion design entrepreneurs, personal motives such as tolerant social atmosphere, proximity to cultural amenities, and inspirational environment are predominant in location decision.

Therefore, to indicate urban amenities, this report will look into the following factors: to what extent do design entrepreneurs choose to locate in a place with a large amount of cafes/restaurants/bars, or theaters/cinemas, or with relatively low level of crime, or with inspirational environment.

### 2.3.1.3 Aesthetics

In *The Flight of the Creative Class*, Florida (2005) defined a city's aesthetic asset in a physical and a natural way, which means fine historical buildings in the urban environment and the scenery in the city. He added aesthetics as another important factor to attract creative and talented people, other than tolerance and openness to cultural and ethnical diversity. In Marlet and Woerkens (2005)'s study of to what extent the residential pattern of the Dutch creative class can be explained by aesthetics and tolerance, they measured Dutch environmental beauty by the proximity to nature, and measured a city's historical authenticity by the share of houses built before 1945 as a percentage of total housing stock.

In contrast, while Glaeser et al (2001) have the same opinion that aesthetics is one vital urban amenity, they gave the conclusion that architectural beauty has influence on a cities' attractiveness. In the investigation of population growth or housing price growth in America, Glaeser et al (2001) found out that weather measured by January temperature or precipitation is shown to be the most important determinant. However, the Netherlands is a far smaller country when it is compared to America, i.e., the weather variation in Holland is less mobile and has no obvious difference. Therefore, this report will exclude the factor of weather in the consideration. The closeness to nature and the concentration of historical buildings will be used to measure aesthetics.

### 2.3.1.4 Accessibility to Potential Employees

As Marlet and Woerkens (2005) pointed out that the accessibility to jobs for Dutch creative class also has impact on the business location choice. Therefore, the first part of this research on the locational behavior will also take into account the factor: to what level will design entrepreneurs choose to locate business with easy access to university/college which has design students.

### 2.3.1.5 Other factors

Other factors, for example the closeness to family and friends, is also considered by Dutch fashion design entrepreneurs, as suggested by Wenting et al. (2010). Beyond personal motives, business motives such as proximity to suppliers, to customers, and to other fashion designers may also impact location behaviors. As a result, the report will also including following factors in the model examinations: to what level will a design entrepreneur locate his business close to family and friends, close to public transport, or in the place with easy proximity to customers, resources or suppliers, or place where other design companies also located in (agglomeration), or with easy proximity to parties who have business collaboration with the company (alliance), or with affordable housing price.

## 2.3.2 *Measurements of Indicators for Location and Business Performance:*

### 2.3.2.1 Company's Performance Measures

From the survey conducted by Wenting et al. (2010), they discovered that profit is an ambiguous indicator for performance because the profit is extremely volatile. Also, profit figures are often unknown to designers. However, revenue per employee is a key ratio for start-up companies when evaluating a business; a high revenue per employ indicates a high efficient company and relative success because it gives the measure of whether or not the business is generating adequate sales relative to its assets and people (Hupalo, 2004). According to Birch (1996), there is a strong tendency for the bulk of small firms to generate similar and high levels of revenue per employee. These highly growth companies are noted as 'gazelles'. Moreover, Florida (2005) suggested that wages and income people make can reflect the quality of economic growth. Therefore, this report will use revenue per employee as the key indication for the business performance of design entrepreneur's company. The benchmark for this measurement will be discuss in more details in Section 3.3, descriptive statistics.

### 2.3.2.2 Collaboration

Collaboration level of one design entrepreneur with the other design entrepreneurs (in the process of production, marketing, and also information and knowledge exchange) will be considered as an interested factor which can benefit the business performance. The impact of collaboration will be investigated. As concluded by Wenting (2010), in fashion design sector, two out of every five entrepreneurs have collaborations with other fashion design entrepreneurs. The level of

collaborations varies between 0 and 50. However, from the interview with 4 designer entrepreneurs in the pilot session, one entrepreneur has a collaboration range higher than 50. Therefore, the highest level of collaboration for all design entrepreneurs is difficult to set range for collaboration level. Instead, the report will measure the impact of collaboration on business performance from a more subjective way, which is by looking at how important do design entrepreneurs consider collaboration is for their business, from a level of 0 to 10.

### **2.3.2.3 Entrepreneur's Experience**

Wenting et al. (2010) mentioned that one important determinant for business success is the experience of being an entrepreneur. Conclusion has reached that entrepreneurs who have been employed by a fashion design firm prior to start-up (spin-offs) benefit from the experience from previous employment. Spin-offs tend to collaborate more with fellow fashion design entrepreneurs, and the profit gained from parent firms will remain. Similar result has been discussed by Klepper (2002), Dahl and Reichstein (2007), stating that the spin-offs inherit knowledge and experience from parent firms, and contribute to the performance.

Therefore, the experience of design entrepreneurs is considered as another factor to be studied, the positive impact of entrepreneur's experience on the start-up's performance will be examined. The analysis will divide experience into three sub factors: whether the entrepreneur has being working as a design employee in another design company before the current start-up; whether the entrepreneur had, or still has other companies before the current design business; the founder's years of experience in working as an entrepreneur in the industry; the design company's age.

### **2.3.2.4 Other factors: Market segmentation**

In this report, the impact of market segmentation will also be examined, yet it is not the main interested factor. The report selects geographic segmentation as the measure of market segmentation because the geographic size of a company's targeted consumer group may indicate the prosperity and success of the company; analysis will detect whether the marketing strategy in targeting customer groups can have impact on the business performance. The geographic segmentation is distinguished by city level, province level, country level, Benelux level, Western European level, European level, to global level, while the hypothesized meaningful distinction will be on the country level (i.e. if the design company aims at domestic market or international market will make a difference with regard to business performance).

### 2.3.2.5 Other factors: Human Capital

Human capital's impact on the business performance is taken into account in this report. The considered factors include the education background of the entrepreneur; if the entrepreneur works full-time or part-time in the company; the number of design employees working for the company; and number of total employees (including designers) hired in the company.

## Chapter 3. Methodology

This chapter will introduce the methodology used for this research, starting with what are the main questions for the report to answer, then section 3.2 will describe in what way the data was collected. Section 3.3 explains the descriptive statistics on business performance. A simple compare on the benchmark from BNO statistics with the first result from collected data will be made. Afterwards, Section 3.4 will demonstrate the empirical settings of creative centered region, and other measurements, followed by a short summary of assumptions before models examination.

### 3.1 Research Design

The purpose of this report is to study what factors affect the decision of setting business location for design entrepreneurs, and whether location factors can benefit a design firm's performance.

Discussions consist of two parts based on the research questions.

- 1) What factors affect design entrepreneurs' location decisions?*
- 2) What are the most important factors that help to achieve better business performance for design entrepreneurs?*

Research questions will be answered by testing seven hypotheses, which were previously discussed in Chapter 2.2.

### 3.2 Data Collection

#### 3.2.1 Survey Setup

For research, one questionnaire is formulated. Questions are set up as explicitly and specifically as possible. The survey is spread out in the LinkedIn group, Facebook group, and twitter group of 'Association of Dutch Designers (BNO)'. Additionally, emails with link to the online survey have been sent to large amount of design entrepreneurs. Next to that, the survey was printed out and spread to design entrepreneurs in the event of Dutch design week 2014 in Eindhoven. In total, 5 design entrepreneurs participated in the pilot email interview before launching the survey; 102 design entrepreneurs participated in the survey. See appendix for the whole questionnaire.

#### 3.2.2 Interview Setup

Pilot interview session was set up and conducted before launching the survey. The interview session aims to gain a preview of Dutch design entrepreneur's understanding in the importance of business

location, knowledge on collaboration. Next to that, the interview aims to test if the calculation of average revenue per employee (see Chapter 3.4) is in a reasonable range. The setup of pilot interview session enables the researcher to modify survey questions based on the feedback.

### 3.3 Descriptive Statistics

From the financial report of BNO (2012), the annually total revenue and average numbers of employees for Dutch design companies is attained. (Table 1) Based on this, I calculated the annual revenue per employee through dividing total annual revenue by total number of employees. It is noticeable that the numbers attained include one-person design company (zzp'er), and design companies larger than one person (ontwerp bureaus); the number however doesn't include design employees from non-design dedicated commercial companies. The information is arranged in table1.

	<b>Total Annual Revenue<sup>7</sup></b> <b>(Million Euro)</b>	<b>Number of designers<sup>8</sup></b>	<b>Annual Revenue per employee<sup>9</sup> (Euro)</b>
<i>2009</i>	532	7080	75141
<i>2010</i>	491	6739	72859
<i>2011</i>	501	6995	71623
<i>2012</i>	499	6135	81337
<b>Average</b>	<b>506</b>	<b>6737</b>	<b>75068<sup>10</sup></b>

**Table 1 Annual revenue, Number of designers, and Annual revenue per employee**

Source: BNO Branchemonitor (Feb, 2014)

With the information from Table 1, the average revenue per employee is calculated. As a result, this report will use **€75000** as the benchmark of the middle level of annual revenue per employee for a

<sup>7</sup> Total Annual Revenue: Distribution of turnover by number of workers and sectors (attained from table 2.1 Verdeling omzet naar aantal werkenden en discipline, 2009-2012), including industrial, graphic, interior design companies.

<sup>8</sup> Number of designers: attained from Table 3.1 in BNO Branchemonitor, Verdeling aantal werkenden naar discipline (Aantal personen), 2009-2012.

<sup>9</sup> Annual Revenue per employee is attained from dividing Total annual revenue by Annual number of designers.

<sup>10</sup> Mathematically rounding error occurs when using different calculation methods. 75068 is the result from dividing average annual revenue by average number of workers. 75240 is the average from four years' annual revenue per employee. However, the error is very small and 75000 is taken as the average revenue per employee.



Dutch design company, and thus the dependent variable to analysis location and business performance will be a dummy variable 'revenue per employee'. It is noticeable that annual revenue per employee is defined to measure economic performance in this study, although some design entrepreneurs consider the number of their design projects per year as a main performance indicator. However, annual revenue and revenue per employee is highly correlated with number of design projects.

Among total respondents in the survey, 60 out of 102 are single person design entrepreneurs, 42 are design companies with size larger than one person. Within each type, there are 10 participants chose not to reveal the salary level. The indicator of annual revenue per employee yield two groups of unequal size with 21.56% earning more than €75000 per year and 78.43% earning less than €75000 per year.

The difference in the proportion of companies below and above benchmark €75000 average revenue per employee appears to be large, it can however be explained by the biased participant group from single design entrepreneurs. From the overall 102 respondents, the majority distribution is from single person design entrepreneurs, which has a share of 58.8%, while design companies with size larger than one person has a smaller contribution of 41.2%. Due to a large composition of one-person design start-ups, the average revenue is smaller than expected. To be more detailed, among 60 single person design companies, 58% are younger than 3.5 years old, and 45% founders have less than 3 years entrepreneurial experience. Therefore, the large portion of less experienced single design entrepreneurs may contribute to low business performance.

In order to have a more precise view on this reason that may cause uneven distribution of average annual revenue per employee, the next paragraphs will compare the average annual income separately for each group. Based on the statistics from BNO (2014), annual revenue for overall single-person design companies in each year was calculated. Same approach is used for design companies with size larger than one person (Ontwerpbureaus). The results are described in Table 2 and Table 3.

	<b>Total Annual Revenue<sup>11</sup></b> <b>(Million Euro)</b>	<b>Number of ZZp'ers</b>	<b>Revenue per employee</b>
2009	82	1590	51572
2010	86	1658	51870
2011	104	1639	63453
2012	102	1514	67371
<b>Average</b>	<b>93.50</b>	<b>1600.25</b>	<b>58428</b>

**Table 2 Annual revenue, Number of designers, and Annual revenue per employee**

**(For Single person companies/ Zzp'ers)**

Source: BNO Branchemonitor (Feb, 2014)

	<b>Total Annual Revenue<sup>12</sup></b> <b>(Million Euro)</b>	<b>Number of employees in</b> <b>Design companies</b>	<b>Revenue per employee</b>
2009	450	5490	81967
2010	405	5081	79709
2011	397	5356	74122
2012	397	4620	85931
<b>Average</b>	<b>412.25</b>	<b>5136.75</b>	<b>80255</b>

**Table 3 Annual revenue, Number of employees, and Annual revenue per employee**

**(For Design companies with size larger than one person/ Ontwerpbureaus)**

Source: BNO Branchemonitor (Feb, 2014)

From Table 2 and Table 3, BNO statistics show that €58000 is the average level of annual revenue per employee for single person design entrepreneurs, while €80000 is the average for design agencies with size larger than one person.

<sup>11/ 12</sup> Total annual revenue for only Zzp'ers; Total annual revenue for only Ontwerpbureaus:  
Table 2.3 Verdeling omzet naar aantal werkenden, 2009 – 2012, BNO Branchemonitor(2014)

As a comparison, for single design entrepreneurs, the indicator calculated in below table yields two groups of unequal size with 12% earning more than €58000 per year and 88% earning less than €58000 per year. For companies with size larger than one person, the indicator yield two groups of exact equal size with 50% earning more than €80000 per year and 50% earning less than €80000 per year.

Therefore, the reason for such unequal ratio of overall the revenue per employee (21.56% earning more than €75000 per year and 78.43% earning less than €75000 per year) from collected data can be explained by the low business performance from signal person design companies.

### 3.4 Empirical Settings:

#### 3.4.1 Creative centered regions

Marlet and Woerkens (2005) investigated the Dutch city attraction to the creative class. They found out that the creative class tends to locate within the core cities (K31<sup>13</sup>) rather than the rest of the country (Table 3, Table 4). Statistics show that core cities had 23.9% of total labor force belongs to the creative class in 2004. Moreover, agglomerated western part, i.e. Randstad, has highest concentration of the creative class as compared to the other parts. However, the increase in the share of Dutch creative class in this area appeared to be smaller, with a growth rate of 3.0% while the rest of the country was growing at 3.3%. Next to that, Marlet and Woerken (2005) discovered the growth was approximately the same in core cities and in the rest of the country from 1996 to 2004. The growth tends to move towards the southern parts of the Netherlands, and regions outside the agglomerated Randstad region, such as Amersfoort, Nijmegen and Den Bosch.

	Share 1996 (%)	Share 2004 (%)	Increase of Share (%)
<i>Netherlands</i>	16.2	19.4	3.3
<b>Core cities (K31)</b>	20.8	23.9	3.2
<b>Rest of the country</b>	13.8	17.2	3.3
<b>West (Randstad)</b>	19.2	22.2	3.0
<i>North</i>	11.7	15.1	3.4
<i>East</i>	14.5	17.6	3.2
<i>South</i>	13.8	17.6	3.8

<sup>13</sup> K31: see appendix for full list of K31 cities,.

**Table 3 Regional changes in share and growth of the creative class in the Netherlands, 1994-2004**

Top 16 Core Cities		Share of Creative Class in Total Labor Force
1.	Utrecht	32.9%
2.	Leiden	31.8%
3.	Nijmegen	31.6%
4.	Delft	28.8%
5.	Amersfoort	28.6%
6.	Amsterdam	27.2%
7.	's-Hertogenbosch	27.1%
8.	Haarlem	26.7%
9.	Groningen	26.5%
10.	Hilversum	26.2%
11.	Eindhoven	26.2%
12.	Den Haag	23.7%
13.	Breda	23.2%
14.	Arnhem	23.2%
15.	Apeldoorn	20.9%
16.	Rotterdam	20.8%

**Table 4 Top 16 core cities of K31 with regional share of creative class in total labor force**

According to the statistics of CBS<sup>14</sup> (2011), the average employment of designers and single design entrepreneurs throughout Holland, in the level of COROP<sup>15</sup> area, from 2007 to 2009, Groot Amsterdam, Groot Rijnmond, Utrecht, Agglomeratie 's-Gravenhage are the regions with largest

<sup>14</sup> CBS: Centrum voor Beleidsstatistiek, Werkzame personen en vormgevers naar COROP-gebied, gemiddelden 2007-2009

<sup>15</sup> COROP: A COROP region is a regional area within the Netherlands. These regions are used for analytical purposes by, among others, Statistics Netherlands. The Dutch abbreviation stands for Coördinatiecommissie Regionaal Onderzoeksprogramma, literally the Coordination Commission Regional Research Programme.

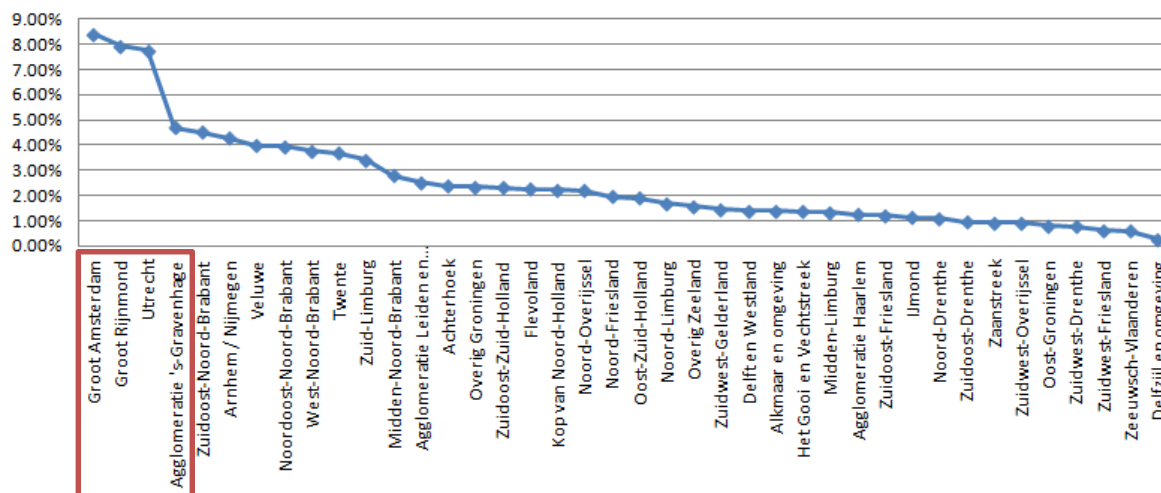
amount of designer employment, including self-employed design entrepreneurs (Table 5). In order to have a clearer vision, Figure 1 was made to illustrate the share of regional designer employment as a percentage of total designer employment in the country in 2007-2009.

		<b>Employment (X 1000)<sup>16</sup></b>	<b>Regional employment/Total employment</b>
1.	Groot Amsterdam	689.8	8.42%
2.	Groot Rijnmond	649.5	7.93%
3.	Utrecht	635.5	7.75%
4.	Agglomeratie 's-Gravenhage	384	4.69%
5.	Zuidoost-Noord-Brabant	369.4	4.51%
6.	Arnhem / Nijmegen	350.4	4.28%
7.	Veluwe	325.6	3.97%
8.	Noordoost-Noord-Brabant	324.1	3.95%
9.	West-Noord-Brabant	308.2	3.76%
10.	Twente	300.9	3.67%
11.	Zuid-Limburg	279.9	3.42%
12.	Midden-Noord-Brabant	229.8	2.80%
13.	Agglomeratie Leiden en Bollen	205.9	2.51%
14.	Achterhoek	195.4	2.38%
15.	Overig Groningen	191.3	2.33%

**Table 5 Average employment of designers and single designer entrepreneurs in top 15 regions; regional designer employment as a share in total country level, NUTS 3 Level, 2007-2009**

<sup>16</sup> Total employment of designers are 8195.4 from all COROP regions, average 2007-2009

### Average share of regional employment of designers and single designer entrepreneurs throughout Holland



**Figure 1 NUTS 3 Level regional designer employment as a share of total design employment in the Netherlands, 2007-2009**

Figure 1 shows that the regional employment of designers, including self-employed designers, as a share of country level design employment, has the highest level in west agglomerated Randstad region of Groot Amsterdam (8.42%, see Table 2), Groot Rijnmond (7.93%), Utrecht (7.75%), and Agglomeratie 's-Gravenhage (4.69%). This result is in line with the discovery from Marlet and Werkens (2005) stating that Randstad region has the largest share of creative class in total employment. Base on this result, the report will use Randstad regions as the most concentrated part for creative class in Holland. Nevertheless, it is noticeable that Rotterdam is the 16th highest high concentrated place with creative people according to the data from Marlet and Werkens (2005), but the Groot Rijnmond region became the second high concentrated region for designer in 2009 as shown in the statistics from CBS. One explanation is because South Holland has highest growth in the share of creative people from 1996 to 2004 and the speed remained at 3.8% (Table 3) in the following years. Another explanation could be the relatively higher population of total employment in Rotterdam compare to other cities.

As a result from below discussion, this report will use Randstad regions as the most concentrated part for creative class in Holland.

### **3.4.2 Human Capital**

Human capital's impact on the business performance is considered in this research. The measurements cover the aspect of: education background of the entrepreneur; if the entrepreneur works full-time or part-time in the company; and the number of designers and total employees working for the company.

As suggested by Wenting et al. (2010), the academic level of design entrepreneurs, i.e., whether the entrepreneur has an educational background of bachelor or higher in design program, is an important determinant of personal income.

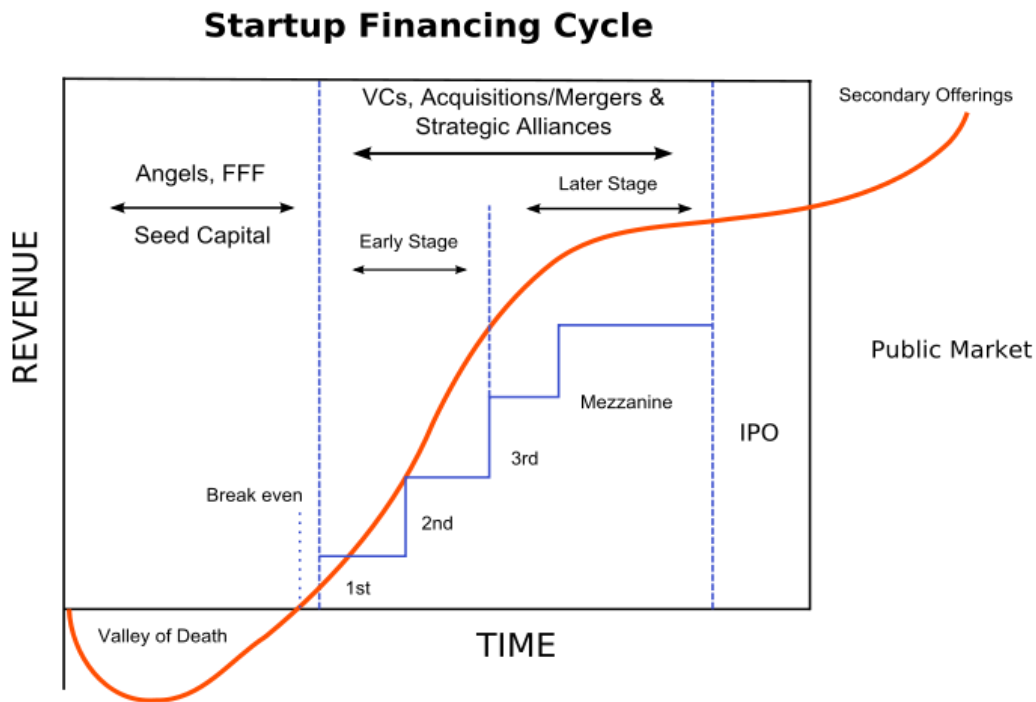
Another important human capital factor to be considered is whether the design entrepreneur works full-time or part-time in his own company. This report defines full-time working as more than 32 hours per week on either design, managerial or entrepreneurial activities. From the data collected in the report, 81.37% of design entrepreneur respondents are classified as full-timers.

The last indicator for human capital is the number of employees hired as designers in the company. According to the statistics from BNO (2014), the average number of designers for design companies in the Netherlands is 3 from 2009 to 2012. Therefore, 3 designers will be used as a benchmark in this study. Next to that, based on the feedback from pilot survey, 10 total employees will be used as a benchmark in the test.

### **3.4.3 Company age**

Previous business studies have found evidence that 3 - 4 years is a milestone for startups to complete the development and introduction stage, and start to grow by earning profits if they survived in the market (Stalk Jr. and Hout, 1990). Figure 2 illustrates financing life cycle for startups on different stages.

Davidson (2012) also argued that startup firms will pass the introduction stage and start to earn profit in the third and subsequent years. The actual time frame to company profitability is entirely dependent upon how much start-up capital is needed to create the products and services, and how much money is drawn from the company for compensation and investor servicing.



**Figure 2 Startup Financing Cycle on different stages (Source: Wikipedia<sup>17</sup>)**

In this research, 3.5 years will be used as a benchmark time for design entrepreneurs to start earning revenues in addition to the regular revenue. From the collected result, there is an equal distribution with regard to company ages: 50% design companies are less than 3.5 years old, while the other half are older than 3.5 years.

### 3.5 Assumptions for the hypothesis

As concluded from the previous section 3.4, assumptions can be given as following:

**Assumption 1:** Agglomerated western part, i.e. Randstad area, has highest share of the creative class in Holland, as compared to the other regions

**Assumption 2:** Regions of Groot Amsterdam, Groot Rijnmond, Utrecht, Agglomeratie 's-Gravenhage have the highest concentration of designer employment, including single design entrepreneurs.

<sup>17</sup> Source: [https://en.wikipedia.org/wiki/Startup\\_company](https://en.wikipedia.org/wiki/Startup_company)



## Chapter 4 Empirical Models

In this chapter, the estimated model for analyzing data is introduced in Section 4.1, the entire dataset used for estimation will be described in Section 4.2, where in the end of each sub section, the empirical models for testing the hypothesis are formulated.

### 4.1 Model set-up

To answer the **first** question (What do design entrepreneurs value as important in making location decisions?), and to test the first four hypotheses, a statistical model (Model A) is designed to explain the revealed preference when design entrepreneurs are making locational choices. Model A will estimate to what extent different factors, i.e. tolerance, aesthetics, urban amenities, and accessibility to potential employees can explain the location choice of Dutch design entrepreneurs. The model is designed as a logit model. The dependent variable is set as a dummy variable, which measures the location of the design company:

- = **1**: If the company is located in regions with relatively higher share of regional designer employment in total country level design employment, i.e., the Randstad areas (Groot Amsterdam, Groot Rijnmond, Utrecht, and Agglomeratie 's-Gravenhage);
- = **0**: If the company is located in the rest regions in the Netherlands.

To answer the **second** question (What are the most important factors that are beneficial to the business performance of design entrepreneurs?), and to test the last three hypotheses, another statistical model (Model B) is set up to estimate the impact on the business performance measured by annual revenue per employee of design companies. Specifically, to what extent by locating in regions with high concentration of design companies and designers can be a locational and financially benefit for the design company. The main interested variable is location, while the impact from other variables, from the aspects of collaboration levels, entrepreneurs' experience, companies' market segmentation measurements, and companies' human capital, will also be taken into account in the estimation. Model B is also designed as a logit model. The level of revenue per employee will be used as dependent variable to measure business performance:

- = **1**: If the average revenue per employee of the design company is larger than €75000 per year;
- = **0**: If the average revenue per employee of the design company is smaller than €75000 per year.

## 4.2 Model and Variable Specifications

### 4.2.1 Model A (hypotheses H<sub>1</sub>- H<sub>4</sub>):

Model A is designed to examine on the locational behavior of design entrepreneurs, i.e., the revealed preference when design entrepreneurs are making locational choices.

Main investigated factors in Model A are Tolerance (measured by variable Gay Index, Bohemian Index, Melting pot Index), Urban amenities (Measured by variable Café, Cinema, Inspiration, Reputation), Aesthetics (Measured by variable Nature, Historical buildings), Accessibility to potential employee (Measured by variable Talent)

Independent variable specification for Model A is listed below:

#### 1. Tolerance indicators:

**GAY:** to what extent does a design entrepreneur choose to locate business in places where different sexual preference feels welcome;

**BOHEM:** to what extent does a design entrepreneur choose to locate business in places with a large share of artists;

**MPOT:** to what extent does a design entrepreneur choose to locate business in places with a large share of foreign-born people

#### 2. Urban amenity indicators:

**CAFÉ:** to what extent does a design entrepreneur choose to locate in places with a large amount of cafes/restaurants/bars;

**CINEMA:** to what extent does a design entrepreneur choose to locate in places close to theaters/cinemas;

**CRIME:** to what extent does a design entrepreneur choose to locate in places with relatively low level of crime;

**INSPIRATION:** to what extent does a design entrepreneur consider a place with inspirational environment is important for the location of his business;

**REPUTATION:** to what extent does a design entrepreneur consider a city's reputation is important for the location of his business

#### 3. Aesthetics indicators:

**NATURE:** to what extent does a design entrepreneur choose to locate business in places close to nature scenery

**HIST:** to what extent does a design entrepreneur choose to locate business in places with a large share of historical buildings

#### 4. Proximity to potential employees:

**TALENT:** to what extent the design entrepreneur choose to locate his business in places with university or college has design students

#### 5. Control variables:

**AGGECO:** to what extent the design entrepreneur choose to locate the company in the area where other design companies also locate in

**ALLIANCE:** to what extent the design entrepreneur choose to locate the business in place with easy proximity to parties/partners who have business collaboration/agreement with

**TRANSPORT:** to what extent the design entrepreneur choose to locate the company in places with easy access to public transport

**SUPPLIER:** to what extent the design entrepreneur choose to locate in places with easy proximity to resources or suppliers

**CONSUMER:** to what extent the design entrepreneur choose to locate in places with easy proximity to consumers

**FAMILY:** to what extent the design entrepreneur choose to locate close to their family or friends

**HPRICE:** to what extent the design entrepreneur choose to locate in the place he/she can afford the housing price for the start-up company

Dependent variable RANDSTAD:

**RANDSTAD** = locations

= **1**, If the company is located in regions with relatively higher share of regional designer employment in total country level design employment, i.e., the Randstad areas (Groot Amsterdam, Groot Rijnmond, Utrecht, and Agglomeratie 's-Gravenhage);

= **0**, if the company is located in the rest regions of the Netherlands

Therefore, the equation for Model A is shown as below:

#### MODEL A:

**RANDSTAD =**

$$\beta_1 \text{GAY} + \beta_2 \text{BOHEM} + \beta_3 \text{MPOT} + \beta_4 \text{CAFE} + \beta_5 \text{CINEMA} + \beta_6 \text{CRIME} + \beta_7 \text{INSPIRATION} + \beta_8 \text{REPUTATION} + \beta_9 \text{NATURE} + \beta_{10} \text{HIST} + \beta_{11} \text{AggEco} + \beta_{12} \text{ALLIANCE} + \beta_{13} \text{TALENT} + \beta_{14} \text{TRANSPORT} + \beta_{15} \text{SUPPLIERS} + \beta_{16} \text{CUSTOMERS} + \beta_{17} \text{FAMILY} + \beta_{18} \text{HPRICE} + \epsilon$$

#### 4.2.2 Model B (hypotheses H<sub>5</sub>- H<sub>7</sub>): :

Model B is designed to examine the business performance accordingly to the location of design entrepreneurs, i.e., if locating the design business in a creative centered area can be an economically advantage to the business performance.

As measurement approaches clarified in Chapter 2.3.2, main interested variable in Model B is location. Next to that, the impact of other variables are also investigated, from the aspects of collaboration (measured by variable Collab), level of experience (measured by variable Spinoff, Serial, Years of Entrepreneurship, Company age), Market segmentations, Human capital (Measures by variable Education, Fulltime, Number of Employees, Number of Designers, and founder's confidence level in ).

Independent variables specification of Model B is listed below:

##### 1. Randstad indicator:

**RANDSTAD:** if the design company is located in creative centered area, i.e. Groot Amsterdam, Groot Rijnmond, Utrecht, and Agglomeratie 's-Gravenhage.

##### 2. Level of Collaboration:

**COLLAB:** to which level does the design entrepreneurs consider collaboration is important for his company, from level 1 to 10.

##### 3. Experience indicator:

**SPINOFF:** if the design entrepreneur has been working as a designer employee in other companies before start-up

**SERIAL:** whether the design entrepreneur had/or still has a design company except the current company

**YrsEntrep:** whether the company founder has more than 3 years' entrepreneurial experience

**CompanyAge:** whether the studied company is more than 3.5 years old.

#### 4. Other variables (Human Capital indicator):

**EDUCATION:** whether the entrepreneur has an educational background of bachelor or higher in design program

**FULLTIME:** whether the design entrepreneur works full-time or part-time in his own company

**NUMEMP:** whether the design company hires more than 10 employees in total, including designers

**NUMDESIGNER:** whether the design company hires more than 3 designers, including the founder himself

**CONFIDENCE:** the entrepreneur's level of confidence, from level 1 to 7.

#### 5. Other variables (Market indicator):

**MARKET:** does the firm intend to be active in domestic market, or in international market; indicator of market segment.

#### Dependent Variable Revenue per Employee:

The dependent variable measures the business success and performance of the design company.

**REVPE:** Revenue per employee, the key indication for the business performance of design entrepreneur's company

**REVPE = Business performance**

= **1**, If the average revenue per employee of the design company is larger than €75000 per year;

= **0**, If the average revenue per employee of the design company is lower than €75000 per year

Therefore, the equation of model B is provided below:

**MODEL B:**

**REVPE =**

$$\beta_1 \text{Randstad} + \beta_2 \text{COLLAB} + \beta_3 \text{SPINOFF} + \beta_4 \text{SERIAL} + \beta_5 \text{YrsEntrep} + \beta_6 \text{CompanyAge} + \\ \beta_6 \text{MARKET} + \beta_7 \text{EDUC} + \beta_8 \text{FULLTIME} + \beta_9 \text{NUMEMP} + \beta_{10} \text{NUMDESIGNER} + \beta_{11} \text{CONFIDENCE} \\ + \varepsilon$$

## Chapter 5. Result

This Chapter is dedicated to explain the empirical study results which are supposed to answer the main questions. Results from Model A and Model B will be discussed separately, as well the goodness-of-fit for the model. In the end, Section 5.3 will summarize the results in general and check if the hypotheses are rejected or otherwise.

### 5.1 Result Model A

#### MODEL A:

#### RANDSTAD =

$$\beta_1 \text{GAY} + \beta_2 \text{BOHEM} + \beta_3 \text{MPOT} + \beta_4 \text{CAFE} + \beta_5 \text{CINEMA} + \beta_6 \text{CRIME} + \beta_7 \text{INSPIRATION} + \\ \beta_8 \text{REPUTATION} + \beta_9 \text{NATURE} + \beta_{10} \text{HIST} + \beta_{11} \text{AggECO} + \beta_{12} \text{ALLIANCE} + \beta_{13} \text{TALENT} + \\ \beta_{14} \text{TRANSPORT} + \beta_{15} \text{SUPPLIERS} + \beta_{16} \text{CUSTOMERS} + \beta_{17} \text{FAMILY} + \beta_{18} \text{HPRICE} + \varepsilon$$

The purpose of **Model A** is to investigate in the factors which have impact on a design entrepreneur's location choice for his company; factors which would increase the possibility of a design company being located in a Randstad city (Amsterdam, Den Haag, Rotterdam, and Utrecht). The main interested variables for Model A cover a range of 4 aspects, which are Tolerant, Amenity, Aesthetics, and Accessibility to potential employees. For each aspect, three to four variables are taken into account as the measurements for this aspect. Hence, the rest variables other than main interested variables are set as the baseline in Model A: Accessibility to talents; accessibility to public transportation; accessibility to suppliers or customers, accessibility to family; and the housing price in the area. The simplified baseline model is:

$$\text{RANDSTAD} = \beta_{13} \text{TALENT} + \beta_{14} \text{TRANSPORT} + \beta_{15} \text{SUPPLIERS} + \beta_{16} \text{CUSTOMERS} + \beta_{17} \text{FAMILY} + \\ \beta_{18} \text{HPRICE} + \varepsilon$$

Before a start of running test for the hypotheses, a test on collinearity should be examined.

As shown from Table 6, the following variables present signs of collinearity:

The ratios of gay population (Gay), artists (Bohem), and foreign-born people (MPot) in the whole population are partially correlated with each other (0.55, 0.63, 0.58). Next to that, number of cinema and number of café are partially correlated (0.59). The reputation and the level of inspiration of the located place for the design entrepreneur also have partial collinearity (0.52).

Therefore, to avoid biased analysis due to collinearity issue, variables mentioned above are tested in separate models.

	Gay	Bohem	Mpot	Cinema	Reputation
Gay	1.0000				
Bohem	0.5468	1.0000			
MPot	0.5835	0.6319	1.0000		
Cafe	0.3964	0.3146	0.3374	0.5913	
Inspiration	0.0087	0.3074	0.1399	0.1266	0.5231

**Table 6 Collinearity Overview among Independent Variables (Model A)**

As is shown from below Table 7a, Table 7b, whether a design entrepreneur would locate his business in creative centered area (Randstad) is influenced by a place's urban amenity level and tolerant level.

The impact of urban amenity level on design entrepreneur's location choice is mainly reflected in two aspects: crime level and number of cafes in the city. From model 3, 4, and full models, number of cafes shows positive impact on the possibility of a design company to be located in a creative centered area. Next to that, such possibility would drop when the design entrepreneur sees a high level of crime rate in the place.

With regard to the impact of tolerance level on the design entrepreneur's location choice, it is reflected in three aspects, which are the share of gay people in the total population (Gay Index), share of foreign born people in the whole population (Melting pot Index), and share of artists in the whole population (Bohemian Index).

Larger amount of gay population in the total population increases design entrepreneur's possibility to locate his company in a Randstad region. Similarly, a design entrepreneur has larger chance to locate his business in creative centered area if the place has a larger share of foreign-born people in the whole population. Next to that, a higher percentage of artists in the city also increases the likelihood of a design entrepreneur to locate his business in a creative centered area. However, tolerance level will no longer influence the location decision when the design entrepreneur also takes into account the importance of agglomeration (place where other design companies also located in) and alliance (easy proximity to parties who have business collaboration with the company). However, if the place has other design companies located in, or if the place has easy



proximity to the company's collaborated parties, have no influence on the founder's location choices.

It is noticeable that for Bohemian Index, it still has positive effects on the location decision even when non amenity variables (café, cinema, inspiration, reputation, crime) is considered. As shown in Model 4, the last test including only baseline control variables, aesthetics variables, and Bohemian Index. Therefore, such result indicates that even if the design entrepreneur does not consider about the amenity factors when choosing his business location, the possibility of locating the company in a Randstad area would increase if is a larger share of artists in the overall population.

		1 (Baseline model)	2 (Baseline + Aesthetics)	3 (cafe + Inspiration)	3 (cafe + Reputation)	3 (Cinema + Inspiration)	3 (Cinema + Reputation)
1	Gay						
2	Bohem						
3	Mpot						
4	Cafe			0.55***	0.59***		
5	Cinema					0.15	0.15
6	Crime			(0.50)***	(0.44)**	(0.34)*	(0.27)*
7	Inspiration			0.14		0.21	
8	Reputation				(0.20)		(0.08)
9	Nature		(0.08)	0.02	(0.02)	(0.02)	(0.04)
10	Hist		(0.08)	(0.31)	(0.27)	(0.20)	(0.14)
11	AggEco						
12	Alliance						
13	Talent	(0.06)	(0.04)	(0.10)	(0.07)	(0.04)	(0.07)
14	Transport	0.03	0.07	(0.06)	0.01	0.04	0.01
15	Suppliers	0.02	0.02	0.08	0.11	0.01	0.10
16	Customers	0.02	0.02	0.08	0.08	0.06	0.08
17	Family	(0.09)	(0.08)	(0.12)	(0.12)	(0.07)	(0.13)
18	Hprice	(0.10)	(0.08)	(0.17)	(0.19)	(0.12)	(0.19)

	4 (Gay)	4 (Bohem)	4 (MPOT)	4 (Bohem with NO Amenity)	5 (FULL)	6A (FULL +)	6B (FULL +)	7 (FULL +)	8 (FULL +)
1	Gay	0.25*			0.23	0.28*		0.14	0.16
2	Bohem		0.27*	0.25*				0.15	0.14
3	Mpot		0.33*				0.39*	0.23	0.23
4	Cafe				0.52***	0.69***	0.69***	0.55***	0.68***
5	Cinema	0.11	0.15	0.14		(0.22)	(0.18)		(0.20)
6	Crime	(0.38)**	(0.36)**	(0.42)**	(0.53)**	(0.52)**	(0.55)***	(0.54)**	(0.53)**
7	Inspiration	0.26	0.10	0.20	0.34	0.51*	0.41	0.44	0.42
8	Reputation					0.38	(0.39)*	(0.38)	(0.38)
9	Nature	0.01	0.01	(0.02)	(0.06)	0.02	(0.35)	(0.04)	(0.03)
10	Hist	(0.22)	(0.22)	(0.21)	(0.12)	(0.30)	(0.32)	(0.30)	(0.32)
11	AggEco					(0.29)	(0.26)	(0.21)	(0.30)
12	Alliance					0.02	(0.01)	(0.02)	(0.01)
13	Talent	(0.11)	(0.10)	(0.12)	(0.10)	(0.13)	(0.07)	(0.11)	(0.13)
14	Transport	(0.01)	0.03	0.05	0.03	(0.08)	(0.07)	0.01	0.00
15	Suppliers	0.05	0.03	0.02	0.04	0.04	0.14	0.13	0.11
16	Customers	0.07	0.11	0.07	0.05	0.08	0.03	0.05	0.07
17	Family	(0.09)	(0.07)	(0.08)	(0.09)	(0.20)	(0.25)	(0.23)	(0.26)
18	Hprice	(0.12)	(0.13)	(0.13)	(0.09)	(0.11)	(0.17)	(0.22)	(0.19)

**Table 7a, 7b Model A Testing Results Overview (From Baseline Model to Full Model)**

In order to investigate further on the impacts and relationships among variables, café and cinema are tested in the same model although they are partially correlated. As shown in the full models (Model 6), the result doesn't vary much compare to previous models, café numbers still have positive impact while crime level has negative impact on the probabilities of design entrepreneur's choice to locate his company in the Randstad area. However, inspiration level becomes positively important with the combination of Gay index included in the model. Also, the city's reputation will start to have negative influence when Melting pot Index is considered.

With similar purpose, Gay, Bohemians, Melting pot were put into same model (Model 7), The result shows that when including all tolerance variables in the same model, a place's tolerance level will no longer be influential on design business' location choice. The explanation could be due to collinearity issue among Gay Index, Bohemian Index, and Mpot Index, because they measure similar things. Last but not least, when including all variables in one model (Model 8), only the number of cafes and crime rate remain significant impact on the entrepreneur's location choice.

It is important to be aware that the coefficients from previous discussions (Table 7A, 7B) are not able to be interpreted, because the tests were done by logistics models. In order to have a more detailed understanding on the level impact on location choices, the report further investigate on the odds ratio

for influential variables.

Table 8 presents the odds ratio for main interested variables in the models.

It is noticeable that for Gay Index, Bohemian Index, and Melting pot Index have similar level of impact on the location choice. A higher level of gay group/artists/foreign born cohort as a percentage in the overall population will increase the chance of a design entrepreneur to locate his company in Randstad region by around 1.3 times, *ceteris paribus*<sup>18</sup>. Next to that, if the place has one level larger amount of cafes, the founder will have roughly 2 times higher chance to locate his design business in the Randstad area, (c.p.). Also, when the share of gay population is taken into account, one level higher amount of inspiration for the design entrepreneur in the city can increase the possibility of locating in Randstad by nearly 2 times if the (c.p.).

With regard to the crime level and city's reputation, they tend to have negative influences on the possibility of locating a design business in the Randstad. For each level increase in the crime rate of a place, the possibility of not locating in the Randstad region will increase by 1.6 times<sup>19</sup> (c.p.). While a higher level of city's reputation will also increase the possibility of not locating in Randstad area by 1.5 times higher (c.p.), this impact only exists when the share of foreign born people is considered in the model.

		Model 3 (Cafe + Inspiration)	Model 4 (Gay +)	Model 4 (Bohemian +)	Model 4 (Mpot+)	Model 5 (Full)	Model 6A (Full +)	Model 6B (Full +)	Model 7 (Full +)	Model 8 (Full +)
1	Gay		1.28*			1.26	1.33*		1.15	1.17
2	Bohemian			1.31*					1.26	1.16
3	Mpot				1.39*			1.48*	1.16	1.26
4	Cafe	1.74***				1.68***	1.99***	1.99***	1.73***	1.97***
5	Cinema		1.12	1.17	1.15		0.80	0.83		0.82
6	Crime	0.61***	0.68**	0.70**	0.66**	0.59**	0.59**	0.58***	0.58**	0.59**
7	Inspiration	1.16	1.30	1.11	1.22	1.41	1.67*	1.51	1.56	1.52
8	Reputation						0.71	0.68*	0.68	0.69
	<i>Log likelihood</i>	(60.35)	(63.00)	(63.95)	(63.61)	(58.63)	(57.34)	(56.44)	(56.29)	(55.80)
	<i>Pseudo R2</i>	0.13	0.07	0.07	0.08	0.15	0.17	0.18	0.18	0.19

**Table 8 Model A Testing Results Overview, Coefficients in ODDS Ratio**

<sup>18</sup> *ceteris paribus*: will be used as (c.p.) in the follow up discussions.

<sup>19</sup> Odd ratio = 0.59, means that the odds for the reference group are  $1/0.59 = 1.6$  times as high as for the study group

### 5.1.1 Goodness-of-fit

As indicated from Table X, comparing Model 3 and Model 4 with Full Models, it is noticeable that value of log likelihood is smaller in full models than uncompleted models, while the value of Pseudo R2 is larger. Such changes in Log likelihood and Pseudo R2 both show a trend of better explained full models (Model 5, 6, 7, 8), compare to Model 3 and 4. The reason is due to more explanatory variables are added in full models. Comparing Model 8 (full model with all variables, including variables who have collinearity issues) with Model 5 (full model with no conflicts of correlated variables), it can be observed that the Model 8 is indeed better explained, with lower log likelihood and higher Pseudo R2. The impact of café becomes slightly stronger, while the impact of crime remains at the same level.

## 5.2 Result Model B

### MODEL B:

$$\begin{aligned} \text{REVPE} = & \\ & \beta_1 \text{Randstad} + \beta_2 \text{COLLAB} + \beta_3 \text{SPINOFF} + \beta_4 \text{SERIAL} + \beta_5 \text{YrsEntrep} + \beta_6 \text{CompanyAge} + \\ & \beta_6 \text{MARKET} + \beta_7 \text{EDUC} + \beta_8 \text{FULLTIME} + \beta_9 \text{NUMEMP} + \beta_{10} \text{NUMDESIGNER} + \beta_{11} \text{CONFIDENCE} \\ & + \varepsilon \end{aligned}$$

Model B aims to test if the location of a design company has impact on the company's business performance. The main interested variable in **Model B** is location. Except location factor, the study is also interested in the impact of entrepreneur's market focus, entrepreneur's experience and education level, company's level of collaboration on the company's business performance.

As shown from the collinearity test in Table 9, Company age and Years of entrepreneur is partially correlated (0.66), which is reasonable because the older the company is, the more likely the entrepreneur has more experience in terms of time. Next to that, number of designers and number of total employees are partially correlated (0.68). Therefore, to avoid collinearity, regression was run separately with company age and with Years of entrepreneur.

	Company Age	Number of Designers
Years of Entrepreneurship	0.6633	
Number of Employees		0.6767

**Table 9 Collinearity Overview among Independent variables (Model B)**

The rest variables other than interested variables are set as the baseline in Model B: spinoff, serial, fulltime, number of employee, and entrepreneur's confidence level. Hence, the baseline model is:

$$\text{REVPE} = \beta_1 \text{SPINOFF} + \beta_2 \text{SERIAL} + \beta_3 \text{FULLTIME} + \beta_4 \text{NUMEMPLOYEE} + \beta_5 \text{CONFIDENCE} + \varepsilon$$

The testing results for model B is shown in below Table 10 and Table 11. It is important to note that the coefficients in the table are already in Odds ratio, for the convenience of magnitude interpretations.

From both tests 1 and 2, the result shows a clear sign that no matter where a design entrepreneur locates his company, it does not affect the business performance of the company. In other words, by

locating in a Randstad city, the design entrepreneur can hardly gain financial advantage to earn an above average revenue per employee, which is 75000 euros per year.

Instead, Average annual revenue per employee is affected by the entrepreneur's experience and the company's human capital. With regard to the entrepreneur's experience, Spinoff tends to lower the chance of the company achieving higher business performance, i.e., if the design entrepreneur has worked as a designer for other companies before start-up, it will increase the chance of his company not earning an annual revenue per employee above 75000 euros by nearly 3 times<sup>20</sup> (c.p.). One explanation for this negative effect can be due to the founder's lacking of experience in being an entrepreneur, or having a start-up company is his second choice because of unemployment.

However, this impact will be no longer exist when year of entrepreneur or company age is taken into account. To be more concrete, design companies which are older than 3.5 years have higher chance (around 9 to 11 times<sup>21</sup>) of earning annual revenue per employee above 75000 euros (c.p.); founders with an entrepreneurial experience larger than 3 year are 11 to 13 times<sup>22</sup> more likely to reach the 75000 euro benchmark as well (c.p.).

Next to that, human capital also has positive influence on the company's business performance, from the aspect of number of designers and totally employees. Result shows that design companies with more than 3 designers would have larger possibilities (around 6 to 8 times<sup>23</sup>) to achieve above-average business performance (i.e.: annual revenue per employee larger than 75000 euros) (c.p.).

Moreover, a larger number than 10 employees hired in the design company will help to acquire business success by roughly 8 to 17 times<sup>24</sup> (c.p.).

Therefore, conclusions can be made that the founders' entrepreneurial experience and company's human capital do have positive impact on the company's business performance.

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<sup>20</sup> Odd ratio = 0.34, means that the odds for the reference group are  $1/0.34 = 2.9$  times as high as for the study group

<sup>21</sup> 9 to 11 times: the odds ratio for Company age in Full model (Model 6B), from both tables for test 1 and test 2

<sup>22</sup> 11 to 13 times: the odds ratio for Years of entrepreneurship in Full model (Model 6A), from both Tables for test 1 and test 2

<sup>23</sup> 6 to 8 times: the odds ratio for number of designers in Full models (Model 6A, 6B), test 2

<sup>24</sup> 8 to 17 times: the odds ratio for number of employees in Full models (Model 6A, 6B), test 1

		1 (Baseline model)	2 (+ Randstad)	3	4A	5A	6A (Full model)	5b	6B (Full model)
1	Randstad		1.98	1.98	1.97	1.91	1.92	1.93	1.93
2	Collaboration						1.04		1.08
3	Spinoff	0.38*	0.34*	0.34*	0.34*	0.40	0.40	0.44	0.44
4	Serial	2.86*	2.61	2.79	2.74	1.98	1.98	2.78	2.78
5a	YrsEntrep					12.30**	12.59**		
5B	CompAge							8.65**	9.22***
6	Market				1.61	1.98	1.92	1.68	1.61
7	Academy			0.68	0.64	0.57	0.55	0.43	0.40
8	Fulltime	1.46	1.76	1.84	1.55	1.17	1.07	1.42	1.25
9	NumberEmployee	22.48***	22.24***	21.28***	19.77***	18.28***	17.48***	9.31**	8.22**
10	Confidence	0.97	0.99	0.95	0.98	0.75	0.76	0.90	0.93
	Loglikelihood	(41.10)	(40.42)	(40.29)	(40.09)	(36.89)	(36.85)	(35.76)	(35.61)
	Pseudo R 2	0.23	0.24	0.24	0.25	0.31	0.31	0.33	0.33

**Table 10: Model B, Test 1 with Number of EMPLOYEES, Coefficients in Odds Ratio**

		1 (Baseline model)	2 (+ Randstad)	3	4	5A	6A (Full model)	5b	6B (Full model)
1	Randstad		2.09	2.10	2.04	1.92	1.92	1.93	1.87
2	Collaboration						1.14		1.16
3	Spinoff	0.38*	0.39*	0.36*	0.37*	0.47	0.47	0.50	0.51
4	Serial	1.82*	1.62	1.77	1.82	1.34	1.38	1.94	2.04
5A	YrsEntrep					10.11**	11.45**		
5B	CompAge							9.44***	10.68***
6	Market				1.94	1.96	1.79	1.77	1.62
7	Academy			0.64	0.59	0.54	0.51	0.43	0.40
8	Fulltime	1.10	1.33	1.45	1.43	0.88	0.64	1.08	0.79
9	NumberDesigner	10.18***	10.27***	10.00***	9.81***	8.48***	8.48***	6.02***	5.78***
10	Confidence	1.07	1.11	1.09	1.07	0.86	0.87	0.98	1.01
	Log likelihood	(41.77)	(40.97)	(40.82)	(40.40)	(37.53)	(37.07)	(35.71)	(35.07)
	Pseudo R2	0.21	0.22	0.23	0.24	0.29	0.30	0.33	0.34

**Table 11: Model B, Test 2 with Number of DESIGNERS, Coefficients in Odds Ratio**

In order to check to what extent does the partial collinearity between Company age and Years of Entrepreneurship matters, these two variables are put into the same model (see below Table 12, test 3). As a result, only Company age appear to be significant while years of entrepreneurship is no longer important. The result shows that the positive influence of older company age has approximately 5 times larger chance on the possibility of achieving higher business performance. The magnitude of influence appear to be smaller than the last two separate models, however, similar log likelihood and Pseudo R square shows same level of goodness-of fit. Next to that, the impact of human capitals (number of designers) remains same level of positive influence on business performance.

		1 (Baseline model)	2	3	4	5 (Full model)
1	Randstad		1.92	2.04	1.96	1.97
2	Collaboration					1.08
3	Spinoff	0.52	0.49	0.47	0.46	0.46
4	Serial	2.63	2.33	2.69	2.48	2.49
5	YrsEntrep	3.70	3.90	3.68	4.10	4.10
6	CompanyAge	4.49*	4.45	5.17*	4.90*	5.25*
7	Market				1.84	1.73
8	Academy			0.44	0.43	0.49
9	Fulltime	1.10	1.18	1.25	1.24	1.05
10	Number Employee	13.76***	13.38***	12.23***	11.10***	9.87**
11	Confidence	0.82	0.87	0.84	0.82	0.85
	Log likelihood	(36.49)	(35.94)	(35.52)	(35.23)	(35.08)
	Pseudo R2	0.31	0.32	0.33	0.34	0.34

**Table 12: Model B, Test 3 with both CompanyAge and YrsEntrepreneurship  
Coefficients in Odds Ratio**

Based on the discussion above, the main interested variable (locating in Randstad region) appears to have no impact on the design company's business performance. While entrepreneur's experience and human capitals help to accelerate business success. Although Randstad has insignificant impact in the results from Test 1, 2, and 3, it is still interesting to look at the interactions between Randstad and other variables. The report selected Collaboration, CompanyAge, Years of entrepreneur, Market, Number of employees to study when they interact with Randstad. The tests results are given in Table 13, on both baseline models and full models.



		A	B	C	D	E	A	B	C	D	E
		(Base)					(Full)				
1A	RandXCollab	1.16					1.17				
1B	RandXCompAge		1.68					2.68			
1C	RandXYrsEntrep			7.64*					11.59**		
1D	RandXMarket				0.17					0.09	
1E	RandXNumemp					0.94					1.94
1	Randstad	0.62	1.89	0.02	8.58	2.00	0.56	4.15	0.00*	11.61	1.79
2	Collaboration	0.95					1.01	1.10	1.06	1.09	1.08
3	Spinoff	0.32*	0.51	0.48	0.33*	0.34*	0.43	0.47	0.48	0.48	0.46
4	Serial	2.66	2.37	1.47	2.41	2.61	2.62	1.99	1.96	1.71	1.99
5	YrsEntrep			1.59			4.27	2.11	0.81	2.33	2.38
6	CompanyAge		2.55				5.23*	1.49	5.29	5.45*	4.99*
7	Market				4.08		1.80	1.87	2.55	5.39	1.88
8	Academy						0.40	0.39	0.37	0.50	0.50
9	Fulltime	1.61	1.22	0.50	1.47	1.70	0.96	0.71	0.48	0.60	0.73
10	Number Employee	22.13** *	11.38** *	19.29** *	23.07** *	22.78** *	10.13**	8.83**	9.83**	10.59**	7.86*
11	Confidence	0.99	1.05	1.03	1.00	0.99	0.85	0.97	1.04	0.92	0.92
	Log likelihood	(40.25)	(34.53)	(34.43)	(39.60)	(40.41)	(34.90)	(32.80)	(32.01)	(34.11)	(35.01)
	Pseudo R2	0.24	0.35	0.35	0.26	0.24	0.34	0.38	0.40	0.36	0.34

**Table 13: Model B, Test 4 Interactions between Randstad and Different Variables  
Coefficients in Odds Ratio**

It is notable that the impact of Randstad becomes significant when it interacts with Years of entrepreneurship. In other words, when the founder of a design company has over 3 years' entrepreneurial experience, the company will have larger likelihood to achieve higher business performance if it is located in a Randstad region. The probability can be 8 times larger in normal situation (Baseline model with only controlled variables), and be 12 times larger when all aspects (experience, human capital, collaboration, market size, and confidence) are taken into account. This finding proves that location indeed will help design entrepreneurs to grow their business, when the condition of founder's sufficient experience is met.

Next to that, the test has similar result as previous tests without interactions. Founders who have worked as a design in other companies before startup (Spinoff) will increase the chance of not achieving higher business success until his entrepreneurial experience has reached certain level (company age more than 3.5 years old, or he has being an entrepreneur for more than 3 years). Furthermore, a larger number of 10 total employees, or more than 3 designers hired in the design company can always help to boost the business performance. The probability of achieving higher than 75000 euros annual revenue per employee would be from 8 to 23 times larger than otherwise.

### 5.2.1 Goodness-of-fit

In this model, for both Test1 and 2, the value of log likelihood decreases when more variables are added into model, while the value of Pseudo R2 is increases. Changes in both Log likelihood and Pseudo R2 indicate a better explained model as more variables are taken into account. Comparing Test3 (model with both Company age and Years of entrepreneurship) with Test1 (model with Years of entrepreneurship only) and Test2 (model with only Company age), it can be observed that the value of log likelihood and Pseudo R2 from the full models do not have much variations when including both company age and Years of entrepreneurship. It can be explained by the partial collinearity between two variables.

## 5.3 Results in general

Before giving conclusion on the overall findings, it is helpful to first look back on the seven hypotheses raised in Chapter 2.2.

### (3) What factors affect design entrepreneur's location decisions?

**H<sub>1</sub>:** Design entrepreneurs who consider tolerance level important are more likely to locate business in creative centered area (Randstad region);

**H<sub>2</sub>:** Design entrepreneurs who consider urban amenities important are more likely to locate business in creative centered area;

**H<sub>3</sub>:** Design entrepreneurs tend to locate business in creative centered area when they think high level of aesthetics is important;

**H<sub>4</sub>:** Design entrepreneurs tend to locate business in creative centered area when they consider easy access to potential employees is important.

### (4) What are the most important factors that help to achieve better business performance for design entrepreneurs?

**H<sub>5</sub>:** Collaborations and design entrepreneurs' business performance are positively related.

**H<sub>6</sub>:** Previous entrepreneurial experience have positive impact on design entrepreneurs' business performance.

**H<sub>7</sub>:** Locating in creative centered area (Randstad area) have positively influence on design entrepreneurs' business performance.

To summarize what has been concluded from chapter 4.1, 4.2 for both model A and model B,

The possibility of a design entrepreneur locating his business in a creative centered area (Randstad area) is affected by a place's tolerance level, from aspect of the share of gay group, artists, and foreign-born people in the overall population. One level higher in the share of gay/artists/foreign born cohort increases possibility of a design company to be located in Randstad region by approximately 1.3 times. Next to tolerance level, urban amenity factors also matters in design entrepreneur's location decisions. If the place has one level larger amount of cafes, the founder will have around 2 times higher chance to locate his design business in Randstad area. Furthermore, when Gay index is taken into account, the possibility will increase by roughly 2 times if the city has one level higher amount of inspiration for the design entrepreneur.

For crime level and city's reputation, they tend to have negative influences. With each level increase in the crime rate, the possibility of not locating in the Randstad region increases by 1.6 times; when the share of foreign-born people is also considered, with each higher level of city's reputation, the possibility of not locating in Randstad area increases by 1.5 times higher.

On the other hand, the city's aesthetics level (from the aspect of natural sceneries and historical buildings), and the accessibility to potential employees do not affect design entrepreneurs' decision on where to locate the business.

With regard to business performance, a design entrepreneur has larger chance to earn a higher annual revenue per employee by locating the company in a Randstad region, only when he has an over 3 years' experience of being as an entrepreneurial. In this situation, the possibility can be increased up to 12 times larger.

Next to that, company founder's previous employment experience as a designer in other companies could be a barrier for his new startup to achieve better business performance. The negative effect will stay until he gains 3 years' entrepreneurial experience or his startup reaches 3.5 years old. Also, a design entrepreneur could accelerate the possibility of having a better business performance by boosting his experience of being an entrepreneur. Experience can be achieved via two approaches, increasing his years of being an entrepreneur, or letting the company grow as time pass by. The chance will be around 11 times larger in either approach.

Moreover, human capitals, which can be either number of employees or number of designers, can be very important to largely increase the chance of a company to earn an above average level of annual revenue per employee (75000 euros per year).

On the other hand, the design entrepreneur's confidence, education level, working period, and if the company is marketed domestically or internationally, do not have significant influence on the company's business success.

The discussions in previous paragraphs shows that Hypothesis 1, Hypothesis 2, and Hypothesis 6 are proven to be not rejected, Hypothesis 7 is correct under certain condition, while the rest hypotheses are rejected.

Therefore, an abridged summary can be given as below:

If a place has high tolerance level, or urban amenity level, then the possibility of a design entrepreneur to locate his business in a creative centered area (Randstad region) will be increased. In order to have more chance in achieving an above average business performance, a design entrepreneur could locate his company in a creative centered area, given the condition that he has already more than 3 years' experience of being an entrepreneur. The design entrepreneur could also accelerate his business performance by growing his entrepreneurial experience, his company's age, and by expanding employment level within the company.

## Chapter 6. Limitations

Before final conclusion is made, it is necessary to elaborate on the limitations present in the models. The limitations cover the aspect of sample size, data inconsistency, and variable measurements.

### 6.1 Small Sample Size

The result is analyzed based on the survey result of 102 respondents. The survey covers a range of design entrepreneurs from graphic design companies, industrial design companies, and interior design companies. According to the statistics in detelefoongids.nl, currently there are in total 762 design companies (173 graphic design companies, 473 industrial design companies, 116 interior design companies) in the Netherlands, hence the studied sample size is relatively small compared to the whole population.

### 6.2 Data inconsistency

Information on the distribution of the data is rather inconsistent.

From the overall 102 respondents, the majority distribution is from single person design entrepreneurs (Zipper), which has a share of 58.8%, while design companies with size larger than one person has a smaller contribution of 41.2%. Due to a large composition of one-person design start-ups with company age younger than 3 years old, the percentage of companies which earn an annual revenue per employee below 75000 euros is 78.4% while those who have above 75000 euros annual revenue per employee is only 21.6%. However, as discussed in Chapter 3.3, according to the statistics from BNO Branchemonitor (2014), the benchmark of average annual revenue per employee for Dutch design companies as a whole is 75000 euros. Therefore, the average revenue per employee found in the data for this report is far lower than the benchmark due to the uneven distribution from participants, which may further lead to a biased result.

Next to that, it must be noted that the survey was mainly collected in Eindhoven during Dutch Design Week 2014, there are 30 out of 102 companies located in Eindhoven design/artist centered area, which occupies a 37.3% of the total respondents.

### 6.3 Measurement of Randstad

The result analysis shows that a design entrepreneur's location decision doesn't have influence on his company's business performance, unless certain requirement is met. If he has less than 3 years' experience in being an entrepreneur, then locating the company in a design/artist centered area doesn't accelerate the revenue per employee. Therefore, Randstad itself has no positive impact on

the success of design business. One explanation might be the measurement for defining design/artist centered region. As discussed from Chapter 3.4.1, the location is divided into 2 levels, Level 1: if the company is located in one of the Randstad areas (Groot Amsterdam, Groot Rijnmond, Utrecht, and Agglomeratie 's-Gravenhage); Level 2: if the company is located in the rest regions in the Netherlands. In this measurement approach, location is treated as a dummy variable.

From survey, information was collected from the aspect of city, municipality, and postcode (first 4 digit). Further discussion could take advantage of postcode information and divide location level in a more detailed approach so that it could be used as a continuous variable. Although the result might still give the similar sign, the analysis would be more precise and the model would be better explained.

#### **6.4 Measurement of collaboration**

Information on the impact of collaboration level is rather biased. Collaboration in this report is defined as the collaboration of one design entrepreneur with the other design entrepreneurs, in the process of production, marketing, and also information and knowledge exchange. The question however caused confusion in the pilot survey testing, some design entrepreneurs had difficulties to understand and measure the level of collaboration in his company. Therefore, the survey question asked on “From level 0 – 10, which level do you consider collaboration is important to you company?” In this case, the response gives a rather subjectively stated preference (or target) of the design entrepreneur on the collaboration level, while the actual collaboration level of the company might be in a different state.

## Chapter 7. Conclusion and Discussion

In the last chapter of this report, firstly in Section 7.1, an overview of the main research questions and conclusions is summarized. Following section 7.2 will discuss and compare the commonalities and dissimilarities between the research results and findings from relevant literatures. The last section 7.3 will discuss the possibilities and recommendations for future research.

### 7.1 Conclusions

This research is set up to answer two questions:

- 1) What factors affect design entrepreneurs' location decisions?;*
- 2) What are the most important factors that help to achieve better business performance for design entrepreneurs?*

The first question aims to investigate on the locational behavior of design entrepreneurs, what factors are valued as important when it comes to location decisions. The second question was raised to investigate on whether there is a location advantage for design entrepreneurs, in regard to business performance, and what other factors help to accelerate the level of business success.

Based on the two main questions, seven hypotheses were raised and tested in the study.

Hypothesis 1 – 4 are dedicated to test to what extent does a city's tolerance level, urban amenity level, aesthetics level, and accessibility to potential employees influence the location decision of design entrepreneurs. Hypothesis 5 – 7 aims to test the advantage of locating a design business in a creative centered area, the advantage of having relatively large human capital, and the advantage of previous entrepreneurial or working experiences. As stated in Section 5.3, Hypothesis 1, Hypothesis 2, and Hypothesis 6 are proven to be not rejected, Hypothesis 7 is correct under certain condition, while the Hypotheses 3, 4, 5 are rejected.

Conclusions have been reached that:

For a design entrepreneur who considers tolerance level, or urban amenity factors important, has larger possibilities to locate his business in a creative centered area (Randstad region). Evidence proves that large share of gay population, artist population, and foreign-born group indeed attract design business to locate in the city. Next to that, design entrepreneurs are attracted to places with large amount of cafes, and they avoid cities with higher crime rate.

It is important to acknowledge that a place's aesthetics level such as nature sceneries and historical buildings doesn't help to attract design companies to locate in a creative centered area.

Furthermore, if a place has other design companies located in, or if the place has easy proximity to current collaboration partners have no significant impact on the location decisions. Moreover, accessibility to public transportations, to potential employees, and housing price seem to be less important for design entrepreneurs when it comes to the location decisions.

For a design company which is located in a creative centered area, and if the founder has a more than 3 years' experience of being an entrepreneur, the company then has higher chance in achieving an above average business performance. In order to achieve better business success in a way of revenue per employee, the design entrepreneur could also grow his entrepreneurial experience and his company's age, because longer entrepreneurial experience and startup age boosts the possibility of achieving an above average business performance. Next to that, it is also an approach to expand the employment level within the company for a stronger business performance.

## 7.2 Comparison

Based on the conclusions summarized in previous section, it is interesting to have a discussion on the commonalities and dissimilarities between finding from this report and from previous literatures.

Compare to the findings from Wenting, Atzema, and Frenken (2010), that urban amenities and city reputation attract business, however they have no positive impact on the fashion design business's economic success, this report find similar results. Evidence in this report shows that urban amenities attract design entrepreneurs to locate their business, and city reputation will attract design business only under certain circumstances.

However, with regard to business performance, Wenting et al (2010) concluded that locating in the Amsterdam fashion design cluster does not improve the income of entrepreneurs, while the finding in this report suggests that locating in Randstad region improves the revenue per employee of the design company, in condition to the design entrepreneur has more than 3 years entrepreneurial experiences. Next to that, the study from Wenting et al (2010) suggests that networking and previous working experience are crucial determinants of economic success, while this report find entrepreneurial experience on the founder and the design company's age helps the business



performance from the perspective of revenue per employee. However, with regard to and previous working experience, it may have negative impact on the economic success, and the collaboration level shows no significant impact.

Compare to Florida's theory, that creative class workers are attracted to places with high levels of urban amenities, aesthetics, and a city's openness and tolerance towards cultural and ethnical diversity; and compare to the findings of Boarnet (1994) that business prefers to locate in places with high combination of urban amenities and aesthetics, the result from this research is partly in line with them. This research suggests that design entrepreneurs (as creative class) prefers to locate in creative centered area if the place has high level of urban amenities, and tolerance, while aesthetics seems to have no significant impact on the location decisions.

### **7.3 Recommendations**

Although the main hypotheses are proven to be not rejected from empirical testing, further research is needed in order to have a more precise view on the location decision and related business performance for design entrepreneurs. Further research could be done based on a larger studied sample size, with more equal distributions of participated design entrepreneurs. In other words, a more even sample distribution is needed from the aspect of companies' human capital compositions and locations. Furthermore, the approach in measuring location level can be more detailed, for example a distinction by municipality level based on the first 4 digit in the postcode will give a better explained result. Lastly, actual and concrete collaboration level instead of subjectively stated preference on collaboration could be further collected for estimating model results.

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## Appendix (Questionnaire)

### 1. Part one: Location Choices for Dutch design entrepreneurs

#### 1. Company Information

City of your company's location

First 4 digits of the postal code (eg. 5044)

Your company's municipality

#### 2. Is design your company's core-competence, or core-activity?

- Yes
- No

If 'No', what is your company's main activity?

#### 3. When you were making location choices for your company, how did you evaluate the importance of following places ?

	Very Unimportant (1)	(2)	(3)	Neither Important nor Unimportant (4)	(5)	(6)	Very Important (7)
Place where people with different lifestyles and sexual preferences feel welcome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with a large share of artists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Places where foreign-born people feel welcome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 4. When you were making location choices for your company, how did you evaluate the importance of following places ?

	Very Unimportant (1)	(2)	(3)	Neither Important nor Unimportant (4)	(5)	(6)	Very Important (7)
Place with a large amount of cafes/ restaurants/ bars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place close to theaters/ cinemas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with a relative low level of crime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with other inspirational characteristics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with international reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**5. When you were making location choices for your company, how did you evaluate the importance of following places ?**

	Very Unimportant (1)	(2)	(3)	Neither Important nor Unimportant (4)	(5)	(6)	Very Important (7)
Place close to nature scenery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with a large share of historical buildings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place where other design companies also locate in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with easy proximity to parties/partners who have business collaboration/agreement with you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**6. When you were making location choices for your company, how did you evaluate the importance of following places ?**

	Very Unimportant (1)	(2)	(3)	Neither Important nor Unimportant (4)	(5)	(6)	Very Important (7)
Place has university/college with design students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place where is easy to get access to by public transport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with easy proximity to resources/suppliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place with easy proximity to customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place where my family and friends are	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place where the housing price is affordable for my company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**7. What other important factors did you concerned when choosing the location for your business?**

**2. Part Two: Location and business success for Dutch design entrepreneurs**

**8. Is your company a Zzp'er (single design entrepreneur), or a non-Zzp'er (design companies with size large than 1 person)?**

- Zzp'er (single design entrepreneur)
- Design company with size large than 1 person

**9. What is the revenue per employee in the last year for your company? (For both single design entrepreneurs and design companies with size larger than one person)**

- Lower than €35000
- €35000 – €55000
- €55000 – €75000
- €75000 – €95000
- €95000 – €115000
- Higher than €115000
- I don't want to answer this question

**10. If you choose not to answer Question 9, would you be willing to specify whether revenue per employee last year in your company was above or below €75000?**

- Lower than €75000
- Higher than €75000

**11. Which market does your firm intend to be active in?**

- Within the city my company located in
- Within the province my company located in
- Within the country (Holland)
- Within Benelux area
- Within Western Europe
- Within Europe
- Worldwide

**12. Did you own another company before starting the current design company?**

- Yes
- No

**13. Did you work as a design employee in other companies before starting your own company?**

- Yes
- No

**14. For how many years have you been working as an entrepreneur?**

- 1 - 3 years
- 3 - 6 years
- 6+ years

**15. How important is collaboration for your company, on a scale of 0 to 10?**  
**(Collaboration means the collaborations of you with other design entrepreneurs, including the collaboration in the production, marketing, and also information and knowledge exchange.)**

	Very Unimportant (0)	(1)	(2)	(3)	(4)	Neither unimportant nor important (5)	(6)	(7)	(8)	(9)	Very Important (10)
Collaboration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**16. Do you have an educational background of bachelor or higher in a design/ entrepreneurship related program?**

Yes

No

**17. What is the average educational background of all your employees, is it higher than bachelor degree?**

Yes

No

**18. Do you work more than 32 hours per week in your company?**

Yes

No

**19. How many designer employees (including you) are hired in your company?**

less than 3 employees

more than 3 employees

**20. What is the total number of workers (design+other) hired in your company?**

less than 10

11 - 30

31 - 50

more than 50

**21. Is your company younger or older than 3.5 years?**

Younger than 3.5 years

Older than 3.5 years

**22. To what level do you agree with the following statement, from 1 to 7.**

	Strongly Disagree			Neither Disagree Nor Agree			Strongly Agree
I believe myself have sufficient skills, knowledge and ability to run a business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

