The Unequal Effect of Commercial Gentrification on Micro-Businesses in the London Borough of Tower Hamlets

Contents

1 Introduction

The aim of this research investigation is to determine whether micro businesses in the London Borough (LB) of Tower Hamlets are affected equally by commercial gentrificaton, and if not, to what extent. The investigation links to option G of the IB Geography syllabus: Urban Environments. Specifically, "Urbanization, natural increase and centripetal population movements, including rural–urban migration in industrializing cities, and inner city gentrification in postindustrial cities".

Commercial gentrification is "a revitalisation process in which the agents of change are not new middle class residents, but new spaces and services aimed at attracting them" (Agustín Cócola Gant, 2015). Micro businesses refer to all businesses that meet the criterion of 10 or less employees and with 2 or less locations that are all located in Tower Hamlets. The research question for this investigation is defined as "To what extent does commercial gentrification affect micro-businesses in the London Borough of Tower Hamlets equally?".

Tower Hamlets (TH) is a Borough (henceforth abbreviated to LB) located in London, UK. 57% of those living in Tower Hamlets are employed, the LB experiences an umeployment rate of 6.7% (Tower Hamlets Council, 2015). From 1990, Tower Hamlets has seen economic growth, with 200 thousand jobs being available, resulting in 3 jobs being available for every 2 residents (Tower Hamlets Council, 2010). Nonetheless, the median income in TH is £30 thousand, compared to the £45 thousand in the City of London (Tower Hamlets Council, 2019).

Simultaneously, 42% of the population lives in social housing, a number higher than the London average (New Policy Institute, 2016). In 2014, 10 outright orders to repossess property are executed by TH landlords per 1000 renting, though only 5 of these ended in eviction (New Policy Institute, 2016). These orders to repossess are rising; 2003 saw approximately 300 repossession orders, whereas 2015 saw a threefold increase of approximately 900 (New Policy Institute, 2016).

88.6% of the enterprises in 2013 employed less than 10 people, making microbusinesses the majority of commercial activity (Tower Hamlets Council, 2013b). In the same year, 27.8% of businesses were younger than two years, 25% being older than ten years (Tower Hamlets Council, 2013a). 2012 saw an enterprise birth rate of 17.4% compared to the death rate of 12.3%, suggesting an increase in business numbers. Businesses are experiencing rent increases, such as railway arch shops in the south of the LB (White, 2019).

Figure 1: The area of the LB of Tower Hamlets, shown in yellow

Within the LB, research was conducted in predefined research areas, shown in figure 2. These are located within Spitalfields, Weavers, Shadwell, Stepney Green, St. Peter's, St. Dunstan's, Limehouse, Mile End, Poplar, Lansbury, Bromley (both), Bow (both).

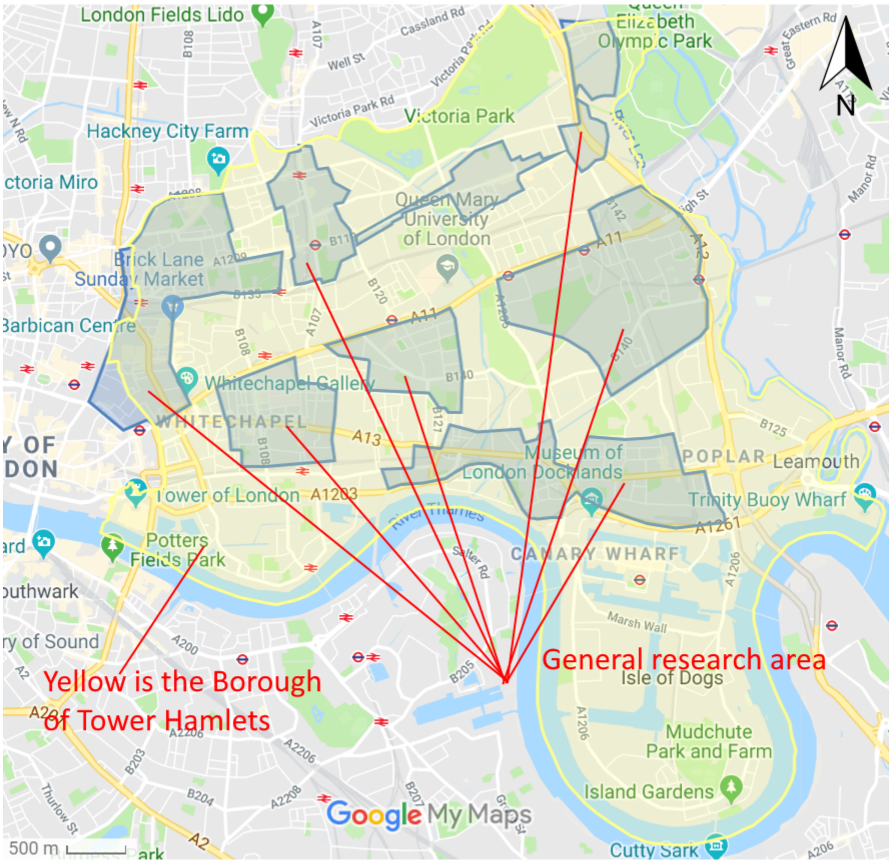


Figure 2: Areas marked in purple are the research areas

H_1 **states that businesses closer to the City of London/CBD percieve gentrification more positively than other areas.**

H_2 **states that newer businesses are impacted more negatively than older ones.**

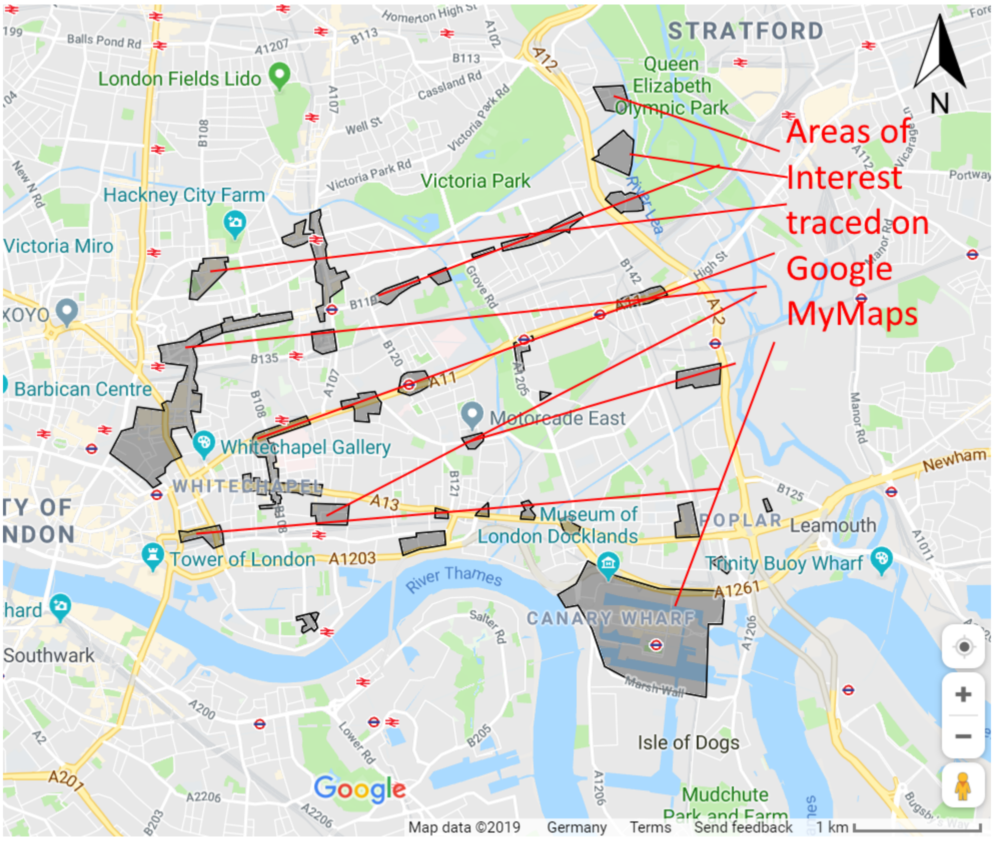
H_3 **states that there is a positive correlation between businesses that have adapted their products and services and their perception of changes.**

2 Research Methods

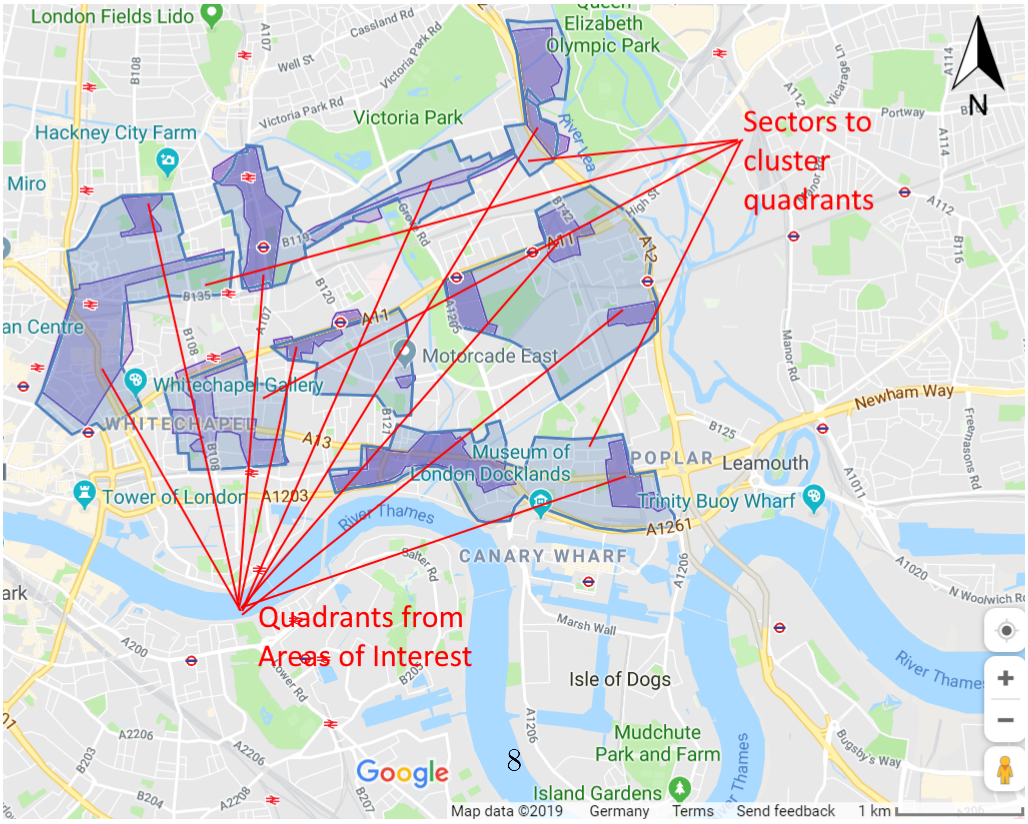
2.1 Determining the scope of the investigation

Firstly, a basic definition of micro businesses was determined, and the research question was finalized. With this definition in mind, Tower Hamlets was explored using Google Maps. High mobile phone usage areas (Google Areas of Interest) suggest there is commercial activity going on in these areas. For example, business phone calls being made and data usage (as opposed to WiFi in homes). These areas were then traced onto a custom Google Map.

These areas were then traversed on Google StreetView to determine their land use. Any non-commercial areas were not applicable to the research question, and as such, an absence of commercial land caused the area to be rejected. With this process, the final research quadrants/research areas were established (abreviated as RQs), which were later grouped together to form sectors (RS), as seen in figure 2. This was to effectively distribute fieldwork between peers, as well as to enable analysis between various regions.



(a) Areas of high mobile phone usage on Google MyMaps



(b) Research quadrants (purple) within their respective sectors (blue)

Figure 3: Determining the research area

In order to obtain the population size all the research quadrants were again traversed on Google Maps/StreetView. The result of this was then put into a spreadsheet, where the count in quadrants were summed up to represent their sectors. As such, a hybrid technique of random sampling as well as specific areas was used. This is portrayed in table 1. In Tower Hamlets, all research areas were traversed yet again and businesses re-counted, which yielded up to date sums also found in table 1. As such, with a confidence ratio of 95% the target sample size was calculated to be 365 businesses.

Sector	SV pop. size	SV sample size	RL pop. size	RL sample size
NE	217	67	164	61
E	60	37	16	14
SE	111	52	114	52
SW	193	64	229	68
W	598	83	744	86
C	86	46	63	38
NW	N/A	N/A	88	46
Total	1256	349	1418	365

Table 1: Sample sizes per sector: Google StreetView (SV) and in person (RL)

2.2 Data collection

Data was collected using the Esri *Survey123* application, on mobile phones. All surveyors were split up into groups of two and then assigned to research areas, so that RQs could be surveyed concurrently. These would then conduct the questionnaire presented in figures 4-6 to the businesses.

A total of 341 responses were recorded, which is 24 below the required sample size for a 95% confidence level. Not every respondent addressed every question, such that for individual questions the sample size is even lower.

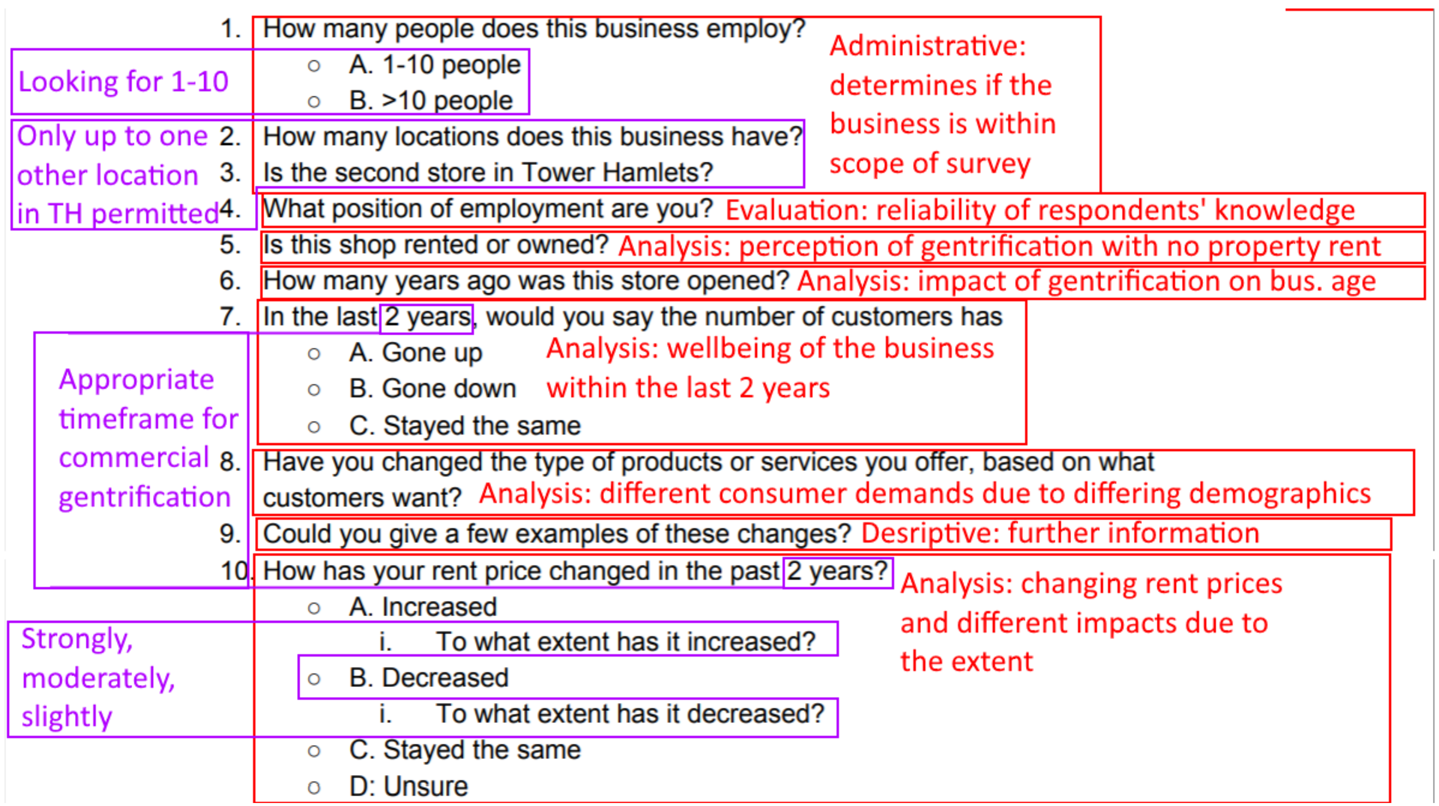
a. Name of the collectors Administrative: allows for easier follow-ups

b. Business location Analysis: mapping responses and ability to return to loc.

c. Research area (C1, C2, NE, NW, SE1, SE2, SW, W1, W2) Analysis: determining trends within grouped region

d. Type of business (Ready made food services, self service, higher services, service orientated, bought products, other)
Analysis: impact of gentrification on different business types

Figure 4: Data collection questionnaire (1/3); justification in red, further information in purple


1. How many people does this business employ?
   - A. 1-10 people
   - B. >10 people
2. How many locations does this business have?
3. Is the second store in Tower Hamlets?
4. What position of employment are you? Evaluation: reliability of respondents' knowledge
5. Is this shop rented or owned? Analysis: perception of gentrification with no property rent
6. How many years ago was this store opened? Analysis: impact of gentrification on bus. age
7. In the last 2 years, would you say the number of customers has
   - A. Gone up
   - B. Gone down
   - C. Stayed the same
8. Have you changed the type of products or services you offer, based on what customers want? Analysis: different consumer demands due to differing demographics
9. Could you give a few examples of these changes? Desriptive: further information
10. How has your rent price changed in the past 2 years?
    - A. Increased
      - i. To what extent has it increased?
    - B. Decreased
      - i. To what extent has it decreased?
    - C. Stayed the same
    - D: Unsure

Administrative: determines if the business is within scope of survey

Looking for 1-10

Only up to one other location in TH permitted

Analysis: wellbeing of the business within the last 2 years

Appropriate timeframe for commercial gentrification

Analysis: changing rent prices and different impacts due to the extent

Strongly, moderately, slightly

Figure 5: Data collection questionnaire (2/3); justification in red, further information in purple

11. Is this business owned by a person/family from
   - A. British- Bangladeshi background
   - B. Other ethnic minority background
   - C. Neither

Analysis: impact of commercial gentrification on different ethnicities

12. Has this overall change in the location influenced the well-being of this business?
   i. Have these changes been more:
      1. Positive
      2. Negative
      3. Neutral

   Analysis: impact of commercial gentrification on the business, overall

   ii. How have these changes influenced your business?

   Descriptive: further information

Figure 6: Data collection questionnaire (3/3); justification in red, further information in purple

3 Analysis

3.1 H_1: Perception of gentrification in regards to proximity of CBD

The CBD of London is, as aforementioned, located in the City of London, as well as part of Canary Wharf, TH. Using these two areas, two CBD points can be defined within it, henceforth identified by alpha, and beta. Alpha is located at 30 St. Mary Axe, City of London, also known as the Gherkin, a place of strong commercial activity. This area is also very close to TH, which is why it serves as a good reference point. Beta is located in Cabot Square, Canary Wharf, an area of land also close to the RQs and within commercial land usage and a high income area (Tower Hamlets Council, 2019).

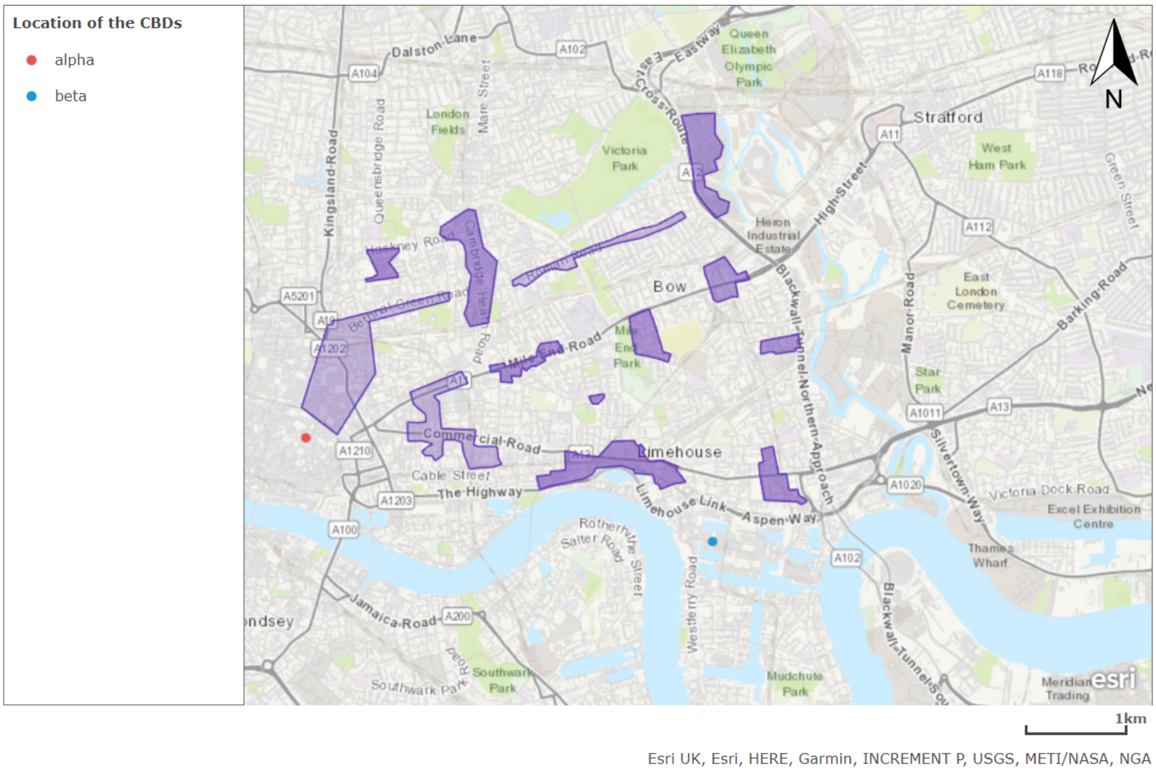


Figure 7: Locations of points alpha and beta, in relation to the RQs (purple)

Distance values are the displacement between the coordinates of the CBDs and every business (curvature is neglegible). Only regarding the smaller of these two, these could be categorized into distance groups (A - G), with the criteria being in table 2.

Category	From (coord. units, inclusive)	To (coord. units, exclusive)	Members
A	0	0.005	11
B	0.005	0.01	40
C	0.01	0.015	0
E	0.015	0.02	69
E	0.02	0.025	49
F	0.025	0.03	74
G	0.03	0.035	35

Table 2: CBD distance categories

Calculating the average perception for the respective categories yields the data shown in figure 8. Whilst the bar chart cannot graph trendlines, it is still clear that there is no proportional relationship between the proximity of the CBD and the perception. The chi squared test shows that only at a confidence level of 90% it can be said that there is a correlation between the distance and perception (see appendix A.2.1).

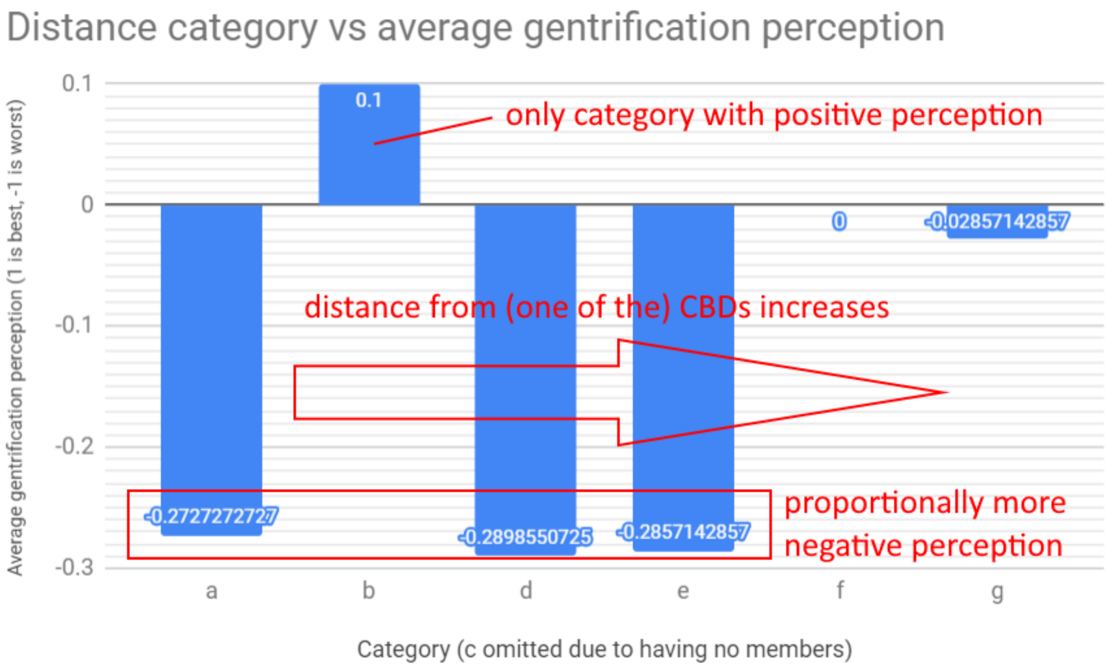


Figure 8: Distance category vs. average gentrification perception

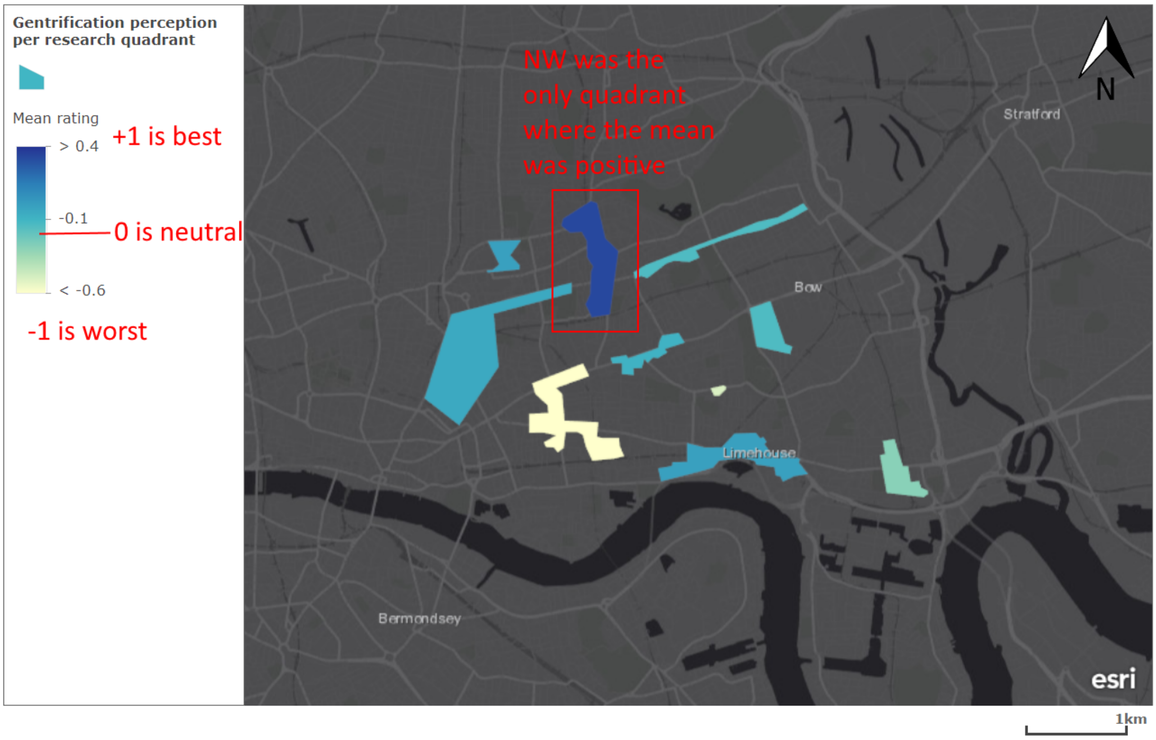


Figure 9: Gentrification perception by research quadrant

Figure 9 shows the perception of gentrificaiton by quadrant. Especially the businesses northwest, near the City of London CBD, percieve this gentrification more positively. This could be due to the higher disposable income of those working in the City of London (Tower Hamlets Council, 2019). However, as aforementioned, there is no clear trend between the location and the distances to the City of London, or even Canary Wharf.

Summarising, the hypothesis H_1 is invalid; whilst there are significant differences, no proportionality can be found. Micro businesses do not experience gentrification equally; those near Shoreditch experience it more positively.

3.2 H_2: Perception of gentrification in regards to business age

There are various primary source indicators that can be used in order to determine the impact of gentrification in regards to age. As the business birth rate exceeds the death rate, perceptions of new businesses can show the ease of business within the area. For one, the wellbeing of the business was provided by the survey respondents. As well as that, more implicit factors like a change in customer base can indicate business wellbeing.

In the survey, the age was not explicitly asked for, but an estimate within certain brackets. When assigning positive change a numerical value of 1, negative change a value of -1, and neutral a value of 0, the average of these represents the average perception of gentrification within a certain age bracket. Using the midpoint of each age group, this can be show in a graph in figure 10.

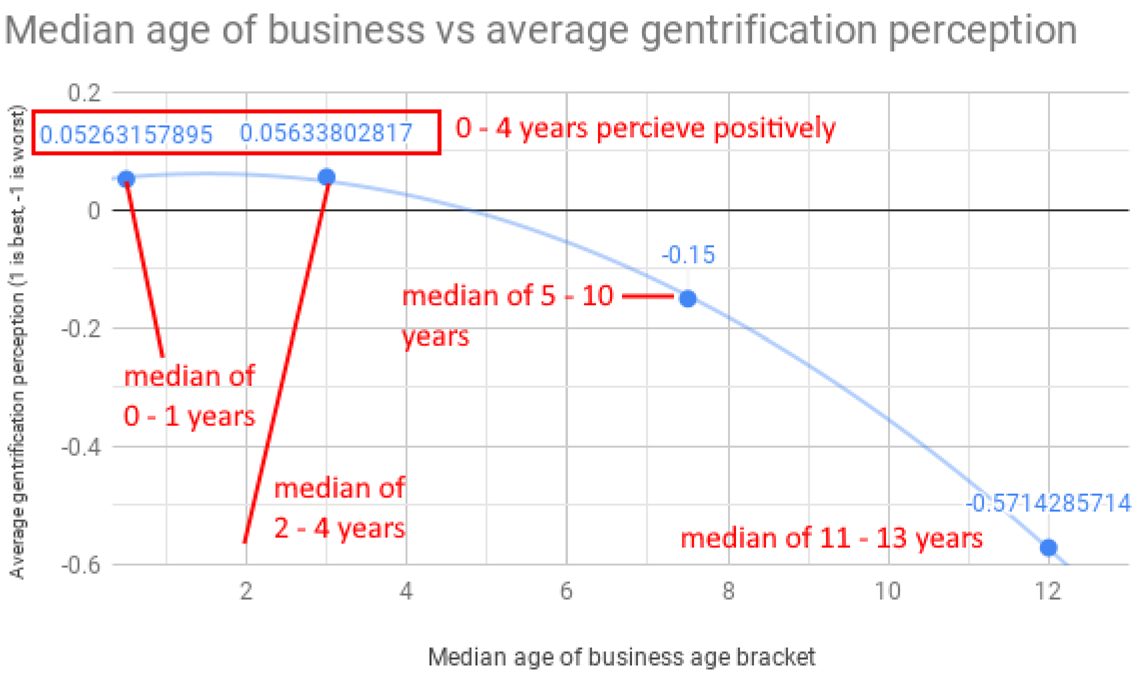


Figure 10: Median age of business vs average gentrification perception

This shows that the newest businesses percieve the gentrification more negatively than those of 2 to 4 years of age. Businesses older than this percieve it more negatively again. Due to there being no midpoint in the last category - the range extends infinitely, it was not plotted. At a confidence level of 95% using chi squared it can be said that there is a statistical relationship between the age of the businesses and their perception of gentrification (see appendix A.2.2).

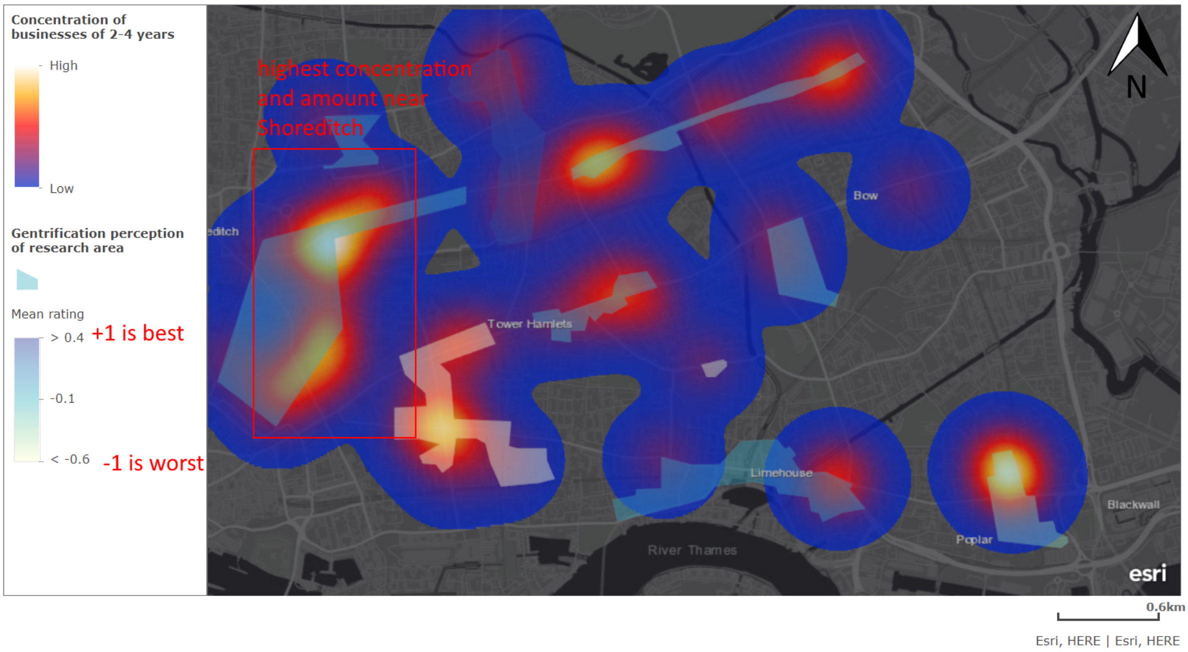


Figure 11: Prominence of business ages in Tower Hamlets

Figure 11 shows the clusters of businesses between 2 and 4 years, where survival is easier (Tower Hamlets Council, 2013a).

As aforementioned, a change in customers can also indicate a change in wellbeing. In the scope of this investigation, the time period for a change was defined as 2 years. Similarly to overall perception, assigning the value 1 to an increase, -1 to a decrease and 0 to no change, this can be graphed. Again, the age on the X axis in figure 12 refers to the midpoint of the respective bracket.

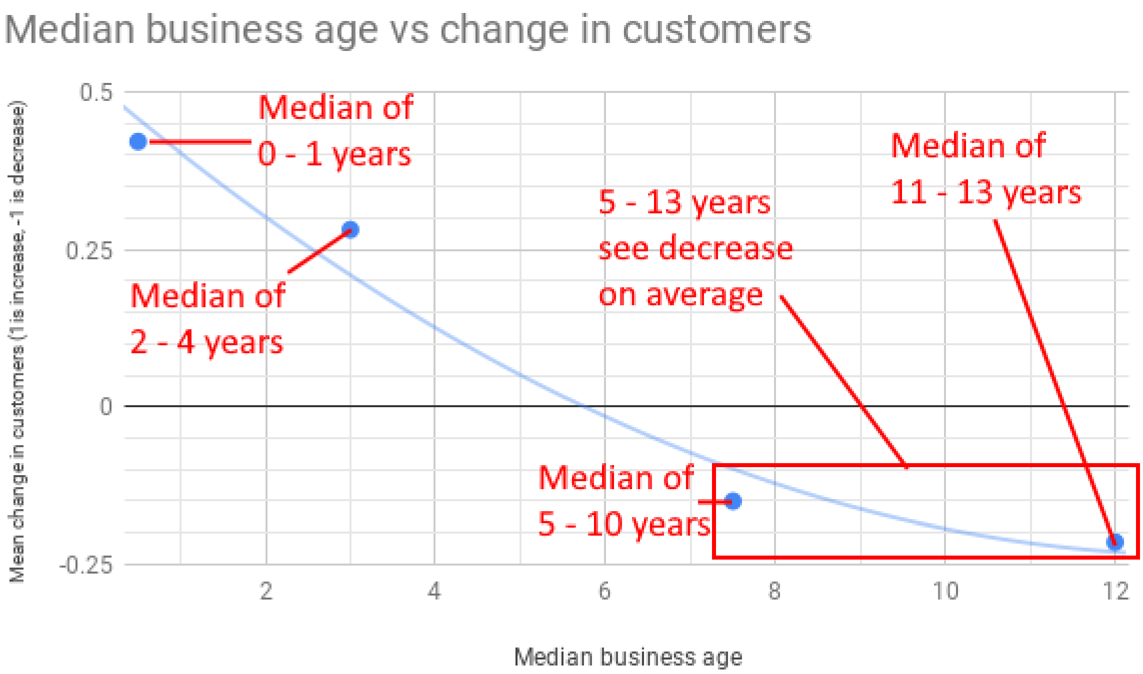


Figure 12: Median age of business vs average change in customers

The younger the business, the more they perceive an increase in customers. Particularly businesses of age 5 to 10 years are impacted significantly. The percentage of change to the previous point is most significant here. At a confidence level of 99% it can be said that there is a statistical relationship between the business age and change in customers (see appendix A.2.2).

Figure 13 shows the data from figure 9 as well as a clustered change in customers.

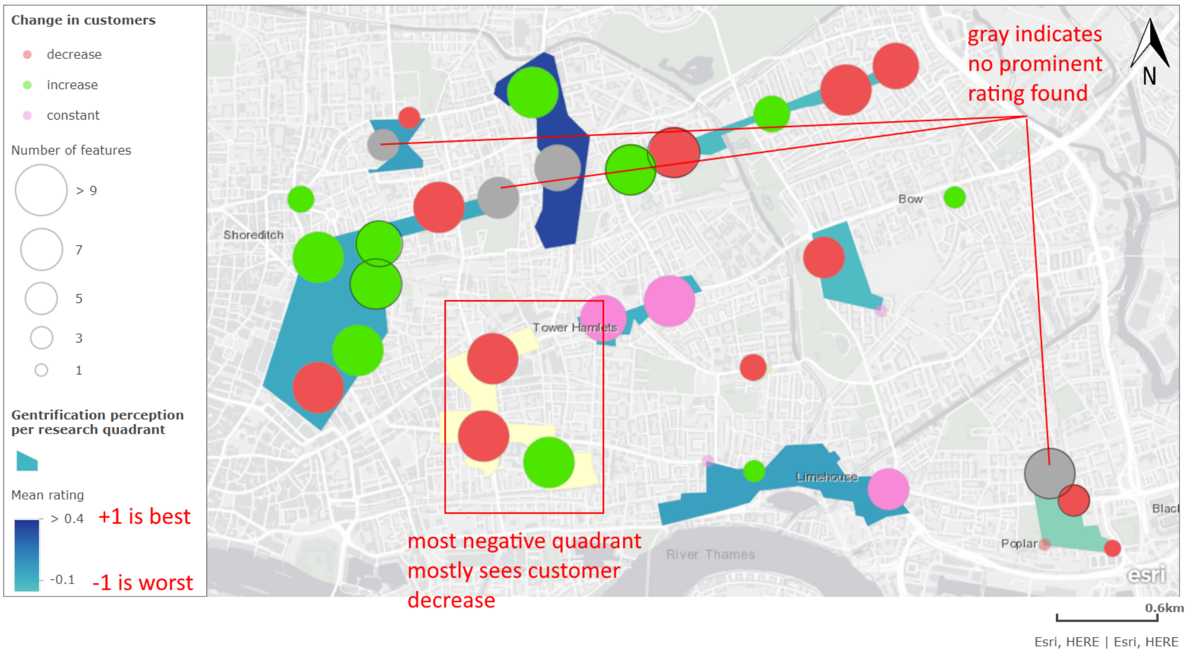


Figure 13: Change in customers + positive gentrification perception

Referring to figure 13, there are some correlations between the two factors. Increases of customers tend to be in areas with more positive ratings. Statistically speaking, there is a 100% corrolation between the two (see appendix A.2.2). Particularly in the west of Tower Hamlets, near Shoreditch, the concentration of positive ratings as well as increase in customer numbers becomes apparent. Overall, older stores are disadvantaged and impacted more negatively by commercial gentrification.

3.3 H_3: Perception of gentrification in regards to adaptation

With gentrification, affluent individuals will seek to engage with micro businesses within the area. As the demographic changes, the demands will also change, especially due to more disposable income. As a result, store owners many needs to change their products, in order to comply with their changing client base. Failing to do so will result a fall of revenue, and a decreasing business wellbeing.

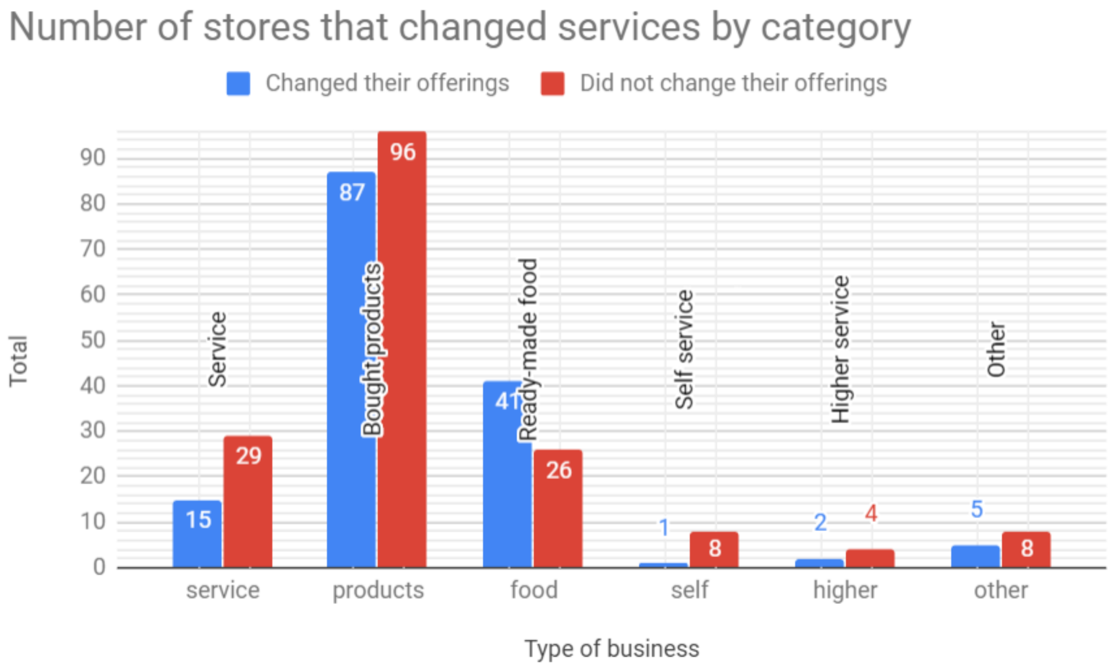


Figure 14: Number of businesses that changed their offerings by category

Figure 14 shows the number of businesses that have changed their services or offers due to a change in demand, by category. Statistically, there is a correlation between the type and whether or not a change was implemented (see appendix A.2.3). The most prominent change can be found within the bought products (physical objects that do not fit into the other categories) and food businesses. This is due to two factors: the demand to change, as well as the ability to change. Businesses such as dentists or lawyers are most likely going to provide the same offerings regardless of the current demographic. However, this is not the case for more income elastic products, such as consumables. Secondly, certain business types are able to adapt to changes easier. A store is able to change the products that are being sold easily; this is not as easy for service orientated businesses.

Figure 15: Location of different business types

The clustered location of business types are represented in figure 15. Bought products are the prominent type, however there are food services located in the north and south east.

Moreover, there is a strong correlation (chi squared, 95% confidence level) between the perception of gentrification and a change in offerings. More specifically, those that adapted their goods/services perceive gentrification as a more positive thing. This is shown in figure 16.

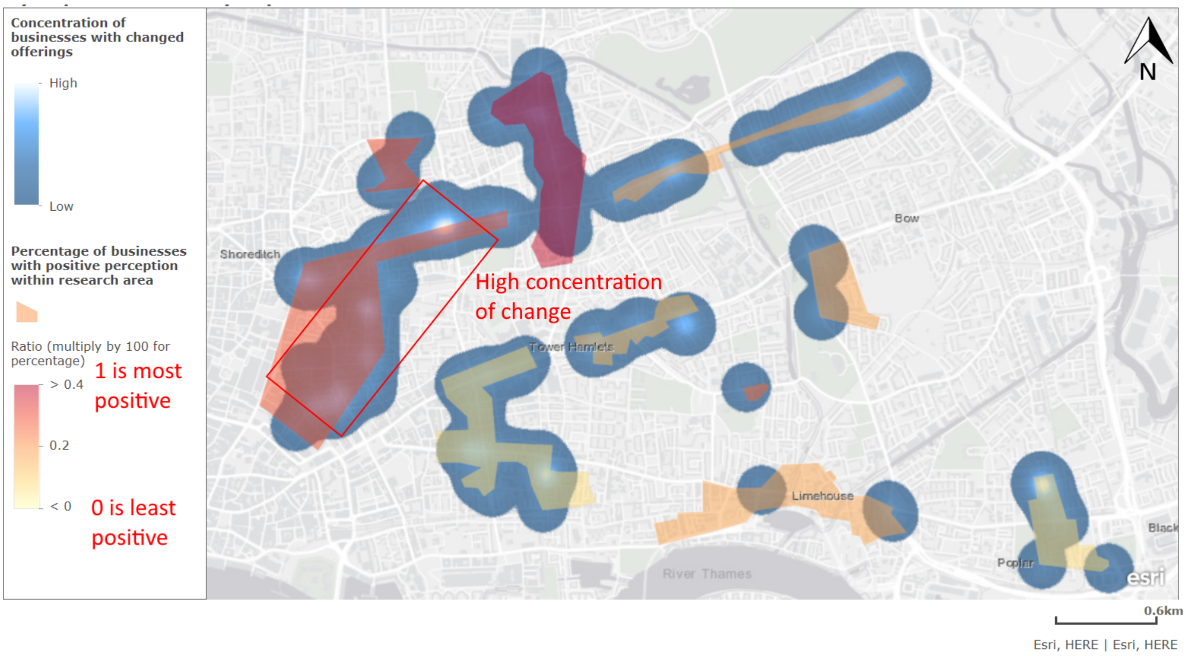


Figure 16: Positive gentrification perception and a change in products

Referring to figure 16, the most prominent correlation is the approx. 0.3 ratio and high concentration of change. This correlation is statistically correct at a confidence level of 95% (see appendix A.2.3). Conclusively, the businesses that adopted new products were impacted more positively than those that did not.

4 Conclusion

H_1 Hypothesised that the businesses closer to the CBD percieved gentrification more positively. This hypothesis is not true. Whilst distance to the CBD and perception are correlated, there is no linear, proportional or inversely proportional relationship between, resulting in the hypothesis being rejected. Generally, businesses near Shoreditch percieved this gentrification more positively.

H_2 Hypothesised that newer businesses are impacted more negatively than older ones. The inverse of this was found. With the exception of businesses 2 to 4 years of age, the older the business, the more negative their perception of gentrification. This is supported by the inversely proportional relationship between age of business and customer numbers - the older the store, the less the average customer increase.

H_3 Hypothesised that there is a positive correlation between businesses that have adapted their products and services and their perception of changes. This hypothesis is supported. Businesses that indicated they changed their offerings, statistically, also rate their perception of gentrification higher. This is partly due to the prominence of bought product businesses, which can change their supply relatively easily to meet new consumer demands.

Answering the main research question, commercial gentrification does not affect micro businesses equally within Tower Hamlets. One discriminating factor is age, with younger businesses being affected more positively than older ones. Moreover, businesses that are willing and have the ability to adjust their services to a change in demographics are advantageous. Finally, a closer proximity to affluent areas such as Shoreditch also yields a more positive impact of commercial gentrification on the businesses.

5 Evaluation

The questionnaire was designed particularly well as it enabled the quantification of qualitative data by having a significant amount of multiple choice questions. The sampling and area selection was also a strength - with the phone useage and StreetView we were able to effectively determine areas with large population sizes, allowing our time to be used effectively. Due to the digital nature of the collection process, a lot of human error (such as mistakes in copying coordinates) could be mitigated, resulting in a high reliability.

On the contrary, the sample size was flawed in two ways. Firstly, the sample size was calculating by using the population size of each sector, rather than research quadrant. This was done to reduce the sample size to make an investigation possible within a timeframe, but may have affected the credibility of the responses. Secondly, the sample size was not met - 24 responses were lacking. As such, the validity of the data suffered.

Even within this sample size, there were various outliers that had to be rejected for not meeting the criteria, reducing the number further. Moreover, many responses did not address all questions, such that the sample size for treating this data was also not met. Furthermore, as many respondents were personally negatively affected by commercial gentrification, responses may contain negative biases, limiting objectivity.

The data collection process was rather inefficient at times, a way to flag stores to return to them later, rather than keeping track of them manually, would be an improvement. Moreover, many businesses were willing to answer the survey but unable to due to time; so more thorough timeplans would be a further imporvement.

For further research, the scope of the investigation could be narrowed. The current investigation focused on many different factors to allow for a multitude of hypotheses; however narrowing this down could yield more targeted and in-depth research. Possible exploration could be done in the different impacts of commercial gentrification on demographics, changes in business attitudes, etc.

A Appendix

A.1 Background Information

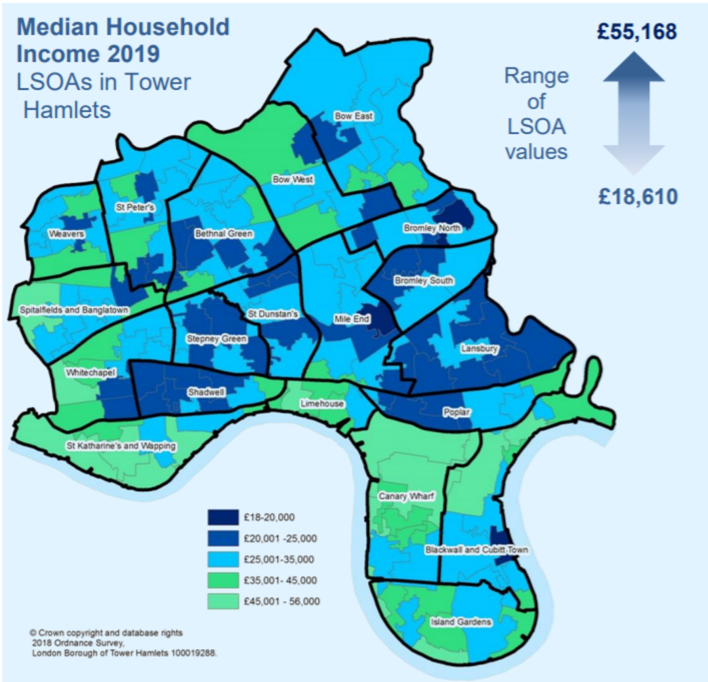


Figure 17: Median household income in Tower Hamlets (Tower Hamlets Council, 2019)

A.2 Calculations

A.2.1 Hypothesis 1

	positive	neutral	negative	total
a	1	2	4	7
b	11	7	7	25
c	13	14	15	42
d	9	7	29	45
e	9	6	23	38
f	16	10	16	42
g	7	7	8	22
total	66	53	102	221
	positive	neutral	negative	
a	2.090497738	1.678733032	3.230769231	
b	7.466063348	5.995475113	11.53846154	
c	12.54298643	10.07239819	19.38461538	
d	13.43891403	10.7918552	20.76923077	
e	11.34841629	9.113122172	17.53846154	
f	12.54298643	10.07239819	19.38461538	
g	6.570135747	5.2760181	10.15384615	
dof	12			
p value	0.09139880474			

Figure 18: Chi squared statistical test on distance category vs. perception of gentrification

A.2.2 Hypothesis 2

	positive	neutral	negative	total
age_0_1	13	6	10	29
age_2_4	20	13	16	49
age_5_10	17	15	29	61
age_11_13	0	3	8	11
age_13_infty	13	13	36	62
total	63	50	99	212
	positive	neutral	negative	
age_0_1	8.617924528	6.839622642	13.54245283	
age_2_4	14.56132075	11.55660377	22.88207547	
age_5_10	18.12735849	14.38679245	28.48584906	
age_11_13	3.268867925	2.594339623	5.136792453	
age_13_infty	18.4245283	14.62264151	28.95283019	
dof	8			
p value	0.04145039985			

Figure 19: Chi squared statistical test on age of business vs. perception of gentrification

	increase	constant	decrease	total
age_0_1	33	13	9	55
age_2_4	37	15	17	69
age_5_10	26	13	38	77
age_11_13	3	3	6	12
age_13_infty	12	18	58	88
total	111	62	128	301
	increase	constant	decrease	
age_0_1	20.28239203	11.32890365	23.38870432	
age_2_4	25.44518272	14.21262458	29.34219269	
age_5_10	28.39534884	15.86046512	32.74418605	
age_11_13	4.425249169	2.471760797	5.102990033	
age_13_infty	32.45182724	18.12624585	37.42192691	
dof	8			
p value	0.000000006745			

Figure 20: Chi squared statistical test on age of business vs. change in customers

	positive	neutral	negative	total
increase	42	14	16	72
constant	12	18	14	44
decrease	8	20	72	100
total	62	52	102	216
	positive	neutral	negative	
increase	20.66666667	17.33333333	34	
constant	12.62962963	10.59259259	20.77777778	
decrease	28.7037037	24.07407407	47.22222222	
dof	4			
p value	0			

Figure 21: Chi squared statistical test on change in customers vs. perception of gentrification

A.2.3 Hypothesis 3

	yes	no	total
service	15	22	37
products	87	79	166
food	41	17	58
self	1	4	5
higher	2	3	5
other	5	6	11
total	151	131	282
	yes	no	
service	19.81205674	17.18794326	
products	88.88652482	77.11347518	
food	31.05673759	26.94326241	
self	2.677304965	2.322695035	
higher	2.677304965	2.322695035	
other	5.890070922	5.109929078	
dof	5		
p value	0.02998810023		

Figure 22: Chi squared statistical test on type of business vs. change in products

	positive	neutral	negative	total
yes	38	19	59	116
no	24	30	37	91
total	62	49	96	207
	positive	neutral	negative	
yes	34.74396135	27.4589372	53.79710145	
no	27.25603865	21.5410628	42.20289855	
dof	2			
p value	0.02058586554			

Figure 23: Chi squared statistical test on change in products vs. perception of gentrification

References

Agustín Cócola Gant (2015). "Tourism and commercial gentrification". In: *RC21 International Conference*. URL: https://www.rc21.org/en/wp-content/uploads/2014/12/E4-C%C3%B3cola-Gant.pdf.

New Policy Institute (2016). *Demography and deprivation in Southwark and Tower Hamlets*. URL: https://www.npi.org.uk/files/6614/7316/1332/Demography_and_deprivation_in_Southwark_and_Tower_Hamlets.pdf.

Tower Hamlets Council (2010). *Local Economic Assessment 2010 Fact Sheet Volume 2: Economy and Enterprise*. URL: https://www.towerhamlets.gov.uk/Documents/Economic-development/13094-LEA-Fact-sheet-Vol-2jm-v3.pdf.

— (2013a). *Business Demography - Birth, Death and Survival of Businesses in Tower Hamlets*. URL: https://www.towerhamlets.gov.uk/Documents/Borough_statistics/Economy_and_businesses/Research-Briefing-TH-Business-Demography-2013-10.pdf.

— (2013b). *Tower Hamlets Business Structure - Size, Turnover and Age*. URL: https://www.towerhamlets.gov.uk/Documents/Borough_statistics/Economy_and_businesses/Research-Briefing-TH-Business-Structure-2013-11.pdf.

— (2015). *Unemployment and ethnicity: 2011 Census factsheet 2015-05*. URL: https://www.towerhamlets.gov.uk/Documents/Borough_statistics/Census_2011/2015_06_11_Unemployment_and_ethnicity_Census_factsheet_draft.pdf.

— (2019). *Household Income*. URL: https://www.towerhamlets.gov.uk/Documents/Borough_statistics/Income_poverty_and_welfare/income_2019_l.pdf.

White, Tom (2019). "Railway arch shops face eviction after rent rises of up to 85%". In: *The Guardian*.