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Ethics Statement

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

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or

b. advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University

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Abstract

This research focuses on understanding the locational decisions of both industrial and creative economy firms that have chosen to locate within Vancouver’s Mt Pleasant Slopes light industrial area between the time period of 1995 to 2015 in order to inform policy that seeks to intensify the use of industrial lands through new and complementary uses. Marshall’s theory of firm agglomeration is used as a framework to examine the locational decisions of firms through the factors of goods movement, labour and knowledge; a fourth factor is also developed as the built environment. Based on this framework, a survey along with semi-formal interviews were conducted in 2015 to develop a snapshot of an area undergoing rapid change. Through an analysis of both these qualitative and quantitative methods, labour and the built environment are supported as primary locational factors for existing firms in the area; an update of recent changes and pressures on the area are discussed, as well as future areas of research.

Keywords: creative economy; light industrial; production distribution repair; industrial lands; Mt. Pleasant Slopes; Vancouver economy
Dedication

I would like to dedicate this thesis project to my family.

Firstly, to my amazing wife, whose unconditional love and support has made this research possible while raising two young boys and working full time; secondly, to my mother and father who allowed me to find my own path; and lastly, to the memory of my late grandfather Winterbottom, whose quest for knowledge helped him survive as a WWII prisoner of war and thrive as a new immigrant to Canada.
Acknowledgements

This research project would not have been possible without the support and guidance of a variety of individuals.

First and foremost, I would like to thank my thesis supervisor, Dr. Patrick Smith. His guidance at key points in the research and understanding of the bigger picture, in both life and research, has made for a well-rounded research project. I would also like to thank my second supervisor Dr. Peter Hall whose expertise in economic geography and statistical methods gave this research a needed level of precision. Lastly, this research would not have been possible without the direction and feedback of my city planning colleagues and fellow students as the research question evolved and was executed.

Disclaimer

During the research period, the study author was employed by the City of Vancouver Planning Department but was not involved in planning work within the Mt Pleasant study area. All data was obtained through sources made publicly available and not through internal City of Vancouver databases. The analysis and recommendations contained in this thesis are that of the author and do not represent any City position.
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Chapter 1.

Introduction

1.1 Research Question

The focus of my research is to evaluate the locational decisions of firms located within Vancouver’s Mt Pleasant Slopes light industrial area in order to understand the factors that have attracted and retained both light industrial and creative economy firms within the area. The specific question that I will attempt to answer through my research and analysis of data related to the Mt Pleasant Slopes is:

*What are the factors that have allowed creative economy firms and light industrial firms to co-locate within the Mt Pleasant Slopes industrial area over the last 20 years?*

A secondary question relates to the purpose of the research and the outcomes I hope to achieve to inform future policy work:

*How can these factors inform urban planning work which seeks to increase the economic potential of light industrial lands through the introduction of new and compatible land uses?*

Answering these questions through researching the Mt Pleasant Slopes area is important to the development of future economic development and land use policy which seeks to intensify the use of industrial lands through new and complementary uses, such as the creative economy, to increase job activity and economic growth for Vancouver.

1.2 Definitions

Despite the extent of literature on the creative economy, a precise definition remains unclear. As governments and organizations have sought to implement theory into practice a hybrid of policy definitions have developed. Much of the literature cites the 1997 definition of the UK Creative Industry Task Force as stable and accepted: “those industries that have their origin in individual creativity, skill and talent and which have a
potential for wealth and job creation through the generation and exploitation of intellectual property” (Costa 2007). A perhaps more precise definition, also cited in the literature, is that of the British National Endowment for Science, Technology and the Arts (NESTA). This definition categorizes the creative economy into four sectors as defined through figure 1 (Costa 2008).

**Figure 1 NESTA Creative Economy Sectors**

<table>
<thead>
<tr>
<th>Services</th>
<th>Content</th>
<th>Experiences</th>
<th>Originals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Relations</td>
<td>Publishing</td>
<td>Heritage &amp; tourism</td>
<td>Antiques</td>
</tr>
<tr>
<td>Architecture</td>
<td>TV/Radio/Broadcast</td>
<td>Exhibitions</td>
<td>Design</td>
</tr>
<tr>
<td>Design</td>
<td>Web Development</td>
<td>Cinema</td>
<td>manufacture</td>
</tr>
<tr>
<td>Advertising</td>
<td>Film Studios</td>
<td>Live music</td>
<td>Small scale craft</td>
</tr>
<tr>
<td>Post-Production</td>
<td>Film Distribution</td>
<td>Performing arts</td>
<td>Visual Arts</td>
</tr>
<tr>
<td></td>
<td>Photography</td>
<td>Galleries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Game Development</td>
<td>Museums</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Costa 2008*

The NESTA model is recognized as a useful tool as it overlaps and integrates the broad based theoretical definitions with a sectoral approach, allowing researchers and policy makers to identify ways in which economic value can be created and located (Costa 2007). As our research primarily investigates the location of creative businesses, with an aim to inform economic and land use policy, an adaptation of the two definitions will be used. The synthesized research definition is:

‘Creative economy firms are those with an origin in creativity, skill and talent whose creative output includes intellectual property which generates economic output and job creation. Sectors fall within the service and content categories of the NESTA definition and include firms involved in the creation of: architecture, design, advertising, post-production, publishing, TV/Radio/Broadcast, web development, film, photography, game development, music and design.’
Industrial firms within the study area are encompassed under the definition of Production, Distribution and Repair (PDR) uses. Based in the literature, PDR can generally be defined as a range of light industrial activities such as small scale production, courier services and auto repair which have a city serving role and a shared need for relatively flexible building space, cheap rents, and in some cases a separation from housing (San Francisco 2002).

1.3 Research Justification

Since 2012, the City of Vancouver has taken a greater role in Citywide policies aimed at the creative economy; and in the Mt Pleasant area specifically, they have moved from regulation to direct land use intervention. In 2013, the City, in partnership with the Vancouver Economic Commission, announced a lease to own agreement for a 33,000 square foot city owned building within the Mt Pleasant Slopes to Hootsuite, a Vancouver based firm specializing in online social media management tools (Bula 2012). Though the firm is by definition a digital content creator it far out scales any existing firms involved in the creative economy within the Mt Pleasant Area; since its inception the firm has experience rapid growth from just three employees in 2008 to a total of 480 local employees in 2015, 120 global offices and the use of its services by 744 of the Fortune 1,000 Companies (Shaw 2014); recently the firm was rated by Deloitte Canada as the second fastest growing firm in the nation with a revenue growth rate of 56,514% over five years (Deloitte 2014). After securing $250 million in venture capital funding in 2013, Hootsuite announced in June 2014 that they will be expanding to include the neighbouring 27,000 square foot space to accommodate the growth of 154 new employees. With this rapid growth CEO Ryan Holmes has alluded to even further expansion plans within the area “I’m thinking about what a campus would look like...I look at this block that we’re in and I think there’s a lot of potential.” (Shaw 2014).

In addition to the relocation of Hootsuite to the Mt Pleasant Slopes, the City of Vancouver has also introduced recent zoning changes to the area. On January 15, 2013 Vancouver City Council approved amendments to the I-1 zoning which regulates the Mt Pleasant Slopes area; zoning which primarily permits light industrial uses with some allowance for office use focused on high technology and research activities. The amendments allow for a greater variety of office uses with an increase in allowable
density with the provision of ground level production space. The direction for this change came from the Metro-Core Jobs and Economy Study, approved by Council in 2007, which sought to maintain jobs in Vancouver’s downtown core. Though the Study supports maintaining the industrial role of the Mt Pleasant Slopes, it also identified the need to consider ways to intensify the number of jobs within the area through additional service and office uses (Vancouver 2013); this direction is complementary to a recent study by Metro Vancouver which examined the potential for the intensification of industrial lands across the region with a particular focus on Mt Pleasant as a unique case study which could possibly be replicated to other areas in the Region (Metro 2010). Such work advances the shared goal of the City of Vancouver and Metro Vancouver to protect industrial lands, as per the Regional Growth Strategy, while also optimizing their use and furthering economic growth.

The City of Vancouver has expressed through policy and direct action, the objective to both encourage the growth of firms in the creative economy and retain the function of light industrial lands close to the City. However, these uses are in potential conflict as they compete for limited land supply; an experience demonstrated by the transformation of Vancouver’s downtown and the Yaletown neighbourhood, a former industrial warehousing district located downtown on the north side of False Creek just a short distance from the study area, which is now regarded as the “epicentre” of Vancouver’s creative economy (Hutton 2009). With this transformation have come increased land values as firms compete to locate within this epicenter, causing smaller and newer firms to locate further outward from this centre to other downtown areas including Gastown and Victory Square or further afield to the “outer fringe” light industrial areas outside of the downtown peninsula such as the Mt Pleasant Slopes (Hutton 2010). Since the 2013 zoning amendments, the Mt. Pleasant study area has begun to experience similar pressures with property values increasing 34% to become the highest value industrial zoned properties in the City (Avison Young 2015).

As the City of Vancouver takes increasingly direct policy intervention towards encouraging and locating creative economy firms in the Mt Pleasant Slopes it must be done with an understanding and respect of the existing land use mix in the area. The relative health of the area’s industrial firms suggests that the City of Vancouver’s consistent policy support for industrial lands since the mid-1990s has been successful in
supporting industrial uses in the Mt Pleasant Slopes. However, I argue that the City understands less about the locational requirements of the creative firms within the area. As the City takes a greater role in the I-1 area it must be sensitive to the potential impacts on land uses and values in order to avoid negatively impacting the existing balance between small scale creative firms and industrial uses, a balance that seems to have worked well over the last twenty years (since 1995) as the area has become a model for a mixed use area of small scale industrial and creative businesses.

1.4 Study Area

The Mt Pleasant Slopes offers a unique case study on the co-locating of creative economy and light industrial firms due to the areas relative absence in the Vancouver economic literature, its history of creative firms locating there, and recent policy initiatives by the City. Though Vancouver as a whole figures prominently in economic research, it is predominantly focused on Vancouver’s inner city creative districts such as Yaletown, Gastown and Victory Square (figure 2) (Hutton 2004) (Pratt 2000) (Britton 2009).

Figure 2 Vancouver creative districts

(source: author)
Located just a short distance from downtown, the Mt Pleasant Slopes is an area of approximately 40 acres, zoned for light industrial use with an allowance for some small scale office with a high technology or research focus (figure 3). Though the area is relatively small in scale, it is the largest provider of industrial jobs in Vancouver, with 411 firms providing 7800 jobs, representing 16% of all industrial area jobs in Vancouver (Vancouver 2010). Since 1995, a variety of firms in the creative economy, from digital content creators to architectural firms, have chosen to locate to the area amongst more traditional light industrial firms such as textile manufacturing and food production. These firms are small in scale, 50 employees or less, which is typical of those in the Vancouver creative economy; growth has largely been incremental due to the limited allowable zoning for office space and the Cities continued reaffirmation of the areas primary light industrial function through a variety of policy initiatives discussed in section 1.5. In the last ten years, the area has also acted as an important incubator space for newer start up digital firms that cannot afford the lease rates of the inner city creative districts (Hutton 2009).

Figure 3 Mt Pleasant Slopes study area

Source: author
1.5 The Case for Industrial Lands

Though industrial land uses cover just 6% of the land base in Greater Vancouver they contribute 47,000 jobs, an increase of 2,000 jobs in the 2006-2010 census period (Vancouver 2010). Though some are provided through large employers such as the Port of Vancouver, most industrial jobs are involved in providing a range of city serving functions such as printing, small scale production and distribution and are located in the light industrial areas surrounding the downtown area (Vancouver 2010). Over the past 20 years the City of Vancouver has continually confirmed the importance of industrial lands through various policies including: Vancouver Industrial Lands Policy (1995), the Metro-Core Jobs & Economy Study (2007), the Metro-Vancouver Regional Growth Strategy (2011) and the Regional Context Statement Official Development Plan (2013). The latter Metro-Vancouver policies designate the study area as industrial land and require Metro approval for any land use changes.

1.6 The Case for the Creative Economy

Over the past 20 years the creative economy has become a significant economic generator within the City of Vancouver. The digital entertainment and interactive sector, the subject of this research, employs more than 16,000 people and generates $2.3 billion in revenue through firms involved in a range of areas from interactive design to digital film and applications (Vancouver Economic Commission 2011). In the last five years, the City of Vancouver has taken an active role in promoting the growth of the creative economy through policy initiatives such as the Greenest City Action Plan (2010), which recommends technology and creative hubs as a high priority ‘green job’ sector; the Vancouver Economic Action Strategy (2011), which recommends growing the knowledge economy through governmental partnerships; and the Vancouver Digital Strategy (2013) which recommends the creation of a favourable regulatory environment for the digital and creative economy.

1.7 Thesis Organization

In chapter one, the research topic and justification were introduced along with background information on the study area and the significance of industrial lands and the creative economy to Vancouver. Chapter two presents a literature review of previous
research into the location decisions of both industrial and creative economy firms. Chapter three will present the research methodology followed by an analysis of the data in chapter four; summary and conclusions and finally recommendations for future policy and research are presented in chapter five and six respectively. Appendices include a copy of the survey and interview questions, results of each survey question and the chi squared analysis.
Chapter 2.

Previous Research

The literature is rich in research describing the relationship between geography and economic activity and has been described by various fields including economic geography, urban studies, planning practice and regional studies. The following section presents a review of this literature and the relevant studies that will provide a conceptual framework to my research. It is structured into three sections, as follows:

1. Why do firms locate in certain areas? Beginning with a brief overview of General Location Theory, this section presents Marshall’s theory of firm agglomeration and describes each aspect of the theory in regards to the literature on the locational decisions of both industrial and creative economy firms. Four indicators are drawn from the literature to inform and guide my research on the Mt Pleasant Slopes.
   - Goods Movement
   - Labour
   - Knowledge
   - Built Environment

2. What is the issue between industrial lands and the creative economy? Utilizing two case studies, this section illustrates the potential land use conflict between industrial lands and the creative economy and the need for appropriate policy.

3. How can this conflict be resolved? A brief introduction of the contemporary literature which presents a rationale for land use policies which co-locate both industrial and creative economy firms is followed by two case studies which illustrate contemporary best practices and the potential to achieve this.

2.1 General Location Theory

Extending back well over a century, economic geographers have a long tradition of examining the locational decisions of firms and economic activity through a variety of
theoretical frameworks. According to Fujita, one of the most fundamental theories was General Location Theory, developed by the work of Thunen in Germany in the early years of the nineteenth century. Thunen’s model described the variables of the competitive market through goods, labour and land with a focus on land use patterns in agricultural areas (Fujita 2010). Though Thunen’s work was based in models of agricultural activity, his theories were adapted and applied to the study of manufacturing activity through the rise of the industrial revolution. Marshall (1890) was one of the early pioneers of this work with his study of the concentration of industrial firms. His theory of industrial districts proposed that similar firms will locate near one another, or agglomerate, based on a desire to reduce costs in the form of goods, labour, or knowledge; collectively referred to by Marshall as externalities (Fujita 2010) (Ellison et al. 2013). Over the last century the economic literature has continued to evolve and branch into new theories though Marshall’s theory of agglomeration remains central to the spatial study of both industrial and creative firms (Ellison et al. 2013). Marshall’s three externalities of agglomeration will be used both as a framework to survey the existing literature as well as indicators in the research; each is further defined in the proceeding sections in terms of Marshall’s theories and the relation to the study of the location of both industrial and creative economy firms. In addition, our review of current literature and studies supports the addition of a fourth factor, the built environment, as an additional force of agglomeration.

2.1.1 Goods Movement as a Locational Factor

In his work, Marshall theorized that firms will concentrate together in order to minimize the transportation cost of production inputs from suppliers and the output of goods to customers (Ellison et al. 2010). Through an analysis of over 300,000 firms across a range of manufacturing sectors, Ellison et al confirm that the efficient flow of input and output factors still remains one of the most important factors of firm agglomeration (2010).

Button et al. conducted a survey to study the importance of transportation and infrastructure to a variety of different industrial firms based on the factors of origin of firm, size of firm, location of parent company, attitude to transport links by mode (1995). They found that road access emerged as the most highly rated location factor, over bus, air,
and rail access as the least significant factor. Though transportation linkages are identified as a primary factor for the location of firms, a multivariate analysis reveals that poor transportation will not stimulate firm migration but will prevent immigration of new firms (1995).

Though input and output flows are important in the formation of firm agglomerations, the needs differ between industrial firms and those of the creative economy. In an analysis of the location and innovation patterns of firms, Heidenreich concludes that the flow of production inputs, through external suppliers, plays a greater role in the concentration of light industrial firms, while firms of the creative economy are more greatly influenced by access to clients and customers (2008). Hutton has confirmed the primary importance of client relationships for Vancouver based creative economy firms such as architects, designers, advertising and media companies though also recognizing their relation with suppliers located within downtown fringe areas outside the central business district (2000).

2.1.2 Labour as a Locational Factor

In considering labour as a force of firm agglomeration, Marshall stated that firms will locate to take advantage of labour pools. As the production of firms increase or declines, workers will move between similar firms, reinforcing the productivity of the agglomeration (Ellison et al 2010). Current research into contemporary industrial firms supports the role of labour as a force of agglomeration. Potter et al. offer a convincing piece of research as they return to the location of Marshall’s original studies, the metals industry in Sheffield and Yorkshire in the United Kingdom. They study the contemporary role of Marshall’s forces of agglomeration through the technological advances of a mature industry. Based in firm interviews, Potter et al. conclude that the metals industry continues to rely on a highly skilled, local pool of labour. Furthermore, these skills were seen as essential to the industries survival as they improve production, drive innovation and reduce costs (2012). In a longitudinal study of Canadian manufacturing plants, Baldwin et al. also identify labour as a contemporary force of agglomeration with an influence on productivity. Through their research model they identify labour as the strongest of all Marshall’s variables with the potential to raise plant productivity by 5 percent (2010). In a European context, Andini et al. through a study of Italian firms, also
find a relation between labour pooling and agglomeration. However, they caution that the findings may not be valid across all industries and advise that future research and policy should focus on specific sectors (2013).

Taking this sectoral approach, Storper and Christopherson traced the locational patterns and labour market dynamics of the US Motion Picture Industry between 1960 and 1980. They found that a significant factor in the concentration of the film industry in Los Angeles was the local labour market. Firms agglomerate in order to access a large pool of highly skilled labour on a flexible, contract basis. In turn, workers locate within the agglomeration and seek employment through informal networks and contacts rather than institutional labour markets (1987). The existence of this labour pool attracts other similar entertainment industries such as television and radio, thus strengthening the productivity of the agglomeration (Storper and Christopherson 1987).

Richard Florida proposes talent as a key indicator of the concentration of jobs in the creative economy through his theory of the Creative Class. Unlike traditional economics theorists which state that talent is attracted by jobs, Florida hypothesizes that talent is attracted by lifestyle factors such as a diverse society and urban amenities. The location of talent attracts the concentration of jobs in the creative economy which in turn, produces higher regional incomes (2000). Testing this hypothesis through empirical analysis of major US cities and unstructured interviews with over 100 key decision makers, Florida found the location of talent to be strongly associated with the location of firms in the creative economy (2002). In a study of the creative economy in Italy and Spain, Lazzeretti et al. confirm the correlation between talent and the concentration of jobs in the creative economy in both countries (2011).

2.1.3 Knowledge as a Locational Factor

Marshall states that the transfer of knowledge, or spillovers, influences the concentration of firms as they locate to benefit from the exchange of ideas at both the individual or industry level (Ellison et al 2010). At the industry level, the exchange of information may occur amongst firms of a similar industry as well as amongst firms of different, yet complementary, industries with customers and suppliers that service one another (Fallah, Ibrahim 2004). Although advances in modern transportation and communication
methods have meant that some firms have spread out to regional centres, those that depend on the swift exchange of ideas have remained geographically clustered in order to benefit from the “easy flow of facts and decisions from headquarters to branch plants, warehouses and regional sales offices (Vernon 1960). Research by Glaeser, based in theoretical micro-economic models, confirms that knowledge acts as a ‘primary urban agglomeration force” which facilitates information intensive production and more skilled workers (Glaeser 1998).

Research into knowledge spillovers as an agglomeration factor for industrial firms, suggests that it’s affects are experienced only at a local level. Rosenthal and Stranges (2001) study of over 500 US manufacturing firms concluded that the influence of knowledge is weak at a state wide level; however stronger affects are observed at a local zip code level. Monseny et al. support this conclusion in a study of manufacturing firms in Spain (2011). In an analysis of Marshall's forces of agglomeration, analyzed across 19 Spanish cities and 17,600 manufacturing firms, Monseny et al. conclude that the influence of knowledge spillovers is limited across large geographic areas such as the state. However, they do identify some relevance at the local scale and note that this may be of interest to local policy makers aiming to promote knowledge based activities at the city level (2011).

The role of knowledge spillovers is also significant for creative economy firms. Examining the Dutch context, Panne studied a selection of 49 firms with an innovative focus, using an index based on new product development and research and development activities (2004). His results conclude that spillovers are significant for these firms at a local scale; and in particular, for smaller firms who lack the resources of larger firms and thus rely on the exchange of information to remain competitive (Panne 2004).

In examining the creative economy districts of Vancouver such as Yaletown and Victory Square, Hutton illustrates the agglomeration of creative firms and those that are complementary to them. While firms such as architects, designers and advertisers locate to be close to clients, they are supported by complementary suppliers that provide the necessary inputs such as drafting, model making, photography and printing. The formation of these districts based on ‘interindustry’ and ‘interfirm’ relationships creates
“an almost classic example of agglomerative economic activity in the urban core” (Hutton 2000).

Through a detailed analysis of the development of the high technology industries in Silicon Valley and Route 128 in Boston, Saxenian demonstrates how each area was shaped by their own unique cultures of business, leading to two distinct systems (1994). While Boston pursued a ‘button down’ east coast approach of proprietary research and patents, Silicon Valley was based in experimentation and collaboration between firms.

This spirit of collaboration enabled a framework of supportive social structures, institutions and practices based in ‘mutual learning and adjustment’ which in turn drove rapid firm innovation (Saxenian 1994). It is this unique system of collaboration and innovation that Saxenian cites as the key reason Silicon Valley rose to become the primary high technology region of North America while Route 128 fell behind (1994).

Pratt provides a detailed investigation into the new media industries of both New York and San Francisco to counter the hypothesis of a “weightless economy”. This concept, which extends from the business and policy literature, proposes that with the rise of technology and the distribution of digital ‘e-goods’ such as software, new media firms will be free to locate where they wish. In short, it hypothesizes the end of agglomeration as Marshall’s factors will no longer tie a firm to a geographic location and a concentration of firms will be replaced by “dispersed teleworkers” (2000). Through the two case studies, Pratt observes a high rate of physical interaction throughout practices of innovating, learning, employment and socializing. Confirming the agglomeration of firms and workers, he states that this ‘social milieu’ takes place amongst a network of like-minded workers within close proximity to form a dynamic “social spatial network” which is the “most important factor in locating new media activity (Pratt 2000).

2.1.4 Built Environment as a Locational Factor

Though Marshall did not identify it in his original theory of firm agglomeration, the built environment plays a significant role in the location of firms; industrial firms choose areas with a stock of buildings that serve their production needs while creative firms locate in areas that express their alternative business culture.
Industrial firms require a specific type of building based on their production needs. Firms generally require larger single level buildings in order to facilitate efficient operations from the production floor to loading docks (Metro 2010). Higher ceiling are also desirable for firms with storage requirements for products or warehousing operations and building heights should be at least 40 feet in order to allow for this (Vance & Associates 2011). Parking and loading are also fundamental requirements for industrial firms; however bylaw requirements which oversupply parking spaces may take away from production space. Therefore the parking and loading requirements for production needs, customers and employees should be carefully allocated for efficient land use in urban areas with good access to transit (Vance & Associates 2011).

As industrial areas evolve in their role and function so do the buildings they occupy. Over time the study area has diversified from a largely distribution and manufacturing district to now include office and small scale production (often in the same building) and has resulted in a more specialized building type which does not offer the same flexibility for future uses as the former warehouses did (Metro 2011). At the same time, these former warehouses, which may now be obsolete to the types of industrial uses in the area, become attractive as open concept spaces for the creative firms moving into the area.

Production needs are less of a factor in the built environment location decisions of creative firms; instead building types are chosen based on their expression of the creative business culture. Unlike more traditional service oriented firms such as accounting, law and finance, creative firms seek out office space within the ‘inner fringe’ areas of the CBD and the ‘outer fringe’ of the surrounding light industrial and/or heritage districts in a pattern of established firms located near the inner city, and smaller firms towards the outer fringe (Hutton 2006). Firms are drawn by the ‘industrial raw aesthetic’ of the former industrial building stock within these areas and choose them to serves as signifiers to their laissez faire attitudes and counter culture approach (Pratt 2002). Economically, these areas offer a range of land costs and rents for firms in various phases of development. Inner city locations typically house more established firms and command higher land costs and rents, while the outer fringe areas offer lower costs to smaller scale startup firms; maintaining these cheaper ‘incubator’ spaces is crucial to the development of firms as they grow and transition to the established areas (Hutton 2006).
These physical spaces also serve to reinforce the agglomeration factors of the labour pool and knowledge. The flexible and ‘funky’ workspace is used by employers to attract workers drawn from a freelance labour pool that typically prefer a less structured work environment with a preference for more flexible work-spaces (Pratt 2002). These interior flexible spaces typically follow an open plan model which facilitates interaction and the free exchange of knowledge; additionally firms can easily expand and arrange their workspace with the growth of their firm (Pratt 2002).
2.1.5 Research Indicators

As the preceding literature demonstrates, Marshall’s forces of agglomeration have remained relevant to the study of not just the location of industrial firms, but also to that of creative firms. To summarize, the following factors of firm agglomeration have been drawn from the economic literature of industrial and creative firm location and will be used as indicators in my research on the locational decisions of industrial and creative firms in the Mt Pleasant Slopes. Identifying whether the firms in Mt Pleasant are influenced by these indicators will confirm the necessary areas of policy focus in order to maintain the diverse mix of firms in the area.

Figure 4 Research Indicators

<table>
<thead>
<tr>
<th>1. Goods</th>
<th>Marshall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firms will concentrate together in order to minimize the transportation cost of inputs for production and outputs to market (Ellison et al. 2010).</td>
</tr>
<tr>
<td></td>
<td>Industrial firms</td>
</tr>
<tr>
<td></td>
<td>Are strongly influenced by production inputs (Heidenreich 2008) and will locate closely to suppliers and/or the transportation networks that connect them (Button et al. 1995)</td>
</tr>
<tr>
<td></td>
<td>Creative Economy Firms</td>
</tr>
<tr>
<td></td>
<td>Are strongly influenced by market outputs and will locate closely to customers and clients (Heidenreich 2008). Suppliers may also locate adjacent to firms, thus strengthening the agglomeration (Hutton 2000).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Labour</th>
<th>Marshall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firms will concentrate to take advantage of labour pools. Workers will move between similar firms, reinforcing the productivity of the agglomeration (Ellison et al. 2010).</td>
</tr>
<tr>
<td></td>
<td>Industrial firms</td>
</tr>
<tr>
<td></td>
<td>Are strongly influenced by labour pools. This pool of skilled and specialized labour drives production and innovation as firms mature (Potter et al. 2012) (Andini et al. 2013)</td>
</tr>
<tr>
<td></td>
<td>Creative Economy Firms</td>
</tr>
<tr>
<td></td>
<td>Are strongly influenced by labour pools. Workers pursue flexible, contract-based employment and will locate close to firms, thus strengthening the agglomeration. (Storper and Christopherson 1987) (Florida 2002), (Lazzeretti et al. 2011)</td>
</tr>
</tbody>
</table>
### 3. Knowledge

<table>
<thead>
<tr>
<th>Marshall</th>
<th>Firms will concentrate to take advantage of knowledge spillovers and will locate to benefit from the exchange of ideas between both firms of a similar and complementary industry (Ellison et al. 2010) (Glaeser 1998).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial firms</td>
<td>Are moderately influenced by knowledge spillovers. At the state and regional level the influence is weak; at the local city level the influence is greater (Rosenthal and Strang 2001), (Monseny et al. 2011).</td>
</tr>
<tr>
<td>Creative Economy Firms</td>
<td>Are strongly influenced by knowledge spillovers. The culture of firms is based on collaboration and sharing through informal means driven by a rich social milieu of employment, innovation and socializing. (Saxenian 1994), (Pratt 2000).</td>
</tr>
</tbody>
</table>

### 4. Built Environment

<table>
<thead>
<tr>
<th>Marshall</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial firms</td>
<td>Are strongly influenced by the built environment that serves their production needs. Requirements often include single level buildings with loading bays, parking and storage space (Metro 2010), (Vance &amp; Associates 2011).</td>
</tr>
<tr>
<td>Creative Economy Firms</td>
<td>Are strongly influenced by built environments that express unique identifiers with functional interiors. Firms have a preference for former industrial and heritage areas based on a primary desire to express their alternative business culture; production needs are secondary and are based in a desire for open space, flexible floor plans (Hutton 2006), (Pratt 2002).</td>
</tr>
</tbody>
</table>

### 2.2 The Creative Economy and Industrial Lands Tension

Over the last thirty years, North American and European cities have undergone massive structural change as they transitioned from an industrial manufacturing basis to a service economy and a post-industrial age. This new age has recalibrated the professional planning agenda from an “ethic of growth and the production of goods to an ethic of amenity and the consumption of services” (Ley 1980); in turn, reshaping the landscape of the inner city through an emphasis on mixed use (residential and commercial) development within a compact geography and oriented towards transit use. To illustrate
this change, the post industrial trajectories of San Francisco and Vancouver can serve as cautionary case studies of the competition between industrial lands and the creative economy.

2.2.1 SOMA, San Francisco

Historically a Pacific port city with a large industrial base, San Francisco has gone through a drastic period of economic restructuring over the last thirty years to emerge as an internationally significant centre of the creative economy. This transition is characterized by a contraction of manufacturing employment and a rise in professional highly skilled service sector jobs largely based in the creative economy (Hutton 2008). The South of Market (SOMA) area has served as the geographic setting for this transformation. Located in close proximity to both the Port Lands and the downtown financial centre, the SOMA neighbourhood emerged through the post war years as a strategically important district for firms specializing in production, distribution and repair (PDR) activities serving the port and downtown. With this came a marginal population of mainly black and Filipino single men who occupied the boarding houses and hotels (Hutton 2008). Beginning in the 1970s, SOMA began a period of restructuring and dislocation commencing with the San Francisco Redevelopment Agencies urban renewal strategy for the Yerba Buena Center, an 87 acre section of the SOMA neighbourhood. As the City developed such plans, they also aimed to balance the interests of the historical industrial land uses and the emerging firms of the creative economy that were locating in the area. In 1993, survey work undertaken by the Department indicated a strong balance between these uses still existed in SOMA. However by 1997, as the department was preparing to establish land use regulations to maintain this balance, surveys revealed the presence of over 600 creative firms within the SOMA area, comprising one of the largest agglomerations in the US (Hutton 2008). The transformation of the SOMA area proceeded rapidly and was further entrenched by the sequential growth of market residential ‘loft living’ in the area. All of this occurred despite the existence of a Planning Department that recognized the growth of firms involved in the creative economy and the need for balance with industrial uses, yet failed to act quickly enough to implement the appropriate land use policies to slow the loss of this important industrial land base. More recent research has demonstrated that creative companies have now spread beyond the boundaries of SOMA through ‘tech friendly’ policy shifts obtained through the political lobbying efforts of a tech chamber of
commerce. The decision of large capital firms such as Twitter and AirBnB to move north of SOMA into the Tenderloin District (a historically low income neighbourhood) saw a correlated rise in property values, eviction rates and even direct physical confrontations between residents and tech workers (McNeill 2015).

2.2.2 Yaletown, Vancouver

Vancouver, through the area of Yaletown, offers another instructive case study of the role of creative economy as a force of restructuring and dislocation on industrial areas. Similarly to San Francisco, Vancouver evolved as a Pacific port city built to serve the resource based staples of forestry, fishing and mining. Though this growth as a service centre preempted the growth of large scale industry manufacturing plants it later accelerated its transition to a service economy through the post-industrial area (Barnes et al 1992). Combined with a progressive local government planning agenda that focused on residential and mixed uses downtown, (Ley 1980) the stage was set for the transformation and restructuring of the downtown and the emergence of the creative economy through four additional factors (Hutton 2008):

1. The early adoption of a service economy
2. A significant decline in head office employment and the emergence of residential use in the downtown
3. Integration of Vancouver within flows of capital, immigration and innovation with the Pacific Rim.
4. The increased role of offshore capital in property markets and the initiation of large scale downtown redevelopment projects.

These factors were facilitated by the 1991 Council adoption of the Central Area Plan which consolidated the Central Business District (CBD) office area, freeing up areas for development to support a vision of ‘Living First’ which emphasized residential uses amongst a high degree of amenities, catering to the City’s growing class of professionals, managers, creative service workers and knowledge industry specialists (Hutton 2004).

Concentrated between the emergent residential high rise developments of Downtown South and North False Creek, Yaletown is a relatively small geographic area consisting of former industrial spaces, indicating its historic role as a warehousing district for the CP Rail. As these industries declined so did Yaletown’s significance, until the late 1980s as
it became a favoured location for the city’s creative professionals. Locating initially due to the low lease rates, these firms gradually attracted others as the residential and amenity infrastructure grew around them with the implementation of the 1991 Central Area Plan and it’s focus on residential and mixed uses in the downtown peninsula. With this growth came successive waves of gentrification as earlier uses and residents, including the original artists and designers, were pushed out by larger and more established creative firms and the inflationary land value pressures from residential development (Hutton 2008). Today Yaletown resides as the epicentre of Vancouver’s creative economy and the ultimate neighbourhood of ‘live, work and play’, accessible only to a privileged minority (Hutton 2004). The only remaining indication of its former industrial role, are the heritage loading docks which now house the upscale bars and cafes.

As Yaletown is in close proximity to the study area, it offers a suitable counter point. Lease rates for firms are now prohibitively high and affordable to only the most established firms, resulting in an ordering of land use based on the profitability of creative economy firms. Hutton characterizes Yaletown as a “Signifying New Economy Precinct” with a concentration of leading firms and social opportunities. Meanwhile, Mt Pleasant is labelled as a “Production District” which offers lower land costs which supports emerging startup firms.

2.3 New Approaches to Industrial Lands

Despite the potential for land use competition and dislocation between industrial firms and firms of the creative economy, both play an important role in the economic growth of regions. Creative economy firms contribute to greater employee salaries (Gabe 2010) and greater regional wealth (Molina 2012); however, they are dependent on a diversified economy that includes a number of both high and low-tech firms somewhat similar to Mt. Pleasant (Molina 2012) (Robertson 2007). However, these conclusions run counter to industrial land preservation policies and contemporary planning theories which emphasize mixed use development of both commercial and residential uses. As an alternative approach, Leigh and Hoelzel recommend that industrial lands be more fully incorporated into the contemporary theoretical planning dialogue by moving away from land use planning which traditionally segregated land uses which may conflict, and to begin exploring initiatives such as incorporating new, yet compatible, land uses in industrial areas that are surrounded by mixed use areas which are integrated by transit
connections (2012). Precendants discussed by Leigh and Hoelzel include the San Francisco Pier 70 project which mixes small-scale manufacturing uses with offices spaces for both non-profits and commercial uses (2012). Howland echoes this conclusion and concludes that industrial uses and firms of the creative economy are compatible through a high level of urban design (2010).

Clearly, a shift in policy is occurring which emphasizes a change from a general overarching sector based approach (ie. industrial land preservation, or creative city) towards an approach that is inclusive of both high and low tech firms (Robertson 2007), supportive of existing industry trajectories (Gorman 2007), and area specific (Nathan 2013). Portland and San Francisco are two west coast North American cities with comparable population sizes, geographic size and economic trajectories as that of Vancouver. Examining their response to the tension between industrial lands and the creative economy places Vancouver with a wider context while also providing case study examples of contemporary best practices to inform the second part of the research question.

2.3.1 San Francisco - Eastern Neighbourhood Plan

Despite past failures in the SOMA neighbourhood, San Francisco is a contemporary leader in progressive planning for industrial lands by adopting an integrated rather than protectionist approach which incorporates complementary land uses; an approach which may be more effective in limiting industrial land conversion (Lester et al 2014). This strategic approach is illustrated by the City’s 2008 Eastern Neighbourhoods Plan, which includes the SOMA neighbourhood amongst three other districts (figure 5). The Plan identifies providing a land base for PDR firms as a primary goal of the Plan since these businesses provide critical support functions to the two economic drivers of San Francisco’s economy, tourism and the creative economy, as well as providing jobs for the 50% of the population that do not have a college degree (San Francisco 2008). However, Production Distribution and Repair (PDR) businesses have suffered with SOMA’s rise in the creative economy; in 1998 100 firms employed over 1,000 workers, by just 2001 this was reduced to only 40 firms employing 800 workers (City of San Francisco 2008).
Because of this, the *Eastern Neighbourhoods Plan* recognizes and supports both PDR and creative economy activities. However, the creative economy is recognized to occupy a range of different spaces and activities including: office, research and development (R&D) and manufacturing. Given this, the offices of creative economy firms are restricted to 2nd Avenue, an arterial that extends from the central business district while R&D and manufacturing activities are allowed amongst the PDR zones subject to strict controls (City of San Francisco 2008). The urban design guidelines within the Plan also seek to accommodate the requirements of PDR uses. Built form guidelines encourage the ground floors of buildings to be a minimum of 15’ in height to facilitate production and storage while street design in areas of high PDR uses should “serve the needs and access requirements of trucks while maintaining a safe pedestrian environment” (City of San Francisco 2008). The economic development section of the plan further recognizes the role of both PDR and creative firms, although somewhat briefly, with policy directions to ‘provide business assistance for new and existing PDR/Knowledge Sector businesses.
in the area’ (City of San Francisco 2008); however no policy mechanism is offered to achieve this.

2.3.2 Portland - Central Eastside Plan

Located within Portland’s Central City, the Central Eastside is an industrial area located on the Williamette River and one of the City’s most dynamic and evolving neighbourhoods (figure 6). Home to more than 1,000 businesses and 17,000 jobs, the area plays an important role in the City’s economic and job growth (City of Portland 2013). The area was designated in the City’s 1988 Central City Plan as an Industrial Sanctuary as a way of supporting industrial firms within the area. However in 2006, the City recognized that the area had become more attractive to a mix of firms in the creative economy due to the built environment attraction of old gritty industrial buildings and proximity to downtown. In 2006, the zoning for the area was amended to create the Employment Opportunity Subarea (EOS) to encourage the development of emerging creative economy firms while also protecting existing uses. The amendment created an Industrial Office classification which is specified ‘production oriented office uses’ such as software development, web design, and data processing which do not require frequent customer or client visits (City of Portland 2013).
With the designation of these EOS areas, the number of non industrial firms has increased in the area as it has grown in popularity and gradually become under pressure from other land uses such as residential and commercial redevelopment, potentially threatening both the industrial and creative economy firms. The City of Portland’s Central Eastside Plan is a recently approved policy plan that seeks to protect and strengthen the areas mix of firms without reverting to a protectionist policy such as the former Industrial Sanctuary. Approved by Council in July 2015 after a two year planning process, the plan recognizes the importance of maintaining industrial lands while balancing the need for growth in emerging compatible sectors; specific policy recommendations to achieve this include:

- Grant additional ground level industrial floor area in core industrial areas in order to incent the inclusion of traditional manufacturing spaces into redevelopment projects.
- Expand the EOS area to locations that area well served by transit and where industrial uses are not the dominant land use in order to increase ‘production
oriented office space’ to meet the City Plan goal of 9,000 new jobs in the Central Eastside area. (City of Portland 2015)

2.3.2 Lessons Learned

From the case studies of San Francisco and Portland we can deduce the importance of both creative economy firms and industrial lands to the economic development of a City. However, planners and policy makers must be adaptive in their approach through an iterative process which reexamines conditions to balance the needs of both sectors in a timely fashion; both cases support the hypothesis that creative economy firms want to be located within industrial areas and that there is potential for negative impacts. In considering San Francisco we can learn that firms within the creative economy can be accommodated within appropriate geographic locations and PDR uses can be shaped through urban design controls. Through Portland we can learn that protectionist policies may stifle the potential of emerging economic sectors and both industrial and creative economy firms can be integrated within the same geographic area through specific policies which clearly outline the parameters of development.
Chapter 3.

Methodology

To determine the locational requirements of both creative and industrial firms, two main methods were used, semi-structured interviews and a firm survey. Semi-structured interviews were divided into two stages and themes; key subject experts were first interviewed prior to issuing the survey in order to confirm the focus of the survey questions and to gain a broad based perspective on trends and issues for industrial lands both in the Mt Pleasant study area and Vancouver in general. Firm interviews were conducted after the survey in order to elicit greater detail of the individual experiences of both creative and industrial firms operating in the area.

A survey was issued to firms within the study area which fit the predetermined criteria of being a creative or industrial firm; questions were based on Marshall’s theory of agglomeration and the hypothesis drawn from the literature as presented in Section 1. Mapping of firms was also conducted to supplement the data and geographically describe the agglomeration of firms.

During the research period, the study author was employed by the City of Vancouver Planning Department but was not involved in planning work within the Mt Pleasant study area. All data was obtained through sources made publicly available and not through internal City of Vancouver databases. The analysis and recommendations contained in this thesis are that of the author and do not represent any City position.

3.1 Key Subject Expert Interviews

The first stage of the research consisted of semi-structured interviews with key subject experts. These interview subjects were identified through the preliminary research process and were chosen based on their professional experience in the area and to represent an array of views from a regulatory, policy development and market based perspective. Three subjects were selected:

1.1 A senior level land use planner at the City of Vancouver with industrial land use policy experience in both the Mt Pleasant study area and Vancouver wide;
2.1 An economic planner with the Vancouver Economic Commission whose work focuses on economic development on industrial lands through both the creative economy and traditional industrial firms.

3.1 A senior level commercial broker with 26 years experience in leasing and selling commercial properties on industrial lands including the Mt Pleasant slopes study area.

The goal of these interviews was to collect a broad range of knowledge and opinions on the trends and issues both within the Mt Pleasant study area and Vancouver industrial lands in general, as well as to inform the development of the survey questions. Though it was not originally intended that these interviews would directly inform the research conclusions, they proved invaluable in confirming and illuminating the findings.

3.2 Firm Selection & Classification

Prior to issuing the survey, it was necessary to both identify firms within the Mt Pleasant study area and to then classify them according to the predetermined definitions of industrial and creative economy firms as presented in Section 1.0. This was done by relating the definitions of creative and industrial firm that were drawn from the literature, with the North American Industry Classification System (NAICS) sectors, these were then related to the City of Vancouver’s business license types. A generalized flow chart of this process is presented below in figure 7.

**Figure 7 General Firm Classification Flowchart**

![Flowchart Image]

*Source: author*

3.2.1 Firm Selection

The primary source of firm names and locations was obtained through the business license data of the City of Vancouver’s open data catalogue, a free and open data
source of over 130 City datasets. The City - Wide business license file is updated daily and was downloaded as an Excel spreadsheet from the Cities Open Data website on January 27, 2015; the City - Wide file consisted of 53,756 businesses throughout the greater Vancouver area. In addition to business addresses, data fields included: local area, business name and trade name, business type and sub-type, number of employees, and status of business license.

As a first step to identifying firms within the study area, the City - Wide data set was reduced to the Mt Pleasant Local Area in which the study area is situated (figure 8). Local areas are neighbourhoods geographically defined by the City of Vancouver for planning purposes. Established in 1970, area boundaries are based on socio-economic characteristics and local landmarks and do not align with Statistics Canada census tracts (Vancouver 1970). The Mt Pleasant Local Area is approximately 364 hectares with borders extending westward from Clark Ave to Cambie Street, and Northward from 16th Avenue to False Creek (Vancouver 2006)

**Figure 8 Mt Pleasant Local Area Boundary**

![Mt Pleasant Local Area Boundary](source: author)
The Mt Pleasant Local Area data set contained 2,940 business license files that were geocoded and mapped through a Geographic Information System (GIS). Using GIS, all licenses within the study area (defined by the I-1 zoning boundary) were selected, resulting in a total of 564 businesses. One hundred and sixty-three licenses that were listed as ‘inactive’ or ‘pending’ were grouped as non-operating businesses and deleted from the database, resulting in a remaining 401 businesses. This database of business licenses was then exported from the GIS as an Excel spreadsheet in order to classify and refine the listings based on the creative and industrial definitions.

3.2.2 Firm Classification

Once the business licenses were defined to the study area, it was necessary to classify them according to the established definitions of creative and industrial firms.

3.2.2.1 Creative Firm Classification

As outlined in chapter one, the definition for creative firms was based in the classification framework provided by the United Kingdoms National Endowment for Science, Technology and the Arts (NESTA) (figure 9) and synthesized with the UK Creative Industry Task Force to create a definition that recognizes the service and content industries as the sectors most relevant to creative firms.

In order to utilize this definition in the classification of study area firms, it was necessary to relate the broad based NESTA classifications to the City of Vancouver business license classifications. This was accomplished by first relating the NESTA sectors to NAICS sector classifications and then to the City of Vancouver Business License types and sub types. This process is outlined generally below in figure 9.
Figure 9 Creative firm classifications

<table>
<thead>
<tr>
<th>NESTA Services</th>
<th>NAICS Sector &amp; Subsectors</th>
<th>COV Business Licenses Types &amp; Subtypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>Architectural, engineering and related services</td>
<td>Office - Architect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office - Consultant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office - Design Company</td>
</tr>
<tr>
<td>Design</td>
<td>Specialized design services</td>
<td>Office - Design Company</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office - Interior Design/Decorator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office - Consultant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office - Graphic Artist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Services - Design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Services - Graphics</td>
</tr>
<tr>
<td>Advertising</td>
<td>Advertising, public relations, and related services</td>
<td>Office – Advertising Agent</td>
</tr>
<tr>
<td>Public Relations</td>
<td></td>
<td>Office - Consultant</td>
</tr>
<tr>
<td>Content</td>
<td>Information and Cultural Industries</td>
<td></td>
</tr>
<tr>
<td>Post-Production</td>
<td>Motion picture and sound recording industries</td>
<td>Studio - Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Services - Graphics</td>
</tr>
<tr>
<td>Film Studios</td>
<td>Motion picture and sound recording industries</td>
<td>Production Company - film,tv,video,other</td>
</tr>
<tr>
<td>Film Distribution</td>
<td>Motion picture and sound recording industries</td>
<td>Production Company - film,tv,video,other</td>
</tr>
<tr>
<td>Publishing</td>
<td>Newspaper, periodical, book and directory publishers</td>
<td>Office - Publisher</td>
</tr>
<tr>
<td>TV/Radio/Broadcast</td>
<td>Broadcasting (except internet)</td>
<td>Production - TV Production</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Entertainment - Radio Broadcast</td>
</tr>
<tr>
<td>Web/Software Development</td>
<td>Software publishers</td>
<td>Computer Services - Software</td>
</tr>
<tr>
<td></td>
<td>Internet publishing and broadcasting, and web search portals</td>
<td>Telecommunications - Other</td>
</tr>
<tr>
<td></td>
<td>Data processing, hosting, and related services</td>
<td>Computer Services - Programming</td>
</tr>
<tr>
<td>Photography</td>
<td>Photographic services</td>
<td>Studio - Portrait/Photography Studio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Photo Services - Microfilm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Photo Services - Photo Finishing</td>
</tr>
<tr>
<td>Game Development</td>
<td>Video game design and development services</td>
<td>Studio - Other</td>
</tr>
<tr>
<td>Music</td>
<td>Sound recording industries</td>
<td>Studio - Recording Studio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Entertainment Services - Recording/Duplication</td>
</tr>
</tbody>
</table>

Source: author
### 3.2.2.2 Industrial Firm Classification

As outlined in chapter one, light industrial firms are encompassed under the definition of Production, Distribution and Repair (PDR) uses. Based in the literature, PDR can generally be defined as a range of light industrial activities that have a city serving role and a shared need for relatively flexible building space, cheap rents, and in some cases a separation from housing (San Francisco 2002). To give more precision to the definition, the general categories of PDR were related to NAICS sectors, subsectors and industry types and then to the City of Vancouver Business license types and sub-types. This process is outlined generally below in figure 10.

#### Figure 10 Industrial firm classifications

<table>
<thead>
<tr>
<th>PDR</th>
<th>NAICS Sector &amp; Subsectors</th>
<th>COV Business Licenses Types &amp; Subtypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Manufacturing</td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Garments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glass Products</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Metal Products</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wood Products</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distribution</th>
<th>Transportation and warehousing</th>
<th>Moving/Transfer Service</th>
<th>Courier/Messenger</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wholesale trade</td>
<td>Moving/Transfer Service</td>
<td>Transport</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Warehouse Operator</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wholesale Dealer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Repair</th>
<th>Other services</th>
<th>Auto Painter &amp; Body Shop</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Auto Parking Lot/Parkade</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Auto Repairs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Repair/Service/Maintenance</td>
<td></td>
</tr>
</tbody>
</table>

*Source: author*
3.2.2.3 Classification Summary

The classification process resulted in a total of 277 firms being identified as creative or industrial firms within the study area or 69% of the initial 401 active business licenses identified in the study area. 104 of these were identified as creative firms and 173 as industrial firms; the remaining 124 businesses were excluded from the study, as they did not fit the classification of creative or industrial businesses. These excluded firms included a range of types that did not fit the definition of creative or industrial firms and were thus considered extraneous to the research. Business license types included: health services, animal services, community services, financial services, instruction, management companies and liquor establishments.

3.3 Firm Survey

3.3.1 Survey Contacts

In order to issue the survey it was necessary to obtain email contact information for each company. This was accomplished by first manually searching online for each of the firms in the database to determine if the firm had a company website which listed an email address, all firms that listed an email were added to the business license database.

For those firms that did not have an email address listed or a company website, phone calls were made to request the names and contact information of key personal that may be able to respond to the survey. Not all businesses were able to be contacted or were willing to give out contact information. Though this reduced the database further it did provide a useful exercise to manually research each firm and confirm their relevance to the research question. In total, contact information was obtained for 150 businesses, 57 creative firms and 93 industrial firms; representing 38% and 62% respectively of the initial 330 creative and industrial firms identified in the area. Figure 11 summarizes the geographic distribution of all firms selected to be surveyed within the study area.
3.3.2 Survey Method

Issuing the firm survey electronically was determined to offer several benefits over a traditional hardcopy survey mailed through Canada Post. As an electronic document distributed through email, the survey could reach potential respondents quicker and at a substantially lower cost, while also allowing for multiple follow-ups. A research web page with a custom domain name also allowed for a quick reference point for people to learn about the study and to complete the survey. This webpage was established at www.mtleasantsurvey.com and contained the following elements:

- A welcome page briefly explaining the purpose of the study
- A study area map with area facts
- The full research question
- The survey consent form
- A link to the survey

The survey was issued using Google Forms, which allowed formatting of the survey and the collection of responses through an Excel spreadsheet. In the consent form it was...
highlighted to respondents that survey data may be stored on servers outside of Canada and therefore may be subject to external access to information laws.

3.3.3 Survey Questions

The online survey consisted of 31 questions divided into five main sections. These five sections consisted of a basic firm profile, followed by three sections, which relate to Marshall’s theory of agglomeration and the hypothesis outlined in chapter one. These include goods movement, labour & employees, business development and built environment. Identifying the importance of these factors and their relationships allowed me to confirm or deny the hypothesis and the importance of Marshall’s agglomerating factors to creative and industrial firms within the Mt Pleasant Slopes study area. In order to be more comprehensible to the reader, generic section titles such as ‘business development’ were chosen over Marshallian concepts such as ‘knowledge spill overs’. As well, certain questions were grouped outside of their agglomeration section; ‘being located close to competitors’ and ‘opportunities for informal social activities’ were both placed under the respective sections of ‘Goods Movement’ and ‘Labour & Employees’ again for the comprehension of the reader. For the purpose of analysis, these questions were regrouped within Business Development, which provides indicators of knowledge spill overs.

Respondents were asked how important each factor is to their business activities and asked to rate the importance on a four point Likert scale, ranging from not at all important to very important. Factors that were identified as ‘important’ or ‘very important’ were considered to be factors that retain or attract firms to the area. Factors that were identified as ‘not important’ or ‘not at all important’ were considered to be factors that were either not considerations for firms to remain in the area or could perhaps be repellents for firms moving into the area.

The survey was issued for thirty days between March 26 and April 27, 2015. Invitations to participate were sent via an email explaining the purpose of the study and the potential benefits to business owners/operators. A link was provided to the research web page that described the research in detail while also providing the consent form and the link to the survey. A follow up email reminder was sent one week later and a follow up
phone call was made two weeks after the initial invitation. A full copy of the survey is available in Appendix A.

3.3.4 Firm Profile

The purpose of the first seven survey questions was to establish basic factual information about each firm. Respondents were first asked to provide a description of the goods they produce or the services they offer at their location. They were then asked to classify themselves into a list of sectors developed from the NAICS classifications. As the survey was anonymous, this allowed me to identify the firms as industrial or creative. The remaining questions focused on profile questions such as the time period in which the firm was established and had been located in the Mt Pleasant area, if they had previously been located elsewhere, is the firm a tenant or owner at the location, and what is approximate the floor area they occupy?

3.3.5 Goods Movement

In the review of the Marshalls theories and the literature, it was found that the input of supplies was a primary location factor for industrial firms while the output of goods to customers was of importance to creative firms (Ellison et al. 2010). In this section, a series of seven questions were asked to establish the importance of these input and outputs to the firm’s business activities. Firms were asked to rate on a Likert scale the importance of being located close to transportation networks, suppliers, customers and competitors or downtown Vancouver. Firms were also asked to indicate the location of their customers and suppliers and whether they were located within Vancouver, the Metro Region, or at a provincial, national or international scale.

It is hypothesized that the location decisions of industrial firms will be strongly influenced by production inputs and will consider proximity to the suppliers and/or the transportation networks that connect them as important factors. Alternatively, the location decisions of creative firms are strongly influenced by market outputs and will consider proximity to customers and clients as important factors. However if suppliers are also located in the area, this may also be an important factor.
3.3.6 Labour and Employees

Theories of agglomeration find that both industrial and creative firms are influenced by the availability of labour (Ellison et al. 2010). This series of four questions was designed to provide indication of the importance of both skilled and unskilled workers through either full time or contract employment.

It is hypothesized that the location decisions of industrial firms will be strongly influenced by labour and firms will consider the presence of skilled labour on a regular scheduled basis as an important factor. The location decisions of creative firms will also be strongly influenced by the presence of skilled labour though on a flexible contract basis.

3.3.7 Business Development

The purpose of this series of five questions was to indicate whether firms are locating to take advantage of the exchange of ideas and knowledge between firms of both a similar and complementary industry. In the literature and Marshall’s theories of agglomeration this is described as the concept of “knowledge spillovers” (Ellison et al. 2010); however, for the comprehension of the survey respondents the section title was changed to ‘business development’. Questions within this section focused on the importance of research and development, the sharing of ideas with other firms or competitors and employee training. Two other questions were placed within other sections of the survey for a more logical sequencing of questions: proximity to competitors and the importance of informal social activities with employees and other firms. When analyzed together these questions would give an indication on the importance of knowledge exchange to a firm’s development through both formal and informal means.

It is hypothesized that industrial firms will only be moderately influenced by knowledge spillovers and that the investment in research, training and the exchange of ideas will be a neutral or not important location factor. Alternatively, creative firms will be strongly influenced by the creation and exchange of knowledge within the firm and amongst other firms through both formal means and informal social activities.
3.3.8 Built Environment

Though not identified by Marshall as a factor in agglomeration, I propose that the built environment is a primary location consideration for both industrial and creative firms. This series of eight questions provides indicators of the built form considerations for both industrial and creative firms. Respondents were asked to identify the importance of various features and characteristics including: open floor plans, high ceilings, architectural character, loading bays, on site parking and lease or ownership rates. It is hypothesized that industrial firms will be strongly influenced by factors that serve their production needs including: loading bays, parking, high ceilings and lease rates. Creative firms will be strongly influence by both unique features and production requirements including: open floor plans, high ceilings, lease rates and unique architectural character or styles.

3.4 Firm Interviews

To supplement and enrich the survey data, semi-structured interviews with select firms were conducted. Two creative firms and one industrial firm were selected based on the level of response to the survey and firm profile. A preliminary list was developed based on survey responses and if direct contact had already been established through the survey follow up process. This list was then prioritized based on firm characteristics such as size (number of employees) and number of years in the study area. Two firms were selected from each sector that represented both a large and small firm as well as an established and newly located firm to the area. Contact was made with each firm via an email introduction and a follow up phone call, if necessary, to establish contact with a key decision maker, such as a business owner or manager, and to request an interview. Interviews were conducted in May 2015 and were semi-structured in format with questions primarily based off the survey questions with the intention of gathering more detailed information than the survey would be able to provide.

Two creative firms were selected and interviewed. The first was a small-scale music firm which operated a group of companies with a focus on the creation of branded music experiences, artist management, retail equipment sales and distribution; the firm had been located in the area for five years or less. The second was a medium sized
television commercial film production firm that produces television commercials for foreign production companies and has been located in the area for five to ten years as well as other creative economy areas such as Yaletown.

Obtaining interviews with industrial firms was more problematic and only one firm was available to be interviewed; a small scale firm that designs, manufactures and distributes bike components. Though just a single firm, they were an interesting firm and indicative of the study areas evolution since they utilized both traditional manufacturing methods towards a more modern product line.

Interviews with all subjects were approximately 20-30 minutes long and conducted either in person or over the phone. Interviews were audio recorded and transcribed to a Word document. Transcriptions were then analyzed using content analysis techniques to identify common issues and themes. The names or companies of the interview subjects are not identified directly as this was a stipulation of the consent form as approved by the SFU ethics board.
Chapter 4

Analysis

The following chapter presents the analysis and results of both the interviews and the firm survey. The survey is analyzed and presented based on the classifications of creative and industrial firms. An overview of the survey response rate is presented first followed by an analysis of how each response relates to the hypothesis and the factors of agglomeration. Results from both the key subject expert and the firm interviews are presented amongst the survey results to provide a richer level of detail which both supports or counters the survey data.

4.1 Survey Response Rate

A survey response rate of 10% was achieved with 30 of the total 277 firms responding to the online survey; with 17 (6%) creative firms and 13 (4%) industrial firms in total. This sample of 30 firms is comparable to the study area population of industrial firms though slightly overrepresented by creative firms. A classification of the 2015 business licence data set indicates that the area consists of 26% creative firms and 43% industrial firms (table 1). Creative firms were represented slightly higher in their response rate at 56% compared to 43% for industrial firms.

<table>
<thead>
<tr>
<th>Table 1 Percentage of firms between population and study sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Creative</td>
</tr>
<tr>
<td>Industrial</td>
</tr>
<tr>
<td>Other Firms</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Initially, not all questions received an adequate number of responses to produce a test of statistical significance through chi-squared analysis. To address this, Likert categories were collapsed from five to two (positive or negative responses). This provided a sufficient count for six of the thirty (20%) questions to be tested for statistical significance while the remaining were summarized qualitatively along with direct quotations and
themes provided from the interviews. Of all four categories, labour was the only category with insufficient cell counts even after collapsing the response categories. Therefore, conclusions drawn from this factor are primarily based on qualitative examination of the survey results and the personal interviews.

4.2 Firm Profile

In order to establish a basic profile of the firms operating in the study area, the survey first asked several questions regarding business activity, years operating in the area and tenure type.

A break down of responses by sector indicates that firms involved in specialized design services, architectural services and the motion picture and video industries were the most frequent to respond of the creative firms. Of the industrial firms, those which responded most frequently were involved in the sectors of manufacturing, repair and maintenance and warehousing, transportation and trade (table 2); a mix which is reflective of the areas traditional designation as a production, distribution and repair (PDR) area.

Table 2 Number of firms sampled by sector

Question 2. Which sector you would classify your business activities?

<table>
<thead>
<tr>
<th>Creative Firms</th>
<th>count</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialized design services</td>
<td>4</td>
<td>23.5%</td>
</tr>
<tr>
<td>Architectural and related services</td>
<td>3</td>
<td>17.6%</td>
</tr>
<tr>
<td>Motion picture and video industries</td>
<td>3</td>
<td>17.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Industrial Firms</th>
<th>count</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>6</td>
<td>42.5%</td>
</tr>
<tr>
<td>Transportation, Warehousing, Wholesale trade</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
4.2.1 Years of Operation

Firms were asked to indicate the year the company was established in order to determine the number of years the firm had been in operation. Creative firms ranged from three to 40 years with the average number of years being 17. Industrial firms ranged from just one to 44 years, with the average number of years being 20 (table 3); reflecting the areas historical designation as industrial.

Table 3 Mean number of years firm has been in operation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative (n=17)</td>
<td>16.80</td>
<td>10.71</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>Industrial (n=14)</td>
<td>20.86</td>
<td>14.68</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>Total (n=31)</td>
<td>37.66</td>
<td>25.39</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

4.2.2 Years at Location

Firms were also asked to indicate the number of years they have been at their location in order to determine if there was an immigration of new firms to the study area. The majority of creative firms surveyed have been operating in the area for fewer than ten years while industrial firms are more evenly distributed over twenty years. This reflects the areas historical designation as an industrial zone while also indicating the growth of creative firms to the area within the last ten years (table 4).
Table 4 Number of years at location

Question 4. How many years have you been at your current location?

4.2.3 Previous Location

To provide greater detail on firms that were new to the area, firms were asked to indicate their previous location if they had been located within the study area for less than five years.

For the creative firms nine of the eleven firms (81%) that have been in the area less than five years responded to this question. Of the nine, six firms had moved from other locations with greater Vancouver including east and west Vancouver and the downtown peninsula.

Of the five industrial firms, which have been located in the study area for less than five years, three responded to this question. Of the three, two were previously located in east Vancouver while one was located outside the greater Vancouver area in the Municipality of Langley (table 5).

Table 5 Previous locations of firms located within study area for less than 5 years.

Question 5. If you have been located in the Mt Pleasant slopes for less than five years, please indicate your former location.

<table>
<thead>
<tr>
<th>Firm Type</th>
<th>Previous location</th>
<th>Previous Geographic area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative</td>
<td>Armoury District</td>
<td>Downtown</td>
</tr>
<tr>
<td>Creative</td>
<td>West Georgia</td>
<td>Downtown</td>
</tr>
</tbody>
</table>
Overall, this outlines a trend of creative firms relocating to the area with little to no new growth of industrial firms. This trend was confirmed through the interview with the commercial land broker who explained that new leases are trending towards office functions and that industrial firms in the area only remain because their land costs and occupancy rates are low compared to current 2015 values and that they are not expanding or moving into the area since costs are prohibitive (personal interview 2015).

4.2.5 Number of Firms Over Time 2000 – 2015

Between 2000 and 2010 the mix of businesses within the study area remained relatively stable. Though the number of business licenses increased the total creative and industrial firms remained consistent as a percentage of the entire firms in the area at nineteen and fifty four percent respectively (table 6); the percentage of ‘other’ firms, mainly service and other uses, also grew slightly from twenty-two to twenty seven percent. The biggest change to occur was between the years 2010 and 2015, a period that includes the 2013 zoning amendments by the City of Vancouver. During this time the number of industrial firms dropped considerably by 95 firms with a slight increase of seven creative firms. Though the zoning changes are relatively recent, this data gives indication of a trend of industrial firms moving out of the area with creative firms slowly moving in as redevelopment occurs and additional space has become available since 2014.

**Table 6 Percentage of Firm Types 2000 - 2015**

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>225 (54%)</td>
<td>268 (54%)</td>
<td>173 (43%)</td>
</tr>
<tr>
<td>Creative</td>
<td>60 (19%)</td>
<td>97 (19%)</td>
<td>104 (26%)</td>
</tr>
<tr>
<td>Other</td>
<td>84 (22%)</td>
<td>135 (27%)</td>
<td>124 (30%)</td>
</tr>
</tbody>
</table>
4.2.5 Tenancy

Firms were also asked to indicate whether they were tenants or owners at their location. Almost all the creative firms surveyed indicated that they were tenants (94%). Industrial firms were evenly split at 50% owners and 50% tenants (table 6). This tenancy reflects the areas history as an industrial zone with industrial firms being slightly more established as landowners and creative firms being newer to the area. However, the presence of tenants in both firm sectors indicates a potential risk, as security of tenancy is less certain than ownership and both industrial and creative firms will be vulnerable to rising property values and redevelopment, resulting in a potential wholesale change to the firm profile of the area.

Interviews with the commercial land broker confirm this risk as he indicated that land purchase values have increased approximately 50% in the last 24 months since the City of Vancouver amended the areas I-1 zoning in 2013 to allow greater office development. Although leases have increased at a slower rate, per square foot rates for newer buildings are now comparable to more established creative downtown locations such as Yaletown and Gastown (personal communication 2015).
Table 6. Building Tenancy by Firm

Question 6. Is the company an owner or tenant of this location?

![Bar chart showing the distribution of owners and tenants by firm type.]

4.2.6 Floor Area

Respondents were asked to indicate the range of floor area their firm utilizes in order to determine the size and scale of their business. Both creative and industrial firms share a need for a substantial amount of floor area, with the majority of both creative and industrial firms requiring over 3,000 square feet.

Creative firms utilize a wide floor space range, from as low as 1,000 square feet and up to 3,000 plus. This range is indicative of the diversity of firms within the area which includes both small scale and larger established firms. Industrial firms utilize floor areas greater than 2,000 square feet with most requiring 3,000 square feet plus, reflective of their large space requirements for production and storage.

In interviews with the commercial land broker he stated that the most common floor area in demand is 2,000 square feet or more which is a typical of the average office space.
Table 7. Floor Area by firm type

Question 7 What is the approximate floor area that your business occupies?

![Bar chart showing floor area by firm type]

4.3 Factors of Agglomeration

The following section provides a summary and analysis of the survey questions that are based in the theory of agglomeration and the hypothesis that industrial and creative firms have fundamentally different locational needs. The sections are presented sequentially as: goods movement, labour, knowledge and built environment.

4.3.1 Goods Movement

The proceeding questions were asked on the firm survey to assess the role of transportation networks and the movement of supplies and products as a locational factor for both creative and industrial firms. Questions were asked regarding the importance of proximity to transportation networks (road, port, or rail), suppliers and services, customers and clients and downtown Vancouver.

The intention of these questions was to test the hypothesis that the location of creative firms is influenced by proximity to customers and clients while industrial firms locate more closely to suppliers and/or the transportation networks that connect them.
Overall the results do not support goods movement as a primary location factor for either sector. Although industrial firms do rely on transportation networks, they are not dependant on being located close to suppliers/services nor are creative firms. The importance of customers/clients was inconclusive for creative firms but positive for industrial firms, counter to the stated hypothesis that they would be more tied to the location of suppliers and services.

The results are somewhat reflective of the modern production and communication methods of the firms within the study area and their connections to global markets rather than those that are regionally based. As illustrated by the interviews, many of the industrial firms rely on production inputs supplied from Asia. Given Vancouver’s geographical proximity, trade and immigration connections to the continent, this is typical of many sectors within the City and not unexpected. Though proximity to the Port does offer some cost and time advantages for smaller firms such as the bike manufacturer, it may not be enough to offset other gains such as lower lease rates which other firms may choose when considering to relocate further outside the downtown area. This was reflected in the interview with the commercial land broker who stated that there is no net migration of industrial firms to the area and of those that do exist in the area, it is because of favourable long-term lease agreements or ownership of their location.

Though creative firms are not dependent on being located to suppliers/services, they did indicate some level of support for this factor in the survey. This may be reflective of the type of creative firms within the study area (architects, designers, media etc.) and their relationship with firms within the agglomeration that are complementary or play a support role to their business (ie. Print shops, photographers, model makers).

Though it was expected that customers/clients would be a significant factor for creative firms, a discrepancy emerged; while survey respondents considered it an important factor, the interview subjects did not. This is perhaps reflective of the range of firms in the area and their client base; firms such as the movie visual effect firms deal with an international client base connected remotely rather than by geography, while the smaller creative firms may have more locally based clients. The importance of proximity to customers/clients for the industrial firms is most likely due to the service nature of the majority of the firms within the area; services typical of a PDR area such as auto repair, distribution and small-scale production.
4.3.1.1 Proximity to Transportation Networks

Survey responses indicate that industrial firms, more than creative firms, consider proximity to major transportation networks, such as roads, ports, or rail, as a very important locational factor. Due to a low survey response rate for this question, the significance cannot be stated statistically; though we can make qualitative observations.

Industrial firms do have a stronger preference to be located near transportation networks with 78% (n=11) indicating it as an ‘important’ or ‘very important’ factor and only 21% (n=3) of firms indicating it as ‘neutral’ to ‘not at all important’ (Appendix B). In the firm interviews, one manufacturer confirmed the importance of transportation networks through the example of receiving shipments from Asia via the Port of Vancouver. Being located close to the Port allows them to have a small container delivered to their loading bay in the morning, which can then be unloaded to have the truck return in the afternoon to pick up. While doing this at other Metro Vancouver industrial locations may be possible, it would be prohibitive as containers may have to be delivered by rail or greater truck distances resulting in greater costs and time.

Creative firms did not state as strong a preference as industrial firms did, with 56% (n=9) of creative firms indicating transportation networks as an ‘important’ or ‘very important’. However, 43% of creative firms (n=7) also stated their response as ‘neutral’ to ‘not at all important’ (Appendix B). Subjects interviewed from creative firms indicated that traditional transportation networks such as road, port or rail were not essential to their business needs as they were not reliant on the movement of hard goods. Instead they cited cycling and transit networks as important factors in providing convenient commuting options for employees; one subject specifically cited this as a factor to help attract future employees.

4.3.1.2 Proximity to Suppliers and Services

Survey responses indicate that being located close to suppliers and services is not an important factor for either industrial or creative firms. Responses for both sectors were divided almost evenly between both sectors with creative firms (n=9) and industrial firms (n=7) considering it ‘neutral’ to ‘not at all important’ but also ‘somewhat’ to ‘very
important’ for creative (n=8) and industrial firms (n=7) (Appendix B). An adequate level of responses was received to conduct a chi-squared test of significance when the survey categories were collapsed from five to two categories (positive or negative). Results of the test confirm that there is no statistically significant relationship (p=0.870) between firm sector and the need to be located close to suppliers and services; thus rejecting the hypothesis that firms would have a need to be located closer to suppliers and services.

4.3.1.3 Location of suppliers/services

To provide greater detail on the geography of suppliers, the survey asked an additional question of where the majority of a firm’s suppliers are located. For creative firms, the majority of their suppliers and services are dispersed throughout the lower mainland, Canada, the United States and internationally (Appendix B). As many of the creative firms surveyed in the study area are based in film, graphic or software production these suppliers and services are often human resource based. Interviews with creative firms confirmed this as one subject stated that their firm often deals remotely with contractors in other regions and time zones.

Industrial firms obtain the majority of their supplies and services from within the lower mainland along with a percentage internationally. This use of both regional and international suppliers was reflected in the interview with the bike manufacturer. The principal of the company explained how the study area is very convenient for them for production service needs such as tool sharpening and small scale fabrication, however they also receive frequent shipments from Asia for production parts and proximity to the Port is an important consideration for their business (personal communication 2015).

4.3.1.4 Proximity to customers and clients

Based on the survey, being located in close proximity to customers and clients is an important factor for both firm sectors, though slightly stronger for industrial firms. Due to a low survey response rate for this question, the significance cannot be stated statistically; though we can make qualitative observations.
For the creative firms surveyed, 65% (n=11) of respondents considered proximity to customers and clients as a ‘somewhat’ to ‘very important’ consideration (Appendix B). However, interviews with creative firms counter these results. The principal owner of the music based group of companies stated that although there are related services within the study area to support his business, such as recording and rehearsal studios, production services, they are not essential for the location of his business. The principal of the digital production firm reflected this view as she explained how the majority of their customers are back east and therefore there is no advantage to being located with the study area.

Responses from industrial firms indicated that being close to customers and clients was an important locational consideration with 100% (n=14) of respondents choosing ‘somewhat’ to ‘very important’ (Appendix B). This is counter to the hypothesis that industrial firms are less likely to consider proximity to clients as a location factor and most likely reflective of the service and distribution firms with the study area, typical of PDR areas. As discussed in the following section, industrial firms are regionally based which

4.3.1.5 Location of customers/clients

To provide greater detail on the geography of customers, the survey also asked respondents where the majority of a firm’s customers are located. Of the creative firms surveyed, the majority of them (41.2%, n=7) indicate that their customer base is located on a regional scale within the lower mainland. Linkages to downtown customers were not as strong as just 5.9% (n=1) of firms indicated that they had a majority customer base there. However, creative firms did indicate some presence of a customer base both Canada Wide (17.6%, n= 3) and within the United States (23.5%, n=4) based customers (Appendix B). With a customer basis of a regional and North American wide level, this corroborates the findings of the previous question and counters the hypothesis that creative firms agglomerate in order to be closer to customers.

Of the industrial firms surveyed, a majority of them (71.4%, n=10) also indicated that their customer base is located on a regional scale within the lower mainland (Appendix B). However, unlike the creative firms, few firms indicated connections beyond the regional level. This highlights the importance of industrial firms as regionally serving
while also indicating that they are not geographically connected to the study area through customers, as hypothesized, but do require connections on a regional scale.

4.3.1.6 Proximity to downtown Vancouver

An additional question was asked regarding proximity to downtown Vancouver as a locational factor. It was hypothesized that there may be a relationship through a downtown client base for creative firms and perhaps service based industrial firms (ie. building maintenance, commercial laundry etc.).

The majority of creative firms surveyed indicated that being close to downtown Vancouver is an important locational factor with 89% (n=15) responding that it is ‘somewhat’ to ‘very important’. Industrial firms also indicated that proximity to downtown is a factor with 65% (n=9) responding that it is ‘somewhat’ to ‘very important’ (Appendix B).

Considering that most respondents indicated in the previous questions a regional client base, it cannot be concluded that a desire to be located close to downtown is due to a client base and interviews with firms do not provide much greater clarity. The music based firm did have some clients based downtown while the digital production firm had none and specifically state that the only time they are downtown for business is for professional development meetings. When interviewed, industrial firms did not indicate any connections with the downtown

In summary, the movement of goods is not a locational factor for either industrial or creative firms. Both firm types use supply inputs at regional and international levels yet only industrial firms are rely on traditional transportation networks such as the port and rail. Proximity to customers was also an important factor for industrial firms although on a regional scale; results were inconclusive for creative firms. Overall, there seems to be few factors related to goods movement that are locating and retaining industrial and creative firms within the study area.
4.3.2 Labour

The proceeding questions were asked on the firm survey to assess the role of labour force as a locational factor for both creative and industrial firms. Questions were asked regarding the importance of both skilled and unskilled labour, and the availability of both regularly scheduled and contract employees. The intention of these questions was to test the hypothesis that both creative and industrial firms consider pools of labour as a locational factor and that while both rely on specialized and skilled labour, creative firms have a greater use of contract employees to meet flexible production methods.

Overall, results of the survey questions confirm the hypothesis. Both creative and industrial firms consider proximity to skilled labour as an important locational preference with low preference given to unskilled labour. Interestingly, firms from creative and industrial sectors use both scheduled and contract employees. Interviews with firms confirmed the presence of a labour agglomeration and the role of the surrounding residential neighbourhoods in strengthening this. With its character residential neighbourhoods and shopping district along the Main Street arterial, the adjacent Mt. Pleasant local area has grown into an attractive neighbourhood over the last ten years and could be considered a driver of creative economy firms that wish to be located within the study area. With a unique selection of independent restaurants, shops and character neighbourhoods the area is attractive to the creative economy worker and presents an alternative to more expensive downtown districts such as Yaletown which may outprice the lifestyle of the typical creative economy employee. Proximity to labour pools has been a driving factor in the downtown creative districts (Hutton 2000) and this is what is happening again in the study area as firms seek to locate close to their skilled employee base.

4.3.2.1 Proximity to skilled labour

Survey responses indicate that both industrial and creative firms have a preference to be located in close proximity to skilled rather than unskilled labour pools. Although the preference is expressed slightly stronger for industrial firms than creative firms the survey results support the hypothesis that skilled labour is a location factor for both sectors.
Creative firms surveyed indicated a desire to be located close to skilled labour pools with 59% (n=10) considering this to be a ‘somewhat’ to ‘very important’ factor in the location of their firm (Appendix B). Industrial firms surveyed also indicated that proximity to skilled labour pools was an important consideration. However, the preference was slightly stronger than creative firms with 71% (n=10) of industrial firms considering it ‘somewhat’ to ‘very important’ (Appendix B). Due to a low survey response rate for this question, the significance cannot be stated statistically though we can make qualitative observations.

In interviews with both creative and industrial firms, subjects spoke of the role of the area in both attracting and retaining employees thus strengthening the agglomeration of firms. A reoccurring theme from each sector was the proximity to surrounding residential areas and the ability for employees to travel quickly and easily to work via biking or walking. Creative firms also spoke of the areas ‘vibe’ and how it aligned with a typically more relaxed work environment that is counter to a typical downtown location. This confirms the areas geographic links to local labour pools, which in turn strengthen the agglomeration of firms.

Being located close to unskilled labour was not a location factor for creative firms with 94% (n=14) indicating that they are ‘neutral’ to the factor or consider it ‘not’ or ‘not at all important’. This was also not a location factor for industrial firms surveyed with 71% (n=10) indicating that they are ‘neutral’ to the factor or consider it ‘not’ or ‘not at all important’.

4.3.2.2 Availability of regular scheduled employees

The importance of the availability of regular scheduled employees was an important locational factor for both sectors with 77% (n=13) of creative firms and 86% (n=12) of industrial firms indicating that the availability of regular scheduled employees is ‘somewhat’ to ‘very important’ factor in their location decisions (Appendix B).
4.3.2.3 Availability of contract employees

Both sectors also indicated that importance of contract employees with 70% (n=10) of creative firms and 57% (n=8) of industrial firms indicating that the availability of contract employees is ‘somewhat’ to ‘very important’ factor in their location decisions (Appendix B).

The role of both full time and contract employees was reflected in the firm interviews for both sectors. In speaking with creative firms, each indicated a typical staff structure of a small number of regular full time staff supplemented by contract employees on a per project basis. Though the digital production company had previously grown to as many as 33 employees they had scaled down to seven full time staff and it was explained that this was the nature of the business as firms expand and contract based on a project basis. The principal of the firm explained that this is a common trend across most digital firms and preferable to their flexible business model, stating that: “the one thing the City always thinks is that we all want to be Hootsuite, and that’s a really bad assumption, not all of us want to grow that big.” (personal communication 2015). 

Interviews with the bike manufacturer reflect a similar structure. A core group of engineers, sales and accounting are retained full time while a number of students are hired on a part time basis from local universities. These part time positions may transfer to full time positions through the summer with business growth and as student schedules permit (personal communication 2015).

In summary, proximity to labour is a locational factor for both industrial and creative firms, supporting the hypothesis. Both require a pool of skilled labour on both a full and part time basis. Interviews with firms revealed that the nature of the industrial area being ‘more relaxed’ than a downtown location and the presence of a labour agglomeration in the adjacent Mt Pleasant residential neighbourhood, were other significant factors driving labour to be a primary factor in their location.
4.3.3 Knowledge

The following survey questions were asked to assess the importance of knowledge spillovers to both creative and industrial firms. As discussed in section 2.0, the concept of knowledge spillovers relates to the exchange of ideas between both firms and workers; which in turn influences geographic concentration and firm innovation (Ellison et al 2010). Of all four concepts of agglomeration, the idea of knowledge spillovers was the most difficult to operationalize into a series of survey questions. This is consistent with other research dedicated to the topic who have used a range of measures such as research and development activities (Panne 2006) and product innovation (Heidenreich 2009) with varying levels of success. However, for this research four proxies were chosen to assess the role of knowledge spillovers in a firms locational decisions:

1. Research and development: internal to the firm and through employee training
2. Information Sharing: between other firms and competitors in the area
3. Location: being located close to other competitors
4. Social Activities: opportunities in the area for informal activities that may foster a “social milieu” (Pratt 2010) amongst area firms.

Questions were posed under the heading of “Business Development” in order to provide a more relevant concept for respondents; question eleven was grouped within goods movement to follow a more logical sequence of questioning. Despite the difficulty in operationalizing the concept, this section of questions was one of the few where some questions yielded a significant enough cell count to conduct a chi square test for statistical significance when the survey categories were collapsed from five to two categories (positive or negative responses). Questions that did not provide an adequate amount of responses are summarized qualitatively as in the other sections.

Overall, the results reject the hypothesis that firm type and locational decisions based on knowledge are related. Though there is some indication from the survey that firms consider informal social activities as a factor, this was not supported by the interview data. Though the results of the data are inconclusive, the question regarding social amenities is somewhat revealing with interview subjects in both creative and industrial firms speaking firmly in their view both for and against social amenities in the area.
Some firms stated that there is a need for more amenities in the area to serve the worker population and enlivening the area after working hours while others firms saw the addition of more amenities as a threat to the existing character of the area. Though this topic does not provide evidence of the role of knowledge spillovers in the area, it is is indicative of existing tensions in the area as it undergoes change through new uses and tenants. A particular contentious use seems to be the craft breweries, which fit the zoning definition of a industrial production firm, but in 2013 were allowed to have direct sales and tasting lounges of up to 80 square feet (Vancouver 2013). Though the lounges have been a positive business addition for the breweries they have developed into a social amenity hub which draws both local workers and those outside of the area; which in turn, may be blurring the boundary between the adjacent residential and commercial areas of Mt. Pleasant and the industrial lands of the study area. In the firm interviews, this trend was most concerning to those firms that were either long term tenants or smaller in scale.

4.3.3.1 The importance of being located close to competitors
For both creative and industrial firms, being located close to competitors was not a factor in their locational decisions with 100% of the creative firms (n=17) and 100% of the industrial firms (n= 14) responding that adjacent competitors are a ‘neutral’ to ‘not important’ consideration (Appendix B). Responses did not yield a significant enough cell count to analyse this question statistically though qualitative observations are made.

4.3.3.2 The importance of informal social activities in the area
Both creative and industrial firms considered opportunities for informal social activities such as parks, pubs and events, in the area to be an important locational consideration, with 59% of creative firms (n=10) and 71% of industrial firms (n=10) rating this as ‘somewhat’ to ‘very important’. Responses did not yield a significant enough cell count to analyse this question statistically.

Though survey respondents were favourable to this factor, the data does not provide any additional detail in how this relates to firm innovation and the exchange of ideas. Firms interviews provided a richer level of data yet did not reveal any consistent pattern. The two creative firms interviewed each expressed opposite views on the role of the areas social activities and amenities. The music marketing firm spoke of regular social activities both with other music firms and those within other sectors, common venues
included coffee shops, breweries and other offices including Hootsuite. The digital marketing firm indicated that they rarely socialized with other firms in the area, even ones that they do business with on the same block. In fact, they spoke negatively about the rise in social amenities in the area such as the upscale coffee shops.

Interviews with industrial firms yielded similar conflicting data. Though industrial firms surveyed were positive about the availability of social activities in the area, interview subjects expressed more negative sentiments. The owner of the electric bike company was particularly negative about the rise of craft breweries, the area's newest social amenity. Since the City allowed tasting lounges in 2013, the area has seen an increase in the number of breweries who are competing for industrial space.

“ When I see Pedal Depot become a brewery I find that sad because when I was a small business looking for a small 500sf place where I could run a little shop and I had these ideas and couldn’t do it all from my garage, that was a difficult thing to find, in the city and I think that other people who would be in the same shoe I was in five to ten years ago its nice if there are physical spaces where they could run their business from where they are not paying that much per square foot and they are free to hack into walls or do whatever where they not worried about offending neighbours, I see brew pubs as more challenging to those limited amounts of space. “

4.3.3.3 The importance of research and development internal to the firm

Of the firms surveyed, 57% of industrial firms (n=8) considered internal research and development as being ‘somewhat’ to ‘very important’ to the firm while 58% of creative firms (n=10) considered it a ‘neutral’ factor or ‘not important’ to ‘not at all important’ (Appendix A). A sufficient amount of responses were received to conduct a chi square test for statistical significance when the survey categories were collapsed from five to two categories (positive or negative). Results of the test confirm that there is no association between the type of firm and the importance of research and development (p=0.376).
4.3.3.4 The importance of information sharing between similar firms and competitors

Of the firms surveyed, industrial firms were equally split on the importance of information sharing between firms, with 50% (n=7) considering it a ‘somewhat’ to ‘very important’ factor and 50% (n=7) considered it a ‘neutral’ factor or ‘not important’ to ‘not at all important’. 65% of creative firms (n=11) responded that it was a ‘neutral’ factor or ‘not important’ to ‘not at all important’ (Appendix B). A sufficient amount of responses were received to conduct a chi square test for statistical significance when the survey categories were collapsed from five to two categories (positive or negative). From this test we can conclude that there is no association between the type of firm and the importance of information sharing between similar firms and competitors (p=0.409).

4.3.3.4 The importance of frequent employee training sessions

Of the firms surveyed, both considered frequent employee training sessions as being important to their business with 57% of industrial firms (n=8) and 53% (n=9) of creative firms considering it a ‘somewhat’ to ‘very important’ factor (Appendix B). A sufficient amount of responses were received to conduct a chi square test for statistical significance. From this we can conclude that there is no association between the type of firm and the importance of frequent employee training sessions (p=0.376)

In summary, knowledge is not supported as a locational factors for industrial or creative firms within the study area. This rejects the hypothesis that this would be a factor for creative firms as both the survey and the interviews provided no conclusive evidence that they were involved in a collaborative sharing of information as has been described in places such as Silicon Valley (Saxenian 1994). The most notable observation was the tension that exists between firms in their opinion of craft breweries located in the study area and their potential role as an agent of change through a social amenity.
4.3.4 Built Environment

The following questions were asked on the firm survey to assess the role of the built environment as a locational factor for both creative and industrial firms. Questions were asked regarding building characteristics in order to test the hypothesis that creative firms are influenced by built environments that identify with their unique business culture while industrial firms are influenced by features that serve their production needs. Two questions were also asked regarding land costs to assess whether this was an additional influence for either firm type. Two of the seven questions in this section had a sufficient number of responses to test for statistical significance while the remaining responses are summarized qualitatively as per previous sections.

Overall, the results of the survey indicate that the built environment is a primary factor for both creative and industrial firms and that their requirements are not that dissimilar. Features such as high ceilings, open floor plans, and the availability of on site parking were common desires for both sectors while architectural character was not statistically significant. Though the results were not statistically significant, the interviews and site visits provide some valuable insights into how both industrial and creative firms utilized buildings with architectural characteristics in very different ways. While industrial firms used their spaces in a functional, production oriented way, the creative firms refurbished industrial elements such as beams and mechanical features as character defining signifiers of a non-corporate work place. Also of note, is that all these features are interior based; unlike other creative districts such as Yaletown which evolved around the era of rail transportation, there is no heritage character expression to the exterior of the buildings (ie. brick cladding, heritage iron work etc.) and that from the street the buildings look very much like a standard industrial building.

Land costs for ownership and lease rates were also a shared concern amongst both sectors, this was not unexpected as firms that have been located in the area for a long term would have benefitted from suppressed land values as a result of the industrial zoning, in particular the creative economy firms. With the 2013 changes to the I-1 zoning, a new wave of development is occurring which is in turn driving up land costs and causing pressures to remaining tenants, both creative and industrial. In addition, long term industrial firms who may own their properties are choosing to sell and
capitalize on the increased value, further accelerating the changes to the area while decreasing the industrial land base. Such a rapid increase in market activity has resulted in the study area having the highest per square foot sales price of all industrial properties in Vancouver; of further concern is that the “higher pricing established by recent sale transactions in the area has essentially rendered retaining the existing structures as an inefficient use, and has transformed what would typically be considered industrial transactions into land deals” (Avison Young 2015).

4.3.4.1 Land costs for lease rates

Lease rates are a primary concern for both industrial and creative firms. Of the firms surveyed, 94% of creative firms (n=16) and 93% of industrial firms (n=13) rated lease rates as being a ‘somewhat’ to ‘very important’ locational factor.

4.3.4.2 Land costs for ownership

Land costs for ownership were also a primary concern for both firms with 59% of creative firms (n=10) and 71% of industrial firms (n=10) rating ownership costs as being a ‘somewhat’ to ‘very important’ locational factor. The slightly greater percentage of industrial firms may reflect the history of the area as an industrial zone and that many industrial firms may own their building due to their longer presence in the area.

The significance of land costs was reflected in interviews with both industrial and creative firms. One industrial firm subject was facing a lease renewal in 2017 and stated that a higher per square foot lease rate would be a threat to his business. He expressed hope that the businesses future profitability would be enough to sustain a lease increase but worried for the viability of future small businesses that “need to have affordable rent and a space that they can do their creative operation” (personal communication 2015). He also gave examples of established traditional industrial firms leaving the area, such as Hudson Plating and Coating, established in the study area in 1948 and recently relocated to Annacis Island due to the changes in the area.

A creative firm subject expressed similar concerns regarding tenancy and land values. Her firm had been located in the area since 2005 after previously being located in two downtown locations including Yaletown. Her firm had owned a building since 2008 but
decided to sell in 2013 to capitalize on the appreciation. Despite this, she explained how her business model relied on lower lease rates and how herself and several other small-scale creative firms had moved out of the downtown area to Mt Pleasant because the land values were more affordable. When questioned about the recent changes to the area and the relocation of Hootsuite, she saw it as a major force of change, stating that “the moment that the City did the deal with Hootsuite, that was my signal that the area was going to go to hell” (personal communication 2015). With a lease up for renewal in 2017 she is expecting to relocate out of the area and is already looking for new spaces as her building has been sold to a developer who is renovating half the building as office space.

4.3.4.3 Built Environment: open floor plan

The presence of an open floor plan is an important factor for both industrial and creative firms with 87% of creative firms (n=14) and 71% (n=10) of industrial firms responding that this is a ‘somewhat’ to ‘very important’ locational factor.

4.3.4.4 Built Environment: high ceilings

Having high ceiling in a location was also an important factor for both firm types with 76% of creative firms (n=13) and 64% of industrial firms (n=9) responding that this is a ‘somewhat’ to ‘very important’ locational factor.

4.3.4.5 Unique architectural character and styles

The presence of buildings with unique architectural character and styles was an important factor for both sectors with 62% of creative firms (n=10) and 64% of industrial firms (n=9) indicating that this is a ‘somewhat important’ to ‘very important’ consideration in their location decisions (Appendix B). This is counter to our hypothesis that creative firms would be more influenced by this factor than industrial firms. An adequate number of responses were received to allow a chi square test for association to be conducted. Results from the test confirm that there is no association between firm type and the location factor of unique architectural building characters and style (p=0.919).

Through site visits and interviews it was clear that although both sectors share a common desire for open floor plans, high ceilings and architectural character, they are
utilizing these features in very different ways. The design studio was approximately 4,000 square feet of space with elements of its former industrial use still in place, including: large steel ceiling beams, heavy-duty crane and cement floors. With a dozen or so computer workstations it was clear that these industrial elements were retained as aesthetic symbols of industry rather than essential elements of production.

In visiting the bike manufacturer, their unit also had high ceilings but with a floor plan more greatly utilized as production space. A small retail showroom (~400sf) out front was followed by approximately 2,000 square feet of production and development space which included a variety of production equipment including: a CNC router machine, a small wind tunnel testing facility and electronics assembly workstations. High ceilings accommodated storage space for product awaiting shipment, as well as a second level for design and production of various products such as motors, batteries and circuit boards.

4.3.4.6 Loading bays

Buildings which had loading bays were an important consideration for industrial firms with 71% of firms (n=10) indicating that this is a ‘somewhat important’ to ‘very important’ consideration. This factor was not a locational consideration for creative firms with 58% of firms (n=10) responding that they consider this factor as ‘neutral’ to ‘not at all important’ (Appendix B). Though this qualitatively supports the hypothesis that industrial firms would consider loading bays as a locational factor, it is not statistically significant. An adequate level of responses were received to conduct a chi squared test of significance which confirmed that there is no association between firm type and the presence of loading bays as a locational factor (p=0.092).

4.3.4.7 Availability of onsite parking

The availability of on site parking is an important locational consideration for both industrial and creative firms. Though it was hypothesized that industrial firms would consider parking a greater factor both sectors responding almost unanimously positive to the survey with 94% of creative firms (n=16) and 93% of industrial firms (n=13) considered the presence of on site parking as a ‘somewhat important’ to ‘very important’ consideration. Though survey respondents rated it as a primary concerns, interviews
subjects from both sectors spoke of the great connectivity in the area for employees to travel by foot, bike or transit.

In summary, the built environment is a location factor for both industrial and creative firms. Both require similar features such as high ceilings, open floor plans and on-site parking. While industrial firms utilized the spaces differently with creative firms based in aesthetics and industrial firms based in production with a statistically significant desire for loading bays. Such similar requirements are a concern when considered with land costs, another concern of both firms. As land values appreciate with the recent introduction of new office uses, the long term tenancy of both firm types will be threatened.
Chapter 5
Summary and Conclusion

5.1 Summary

The purpose of this research was to examine the importance of locational factors for both industrial and creative businesses within the Mt Pleasant Slopes area. The research took the stance that both sectors are important to the area, and that understanding their locational needs is important in order to inform future land use and economic development policy in the area that seeks to intensify land use in the area through new and complementary uses, such as the creative economy. For the purpose of this research, the creative economy is defined as industries which have a basis in creativity and skill and which generate economic output and job creation.

Four factors, based in Marshall’s theories of industrial agglomeration and the contemporary literature were chosen as indicators of a firm’s locational choices, these included: Goods Movement, Labour, Knowledge and the Built Environment. Overall it was hypothesized that both sectors shared many of the same location requirements for each of these factors; the exception being Goods Movement where industrial firms would locate close to suppliers/services while creative firms would locate close to customers/clients.

The study undertook a combination of firm interviews and a survey to assess how these factors considered into each firms decision to be located within the study area. Interviews with a variety of firms and local area experts provided additional qualitative data based in the personal experiences of those who operate in the area.

5.2 Conclusion

Overall the research shows that the locational requirements of both the existing industrial and creative firms in the study area are not that dissimilar with the two primary locational factors being Labour and the Built Environment. Both sectors expressed a common desire to be located close to pools of skilled labour in adjacent neighbourhoods
and within built environments with features such as high ceilings and open floor plans. Land costs through both lease and ownership were also a consideration and indicate a potential threat as firms compete for similar locations or are potentially outbid by firms entering the study area through new office development activity in the area. In section 2.3 I explored new policy approaches to industrial lands and proposed that any impacts associated by integrating creative and industrial land uses could be mitigated through development and urban design regulations. Though the City of Vancouver has aimed to enact such controls in the amended I-3 zoning, it does not seem to have allowed for an incremental pace of development that respects existing firms. Rather it has ignited a flurry of development which has presented real threats to both the industrial and creative firms that have existed in the area for the last twenty years since 1995. In the proceeding section I make policy suggestions to address this.

In examining the other factors, goods movement and the relation to suppliers/services and customers/clients were not significant factors which tied firms to the area; although industrial firms did indicate some preference to be close to transportation networks and relationships with clients on a regional scale. Knowledge and the transfer of ideas was also not a locational factor thought there is some apprehension about the appropriateness of the proxies used in the research.

5.2.1 Goods Movement

Goods movement in general, is not a primary location factor for either industrial or creative firms in the study area.

Neither indicated a preference to be located close to supplier and services with both sectors relying on regional and international based suppliers. The importance of being located close to customers and clients was inconclusive. While the survey results from creative firms aligned with the hypothesis that customers/clients are a locational factor, the firm interviews countered this view as most clients are national and global. On the other hand, industrial firms indicated on the survey that they desire to be located close to regional customers/clients, which is counter to the hypothesis and does not indicate a strong locational tie to the study area.
Industrial firms did indicate a need to be located close to the transportation networks which connect them to suppliers, such as the port. Creative firms do not share this need; rather they cited the need for alternative transportation networks such as transit and bike routes that enable their employees to get to work quickly and easily.

5.2.2 Labour

Being located close to labour pools is a primary factor for both industrial and creative sectors. Both indicate a preference to be located in close proximity to skilled labour pools which they employ on both full time and contract basis. Both sectors prefer to be located close to the adjacent residential neighbourhood of Mt Pleasant rather than a downtown location as this is where many of their employees live; allowing them to be able to travel to work quickly and easily via biking or walking while also enjoying a range of social amenities such as breweries, coffee shops and restaurants. In fact, several creative firms indicated the desire for such amenities to extend into the study area to increase the vibrancy beyond business hours. This linkage to an adjacent labour pool is an important locational factor that seems to strengthen the agglomeration of both industrial and creative economy firms in the area.

5.2.3 Knowledge

Generally, the exchange of knowledge, or spillovers, is weak for both industrial and creative firms in the area and not a primary locational factor within the study area. The data did not show any statistical relationship between firm type and knowledge and qualitatively the association is weak and not conclusive. Neither sector regarded the exchange of information between firms, research and development activities or being located close to competitors as being primary location factors. Opportunities for informal social activities were a factor cited by both sectors in the survey however the interview data did not support this.

There is some hesitation on the appropriateness of the proxies in measuring the factor of knowledge spill-overs and it is suggested that future research focus specifically on this location factor with a more refined proxy in hopes of drawing more definitive conclusions.
5.2.4 Built Environment

The built environment is a primary locational factor for both industrial and creative firms within the study area. Both share a common need for building features such as high ceilings, open floor plans, and the availability of on site parking. Architectural character was not a statistically significant factor for either sector which reflects the simple industrial character of the area as opposed to other creative neighbourhoods such as Yaletown and Gastown with their many heritage buildings.

Though each sector has similar requirements for built features, qualitative evidence confirms the hypothesis that each sector use their spaces in different ways. While industrial firms utilize the building features for production needs, creative firms prefer them for an aesthetic appeal.

Though the end use may differ, this common preference creates competition within the land market for lease and ownership; both of which are concerns for creative and industrial firms. Such competition is attracting investment from established land developers who are seeking to capitalize on the City of Vancouver’s 2013 zoning changes which allow for an increase in office floor space in new buildings. Such investments are causing a rise in property values and increasing pressure on existing tenants as land owners seek to redevelop or renovate to tenants with a higher lease rate. This is a concern for existing industrial firms and creative firms which seek to remain in the area.
Chapter 6

Recommendations

Recent interventions by the City of Vancouver, combined with the increasing appeal of the adjacent Mt Pleasant residential/commercial neighbourhood has had a pull effect upon creative firms radiating from the downtown core and into the Mt Pleasant Slopes. Whereas areas such as Yaletown and Gastown were once the primary areas for these types of businesses, they now desire to be outside the downtown peninsula in areas such as the study area. As this research show, this trend presents potential threats to both the existing industrial and creative firms in the area as they share similar requirements for labour and the built environment. To minimize any negative impacts, the City should consider the following recommendations in regulating the study area.

Recommendation #1 – Support industrial firms within the area through continued reinforcement of the industrial land use designation and a recognition of the influence of larger scale creative firms.
Industrial activity remains an essential part of urban economies and the study area is currently supported as an industrial area through a variety of City and Regional policies. However the City must recognize the expansion of office uses in the study area as a negative impact to industrial firms. While the small creative firms that occupied the area between 1995 – 2010 co-existed with industrial uses and had little impact on land values the 2013 amendments to the study area have driven a wave of speculation and development that is introducing a new scale of firm that is out competing both the industrial and small scale creative firms. Future policy should support industrial firms through locating large scaled creative firms and other similar uses to existing office zoning districts such as the CBD or Yaletown.

Recommendation #2 – Make only modest amendments to industrial land policies when considering floor area bonusing or the introduction or expansion of other uses.
In section 2.0 a variety of best practices from Cities such as San Francisco and Portland were presented along with research that supported the stance that certain activities could be compatible with light industrial uses through policy mechanisms such as urban design controls to minimize potential land use conflicts and floor area incentives to
encourage industrial spaces; an approach that is reflected in the 2013 zoning amendments made to the study areas zoning by the City of Vancouver. As a relatively recent approach to industrial lands policy (since 2010) there has been little research on the land value impacts of these new policies. Though not an exhaustive economic study, this research indicates through both qualitative and quantitative means, that there is indication of impacts from these policies to industrial firms through the occurrence of development speculation and an associated increase in land values as firms move into the area seeking common factors such as the labour and the built environment. As other cities develop new policies for industrial lands, they should carefully evaluate any potential land value impacts and use conflicts and make only modest policy amendments that either introduce or expand land uses such as office which are associated with industrial or manufacturing uses, or consider floor area bonuses for the development of industrial space. As these policies are implemented they should be continually reevaluated and amended to control the pace of change and any associated negative impacts.
Chapter 7

Further Research

This research provides an understanding of the locational factors that influence the creative and industrial firms that are located with the Mt Pleasant Slopes area. However, the results for knowledge spillovers were inconclusive and the proxies used for measuring this factor were questioned. Future research should focus specifically on this factor with a more refined proxy in hopes of drawing more definitive conclusions on the role of information exchange between firms and the significance of it as a factor for firms to locate within the area.

An additional piece of research could be the rise of crafter breweries to the area, and the recent allowance for direct sales and tasting lounges. This is a significant new social amenity to the area and during interviews for this research it was identified as a point of tension with existing firms. At the outset of this research the tasting lounges were still relatively new, however by 2016 they will have been established enough to yield a sufficient amount of data for research into their effect on the area.

Epilogue

As noted in chapter one, the Mt Pleasant Slopes is an area that is undergoing a rapid rate of change. This research was undertaken through 2015, a time period when Hootsuite had just recently relocated to the area and development activity was just beginning to take place as a result of the 2013 zoning changes. As the area continues to change and evolve rapidly, the research very much represents a snapshot in time. Since the completion of this research three major updates have occurred: the pace of new development has increase, land values have increased resulting in some of the research subjects being dislocated, and the City of Vancouver has indicated that it may allow Hootsuite to build a new office campus on the edges of the area,
New Development

Since the 2013 changes to the areas zoning, six new building have either been constructed or are in the approvals process (figure 12). Observing the projects that are completed, it is clear that they represent a very different building type than what typically exists in the area; one with a high level of architectural design and modern finishes targeted towards the creative economy (figure 13). Marketing materials from PC Urban, a Vancouver based development company illustrate how developers view the area as an office opportunity. Mt Pleasant is described as a ‘historically industrial area that is quickly gentrifying’ and “the new Yaletown”. Clearly this view differs greatly from the intent of the City of Vancouver who aims to preserve some level of industrial production use in the area.

Figure 12 New Development since 2013 zoning amendments

<table>
<thead>
<tr>
<th>ID</th>
<th>Address</th>
<th>Description</th>
<th>Status</th>
</tr>
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| 1  | 111 E 4th Ave | • 27,004 sq. ft. 4 storey mixed use building  
• 2.98 FSR (2.0 FSR office) | approved     |
| 2  | 7 E 6th Ave  | • 18,139 sq. ft. 3 storey mixed use building  
• 3.0 FSR (1.97 FSR office) | completed    |
| 3  | 228 W 5th Ave| • 9,056 sq. ft. 4 storey mixed use building with ground level  
warehouse uses and office above  
• 1.5 FSR (1.25 FSR office) | construction |
| 4  | 380 W 5th Ave| • 72,429 sq. ft. 4 storey mixed use | approved     |
### Land Values

In their fall 2015 report on Vancouver Industrial Lands, Avison-Young reported that the Mt Pleasant Slopes represented the most expensive industrial land in the entire Metro Vancouver region. Land purchase values rose most significantly in 2013 with an increase of $100 per square feet due to the City’s zoning amendments and the “blurred distinction between what’s considered an industrial and an office property in the Mt

---

**Table 1**: Characteristics of recent developments in Vancouver

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<th>Description</th>
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<td>7 W 6th Ave</td>
<td>Building with ground level wholesale and office uses</td>
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<td>• 3.0 FSR total (2.0 FSR office)</td>
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<td>18,000 sq. ft. 3 storey mixed use building with ground level clothing</td>
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<td>manufacturing and upper level office use.</td>
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<td>• 3.0 FSR (2.0 FSR office)</td>
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<td>6</td>
<td>22 E 5th Ave</td>
<td>54,389 sq.ft., 6 storey mixed use building with ground level manufacturing</td>
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<td>uses and offices on levels 3 – 6</td>
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<td>• Heritage façade restoration</td>
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<td>• 3.0 FSR (2.0 FSR office)</td>
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Source: author

**Figure 13** An example of the architecture of new I-1 development

![Image of architecture](source: author)
Pleasant I-1 district” (Avison Young 2015). During the research, some interviews expressed concern about the increasing land values and the effect on their lease rates which were upcoming for renewal. These fears where confirmed in February 2016 when the interview subject from the industrial contacted me with an update that his lease rate had been doubled and as a result he was moving his firm out of the area (personal communication 2016)

Hootsuite

In December 2015, it was confirmed by the City that there are looking at additional zoning changes to the periphery of the study area where Hootsuite has purchased an entire block in partnership with Westbank Developments, one of the City’s most successful developers. Though the City has not confirmed that the development and the zoning changes are related, they have indicated that they are looking at further expanding the definition of industrial in the area to include “digital-tech businesses” (Globe and Mail 2015) as a kind of production. Though the area is located on the edge of the study area it will have wide-ranging effects on land values as it increases the attractiveness of the area further to new firms entering the area and to landowners and brokers speculating on future development potential.
References


Panne (2006)


Appendices

Appendix A
Survey questions

Mt Pleasant Firm Survey
A study of industrial and creative firms in the Mt Pleasant Slopes area
Simon Fraser University 2015

For follow up please email [email protected]

1. Terms & Consent
   Please indicate that you have read and understand the consent page for participating in this research.
   Mark only one oval.
   
   ☐ Yes, I understand and agree to participate
   ☐ No, I do not agree to participate

2. I. Firm Profile
   1. Please describe briefly your main business activity, including what goods you produce and/or what services you provide, at this location.

   ................................................................................................................
   ................................................................................................................
   ................................................................................................................
   ................................................................................................................
   ................................................................................................................
3. Which sector you would classify your business activities
   *Mark only one oval.*
   - Wholesale trade
   - Repair and maintenance
   - Transportation and warehousing
   - Manufacturing (food, clothing, metals, printing etc)
   - Personal and laundry services
   - Architectural, engineering and related services
   - Specialized design services (graphic, fashion, interior, industrial etc.)
   - Broadcasting (except internet)
   - Newspaper, periodical, book and directory publishers
   - Advertising, public relations, and related services
   - Motion picture and video industries
   - Music - production, distribution or recording
   - Video game design and development services
   - Software publishers
   - Internet publishing and broadcasting, and web search portals
   - Data processing, hosting, and related services
   - Photographic services
   - Other: _______________________________________________________

4. In what year was the company established?
   ______________________________________________________________

5. How many years have you been at your current location?
   *Mark only one oval.*
   - 1-5 years
   - 5-10 years
   - 10-15 years
   - 15-20 years
   - + 20 years

6. If you have been located in the Mt Pleasant slopes for less than five years, please indicate your former location.
   ______________________________________________________________
7. Is the company an owner or tenant of this location?
   *Mark only one oval.*
   - Owner
   - Tenant

8. What is the approximate floor area that your business occupies?
   *Mark only one oval.*
   - 0 – 500sf
   - 500 – 1,000sf
   - 1,000 - 2,000sf
   - 2,000 - 3,000sf
   - + 3,000sf

II. Goods Movement
Please rate how important each factor is to your business activities

9. Being located close to a major transportation network such as a road, port or rail
   *Mark only one oval.*
   - very important
   - somewhat important
   - neutral
   - not important
   - not at all important

10. Being located close to suppliers/services
    *Mark only one oval.*
    - very important
    - somewhat important
    - neutral
    - not important
    - not at all important

11. Being located close to customers/clients
    *Mark only one oval.*
    - very important
    - somewhat important
    - neutral
    - not important
    - not at all important
12. Being located close to competitors
   *Mark only one oval.*
   - very important
   - somewhat important
   - neutral
   - not important
   - not at all important

13. Being located close to downtown Vancouver
   *Mark only one oval.*
   - very important
   - somewhat important
   - neutral
   - not important
   - not at all important

14. Please indicate where the majority of your customers are located
    *Check all that apply.*
    - Downtown Vancouver
    - Metro Vancouver
    - Province Wide
    - Canada Wide
    - The United States
    - Internationally

15. Please indicate where the majority of your suppliers are located
    *Check all that apply.*
    - Downtown Vancouver
    - The lower mainland
    - Province Wide
    - Canada Wide
    - The United States
    - Internationally
III. Labour and Employees
Please rate how important each factor is to your business activities

16. 15. Being located close to skilled labour
Mark only one oval.
   ○ very important
   ○ somewhat important
   ○ neutral
   ○ not important
   ○ not at all important

17. 16. Being located close to unskilled labour
Mark only one oval.
   ○ very important
   ○ somewhat important
   ○ neutral
   ○ not important
   ○ not at all important

18. 17. Availability of regular scheduled employees
Mark only one oval.
   ○ very important
   ○ somewhat important
   ○ neutral
   ○ not important
   ○ not at all important

19. 18. Availability of contract employees
Mark only one oval.
   ○ very important
   ○ somewhat important
   ○ neutral
   ○ not important
   ○ not at all important

84
20. 19. Opportunities in the Mt Pleasant area for informal social activities (ie. parks, pubs, events) with staff both internal and from other firms in the area

*Mark only one oval.*

- [ ] very important
- [ ] somewhat important
- [ ] neutral
- [ ] not important
- [ ] not at all important

**IV. Business Development**

Please rate how important each factor is to your business activities

21. 20. Investment in research and development internal to the firm

*Mark only one oval.*

- [ ] very important
- [ ] somewhat important
- [ ] neutral
- [ ] not important
- [ ] not at all important

22. 21. Information sharing between similar firms and competitors

*Mark only one oval.*

- [ ] very important
- [ ] somewhat important
- [ ] neutral
- [ ] not important
- [ ] not at all important

23. 22. Frequent employee training sessions

*Mark only one oval.*

- [ ] very important
- [ ] somewhat important
- [ ] neutral
- [ ] not important
- [ ] not at all important
V. Built Environment

Please rate how important each factor is to your business activities

24. Land costs for lease rates
   *Mark only one oval.*
   - [ ] very important
   - [ ] somewhat important
   - [ ] neutral
   - [ ] not important
   - [ ] not at all important

25. Land costs for ownership
    *Mark only one oval.*
    - [ ] very important
    - [ ] somewhat important
    - [ ] neutral
    - [ ] not important
    - [ ] not at all important

26. Open floor plan
    *Mark only one oval.*
    - [ ] very important
    - [ ] somewhat important
    - [ ] neutral
    - [ ] not important
    - [ ] not at all important

27. High ceilings
    *Mark only one oval.*
    - [ ] very important
    - [ ] somewhat important
    - [ ] neutral
    - [ ] not important
    - [ ] not at all important

28. Unique architectural character and styles
    *Mark only one oval.*
    - [ ] very important
    - [ ] somewhat important
    - [ ] neutral
    - [ ] not important
    - [ ] not at all important
29. 28. Loading bays  
Mark only one oval.

☐ very important  
☐ somewhat important  
☐ neutral  
☐ not important  
☐ not at all important

30. 29. Availability of on-site parking  
Mark only one oval.

☐ very important  
☐ somewhat important  
☐ neutral  
☐ not important  
☐ not at all important

VI. Last Page!

31. Additional Factors
30. Please tell us of any other factors that are essential to your business activities within the area.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

32. Other Comments?
31. Please leave any additional comments that were not addressed in the proceeding questions.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Appendix B

Interview Questions

Key Subject Expert Interviews

1. What is your experience working in Vancouver industrial and or creative lands?

2. Do you have specific experience with the Mt Pleasant Slopes?

3. What do you feel are the major issues currently faced by industrial firms in Vancouver? In the Mt Pleasant Slopes?

4. What do you see as the major factors why industrial firms locate within the Mt Pleasant Slopes?

5. What do you see as the major factors why creative firms locate within the Mt Pleasant Slopes?

6. What do you feel are the major issues currently faced by creative firms in the Mt Pleasant Slopes?

7. Do you see any conflicts between both creative firms and industrial firms locating within the Mt Pleasant slopes?

8. Do you see any benefits between both creative firms and industrial firms locating within the Mt Pleasant slopes?

9. What are the tools being used by local government to regulate business activities in the Mt Pleasant Slopes?

10. What are the similarities or differences you see between the Mt Pleasant Slopes and other industrial/creative areas such as Yaletown or Railtown? Both in their current state and in their transition?

11. What are the tools being used by firms to enhance their business activities in the Mt Pleasant Slopes?

12. What do you see as the future trends/issues moving forward for the area?

13. Can you suggest any other contacts that may be interested in participating in this research?
Firm Interviews

1. What is the nature of your business?

2. How long have you operated in the Mt Pleasant Slopes area?

3. Where were you previously located?

4. Do you own or lease your space?

5. How important is it for you to be located close to transportation networks such as the port, rail or truck routes?

6. How important is it for you to be located close to your customers and suppliers?

7. Where are the majority of your customers/suppliers located?

8. How important is it for you to be located close to downtown?

9. How important for you is it to be located to similar or complementary firms?

10. Do you socialize or share information with other firms in the area?

11. How important is it for you to be located close to your employees?

12. Do you use contract and/or full time employees?


14. What future trends do you see in the area?
## Appendix C

### Survey Results

#### Goods Movement
Please rate how important each factor is to your business activities

**Q8 Being located close to a major transportation network such as a road, port or rail**

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**Q9 Importance of being located close to suppliers/services**

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**Q14 Location of suppliers/services**

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**Q10 Importance of being located close to customers/clients**

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### Q12 Importance of being located close to downtown Vancouver

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### Labour

Please rate how important each factor is to your business activities

### Q15 Importance of being located close to skilled labour

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### Q16 Importance of being located close to unskilled labour

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### Q17 Importance of the availability of regularly scheduled employees

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### Q18 Importance of the availability of contract employees

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### Q11. Being located close to competitors

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### Q19 Opportunities in the Mt Pleasant area for informal social activities (ie. parks, pubs, events) with staff both internal and from other firms in the area

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Q20 Investment in research and development internal to the firm

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Q21 Information sharing between similar firms and competitors

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Q22 Frequent employee training sessions

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Built Environment

Please rate how important each factor is to your business activities

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Q27 Unique architectural character and styles

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Q28 Loading bays

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Q29 Availability of on-site parking

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Appendix D

Chi Squared results

Chi square results for survey questions with an adequate response rate (cell count).

Goods Movement
Please rate how important each factor is to your business activities
Question 9. Being located close to suppliers/services

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Total Count

| % within V3 | 51.6% | 48.4% | 100.0% |

Chi-Square Tests

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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.77.
b. Computed only for a 2x2 table

Labour
Insufficient response rate for all questions did not allow for statistical analysis.
Knowledge
Please rate how important each factor is to your business activities

Question 20. Investment in research and development internal to the firm

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Chi-Square Tests

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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.77.
b. Computed only for a 2x2 table

Question 21. Information sharing between similar firms and competitors

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</tbody>
</table>
Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.682a</td>
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<td>.409</td>
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<td>.323</td>
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<td>.481</td>
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<tr>
<td>N of Valid Cases</td>
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</tbody>
</table>

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.87.
b. Computed only for a 2x2 table

Question 22. Frequent employee training sessions

Crosstab

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<td>54.8%</td>
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Chi-Square Tests

<table>
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<tr>
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<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
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<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.32.
b. Computed only for a 2x2 table
Built Environment
Please rate how important each factor is to your business activities

Question 27. Unique architectural character and styles

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Chi-Square Tests

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<th>Exact Sig. (1-sided)</th>
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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.13.
b. Computed only for a 2x2 table

Question 28. Loading bays

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<td>Count</td>
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<td>31</td>
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<tr>
<td>% within V3</td>
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<td>Asymp. Sig. (2-sided)</td>
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<tr>
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<tr>
<td>N of Valid Cases</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.32.
b. Computed only for a 2x2 table