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Retail Resilience to The Emergence of E-commerce

A case study retail centres in Bandung, Indonesia

M A S T E R T H E S I S

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Abstract

The emergence of e-commerce has changed the future of shopping to be more exciting and uncertain than ever. The rapid growth of e-commerce offers flexibility and efficiency to shopping experience, however retail centres are struggling to run their business. The latter leads to the decline in functionality of existing retail centres in the city. This study aims to assess the position of retail centres in Bandung city in the adaptive cycle framework and explore how the retail centres can adapt to the emergence of e-commerce. The research question is defined as follows: *Which spatial configuration of retail centre can enable adaptation to the emergence of e-commerce in Bandung City?* This case study compares the retail resilience of three different types of retail areas by conducting semi-structured interviews and observations. Three main findings are drawn to answer the research questions. Firstly, the three retail centres can each be positioned in a different phase in adaptive cycle framework. The retail centres of Alun-Alun Bandung have the highest resilience among the others. The case of three retail centres in Bandung shows that the combination of both retail and non-retail activity is needed, walkable retail centres, and the availability of parking spaces are also needed. Therefore, the accessibility, public space, streetscape, and the existence of other services are essential to keep retail centres adaptive. Secondly, e-commerce can be complementary store and increase the amount of selling, broaden the geographical scope of the customer, give efficiency, reduce the rent of physical store. However, it can increase the competition of price. Thirdly, retail strategies that can be applied by retailers is to adapt and utilise e-commerce to complement the existing offline store while also keep their offline store attractive. Regards to planning practice, planners and governments have to set an essential policy and increasing its robustness in order to prepare the trigger response happening in the future because even the small changes can have a significant impact on society and planning. A challenge of planning theory should be finding ways that contribute to making these retail areas attractive and vital.

Keywords: Retail resilience, e-commerce, spatial configuration, adaptive capacity

Table of Content

Abstract	i
Table of Content	ii
List of Figures	iv
List of Tables	iv
List of Abbreviations	iv
Chapter 1:	1
Introduction	1
1.1 Background of research.....	1
1.2 Research objectives and questions.....	2
1.3 Bandung city retail context	3
1.4 Structure of the thesis	4
Chapter 2:	5
Theoretical Framework for Analysing the Resilience of Retail Centre	5
2.1 Resilience thinking in a retail context.....	5
2.2 The adaptive capacity of retail centres.....	6
2.3 The spatial configuration of retail centres	10
2.4 Retail vs e-commerce	12
2.5 Conceptual model.....	13
Chapter 3:	14
Methodology	14
3.1 Research approach and design.....	14
3.2 Retail classification	14
3.3 Location of study	15
3.4 Data collection methods.....	17
3.5 Data analysis methods	18
3.6 Ethical issues.....	18
Chapter 4:	20
Retail resilience – a case study of Bandung	20
4.1 Role of spatial configuration to keep retail centre adaptive	20
4.2.1 Accessibility	22
4.2.2 Public spaces.....	24
4.2.3 Streetscape.....	25
4.2.4 The existence of other services	28
4.2 The effect of e-commerce	28
4.3 The adaptive capacity of retail centres.....	30
4.4 Resilience strategies in facing the existence of e-commerce	33
Chapter 5:	35
Conclusion and Reflection	35
5.1 Conclusion.....	35
5.2 Reflection	37

5.1.1	Limitation of research	37
5.1.2	Future research.....	38
Acknowledgement		39
References		39
Appendix		42
	Appendix A: Interview Guideline.....	42
	Appendix B: Observation list	46

List of Figures

Figure 1. Adaptive Cycle Model (Davoudi, 2012)	7
Figure 2. Conceptual framework of e-resilience (Singleton et al., 2016)	8
Figure 3. Adaptive cycle framework (Dolega et al., 2015).....	9
Figure 4. Conceptual Model of Research.....	13
Figure 5. Location of three retail centres within Bandung city	16
Figure 6. Detailed Spatial Zoning Plan of Bandung City.....	23
Figure 7. Public spaces in Alun-alun Bandung.....	24
Figure 8. Public spaces in the shopping mall	25
Figure 9. Streetscape of Alun-alun Bandung	27
Figure 10. The streetscape of Cibaduyut Street	27
Figure 11. Position of each retail centre within the adaptive cycle framework	33

List of Tables

Table 1. Adaptive Cycle Phase Characteristics	10
Table 2. Domain of retail resilience	10
Table 3. Non-hierarchical Classification of Retail Locations	14
Table 4. Detailed location of study.....	16
Table 5. List of stakeholders involved in the interview	17
Table 6. Observation list	17
Table 7. Data analysis methods.....	18
Table 8. Detailed Spatial Zoning Plan regarding Retail Centres	20

List of Abbreviations

BPS	The Central Statistical Agency	1
MSME	Micro Small Medium Enterprise	1
RDTR	Detailed Spatial Zoning Plan	20
CBD	Central Business District	20
Covid-19	Corona Virus Disease 2019	24

Chapter 1: Introduction

1.1 Background of research

The emergence of e-commerce has changed the future of shopping to be more exciting and uncertain than ever. According to Shopify (2020), e-commerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. The internet enhances opportunities for price comparison, enables 24/7 convenience, provides a selection of products not limited by physical space, and enables distribution with a broader geographical reach (Williams, 2009 in Singleton et al. 2016). People do not have to mobilise to the shopping centre or particular stores in order to get what they want; they just have to use their device and buy things online.

Indonesia is one of the countries in which e-commerce is rapidly changing the retail landscape (Damuri, Negara, & Azali, 2017). Indonesia is one of the top ten countries that have the most significant revenue in e-commerce. According to Statistia Global Survey (2020), the growth of revenue in the e-commerce market keeps increasing in the few years from USD 8 billion in 2017 to USD 28 billion in 2020 and expected to reach 50 billion USD by 2024. In line with the rapid growth of revenue, the number of the user is also increasing from 70.8 million in 2017 to 129.9 million in 2020 and expected to keep rising to 189.6 million people in 2024. Thus, in the year 2019, a share of 40.7% of users are 25 - 34 years old (Statistia, 2020), the biggest market in South East Asia (Damuri, Negara, & Azali, 2017). According to Indonesian Retailers' Association (Aprindo) (2019), about 95% of the Aprindo's members are likely to transform a switched their business to online systems. (Das, Tamhane, Vatterott, Wibowo, & Wintels, 2018) identified five trends that help explain the rapid growth of online commerce in Indonesia: a "mobile-first" market; digitally savvy, young consumers; increasing MSME participation in online commerce; growing investment in online commerce; and supportive government policies. The emergence of e-commerce, in general, affect the offline stores, particularly in the food and beverage sector (Annur, 2019). The Central Statistics Agency (BPS) said there was a slowdown in growth in the food and beverage component other than restaurants, from 5.36% in 2017 to 4.81% in 2018 (Annur, 2019). Despite all the development of e-commerce Damuri, Negara, & Azali (2017) argue that only 7% of Indonesian do the transaction in e-commerce. Linked to the effect of e-commerce to retail centres, the number of online stores that affect the offline stores is relatively small, it is about 3% (Hasibuan, 2019).

The emergence of e-commerce provides both threats and opportunities for retailers at city centres. Evidence suggests that growth in online consumption impacts upon the existence of retail centres in various ways (Weltevreden, 2006). On the one hand, the rapid growth of e-commerce offers flexibility and efficiency to the shopping experience. However, on the other hand, retail centres are struggling to run their business because people choose to buy things online. People who do online shopping is likely to have fewer trips to retail centres and make less purchase in retail centres (Weltevreden, 2006). The latter leads to the decline function of existing retail centres in the city. Analysts said retail businesses began to be overwhelmed because sales continued to shift to the internet. Although current research does not suggest

the death of physical space, the consequences for traditional high streets remain unclear as knowledge about the geography and drivers of internet shopping is still limited (Singleton et al., 2016). In order to keep the activity alive, many city centres have been rehabilitated by means of improvements to public spaces, pedestrianisation and other programmes dealing with accessibility and the transportation structure, such as parking facilities, light rail systems and new buses to and within the urban centre.

While it is widely acknowledged that the trends towards increasing e-commerce might have important effects on transport, mobility, and land-use structure, there is limited knowledge on how the impacts of growing e-commerce are handled in planning practice. Thus, from the perspective of planning, it is crucial for it to be part of a structure enabling resilient in everyday life (Dolega & Celinska-Janowicz, 2015). Despite the attention from academics, the current retail centres facing a pre-shock event as the impact of ongoing pressure from e-commerce does not receive much attention. From the retailer's perspectives, there is a knowledge gap in retail resilience which helps in understanding the ability of retail centres to adapt to external changes, such as e-commerce. Therefore, knowing that the digital economy is here to stay, retailers embrace the technology to drive their businesses by using the omnichannel or online-to-offline (O2O) approach (Dolega & Celinska-Janowicz, 2015). Barata-Salgueiro & Erkip (2014) state that resilience strategies of local and domestic retailers and traditional retail districts are one such aspect under investigation, yet their spatial imprints and links with urban planning are overlooked.

This research brings the concept of retail resilience that offers understanding in reaction to the uncertainty and insecurity produced by the quest for survival and adaptation when faced with contemporary crises (Davoudi et al., 2012) through adaptive cycle framework. This research also provides some significant implications for the design of policy proposals and instruments aimed at revitalising retail core areas.

1.2 Research objectives and questions

Based on the phenomena above, this research takes a case study of Bandung city to understand the retail resilience challenge caused by e-commerce. As one of the biggest cities in Indonesia and with a substantial retail sector, Bandung represents the current situation of e-commerce that happen in most urban area in Indonesia as a whole. The retail stores in Bandung may face the struggle from the existence of e-commerce. Therefore, this study aims to assess the position of retail centres in the adaptive cycle framework to know which configuration of retail centre enables the adaptation to the emergence of e-commerce. The main research question is:

Which spatial configuration of retail centre can enable adaptation to the emergence of e-commerce in Bandung City?

To answer the primary question above, three related secondary research questions are purposed as follows:

1. How to understand the adaptive capacity in the retail context, and what are the factors that influence this adaptive capacity?

This theoretical question focuses on the concept of adaptive capacity framed by Dolega & Celinska-Janowicz (2015). It specifically calls for research using proposed adaptive cycle framework to measure the retail resilience within specific retail centres. This question will help elaborate the proposed adaptive cycle framework into the retail empirical study. The point of departure is that the trend of e-commerce can be an external factor that causes 'shock' to the existing retail centres, consequences in the declining performance of retail centres.

2. How e-commerce affects the adaptive capacity of retail centres in Bandung?

This question will help understand the role of e-commerce as the trigger for retail centres to be more adaptive. As e-commerce grows, the existing retail might be affected as well. E-commerce is seen as an external shock that can influence the retail system. Thus, adaptive capacity is important to assess. The spatial configuration of existing retail centres will be examined to see their adaptive capacity. By assessing the adaptive capacity of retail centres, the resilience of retail systems in urban areas and the ways and means retail systems contribute to cities sustainability and resilience.

3. What are the retail resilience strategies can be implemented for future urban planning policy regarding the spatial configuration of retail centres?

This research question will help answer the concern of planners towards the emergence of e-commerce and how it's going to affect the current retail centres regarding the spatial configuration of retail centres. Understanding a retail system's evolution after threats or shocks may help city authorities and other stakeholders maintain and improve their shopping centres.

1.3 Bandung city retail context

Bandung is one of the biggest cities in Indonesia, located in West Java province. As many as 2.5 million inhabitants are living in the capital city of West Java province. According to The Central Statistics Agency (BPS) of Indonesia, West Java has the highest presentation of e-commerce retailing compared to other provinces in Indonesia. Thus, Graham (1997) argues that information density is highest in larger cities, making them possible starting points for innovation diffusion. The city's economy is mainly built upon tourism, business, creative industry, high-tech and manufacturing industries, educational institutions, technology, retail services, financial services, pharmaceutical companies, and food production. Bandung is one of the largest cities that have high internet adoption and have a vivid character of retail sectors and provide their citizens with a variety of shopping options.

Unlike another big city, like Jakarta, Bandung provides not only high-end shopping malls, but also the micro, small-medium enterprise (MSME). Regarding this, the city administration has agreed to substantially develop seven industrial and trade areas for Bandung speciality products. These include Binong jati knitting industrial and trade centre, Cigondewah textile trade centre, Cihampelas jeans trade centre, Suci shirt industrial centre, Cibaduyut shoes industrial centre, Cibuntu tofu and tempeh industrial centre, Sukamulya sukajadi doll

industrial centre. The variety of shops available makes Bandung commonly known as 'shopping paradise'. In short, Bandung is suitable to represent the e-commerce and retail landscape in West Java and Indonesia in general.

1.4 Structure of the thesis

The remainder of this thesis will be divided into the following chapters:

Chapter two

Chapter two presents the theoretical framework of the research, including the theories of resilience thinking in the retail context, adaptive capacity, retail resilience performance, and conceptual model to visualise the concept and the relation.

Chapter three

Chapter three explain how the methodology for the research is arranged. This chapter consists of the research approach and design, location of study, data collection methods, and how the data will be analysed.

Chapter four

Chapter four presents the findings of the research of retail resilience in a retail centre in Bandung. It explains the configuration of the retail centre and its position to the adaptive cycle framework.

Chapter five

Chapter five includes the conclusion and reflection of the research. The conclusion part would link the research question to the findings. What could be the lesson learned. The reflection part would elaborate on the limitation of the research and what would be the best to do in future research.

Chapter 2:

Theoretical Framework for Analysing the Resilience of Retail Centre

2.1 Resilience thinking in a retail context

The concept of resilience has been widely introduced by a wide range of decision-makers, policy communities and non-state actors (Davoudi et al., 2012). Pendall, Foster, & Cowell (2007) argue resilience would seem as 'fuzzy concept', means that no one exact definition can be used to define resilience. The term resilience has also rapidly become an important urban policy discourse (Evans, 2011 in Davoudi et al., 2012)). As Martin (2012) state that the term 'resilience' should be a key topic in spatial economic system study, particularly on how a system responds to shocks, disturbances, and perturbations.

There are three different interpretations can be distinguished and used for a study of retail resilience: the engineering, ecological and evolutionary approaches (Martin, 2012). Davoudi et al. (2012) then further elaborate on these three perspectives of resilience. Firstly, engineering resilience emphasises of the ability of a system to return to equilibrium or steady-state after a disturbance (Holling, 1973 in Kärholm, Nylund, & Prieto de la Fuente, 2014). The example would be either a natural disaster or social upheaval. Secondly, ecological resilience defined not only how long it takes for the system to bounce back, but also how much disturbance remain within a critical threshold (Davoudi et al., 2012). Instead of one, ecological resilience acknowledges the existence of multiple equilibriums. Thirdly, evolutionary resilience gives the attention to socio-ecological resilience, where the resilience itself is not conceived of as a return to normality (Davoudi et al., 2012), but rather as the ability of a complex socio-ecological system to change, adapt, and transform in response to stress (Rao & Summers, 2016). However, rather than seeing as a bounce-back perspective, resilience in urban planning standpoint is preferred seen from an adaptive point of view (Guimarães, 2018). Regarding planning, evolutionary resilience offers a useful framework that allows to think in new ways of resilience in socio-ecological context (Davoudi et al., 2012) and understand the relational of space and time.

In the retail context, the term of resilience can be defined as the ability of different types of retailing to adapt to changes, crises or shocks that challenge the system's equilibrium without failing to perform its functions in a sustainable way (Replacis, 2011). The concept of retail resilience can be combined with a spatial perspective by analysing the resilience of town centres as the main core of retail activity in urban areas. Resilience in the context of retail centres was first empirically considered by Wrigley & Dolega (2011), who investigated the dynamics of the performance of UK town centres and their adjustment to the shock of the global economic crisis and other forces of change (Dolega & Celinska-Janowicz, 2015). The retail system needs to respond to the needs and desires of consumers, users, and investors (Kärholm et al., 2014).

Along with the process of resilience, Foster (2007) believes that there will be two approaches appear. The first one is a spontaneous resilience that comes as a reactive strategy from retailers

that focused on their outlet's activity, such as marketing strategy, delivery and distribution of goods, and selling strategy. Retailers can also gather to make a collective action to make the retail area resilience. This can be a form of events, gathering, etc. The second one is a planned resilience that requires the involvement of government, associations, and other stakeholders. The form of planned resilience is more comprehensive, such as regulation, urban design guidelines, spatial zoning, and other incentives provided by the government. To understand the resilience in the urban retailing system, it is important to emphasise that adaptive capacity is the key to reflect how resilience a retail centre is.

2.2 The adaptive capacity of retail centres

As mentioned in the previous section, that evolutionary resilience has been understood as "adaptive cycle" (Davoudi et al., 2012). Another term of the adaptive cycle also stated by Martin (2012) in complex adaptive systems theory as 'adaptive' resilience. The main focus of interest here is the ability of a system to undergo and anticipatory or reactionary reorganisation of form and/or function to minimise the impact of a destabilising shock (Martin, 2012). Adaptive resilience is a dynamic and multidimensional concept that no agreement on the extent to which these factors define the adaptive of a system (Dolega & Celinska-Janowicz, 2015). The critical element of the complex adaptive system is the way they exhibit self-organising behaviour, driven by co-evolutionary interactions among their constituent components and elements (Martin, 2012), especially the capacity that enables them to rearrange their internal structure spontaneously.

Taking the complex-system concept further, adaptive cycle suggests places go through periods of growth and decline. Davoudi et al. (2012) elaborates the model of the adaptive cycle, which was adapted from Holling, Gunderson, & Ludwig (2004), refers to four distinct phases of change in the structure and function of the system: the growth of exploitation, conservation, release or creative destruction, and reorganisation (Davoudi et al., 2012). The growth phase relates to emergence, development, and stabilisation of the system's structure and function. At the conservation phase, the growth decline. It implies that as the system matures, their resilience reduces (Davoudi et al., 2012). The creative destruction is symbolised by "omega" (Figure 1), that is the time when resilience is low but increasing. The last phase is the reorganisation phase, therefore the time of greatest uncertainty yet high resilience. This is the time for innovation and transformation occurs, turning crisis into an opportunity.

Davoudi et al. (2012) stresses that resilience itself involves the dynamic process of "bouncing forward" that provides the adaptation needed to innovate and do new things. This cycle is not necessarily sequential or fixed and happened not in a single cycle. Adaptive cycle is useful when it comes to an understanding of the development of the retail system. The urban retail system also goes through phases of growth and decline as many uncertainties can happen in the future. As proposed in the adaptive cycle model, innovations are needed in order to be steady and resilient. In that case, innovation is indeed the key to make the retail sector resilience and adapt to any kind of changes.

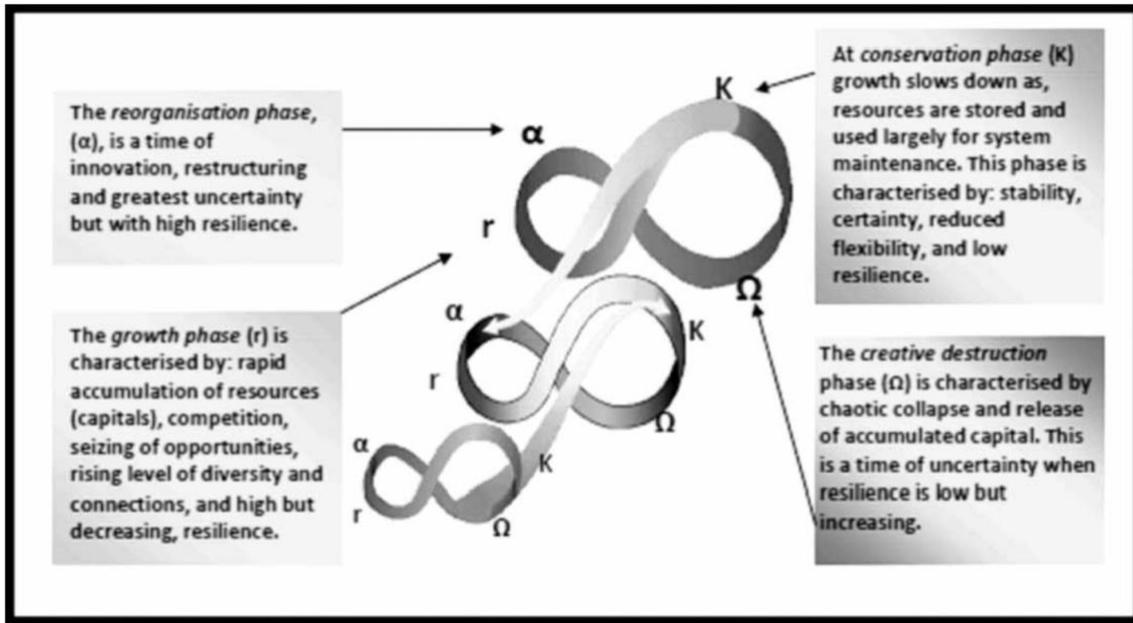


Figure 1. Adaptive Cycle Model (Davoudi et al., 2012)

While many resilience-buildings works of literature are about disaster-related planning, resilience thinking is also starting to be applied in the retail context. Barata-Salgueiro & Erkip (2014) see the retail resilience in urban retail system as a competition of both small-scale retailers and the existence of luxury malls that are located so close to each other. It makes the small-scale retailers experienced a decline in their business. Resilience strategy is seen from the retailers' perspective and actions they took to adapt and keep their business exist. K arrholm et al. (2014) see retail resilience as part of a resilient urban landscape, specifically the concept of spatial resilience. Here, they emphasise spatial resilience indicates the possibility of different usages, adaptations, affordances, and changes without changing identity and becoming something other than itself. Spatial resilience is used to acknowledge the interdependence of different retail areas in the discussion of urban and regional planning.

Linked to the online retailing, research by Singleton et al. (2016) measures the vulnerability of retail centres through e-resilience framework (Figure 2). It provides insight into the performance of town centres in transforming the retail landscape to the growth of online sales. The basic concept of e-resilience defines the vulnerability of retail centres to the effects of growing internet sales and estimates the likelihood that their existing infrastructure, functions and ownership will govern the extent to which they can adapt to or accommodate these changes (Singleton et al., 2016). They argue that the e-resilience could be determined by assessing demand and supply factors. Demand factors are seen through consumer behaviour and demographic catchment. Factors that influence the internet behaviour of people living in certain areas are demographic, education, employment, engagement, and infrastructure. During the retail vulnerability and supply, factors depend on the composition and size of the retail centre.

Furthermore, Singleton et al. (2016) explain that retail vulnerability is assessed to see if there would be a risk of the main product offering switching from physical to online channels. The larger the size of the retail centre is predicted to have larger geographic catchment and higher

supply is needed. Retail supply also linked to service offers by retail centres, such as shopping convenience and attractiveness of the shops.

The framework of e-resilience proposed by Singleton et al. (2016) is comprehensive and integrate both supply and demand factors. Unfortunately, to conduct similar research in different place might be difficult due to the different availability of data. The main data of the vulnerability index used in this research might not be available in other countries, particularly in developing countries such as Indonesia.

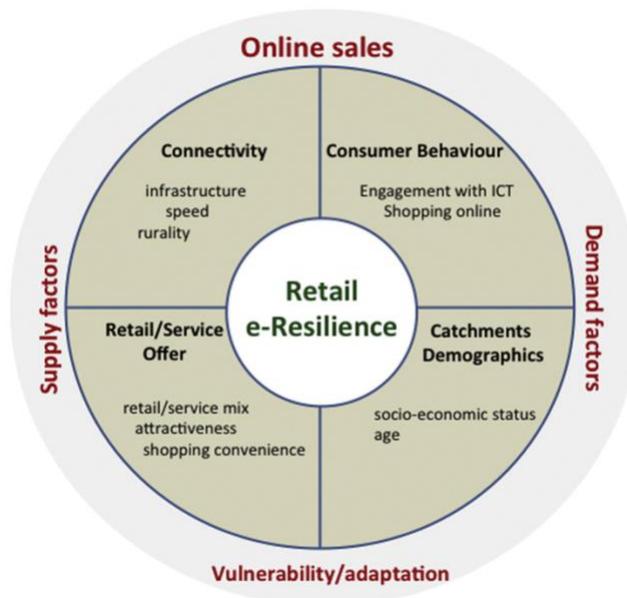


Figure 2. Conceptual framework of e-resilience (Singleton et al., 2016)

The importance of adaptive cycle framework is not only seen from the theoretical point of view but also should have a practical application in spatial and urban planning. Thus, research by Dolega & Celinska-Janowicz (2015) suggests a framework of the adaptive cycle to measure retail resilience, particularly within the town centre. The framework consists of a four-phase process of continual system adjustment, including growth, consolidation, release, and reorientation (Table 1). Dolega & Celinska-Janowicz (2015) further emphasise that the adaptive cycle framework (Figure 3) has several advantages that would be a strength when considering town centres and other retail centres. Firstly, it illustrates the dynamic nature of retail centres that may go through growth and decline. Secondly, it links the potential resilience to the pre-shock position in the cycle. In other words, the adaptive cycle phase in which a retail centre was in the pre-crisis period can determine its resilience. Thirdly, it offers some explanation of the mechanism responsible for creating adaptive capacity. The adaptive cycle also suggests that building adaptive capacity is a process that on the one hand, draws from previous knowledge and experiences, but on the other hand, is fostered by innovation, which underpins the emergence of new growth direction (Dolega & Celinska-Janowicz, 2015).

The overall resilience of retail centre is affected by the combination of both the position of a centre within an adaptive cycle and the characteristic of the three significant performance domains (Dolega & Celinska-Janowicz, 2015), including social, economic, and physical. In line with Singleton et al. (2016), (Dolega & Celinska-Janowicz, 2015) state that social domain

includes demographic indicators as the demand side of the retail, such as catchment areas, population increase, level of unemployment, etc. The economic domain at local levels includes various elements such as rents, business rates, and the support of various institutions. At the regional and national level, the economic factor could be cyclical economic downturns, international retail chains, or technological advances such as online retailing. The physical does, main including the condition of retail fabric or streetscape and other physical factor impacting foot levels, such as parking and attractive stores. The existence of the service, such as banks, post office, etc. is also crucial. At the regional and national level, the accessibility factor is also essential. Table 2 shows that the scales in which town centres are nested are important to build resilience and adaptive capacity. The concept suggested by Dolega & Celinska-Janowicz (2015) will be intensively used in this research since it is also relevant to be implemented to assess town centres and retail centres. The reasons behind this are first; the proposed framework of the adaptive cycle is specifically used for assessing the dynamics of the town centre and retail centres in general. The characteristic of each phase is suitable for a retail context. As shown in Table 2 that the domain of retail resilience by Dolega & Celinska-Janowicz (2015) covers the social, economic, and physical dimensions. Therefore, this study will only focus on physical domains, specifically on the accessibility, public space, streetscape, and the existence of other services.

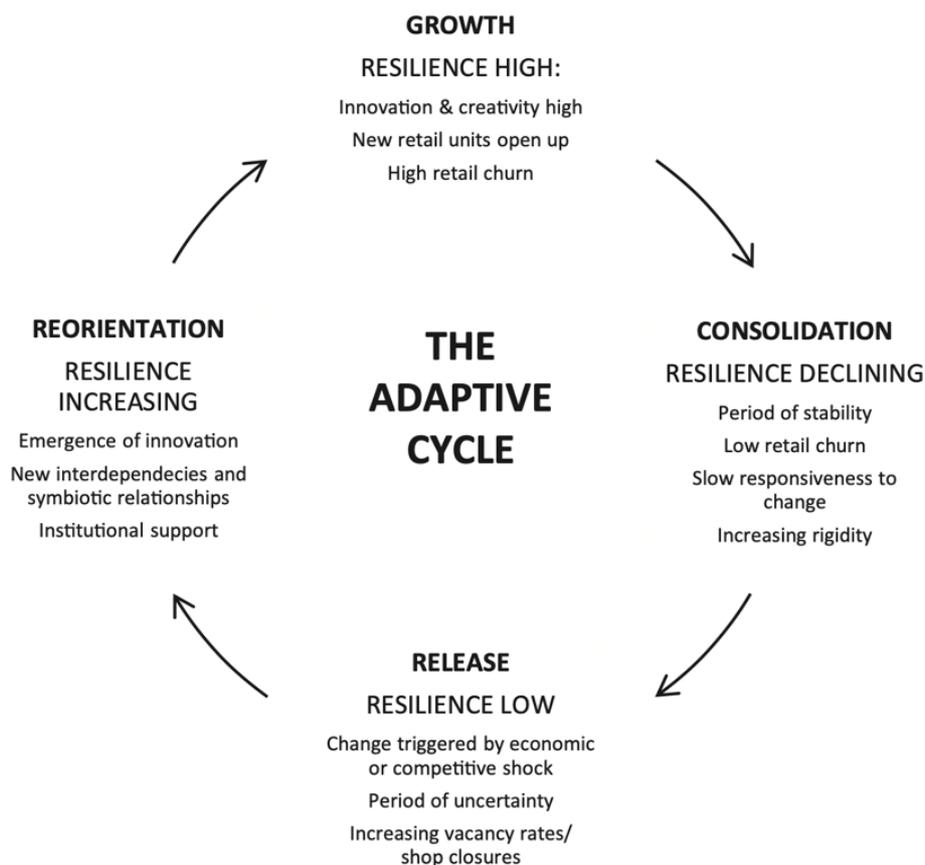


Figure 3. Adaptive cycle framework (Dolega & Celinska-Janowicz, 2015)

Table 1. Adaptive Cycle Phase Characteristics

Phase	Characteristics
Growth	<ul style="list-style-type: none"> - Normally happens rapidly, seen from the high rate of new stores opening-up - Duplication of business - Generates increased competition - Attract new investment - Increase available floorspace as well as increasing demand - Fostered by innovation and creativity
Consolidation	<ul style="list-style-type: none"> - System rigidity increases - Retail supply becomes predictable and established - Reach the highest capacity - Efficiency increases - Locked-in in development - Increased vulnerability and low resilience
Release	<ul style="list-style-type: none"> - Triggered by unexpected shock (e.g. opening up a new shopping centre) - Period of collapse and uncertainty - Shop closures increase - Shop openings decrease - Rise of vacant units - Economic and social environment worsen - Possibility to de-lock the rigidity
Reorientation	<ul style="list-style-type: none"> - Innovation comes up - Increase attractiveness - Institutional support

Source: Dolega & Celinska-Janowicz (2015)

Table 2. Domain of retail resilience

Domain	Scale		
	Local	Regional	National
Social	Catchment area demographic	Regional variations in the level of consumer confidence and demand	Changing consumer culture
Economic	Business rates, institutional support, diversity	Underlying dynamics of growth, economic strength, regional employment base	Economic downturns, increase in online sales, change in planning policy
Physical	Retail fabric, streetscape, ease of parking presence of anchor stores	Accessibility factors, physical geography, rural-urban living	

Source: Dolega & Celinska-Janowicz (2015)

2.3 The spatial configuration of retail centres

Retail resilience can also be seen as spatial resilience. Therefore, the spatial configuration of the retail centre much or less contributes to the resilience of retail centre itself. As discussed in the previous section regarding retail resilience, a retail centre has to be resilient by means that it has to be adaptive to disturbance and shock without losing its function. In that way,

retail centres development is being modified into a variety of non-retail spaces, such as exhibition, café, and hotel. Research by Rao (2019) finds that the offline stores, or commonly known as brick-and-mortar retail space, is not going away. Rather it is being developed into various shopping spaces geared toward the urban experience. Thus, the combination of density, mixed-use, and walkability may be adaptive to online retailing. Thus, the streetscape of pedestrianised road can increase the urban experience. The previous study by Rao (2019) gives the examples of California, Stockholm, and Manheim, where the pedestrianisation of the main street is more progressive, and main street districts are converted into car-free shopping spaces. Moreover, the combination of retail and non-retail attractions, and transform the spatial pattern of retail centres to be more walkable can also affect the retail centres to be more adaptive to online retailing. A functional mix between shopping, living, and working can also foster the urban experience (Rao, 2019).

Another research by Erkip, Kizilgün, & Akinci (2014) assess the retail strategies and the impact on urban spaces in Turkey and find out that the development of shopping mall requires spaces serve as leisure sites, with coffee shops, restaurants, movie theatres, and theme parks. Furthermore, they define resilience strategy assess the location and accessibility, provided services, climatic, ambience, competitive edge, and organisation of each retail centres. The research finds that open shopping arcades and open-air festivals are important to keep people outside when the weather is good. The streets and open public spaces, supported by proper maintenance, are considered as leisure space that also crucial in retail centres. Accessibility of retail centres is also important. Customers who have relatively easy access to the most attractive stores that are enhanced by adjacent leisure facilities tend to visit town centres for longer periods and are normally expected to spend more within them (Singleton et al., 2016).

Weltevreden (2006) finds that the better-perceived car accessibility of a city centre, the lower chance that car users search and/or buy online. A study by (Ferreira & Paiva, 2017) identifies three variables that cause the decline of the shopping centre in the Lisbon; those, those are the physical structure of the retail, not adapted to newer requirements of consumption and leisure, the knowledge levels of their managers. A case study of three different retail areas in Malmo (Kärrholm et al., 2014) find that the integration of other uses than retail, for example, public services, public transport, or activities of civil society address more fluid stabilisation of retail areas. The resilience of a retail centre is also linked to the concept of competitiveness (Bristow, 2010). In that case, the existence of other services, such as post office, mosque, church, bank, etc., is important. For retail resilience, diversity seems to be especially important, not only in terms of a retail/service mix, but also ownership, size, or prices (Dolega & Celinska-Janowicz, 2015).

In conclusion, it is known that each retail centres have their own unique spatial configuration and different from each other. Linked to many studies which are discussed above, it can be concluded that several aspects of spatial configuration that can be analysed in retail centres are accessibility (Erkip et al., 2014; Weltevreden, 2006), public space (Kärrholm et al., 2014; Ferreira & Paiva, 2017), streetscape (Rao, 2019), and the existence of other services (Bristow, 2010).

2.4 Retail vs e-commerce

Offline retailing has three key disadvantages when competing with online retailing (Rao, 2019). First, the offline store can only display a wide range of products, while the website or app can show a full range of products. Second, while the offline stores can compare the price with other stores in the city, the online search can directly bring customer to the lowest price because it reaches the global market. Third, while offline stores often require high rent shops, online retailing allows retailers to work from the low-rent warehouse or even their homes, possibly reducing the prices of products.

While many kinds of literature include retail resilience in the sense of consumer behaviour through supply and demand (Singleton et al., 2016), business model, etc., few of them linked it with the existence of e-commerce. E-commerce is also seen as 'shock' to the retail system. However, the influences of this shock on the shopping space are insufficiently discussed (Rao, 2019). In order to understand the impact of e-commerce towards retail centres, it is logical to first know about the impact of e-commerce in general. Visser & Lanzendorf (2004) argue that the potential impacts of e-commerce are divided into direct mobility effects and indirect accessibility effects. Direct mobility effects refer to the short-term effects on transport patterns (Patterson, 2018), where e-commerce can complement individual transport behaviour and logistic systems. In contrast, indirect accessibility effects refer to long-term changes in the activity of people, supply chains, choice of location, and patterns of land use. Thus, the location of the retail centre could be both short-term and long-term effect of e-commerce.

Several authors reflect on the impact of e-commerce on retail centres specifically. Dolega & Celinska-Janowicz (2015) argue that the aftermath of economic crisis, alongside rising internet sales and shifting consumer culture towards convenience and value, is widely considered to be the key disruption impacting the fragile ecologies of retail centres. The economic crisis is not the only type of disturbance that can happen in a retailing system. Pendall et al. (2007) argue that the retail system is affected by two types of disturbance, including unexpected shocks and the 'slow burns', a more gradual change happen in the long-term process. Unexpected shocks could be the opening of a new shopping centre that might increase competitiveness. While the 'slow burns' is a long-term process, the drivers of change (Dolega & Celinska-Janowicz, 2015) that capable of transforming a system. Thus, the example of the retailing system would be the impact of increases in online retailing. Research by Birkin, Clarke, & Clarke (2010) argues that as e-commerce providers consolidate, the relationship between virtual and physical channels has strengthened, and understanding geographical variations in the use of the internet at national, regional and local levels has become more important.

In short, e-commerce and retail centres tend to be interrelated, and retailers may try to exploit the advantages of having both online and offline presence. The existence of e-commerce will not wholly replace offline retailing (Weltevreden, 2006), but rather complement it. Thus, the framework of the adaptive cycle can illustrate the dynamic and how resilient a retail centre is. As linked to the urban planning point of view, a spatial perspective should be added. The spatial configuration of the retail centre, including accessibility, public space, streetscape, and the existence of other services are also necessary.

2.5 Conceptual model

The conceptual model (Figure 4) of this research describes the main attributes and relations which are explained in the theoretical framework. It shows how the theories and concepts have related each other to explain how the research linked in both academic and practice. The concept of retail resilience is further explained as the adaptive capacity of the retail centres to deal with disturbance such as e-commerce. The adaptive capacity is assessed by using the adaptive cycle, as Dolega & Celinska-Janowicz (2015) purposed. Thus, by using the adaptive cycle, the researcher can determine what possible position does a retail centre entail within the framework. The existing retail centres are seen from their physical (spatial) configuration based on accessibility, public spaces, streetscape, and the existence of a variety of other services.

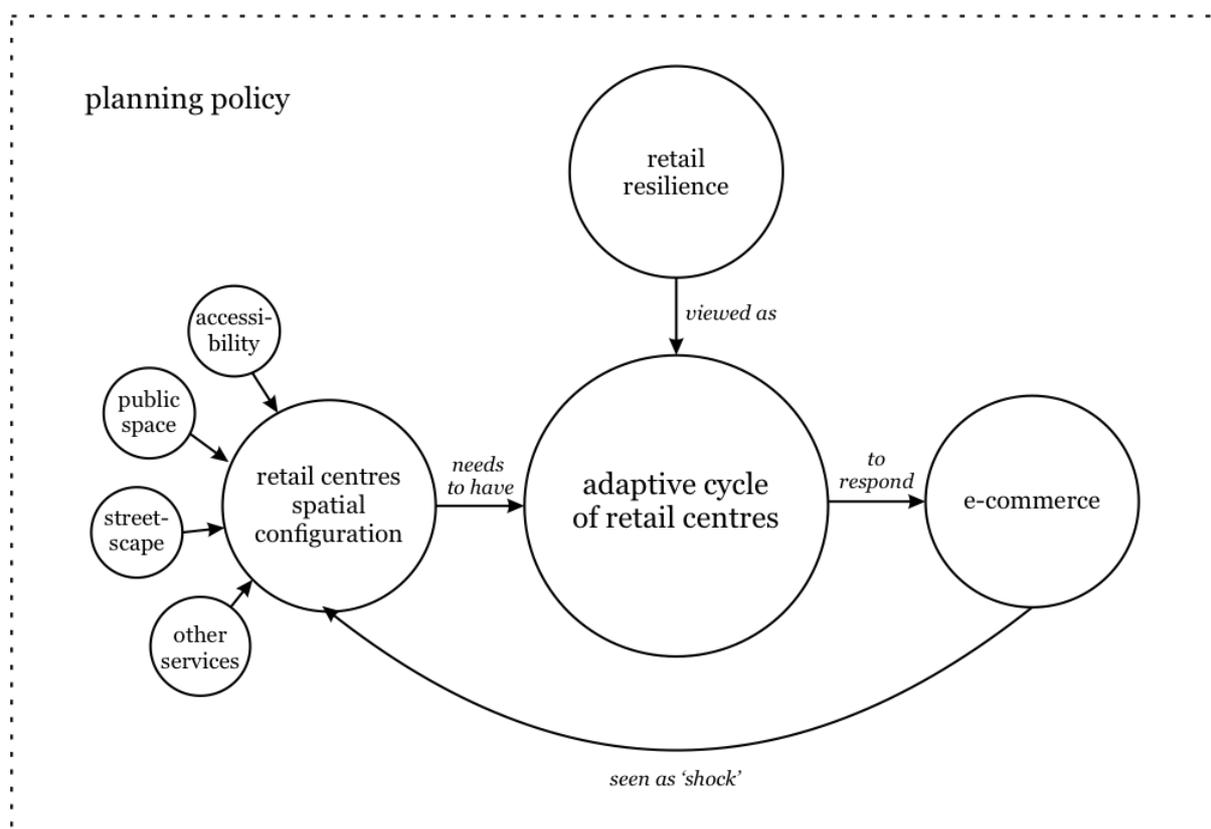


Figure 4. Conceptual Model of Research

Chapter 3: Methodology

3.1 Research approach and design

As the focus of this research is to understand the retail configuration that enables adaptation to the emergence of e-commerce through the assessment of the adaptive cycle framework, a case study approach will be conducted. In order to earn a depth and detail information, a qualitative approach is used to assess retail resilience. A purposed framework by Dolega & Celinska-Janowicz (2015) is used to understand the retail resilience in Bandung city. Furthermore, multiple case study is chosen because it provides the opportunity to make comparisons between different retail centres and can be explored in depth. The comparisons provide an excellent opportunity to get insight in determining retail configuration and adaptive retail centres. It provides ways to explore differences and similarities between the different cases.

3.2 Retail classification

In defining retail classification, Guy (2017) distinguished the classification of retail outlet and shopping centres (see Table 3). Retail outlets are classified in many ways, each relating to some physical and economic characteristic, such as type of goods, shopping trip purpose, size and type of store, and store ownership (Guy, 2017). On the other hand, shopping centres are classified by the central place hierarchy, physical form, ownership and tenancy arrangement, and trip purpose. Moreover, the classification based on retail locations is divided into intra-urban retail locations and ‘non-hierarchical’ classification of locations. The non-hierarchical retail classification by Brown (1991) as adapted by Guy (2017), is used to determine the location of study for this research. Guy (2017) further adapt the classification by Brown (1991) to define retail locations based on physical form (clustered, linear, or isolated) and function (general, specialist, or ancillary).

This study will be focused on town centres, shopping mall, and ethnic shopping street. The town centre is believed as the core of retail activity in the urban area. The town centre in most cities in Indonesia grew organically without being planned as the centre of economic activity. Shopping malls also take a significant portion of retail activity within the city. Many branded products that exist in shopping malls makes people choose to go to shopping malls. Furthermore, the retail landscape in Indonesia is mostly developed by informal retailing activity, including the micro, small-medium enterprise (MSME). Almost every city has its own unique commodity and products that grow to shape an identity of the city itself. Many kinds of ethnic shopping street exist to sell traditional souvenirs or local speciality product.

Table 3. Non-hierarchical Classification of Retail Locations

Form	Function		
	General	Specialist	Ancillary
Cluster (unplanned)	Town centres and suburban retail areas	Café quarter	Sandwich bars in the financial district

Cluster (planned)	Shopping malls Retail parks	Factory outlet centre Festival marketplace	Shops in the airport departure lounge
Linear	Traditional shopping ribbons	Ethnic shopping street	Shops in the pedestrian subway
Isolated	Corner shop Hypermarket	Retail warehouse	Newspaper stall

Source: Brown (1991) in Guy (2017)

3.3 Location of study

The spatial boundary of the study is the border of the municipality of Bandung city as one of the most potential cities in Indonesia to develop e-commerce business (Deloitte Indonesia, 2017). Bandung has been known as a fashion barometer in Indonesia (Bandung Tourism and Culture Office, 2015) and commonly called 'shopping paradise'. Based on a survey by DANA (2019), it is known that the most significant number of e-commerce service users is in Bandung (85.9%). Online buying and selling transactions in Bandung, particularly in C2C businesses such as Tokopedia, are quite high at 750 thousand transactions per year (Arhando, 2019). As mentioned in the first chapter, the high internet adoption and variety shopping option provided in Bandung makes this city suitable to learn about retail resilience and e-commerce challenges in West Java and Indonesia in general.

The location of the study will be conducted explicitly on the three selected retail centres according to the retail configuration by Guy (2017). The first retail centre is unplanned cluster located in the town centre of Bandung, or commonly called Alun-Alun Bandung. The second retail centre is a planned cluster in the form of a shopping mall. The third location of the retail centre is an entirely unique location along the corridor of Cibaduyut street, where many of small-scale enterprise sell the same type of goods. It forms a linear ethnic shopping street (Figure 5).

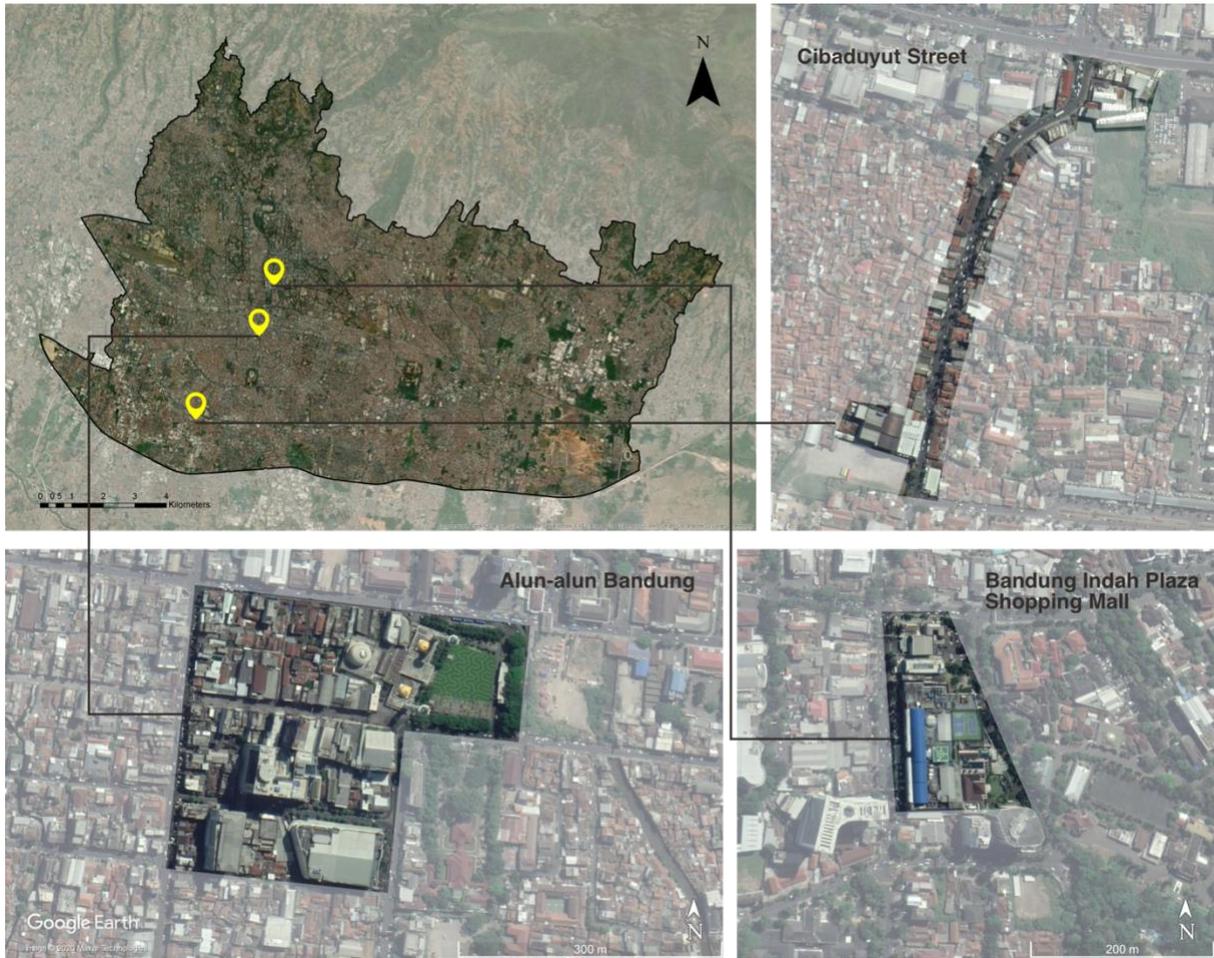


Figure 5. Location of three retail centres within Bandung city

Table 4. Detailed location of study

<p>Location 1: Alun-alun Bandung</p>		
<p>Location 2: One of the shopping mall</p>		

**Location 3:
Cibaduyut
street**



Source: google maps, 2020

3.4 Data collection methods

This research compares the retail resilience of three different types of retail areas. Observation studies and interviews will be conducted in three locations. Observation studies, a short interview with retailers, and a long interview with key actors will be conducted. The main aim of the observation is to map structural differences between the places (Table 6), while interview will help understand the perspectives from retailers on how e-commerce impacts their business. The semi-structured interview will help the researcher to get the experiences of actors using open questions. It is important that data collection methods that can be used in case-study research. The list of key informants are listed in Table 5. moreover, document review will be used to collect specific information as an input for research from secondary data, such as demographic and social domains.

Table 5. List of stakeholders involved in the interview

Representing	Key informants	Information
Government agencies	Head of the department of trade and industry of Bandung city	<ul style="list-style-type: none"> - Vacant units - Identifying the structural problems of retail centres system
Retailers	Shop owners Managers of the shopping mall	<ul style="list-style-type: none"> - The way system works - What change is required - What is the role of particular actors in that system? - Innovation: internet adaptation - Challenges in the future

Table 6. Observation list

Things to observe	Information
Accessibility	Easiness of retail centre, accessed by public transport
Public space (leisure purpose)	Existence and how public space support the retail centre
Streetscape	The street pattern of the retail centre
Other variety of service building	The existence of other variety of service building

3.5 Data analysis methods

The analysis methods will refer to the adaptive cycle framework suggested by Dolega & Celinska-Janowicz (2015) and spatial analysis based on the physical characteristic of retail centres. The data analysis will mainly use the interview transcript and documentation through observation. Further explanation about data analysis is shown in Table 7.

Table 7. Data analysis methods

Research Question	Information	Source	Method of retrieval	Documentation method	Method of analysis
How to understand the adaptive capacity in bridging the gaps between the declining performance of existing retail centres and the emergence of e-commerce?	Input from literature related to adaptive capacity and retail resilience	Scientific literature	Literature study	Building a theoretical framework	Literature review
How e-commerce affects the adaptive capacity of existing retail centres?	Information on the perspectives of retailers as interviewees, as well as consumer	Interviews	Semi-structures interview	Transcripts, google forms	Adaptive cycle framework analysis
	Assess the spatial configuration of retail centres	Observation	Observation	Tables and figures	Physical configuration analysis
What are the retail strategies can be implemented for future urban planning policy?	Ideas for future strategies and lesson of retail resilience	Literatures	Literature study	Formulating lessons and strategies	Synthesising

3.6 Ethical issues

This research is conducted as one of the Master Thesis courses at the University of Groningen. As student, the researcher will objectively see the empirical case from the academic point of

view without involving any interest from other parties. This research deals with several norms that exist in the broader Indonesian context, including norms in conducting the interview with stakeholders, legal norms of government, and moral norms in society. In the process of research, the researcher implements some ethical principles, including the rights of interviewees to obtain open information related to the study. The researcher also respects the privacy and confidential of interviewees. The result of this research, therefore, will be informed to the stakeholders as an input for planning policy in the future. However, the researcher may have minimal influence in applying the result of this research into planning policy and decision making.

Chapter 4: Retail resilience – a case study of Bandung

In this chapter, the retail resilience analysis is presented in four sub-chapter. Firstly, the analysis of how the spatial configuration of retail centres influences its resilience, including the accessibility, public spaces, streetscape, and the existence of other services. Secondly, the analysis of how e-commerce affects the business in retail centres. Thirdly, the result of data collection is analysed to see at which position are retail centres in Bandung City take place within the adaptive cycle. Finally, the retail resilience strategies and future concern that should be taken into account are elaborated.

4.1 Role of spatial configuration to keep retail centre adaptive

In general, the spatial configuration of the retail centre is regulated in Detailed Spatial Zoning Planning (RDTR) of Bandung City. The retail landscape of Bandung can be seen from the spatial zoning maps, symbolised by the red colour and code K (Figure 6). The retail landscape in Bandung is centred to the west part of the city and linear along the corridor. Therefore, the current planning is to have a new Central Business District (CBD) on the east part of the city to distribute the activity and mobilisation of people. In spatial zoning, the retail centres are controlled by the intensity, transfer development rights, bonus zoning, overlay zoning, and urban growth regulation. The Detailed Spatial Plan (RDTR) document accommodates technical requirements that needed be fulfilled, including the retail centres. Some exceptional cases, such as Alun-Alun Bandung, has other technical guidance in the form of urban design guideline. However, the urban design guideline is not yet legalised due to the lack of support and implementation. The spatial zoning is made to provide technical guidance that aims to give a good sense of place and convenient environment of the retail centre. This research tries to see which spatial configuration of retail centre enables the adaptation of the retail centre, particularly to the existence of e-commerce. The aspect of spatial configuration, including accessibility, public spaces, streetscape, and the existence of other services.

Table 8. Detailed Spatial Zoning Plan regarding Retail Centres

Zone	Code	Sub-Zone	Code	Definition	Desired Quality
Commercial area	K	Commercial area	K	A commercial zone to buy goods from one place at one time and sell them at another place and time to make a profit.	A comfortable, safe and productive trading area for various development patterns equipped with a minimum parking infrastructure, which is adequate (according to minimum standards) and does not cause disturbances to public interests. Spatial use intensity is determined by considering the
		a) Traditional market	K1	Zones that are designated for markets that are built and managed by the government, local government,	

Zone	Code	Sub-Zone	Code	Definition	Desired Quality
				private sector, state-owned enterprises and regional-owned enterprises including cooperation with the private sector with business places in the form of shops, kiosks, counters, booths and tents owned/managed by small traders, medium, self-help or cooperatives with small-scale businesses, small capital and with the process of buying and selling merchandise through bargaining.	type/characteristics of commercial activities, both land carrying capacity and road capacity.
		b) Retail and service centre	K2	A business zone for trading, recreation, restaurant and so on, which is designated for groups, individuals, companies or cooperatives to sell goods and or services, and is located in a unified building/space.	
		c) Linear retail centre	K3	The trade and service zone is in the form of a shopping street / along the road corridor.	Service zones that are comfortable, safe and productive for various development patterns are equipped with a minimum parking infrastructure, which is adequate (according to minimum standards) and does not cause disturbances to public interests. Spatial use intensity is determined by considering the type/characteristics of commercial activities,

Zone	Code	Sub-Zone	Code	Definition	Desired Quality
					both land carrying capacity and road capacity.

Source: Detailed Spatial Zoning Plan of Bandung City (2015)

4.2.1 Accessibility

The accessibility can be seen by easiness to reach by both pedestrian and vehicle. In general, the three retail centres are accessible by both vehicle and pedestrian. The first retail centre of Cibaduyut street is accessible by both public and private vehicle. Most of the customer reach the stores by using a vehicle. However, many retailers admit that even their stores accessible, they still struggling with the lack of availability of parking spaces. The current traffic along the street is relatively crowded, and congestion happens at peak hours. The accessibility in shopping malls is seen by the closeness to the entrance of visitors, such as escalator and lift. The leisure place, such as theatre and food court, also consider as attractive place, consequences in bringing more people to come to the surrounding stores. The third retail centre of Alun-Alun Bandung has car-free shopping street and can only be accessed by the pedestrian. Visitors have to park their vehicle somewhere else and reach the stores on foot. Even though the stores are not directly accessible by vehicle, this shopping street offers different experience of shopping. According to retailer in this shopping street, having stores in pedestrian shopping street has more advantages than those which located next to the main street. Visitors spend more time in the walkable shopping street than those who can only be accessed by vehicle. It increases the chance of people to visit the stores.

The case study of three different retail centres in Bandung finds that accessibility is seen differently among retailers and decision-makers. On the one hand, retailers that depend their business on offline selling see accessibility in a positive way. The location of their stores should be strategic and visible by visitors. It also increases the amount of selling. At the same time, retailers that located in relatively isolated place tend to generate a fewer amount of selling than those located in a more accessible place. Thus, accessibility parameters affect rental values. On the other hand, the retailers that depend on online selling does not think that accessibility is essential. One of the retailers that entirely depends on the business on e-commerce choose not to open an offline store; he prefers to open a warehouse in a small alley. The reason behind this because accessibility can also be defined as the easiness to reach the product without having to come to the store. Thus, e-commerce offers the easiness to reach products more than an offline store does. From the decision maker's perspectives, theoretically, accessibility is vital to attract more people to retail centres. A planned retail centre should be accessible to anyone, particularly for people who have a disability. However, a different thing happens in the field. The fact is that people will come to buy something to certain stores because they know the quality of the goods, even if the stores are not accessible by public or private vehicle. This is supported by the easiness of online delivery.

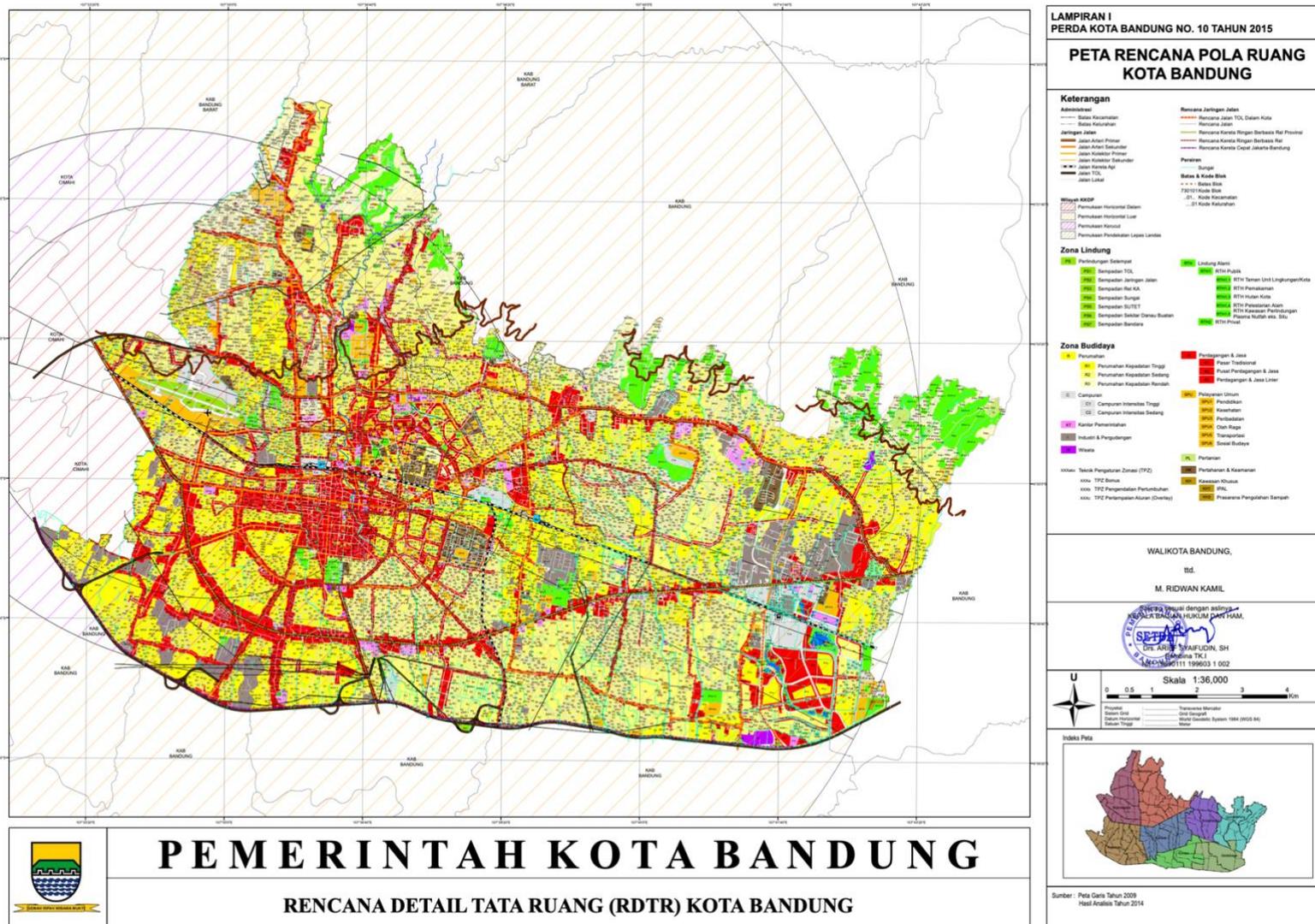


Figure 6. Detailed Spatial Zoning Plan of Bandung City

4.2.2 Public spaces

Retail centres have become the new public spaces of suburban areas and urban cores (Ozuduru & Guldmann, 2013). However, not all retail centres are public space; the fact is that they are owned by private entities or company. Public space can be both functioned as ecological and recreation for the retail centre. The availability of public space in the case of three retail centres in Bandung is mostly categorised as places for recreation. One of the most functioned public space is located in Alun-Alun Bandung. This park is owned and maintained by the municipality of Bandung City. As a leisure place, the existence of the park in Alun-Alun become one of the main attractions to be visited and positively affect the retail centre. Strategically integrating retail and open spaces brings benefits beyond the satisfaction of immediate customers. The public space increases the chance for people to shop, especially during weekend and public holidays. Thus, a well maintained open public spaces are essential to retail centres. However, during the observation, the park was closed due to the health protocol of Covid-19 that was instructed by the government. The park is not crowded as usual, but people still come and spend time along with the benches in the pedestrian sidewalk (see Figure 7c). Shady trees along the pedestrian sidewalk make the public space feel more comfortable and give people space to spend more time to stay. Thus, the convenient environment of public space can support the existence of retail centres to external disturbance. Therefore, due to the pandemic situation, some benches were taken out to avoid the crowd (Figure 7b).



(a)



(c)



(b)

Figure 7. Public spaces in Alun-alun Bandung

The public spaces in the shopping mall are made for a specific purpose. Staeheli & Mitchell (2006) argue that mall owners do not consider their shopping spaces as gathering places or new kinds of downtowns, and do not allow for the gamut of user rights that a genuinely public setting offers. They suggest that shopping centres are purposefully built to limit access and are designed to attract a particular market niche, providing a feeling of safety and comfort to the targeted consumers. The case of a shopping mall in Bandung City also reflects the same situation where the public space outside the mall was built in 2010. This public space is located on the terrace (Figure 8), aimed to make the visitor comfortable to wait for pick up or public transportation. Thus, the public space in the shopping mall does not have a significant effect on retailers. In the case of a shopping mall, public space does not make the visitor spends more time in the shopping mall. Providing public space in linear shopping street is entirely though. The retailers in Cibaduyut Street complain about the availability of public space, particularly the parking spaces. Knowing that most of the consumers and visitors come from other cities, large parking space for the bus should be provided. This is also written in the technical guidance of Detailed Spatial Zoning Plan (RDTR) where the desired quality of retail centre is to be equipped with a minimum parking infrastructure, which is adequate (according to minimum standards) and does not cause disturbances to the public interest.



Figure 8. Public spaces in the shopping mall

4.2.3 Streetscape

The streetscape provides connectivity among shops, enabling consumers to pursue their retail interests in multiple settings. The case study of retail centres in Bandung shows that every retail centre has different streetscape. Alun- Alun Bandung is located in the centre of the city, the streetscape is characterised by a vibrant urban setting complete with animated building faces on both sides of the street, broad sidewalks, and street tree plantings suitable for high pedestrian and vehicular. Thus, the vibrant in Alun-Alun is relatively convenient for visitors to spend a longer time. Scientific evidence confirms that experiences of nature are associated with

enhanced worker productivity, traffic stress reduction, emotional stress mitigation and restoration of cognitive capacities needed for basic functioning and productivity (Kesteloot, 1998). However, some street vendors and motorcycles are parked illegally in the particular corridor of pedestrian sidewalks (Figure 9a). Those motorcycles are mostly owned by the online motorcycle taxi driver (commonly called “Ojek driver”) who are waiting to get orders. The problem with *Ojek* drivers is that they have no space to stay and park their vehicle temporarily. This situation is quite disturbing for visitors to walk through the pedestrian sidewalks.

Other pedestrian facilities are available, including the yellow bumps or tactile path to guide pedestrians who are visually impaired is constructed along particular sidewalks. However, not all pedestrian sidewalks are supported by the tactile path. Retailers have long understood the importance of store environment in enhancing the shopping experience. One of the unique shopping experiences can be found along Dalam Kaum Street (see Figure 9c). This car-free corridor was converted since approximately six years ago to keep the shopping vibrant in Alun-Alun convenient. Thus, the streetscape of the pedestrianised road can increase the urban experience. In a vital pedestrian-oriented retail centre, the streetscape provides habitat for shoppers and consumers who have diverse needs and goals. However, some additional facility needs to be fulfilled in order to make the vibrant even more convenient, such as additional of benches to rest and shady trees to give nature experiences.



(a)



(b)



(c)

(d)

Figure 9. Streetscape of Alun-alun Bandung

Different situations are found in Cibaduyut retail centre. As a linear shopping street, Cibaduyut does not equip with sufficient parking space. As consequences, lots of vehicles are parked on-street, leads to worsen the traffic and cause congestion along the street (Figure 10). No adequate pedestrian sidewalks provided in this retail centre that make people tend not to enjoy shopping. This is contradictory with the fact that the visitors mainly come from other cities. The retail centre should provide a convenient pedestrian sidewalk to give a pleasant shopping experience. Thus, if the traditional streetscape force people to park as close as possible to a store, goes inside, picks up and pays for wares, and takes those items back to the car before returning home, then the future could involve perhaps more variations on that structure. Some improvements are needs, such as building upgrades, street and sidewalk improvements, sanitation, and pedestrian security. It seems that the technology shift is also poised to change retail streetscape. More particularly, changes to the design and use of retail parking lots seem inevitable, and a significant opportunity, as shopper habits and preferences change.



Figure 10. The streetscape of Cibaduyut Street

4.2.4 The existence of other services

Retail centres consist of various shops and services. The diversity that exists in retail centres is considered necessary in keeping the positive ambience towards the retail centres itself. The case of retail centres in Bandung shows that each retail centre is surrounded by other services such as a bank, post office, mosque, hotel, apartment, etc. according to the interview, some of these services do support the existence of retail centres, and some do not. The case of Alun-Alun Bandung shows that the mosque and park impact positively on the selling of retailers. The presence of entertainment and leisure facilities is significant to a thriving retail centre, as consumers can enjoy the 'shopping experience', and also, they provide sensory stimulation and hands-on experience that cannot be fully substituted by the Internet (BCSC, 2010). However, the impact of other services on the other two retail centres are not significant, especially for the retail centre in Cibaduyut Street. The case of Cibaduyut Street retail centres shows that the apartment located near to the retail centre does not affect the selling of retailers. Thus, the consumers of Cibaduyut Street mostly come from other cities. The case of shopping mall shows that the existence of office building and hotel nearby bring a positive impact on retailers in the shopping mall, but not significantly. The leisure facilities such as theatre, cafes, and food court bring more positive impact than those of hotel and office building. In conclusion, the spatial configuration is not yet seen as an important aspect in retail centres. However, the accessibility, public space, and streetscape seem to have an important role to support the existence of retail centres, while the existence of other services is not significantly affect retail centres.

4.2 The effect of e-commerce

Among all debates about the competition between offline and online store, the case of three retail centres in Bandung shows that three main problems faced by offline retailers in doing offline selling from the retailers' perspectives. Firstly, the competition of price among retailers that sell the same product. It makes the consumers have many alternatives to choose which product they will buy according to the price. On the other hand, retailers are struggling because some of them cannot offer certain products at the same price. Secondly, the rent price in some location is relatively high for retailers. As discussed in the previous section, the rent price is likely linked to the accessibility of the stores. The more accessible a store, the higher the rent price that should be paid. The group of retailers that own the building themselves do not have any particular problem regarding the rent price, but those who have to pay for the rent is struggling. Most of the stores in Alun-Alun Bandung and shopping mall rent the stores to landlord and properties company. On the one hand, the rent price tends to be more expensive every year, but on the other hand, the amount of profit is uncertain. One of the interviewees, which is a street vendor in Alun-Alun Bandung, states that her business will not survive within a year if the amount of selling does not increase. Retailers in the shopping mall also face the same problem. Some stores have to close their business in the shopping mall due to the high rent price. Thirdly, the problem of having an offline store is the lack of innovation. An offline store should be attractive to gain more exposure. However, the cost to make their stores attractive is quite expensive. Retailers should do some renovation, particularly the interior of the stores, but this is costly. In consequences, retailers only change the layout and display of the product. It might bring a positive impact on the attractiveness of the stores, but it does not provide a new shopping experience to consumers. Innovation regarding the

modernisation of production also become a problem for the retailers in Cibaduyut Street. The production of handmade shoes depends on the crafter that will take a longer duration to produce one shoe. On the other hand, the shoes which are made by machine take a shorter time to be produced. Besides, the government argue that the biggest challenges for retailers, particularly in Bandung City are consistency, continuity, quality, and quantity. Consistency means that retailers should take the satisfaction of consumer into account. They have to be consistent to run their business. Continuity means that the goods they provide have to be available and continue. Quality means that retailers should not only sell things based on the price, but also the best product they could create or provide. Quantity somehow relates to the continuity of goods. In order to fulfil the market demand, quantity (supply) of goods should be balance.

E-commerce affects retailers in many ways, both in positive and negative impact. The positive impact is e-commerce can be complementary store and increase the selling, broaden the geographical scope of the customer, give efficiency to both consumer and retailers, retailers do not have to rent the place, and potentially reduce the needs of having a large store that will have an impact the in possibility of paying a lower rent price of their offline store. The negative side is that e-commerce can increase the competition of price. To be resilient to external disturbances, such as e-commerce, the retailers were asked whether they are aware of the existence of e-commerce itself. The case of retail centres in Bandung shows that all of the interviewees are aware of the existence of e-commerce. There are two groups of retailers in response to the existence of e-commerce. The first group is those who aware and utilise the feature of e-commerce and those who do not. The group of retailers that utilise e-commerce are aware of the importance of e-commerce. One of the retailers' shifts from offline to online selling for the past nine years. The reason why he shifts all the selling to online is that he no longer affords the rent price to rent a store. He argues that by selling the products online, he can increase the amount of selling, broaden the distribution, and sell the product at a lower price.

In contrast, the group of retailers who adopt both offline and online selling tend to have more than one platform to sell and advertise their products. Among all interviewees, there are three biggest platforms, including Instagram, Tokopedia, and Shopee. These platforms are chosen as they offer higher exposure for the products and safe transaction. However, not all of them choose to use e-commerce to support their business. The first reason is that they are the first-hand supplier of the product who sells their goods to resellers. They choose not to sell the goods online because as the first-hand supplier, they want to give their resellers opportunity to distribute the product online. It also to avoid the price competition between supplier and resellers. This type of retailers is located in Cibaduyut Street and Alun-Alun Bandung. The second reason is that retailers have little knowledge of e-commerce. They do not know how to operate the platform, how to upload their products, how to do the transaction online and to deliver it. This kind of retailers is mostly affected by the demographic characteristic. While the youngsters tend to utilise e-commerce in daily life, the boomers tend to adapt slower or even do not know e-commerce at all. To solve this kind of problem, the government involves the registered SMEs to the e-commerce training program, especially for the SMEs in Cibaduyut Street. However, there is no promising evidence that the program works and increase the adaptation of retailers toward e-commerce. This is supported by the fact that most of the retailers in Cibaduyut Street choose to sell their product through the traditional catalogue in their store rather than using e-commerce.

As discussed above, not all retailers adopt e-commerce to support their business. Weltevreden (2006) delineates the impact of online shopping on offline shopping, including substitution, complementary, modification, and neutrality. The case of three retail centres in Bandung show that there are three groups of retailers that response to the existence of e-commerce differently. The first one is the group of retailers that replace physical shopping to online purchasing. This group of retailers substitute the offline store with an online store. In the case of retail centres in Bandung, this type of retailers has a minority in numbers. Those who replace the offline store entirely was struggling to pay the rent of their previous store and choose to close the offline store. However, this group of retailers still have their own warehouse to produce the products. The second group of retailers is those who see online shopping as complementary to their offline store. Online selling can increase the efficiency of selling. For example, the seller will have the possibility to let the consumer choose the product via e-commerce then pick it up and pay at the store. By doing so, they address safety concern regarding online payment (Weltevreden, 2006) and do not be charged for the delivery fee, which makes online shopping more appealing for the specific type of consumers. The existence of e-commerce can also double their selling. Retailers admit that the selling increases since they decide to use e-commerce to complement their offline store. Thus, e-commerce is seen not as a threat, but as an opportunity to gain more sales. The third group of retailer's responses in neutrality towards e-commerce means that e-commerce does not affect the selling of offline store. This type of retailers is usually also as the first-hand supplier that choose not to sell their products via the online store.

The department of trade and industry has a significant role in training SMEs to use e-commerce. However, they cannot trace the e-commerce users in Bandung due to the limitation of data. Linked to the spatial configuration of each retail centres, there is no direct link on how spatial configuration can affect the adoption of e-commerce and vice versa. The Detailed Spatial Zoning Plan (RDTR) does not consider e-commerce as an aspect to be taken into account. E-commerce grows organically without being regulated in spatial regulation. From the government perspective, e-commerce might have an indirect impact on land use, mobility, and logistic system within the city. However, there is no current and future plan to map or to place e-commerce into spatial zoning. E-commerce has already had a significant role in affecting Bandung City in general. Thus, the people who work for the government, particularly in the spatial agency plan have to have an awareness of e-commerce.

4.3 The adaptive capacity of retail centres

The theoretical framework suggested by Dolega & Celinska-Janowicz (2015) implement the panarchy model links to the retail centres' resilience to their position within the adaptive cycle. As described in the previous chapter, the adaptive cycle in the retail context consists of four stages, including Growth, Consolidation, Release, and Reorientation.

Bandung city has a long history to become one of the cities in which the retail business is nested. According to the data collected by interviewing and observing the three retail centres in Bandung city, the development path of retail centres become more fixed and stable. The linear retail centre in Cibaduyut street had been known since 1920, where most of the local population are workers at a shoe factory in Bandung until they decided to stop working from

the factory. Having experiences of working in a shoe factory, they began to pioneer the business of making and selling simple footwear products in the home business by involving family members as workers. This retail centre then faced a decline in 2000 as many of shoe products were being imported and sold at a lower price. The modernisation of production process by machine was killing the handmade shoe business. However, they began to grow when the President of Indonesia start using shoes from Cibaduyut, making the retailers start to rise and run their business as usual. Many of new retail units open up, and competition among retailers increased. This growth phase happened in, approximately, 2013.

However, as the phase mature, the resilience slowly decreases. The retail business now in Cibaduyut is relatively stagnant. Retail supply and demand become predictable and established, and the connectedness among various agent is high. The demand mostly comes from domestic tourists. Many retailers cooperate with the travel agency to promote stores and bring domestic tourists to their stores. In return, the travel agency will have an advantage from the selling. This usually happens during the weekend and bring advantages to the retailers. On the other hand, fixed supply come from their warehouse and home industry. Three of four times a year these home industries send their new products to stores. However, it is claimed that the home industries are struggling to do innovation regarding the design and material. According to the observation, most of the retailers in Cibaduyut still use the old catalogue to be offered to the customer that comes to the store. Few of innovation implemented to keep the business resilience somehow become 'locked-in' (Dolega & Celinska-Janowicz, 2015) in a particular trajectory of development. While retail business continually evolves due to. The changing consumer culture and arising competition; thus, failing to adapt may result in increased vulnerability and low resilience (Dolega & Celinska-Janowicz, 2015). Linked to the adaptive cycle framework, the overall situation of retail in Cibaduyut is most likely to be positioned in the consolidation phase. This phase is the critical time in which such intervention should be developed, as otherwise, the system may break apart in an uncontrolled manner during an unexpected shock or disturbance (Dolega & Celinska-Janowicz, 2015).

A quite similar situation happens in the shopping mall. The adaptability in shopping mall depends on each tenant, not to the management of the shopping mall as a whole. The role of shopping mall management is to rent the available space to the tenants and engage in the promotion offered by each tenant. The retail strategies all depend on the tenant itself. Thus, it is hard to generalise how the shopping mall adapts to any external shocks, including the existence of e-commerce. According to the interview with the management office of the shopping mall, the capacity of a shopping mall can accommodate until 250 shops with the percentage of vacant units approximately 10%. Most of the tenants stay for three years contract and 70% of them extended the contract. From the retailers' perspective, the selling is relatively stable. This is supported by the fact that most of the tenants are big stores that sell branded products, and they have a relatively sophisticated system. However, from the observation, it is seen that some of the previous stores are closed and change into a new one. According to the management, the closure rate is 15% within the last five years. The retailers closed their business due to the relatively high rent cost and tight competition among stores that sell the same type of goods. In short, the shopping mall faces the phase of consolidation, and if it is not taken seriously, the resilience will keep declining to the release phase.

A different situation happens in the town centre of Alun-Alun Bandung, which was built around 1811. The main attraction of Alun-Alun Bandung is a recreation park that used to be a

place for an art performance. Not to mention the soccer matches that are often held between 1900 and 1905 and 1914-1921. The retail activity grows during this period, until now, Alun-Alun Bandung is surrounded by commercial buildings. Another main attraction is the big mosque located next to the recreation park. This attracts people to come every day, especially during Muslim's festival day. Since the last ten years, Alun-Alun Bandung faces growth and decline. The most significant renovation was made in 2014, where the 1,200m² park is renovated with synthetic grass and a children's playground. Another renovation of pedestrian shopping street located next to the mosque brought a positive impact on the retail business in Alun-Alun Bandung. The government closed down Dalem Kaum Street and changed the function to a pedestrian shopping street. It attracts more people to come and experience a different ambience of shopping. From the retailers' perspective, those moments are essential. Since then, Alun-Alun Bandung becomes one of the leading destinations for citizens to spend their leisure time. Not only to visit the recreation park but also to shop.

Alun-Alun Bandung is most likely to face the growth phase in the adaptive cycle framework. The retail centre in Alun-Alun Bandung consists of two shopping malls, one department store, and other stores located along the street. One of the shopping malls was rebuilt and a lot of new stores opening up. It generates increased competition among the retailers, particularly regarding the price. Many retailers that sell the same type of goods, such as fashion, admit that price is an important thing to take into account when opening a business in Alun-Alun Bandung. The newly completed shopping mall facilitates the changing demand (Dolega & Celinska-Janowicz, 2015) of both existing retailers and new entrants in Alun-Alun Bandung. Not only the new entrants that attract people to visit this retail centre, the existing retailers that have opened their store in the past ten years ago, for instance, still have quite good selling. According to the interviewee, many of the old stores sell their goods as suppliers to their resellers. As many resellers come to their stores, it also affects the stores surrounding it. Resilience in the growth phase is typically high. However, as the phase matures, the resilience slowly decreases. Thus, innovation and creativity are needed. The source of innovation and creativity can come from the retailers themselves and the support from the government. Innovation from retailers can form in many ways, including the implementation of ICT, such as e-payment, e-commerce, and e-catalogue. At the same time, the innovation from the government can be formed in the improvement of public space, such as upgrading the current services in the park.

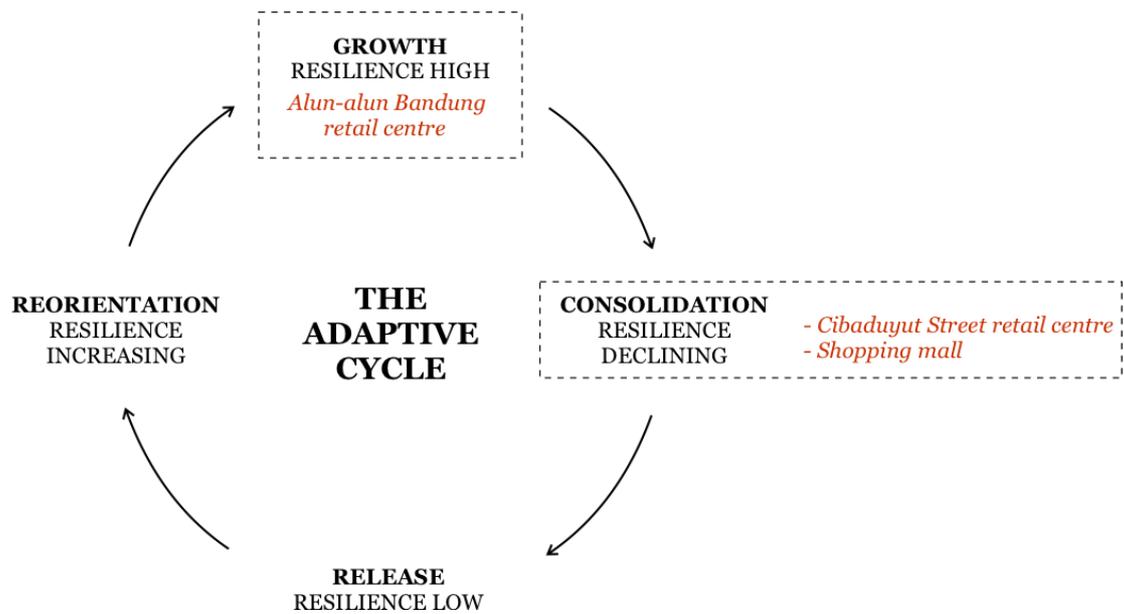


Figure 11. Position of each retail centre within the adaptive cycle framework

In short, among the three retail centres that are studied in this research, Alun-Alun Bandung has the highest resilience. This is mainly caused by the attraction from leisure spaces, such as the existence of park and mosque (Kärrholm et al., 2014; Ferreira & Paiva, 2017; Bristow, 2010), the strategic location (Erkip et al., 2014; Weltevreden, 2006), the attractive pedestrian shopping street of Dalem Kaum Street that offers a new shopping experience to people (Rao, 2019), and the new opening shopping mall surrounding the retail centres. In addition, even not all retailers in Alun-Alun utilise e-commerce as an alternative and complementary way to sell their product, they still can exist and survive.

4.4 Resilience strategies in facing the existence of e-commerce

The rapid growth of e-commerce brings both positive and negative impact on the current retail business. However, e-commerce should not be seen as a threat, but an opportunity to foster the amount of selling and widen the geographical scope of consumers. Thus, retailers are suggested to both adopt the online selling and strengthen offline selling. They can adapt and utilise e-commerce to complement the existing offline store; on the other hand, they also should keep their offline store attractive. Currently, the innovation applied by retailers is relatively limited to change the layout of stores, seasonal discount and promotion. Thus, the adoption of e-commerce is believed to be an important thing. Some strategies can be implemented by retailers regarding internet usage. Weltevreden (2006) states that four active website strategies can also be applied in the case of retail centres in Bandung. Although Weltevreden (2006) specifically mentioned that this strategy applies to the website. However, with the development of other platforms, such as marketplace and social media that are being used for online shopping, the strategies can also be applied with another e-commerce platform.

The first strategy is “billboard strategy” where the retailers can use e-commerce to make potential consumers aware of their existence. However, they do not display information about their products and provide limited additional service. Second, the “brochure strategy” with

limited product information, but offer few additional services. Third, the retailers with “catalogue strategy” that offers detailed information about products. Thus, the consumers can see the full inventory of products or view the latest product via e-commerce catalogue. The “catalogue strategy” is applied by the retailers in Cibaduyut Street, but with a traditional one. It is suggested that the retailers adopt the online catalogue strategy. Thus, they can choose not to display the price to avoid the competition of price with other resellers. At the same time, innovation can also come as collective action from the group of retailers. For example, the group of retailers in Cibaduyut Street can take collective action in creating an annual event and bazaar to promote and sell their products. They can provide a different shopping experience for consumers. Converting the main street into a pedestrian street, for instance, once in a year, and offers the consumers experience to make their own painting on shoes or even make their own shoes. To keep the existing retail centres resilient, a combination of both retail and non-retail activity is needed, walkable retail centres, and the availability of parking spaces are also needed. The existence of leisure activity is important to attract people to come. The research also finds that new shopping experiences provides in pedestrian shopping street can also be one of retail strategy that linked to the planning policy. Retailers cannot contribute much to the spatial configuration of retail centres. In that sense, decision makers have a big role to provide design guideline for retail centre that accommodate both formal retailers and informal retailers, such as street vendors and SMEs.

Chapter 5:

Conclusion and Reflection

5.1 Conclusion

The purpose of this research is to assess the position of retail centres in Bandung City in the adaptive cycle framework. More specifically, how spatial configurations of retail centres enable the adaptation to the emergence of e-commerce. From the conceptual model, the retail resilience is seen as adaptive capacity of retail centres to response to the external shock, such as e-commerce. Retail activities are bounded with time and space, means that the 'space' aspect should be taken into account when doing research of retail in general. In this research, the 'space' aspect is seen as retail centres, where all retail activities are taken place. Any activities happen in retail centres might affect the physical changes, vice versa. Now that e-commerce emerge and affect the shopping behaviour of people and retail activities in retail centre, spatial configuration of each retail centres needs to be adaptive in order to keep the retail centre exist and resilient to e-commerce.

Three main conclusions can be drawn. Firstly, the case of retail centres in Bandung shows that the three retail centres face different phases in adaptive cycle framework. Different retail centres have different impact regarding the resilience towards e-commerce. The retail centres of Alun-Alun Bandung face the growth phase, which means that it has the highest resilience among the others. While the others two retail centres face the consolidation phase, means that at this phase, the resilience start declining. There are several factors that affect adaptive capacity of retail centre in general, business strategy, spatial configuration of retail centre, and institutional support. The business strategy lies on each retailer in finding and implementing innovation to keep their offline business resilient. In general, the finding shows that the business strategy to face the existence of e-commerce is to utilise e-commerce as complementary to the offline store. The adoption of internet and choose to have another shop via e-commerce seems to be the best choice rather than ignoring e-commerce or entirely shift to online selling. This is important to accommodate both customer who do offline and online shopping. While business strategy is essential, on the other hand, the spatial configuration is not yet seen as an important aspect of the retail centre. However, the variety of store is important, particularly the combination of both retail and non-retail facility (Erkip et al., 2014; Weltevreden, 2006). It is shown in Alun-Alun Bandung that has quite balance proportion between retail and non-retail facilities rather that other retail centres.

The retailers seem to be less aware of the importance of spatial configuration, including the accessibility, public spaces, streetscape, and the existence of other services, in adapting to recent trends in retail. Most of the case in retail centres shows that the shop owners are independent and do not integrate as one community. In other words, they mostly mind their own business without having an awareness of collective action that can be done among retailers to foster their selling and keep the retail centre resilient to external disturbance, such as e-commerce. Thus, the competition among retailers is quite high, and the willingness to corporate one to each other is low. This can be seen from the group of retailers in Cibaduyut Street that actually has community that coordinated by a leader and has direct relationship to the decision maker. If the retailers can do a collective action, such as hold an exhibition for

handmade shoes, it might help retailers to collaborate and increase their selling and existence of retail centres. Regards to the spatial configuration, a temporary change can be made, such as provide more parking spaces and convert the corridor into pedestrian street once a month every exhibition is held. This might give the consumer a different vibe of shopping and different sense of place in Cibaduyut Street. Thus, it is not impossible to achieve such changes, since the pilot project of pedestrian shopping mall has been done in Alun-Alun Bandung, and it is quite successful. While from the decision-makers' perspective, the spatial configuration of the retail centre is being regulated in Detailed Spatial Zoning Plan (RDTR), including the location, intensity, Transfer Development Rights (TDR), bonus zoning overlay zoning and growth regulation. It accommodates the technical requirements that need to be fulfilled by each retail centres. The implementation of RDTR, however, is not operated well. It cannot entirely control the development of current retail centres.

Secondly, e-commerce gives both in positive and negative impact to retailers. The positive impact is e-commerce can be complementary store and increase the amount of selling, broaden the geographical scope of the customer, give efficiency to both consumer and retailers, retailers do not have to rent the physical store, and potentially reduce the needs of having a large store that will have an impact the in possibility of paying a lower rent price of their offline store. While the negative side is that e-commerce can increase the competition of price. The business-minded people are likely to utilise e-commerce as much as possible to substitute and complement their offline selling. They see e-commerce as a significant opportunity to gain more sales and exposure to the product. While the people who are not business-minded, means that they have less knowledge and interest towards business, including the spatial agency, are more likely to utilise the e-commerce less and tend to be neutral. They do not take e-commerce as an important aspect to be taken into account in spatial zoning because it is hardly to trace the e-commerce and place it in spatial aspect.

Spatial zoning regulation, particularly in Indonesia, becomes a tool to control the activity within the city. This kind of instrument is called patterning-instruments (Moroni, 2015), a particular configuration or arrangement of the urban system that usually relies on forecasts, and on particular predictions, in order to apply specific and differentiated control on land-use development. However, zoning regulation has a fake control to deal with the rapid changes in e-commerce. Moroni (2015) even clearly states that is impossible to use patterning-instrument like land-use plans to control and guide the development of a city as e-commerce keep growing and change the behaviour of people, particularly in shopping, the mobility and physical landscape might change in the future.

Thirdly, retail strategies that can be applied by retailers is to adapt and utilise e-commerce to complement the existing offline store; on the other hand, they also should keep their offline store attractive. At the same time, the decision maker should be aware that the spatial configuration of retail centres is important. The case of three retail centres in Bandung shows that the combination of both retail and non-retail activity is needed, walkable retail centres, and the availability of parking spaces are also needed. If the retail centre only accommodates the retail activity, this might lead to the declining function of retail centre and being replaced by e-commerce. therefore, non-retail facilities, such as leisure space can give another experience and help balancing the function of retail centre. It might increase the possibility of people to keep coming to retail centres, as it happens in Alun-alun Bandung.

Regards to the theoretical framework used in this research, Dolega & Celinska-Janowicz (2015) purpose four phases that reflect the dynamic of town centres and retail centres. In the case of Bandung City, the theoretical framework is useful since the retail centre also go through the phase of growth and decline. However, some adjustment is needed. Some indicators cannot be applied in Indonesian context, the number of vacant units for instance. The retail landscape in Indonesia is dominated by the informal retail system, means that there is hardly sufficient data regarding the vacant units. Therefore, this indicator is not being applied in the research. It is useful to adjust the indicators to each the case study to make the theoretical framework applicable. As reminder, this research adds the spatial aspect of accessibility, public space, streetscape, and the existence of other services as seen in the conceptual model (see Figure 4. in Chapter 2). Linked to the conceptual model, the spatial configuration actually has direct effect to determine the adaptive capacity of retail centres. Unfortunately, it is not yet seen as important thing. since the planning policy does not has direct link to the e-commerce regulation, this can be solved by create a robust planning policy that can directly give impact to the spatial configuration of retail centre.

Finally, with respect to planning practice, it is commonly known that planning has shifted from being an instrument of control to one of innovation and action (Moroni, 2015). That is why planning has to be adaptive because the adaptive approach is highly promising to handle the range of uncertainties (Walker & Marchau, 2017), especially in the context of retail centres and e-commerce. Besides the zoning regulation, another instrument has to have an adaptive approach, as Walker & Marchau (2017) states that adaptive policymaking supports policymakers to cope with the uncertainties that face by creating policies that respond to changes over time. To deal with technological innovation, mainly e-commerce, planners and governments have to set an essential policy and increasing its robustness in order to prepare the trigger response happening in the future because even the small changes can have a significant impact on society and planning. Moreover, Planners also have to work with people, in participatory ways, to see the range of possible future which is desired (Byrne, 2003). The physical changes of retail centre can be an option to keep it exist and resilient, such as create a pedestrian friendly retail centre. This could be a concrete step to take collective action involving the planners, government, representative of retailers, community, and non-governmental organisation (NGO) actively seek dialogue with e-commerce stakeholders in order to arrange the best-fit regulation for the sustainability of retail centres. A challenge of planning theory should be finding ways that contribute to making these retail areas attractive and vital.

5.2 Reflection

The reflection consists of limitation of research and suggested ideas for future research.

5.1.1 Limitation of research

This research has some limitations during the process of collecting data and writing. Firstly, this research is conducted during the new normal pandemic of Covid-19. The situation of economic is in the transition to the new normal where everything seems uncertain, including the retail business. Thus, better to assess the retail resilience in normal economic situation.

However, since retail centre was closed for three months before the survey was conducted and people are getting used to e-commerce, the pandemic situation somehow help increase the awareness of e-commerce. Secondly, the retailers are randomly chosen without considering the type of product that might have higher impact caused by e-commerce. knowing that the retail landscape in Bandung City is diverse, it might be better to categorise each retailer according to the product they offered to have a more specific outcome. Secondly, all indicators in the theoretical framework could not be fulfilled due to the limitation of data available in the field, this is including the vacant units of each retail centres. To deal with that, this research seek more to the retailers perspective regarding their adaptation to the e-commerce.

5.1.2 Future research

It should be useful if the future research is conducted in different cities since the characteristic of each cities might different and might leads to different findings and outcomes. Since retail resilience is not yet common in spatial planning, further research of retail resilience is hopefully creating awareness to the planners and decision makers regarding the importance link between retail and spatial planning. Further research of retail resilience can help advancing knowledge of planning, specifically in landouse pattern, mobility, travel behaviour, and logistic. Comparison between cities can also be done to see which one is more resilient to another. Since e-commerce are being run by private company, the perspective of private company that has broader knowledge regarding e-commerce should be taken into account as well. This might be useful in knowing e-commerce deeper and create opportunity for the planners to collaborate with private company in order to arrange a useful strategy regarding how e-commerce should be taken into account in planning practice.

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References

- Annur, C. M. (2019). Retail Offline Tutup Gerai, Marketplace Bahan Pangan Justru Menjamur. Retrieved 19 May 2020, from Katadata website:
<https://katadata.co.id/berita/2019/06/24/retail-offline-tutup-gerai-marketplace-bahan-pangan-justru-menjamur>
- Arhando, P. (2019). 5 Teratas Dompot Digital yang Paling Banyak Dipakai Orang Indonesia. Retrieved 24 August 2020, from <https://lifepal.co.id/media/dompot-digital-paling-banyak-digunakan-di-kota-bandung/>
- Barata-Salgueiro, T., & Erkip, F. (2014). Retail planning and urban resilience - An introduction to the special issue. *Cities*, 36, 107–111.
<https://doi.org/10.1016/j.cities.2013.01.007>
- Birkin, M., Clarke, G., & Clarke, M. (2010). Refining and Operationalizing Entropy-Maximizing Models for Business Applications. *Geographical Analysis*, 42(4), 422–445.
<https://doi.org/10.1111/j.1538-4632.2010.00801.x>
- Bristow, G. (2010). Resilient regions: Re-'place'ing regional competitiveness. *Cambridge Journal of Regions, Economy and Society*, 3(1), 153–167.
<https://doi.org/10.1093/cjres/rsp030>
- Brown, S. (1991). Retail location: The post hierarchical challenge. *The International Review of Retail, Distribution and Consumer Research*, 1(3), 367–381.
<https://doi.org/10.1080/09593969100000034>
- Byrne, D. (2003). Complexity Theory and Planning Theory: A Necessary Encounter, *Planning Theory*, 2: 171-178.
- Damuri, Y. R., Negara, S. D., & Azali, K. (2017). Indonesia 's E -Commerce : A New Engine of Growth ? *Symposium on E-Commerce, ASEAN Economic Integration, and Competition Policy & Law*, (March), 1–24.
- Das, K., Tamhane, T., Vatterott, B., Wibowo, P., & Wintels, S. (2018). The digital archipelago: How online commerce is driving Indonesia's economic development. *McKinsey & Company*, (August), 1–72. Retrieved from www.mckinsey.com/featured-insights/asia-pacific/the-digital-archipelago-how-online-
- Davoudi, S., Shaw, K., Haider, L. J., Quinlan, A. E., Peterson, G. D., Wilkinson, C., ... Porter,

- L. (2012). Resilience: A Bridging Concept or a Dead End? 'Reframing' Resilience: Challenges for Planning Theory and Practice Interacting Traps: Resilience Assessment of a Pasture Management System in Northern Afghanistan Urban Resilience: What Does it Mean in Planni. *Planning Theory and Practice*, 13(2), 299–333. <https://doi.org/10.1080/14649357.2012.677124>
- Deloitte Indonesia. (2017). *Deloitte Consumer Insights Embracing bricks and clicks in Indonesia*.
- Dolega, L., & Celinska-Janowicz, D. (2015). Retail resilience: A theoretical framework for understanding town centre dynamics. *Studia Regionalne i Lokalne*, 60(2), 8–31. <https://doi.org/10.7366/1509499526001>
- Duit, A., & Galaz, V. (2008). Governance and complexity—emerging issues for governance theory. *Governance*, 21(3), 311–335.
- Erkip, F., Kizilgün, Ö., & Akinci, G. M. (2014). Retailers' resilience strategies and their impacts on urban spaces in Turkey. *Cities*, 36, 112–1120. <https://doi.org/10.1016/j.cities.2012.12.003>
- Ferreira, D., & Paiva, D. (2017). The death and life of shopping malls: an empirical investigation on the dead malls in Greater Lisbon. *International Review of Retail, Distribution and Consumer Research*, 27(4), 317–333. <https://doi.org/10.1080/09593969.2017.1309564>
- Foster, K. A. (2007). *A Case Study Approach to understand regional resilience*. (November 2006).
- Graham, S. (1997). Cities in the real-time age: The paradigm challenge of telecommunications to the conception and planning of urban space. *Environment and Planning A*, 29(1), 105–127. <https://doi.org/10.1068/a290105>
- Guimarães, P. P. C. (2018). The resilience of shopping centres: An analysis of retail resilience strategies in Lisbon, Portugal. *Moravian Geographical Reports*, 26(3), 160–172. <https://doi.org/10.2478/mgr-2018-0013>
- Guy, C. M. (2017). *Classifications of retail stores and shopping centres : some methodological issues Author (s): Clifford M . Guy Source : GeoJournal , Vol . 45 , No . 4 , Methods in Retail Geography (1998) , pp . 255-264 Published by : Springer Stable URL : http://www. 45(4), 255–264.*
- Hasibuan, L. (2019). Gerai Ritel RI Berguguran, Akibat Konsumen Hijrah ke Online? Retrieved 19 May 2020, from CNBC Indonesia website: <https://www.cnbcindonesia.com/lifestyle/20190125124753-33-52350/gerai-ritel-ri-berguguran-akibat-konsumen-hijrah-ke-online>
- Holling, C. ., Gunderson, L. H., & Ludwig, D. (2004). In Quest of A Theory of Adaptive Change. *Ecological Economics*, Vol. 49, pp. 488–491. <https://doi.org/10.1016/j.ecolecon.2004.01.010>
- Kärrholm, M., Nylund, K., & Prieto de la Fuente, P. (2014). Spatial resilience and urban planning: Addressing the interdependence of urban retail areas. *Cities*, 36, 121–130. <https://doi.org/10.1016/j.cities.2012.10.012>
- Kesteloot, C. (1998). DISCOURSE ANALYSIS & SOCIO-SPATIAL TRANSFORMATION PROCESSES: A THEORETICAL FRAMEWORK FOR ANALYSING SPATIAL PLANNING. *Planologisch Nieuws*, 18(3), 144–147.
- Martin, R. (2012). Regional economic resilience, hysteresis and recessionary shocks. *Journal of Economic Geography*, 12(1), 1–32. <https://doi.org/10.1093/jeg/lbr019>
- Merchant Mahine. (2019). Saturated Sectors: Finding Gaps In The Ecommerce Market In 2019. Retrieved October 1, 2019, from <https://merchantmachine.co.uk/saturated->

sectors/

- Moroni, S. (2015). Complexity and the inherent limits of explanation and prediction: Urban codes for self-organizing cities. *Planning Theory*, 14(3), 248-267.
- Ozuduru, B., & Guldmann, J.-M. (2013). Retail location and urban resilience: towards a new framework for retail policy. *S.A.P.I.E.N.S. Surveys and Perspectives Integrating Environment and Society*, 6(6.1).
- Patterson. (2018). Study: How E-commerce is Eroding Retailer Earnings in Canada. Retrieved 23 August 2020, from <https://www.retail-insider.com/retail-insider/2018/2/hrc-study>
- Pendall, R., Foster, K. A., & Cowell, M. (2007). *Resilience and Regions: Building Understanding of the Metaphor*.
- Rao, F. (2019). Resilient forms of shopping centers amid the rise of online retailing: Towards the urban experience. *Sustainability (Switzerland)*, 11(15). <https://doi.org/10.3390/su11153999>
- Rao, F., & Summers, R. J. (2016). Planning for retail resilience: Comparing Edmonton and Portland. *Cities*, 58, 97–106. <https://doi.org/10.1016/j.cities.2016.05.002>
- Shopify. (2020). What is Ecommerce? Retrieved 19 May 2020, from <https://www.shopify.com/encyclopedia/what-is-ecommerce>
- Singleton, A. D., Dolega, L., Riddlesden, D., & Longley, P. A. (2016). Measuring the spatial vulnerability of retail centres to online consumption through a framework of e-resilience. *Geoforum*, 69, 5–18. <https://doi.org/10.1016/j.geoforum.2015.11.013>
- Staheli, L. A., & Mitchell, D. (2006). USA's destiny? Regulating space and creating community in American shopping malls. *Urban Studies*, 43(5–6), 977–992. <https://doi.org/10.1080/00420980600676493>
- Statista Global Survey. (2020). eCommerce - Indonesia | Statista Market Forecast. Retrieved 23 August 2020, from <https://www.statista.com/outlook/243/120/ecommerce/indonesia>
- Visser, E.-J., & Lanzendorf, M. (2004). MOBILITY AND ACCESSIBILITY EFFECTS OF B2C E-COMMERCE: A LITERATURE REVIEW. In *Tijdschrift voor Economische en Sociale Geografie-2004* (Vol. 95).
- Walker, W. E., & Marchau, V. A. (2017). Dynamic adaptive policymaking for the sustainable city: The case of automated taxis. *International Journal of Transportation Science and Technology*, 6(1), 1-12
- Weltevreden, J. (2006). *City Centres in the Internet Age*. Groningen.
- Wrigley, N., & Dolega, L. (2011). Resilience, fragility, and adaptation: New evidence on the performance of UK high streets during global economic crisis and its policy implications. *Environment and Planning A*, 43(10), 2337–2363. <https://doi.org/10.1068/a44270>

Appendix

Appendix A: Interview Guideline

“Retail resilience to the emergence of e-commerce: a case study retail centres in Bandung, Indonesia”

Conducted by: Sally Indah Nurdyawati

Currently the emergence of e-commerce has changed the future of shopping from offline to online shopping. Thus, the offline retail may struggle to run their business. This research aims to know which configuration of retail centre enables the adaptation to the emergence of e-commerce. The purpose of interview session is to gather data from key actors in order to gain understanding regarding the current situation and retail strategy from the interviewee’s point of view. The data will be used as input for analysis of this research.

Some conditions of interview session are listed as follows:

- This interview session will take approximately 20 – 30 minutes conversation.
- The data shared by interviewee will remain confidential and will objectively analysed within the research.
- Interviewee is free not to answer specific question, without any justification.
- The results of the study will be shared with **University of Groningen, Bandung Institute of Technology and policy makers in Bandung city.**
- If the interviewee has further question or clarification, feel free to contact interviewer via email (s.sally.indah.nurdyawati@student.rug.nl / sallyindhahn@gmail.com) or WhatsApp (+62 812 2165 2525).

Interviewee : Shop owners

Name :

Topic: General overview
1. How long have you been running this retail business?
2. What kind of goods do you sell?
3. What is the daily opening hour of this store? At which days is it open?
Topic: Shop ownership
1. What is the status of the shop ownership (own/rent)?
2. If the answer is rent, how much do you rent it per year? to whom?
Topic: E-commerce
1. Do you also sell your goods via e-commerce?
2. What kind of platform do you use for online selling?
3. What kind of activities are do online? And how? (marketing, selling, delivering)
4. How does e-commerce affect or complement the existence of your offline business?

(competition, amount of selling, number of visitors)
5. What kind of changes (positive or negative) that e-commerce brings to your business?
6. How does e-commerce has changed the culture of offline retailing?
7. Does the rise of e-commerce affects the opening hours? (shortened or extent)
8. Which type of consumers are actually use e-commerce? (age, gender, location)
Topic: Spatial configuration
1. Do you think the location of your store affect the demand of your selling?
2. When was the latest time you change the interior of your shop and why?
3. How do you think the physical environment of this retail centre can actually make the place attractive? (such as: public space, leisure space, and other non-retail activities)
4. How does public space affect your shop?
5. How do surrounding facilities support the vibrance of the retail centres? (such as: bank, post office, mosque, etc)
6. Imagine you could restart your business and choose your shop location. Where would you choose? why?
Topic: Resilience strategy
1. What are three biggest challenges of having offline retail store?
2. What kind of innovations do you implement to keep your store attractive?
3. What changes are required in order to face the existence of e-commerce?
Topic: Institutional support
1. In your opinion, who is responsible to keep the offline retail business resilient?
2. Is there any support from the government to keep the offline retail store exist? (example: incentives, regulation)
3. What are further actions needed and how to make the retail centre organize? (to government or shop owner collectively do it)

Interviewee : Manager of shopping mall

Name :

Topic: General overview
1. When did this shopping mall open for the very first time?
2. Who are the main market targets of BIP shopping mall?
3. What kind of goods and services are offered by BIP shopping mall?
Topic: Stores vacancy
1. How many stores can be accommodated in this mall?
2. How many stores are now occupying the mall?
3. How many new stores open up within this 5 year (number of stores every year)?

4. How many stores that close their business within this 5 year (number of stores every year)?
5. How long is the average rent contract of stores in BIP? How is the percentage of them extent their contract?
6. In your opinion, what makes the retailers choose BIP as the location for opening up their business?
Topic: E-commerce
1. How does e-commerce affect the existence of shopping mall, particularly BIP?
2. How many stores do the online selling?
3. Are there any stores that went bankrupt due to the lack of demand? And to you know why?
4. What kind of strategies do you implement to keep the shopping mall exist?
5. What are the innovations that has been done and/or will be done in the future to respond to e-commerce?
6. Does BIP shopping mall provide basic infrastructure to support people to use e-commerce? (such as: shopping website, pick up points, etc)
Topic: Spatial configuration
1. Do you think the location of BIP malls affect the sales and demand of BIP shopping mall?
2. When was the last time the building and/or interior has been renovated? And what is the main idea behind the current interior design?
3. How do surrounding facilities support the vibrance of the retail centres? (such as: bank, post office, mosque, other shopping malls, etc)
4. How do you make use of public space inside or outside the shopping mall?
Topic: Resilience strategy
1. What are the strategies to keep BIP attractive and keep the consumers to come here?
2. What changes are required in order to face the existence of e-commerce? (marketing, sales, etc)
Topic: Institutional support
1. Is there any support from the government regarding the regulation to keep the shopping mall exist?

Interviewee : Head of department of trade and industry of Bandung city

Name :

Topic: Retail landscape in Bandung
1. How is the retail landscape of Bandung city in general?
2. How resilient are retail centres today's?
3. What are three biggest challenges for retailers, particularly in the context of Bandung? Can you explain?
4. How does Department of trade and industry play roles in managing retail centres in Bandung?
5. How do retail sector contribute to the economic growth of Bandung?

Topic: E-commerce
1. How do you illustrate the growth of e-commerce in Bandung?
2. How e-commerce affects Bandung city in general?
3. How does e-commerce affect offline retailing?
4. What is the potential in Bandung for developing the retail business via e-commerce?
5. How does Department of trade and industry play roles in developing e-commerce?
6. What are the big plans will be implemented in Bandung regarding the e-commerce?
Topic: Retail resilient strategy
1. How to face the rapid growth of e-commerce without having to threat the offline retail store?
2. Is there any specific strategy for retailers to keep exist in the middle of pressure caused by e-commerce?
3. In your opinion, what kind of innovation should be implemented by retailers?
4. How do you illustrate the retail landscape of Bandung in the future? Will offline retailing sustain or all kinds of retailing will shift to online?
Topic: Institutional support
1. Are there any incentives from the government to support existence of the offline retailers?

Interviewee : Head of spatial planning agency of Bandung city

Name :

Topic: Retail in spatial context
1. How is the retail landscape of Bandung city in general?
2. How are retail centres being controlled in spatial zoning?
3. Is there any particular guideline regarding the spatial configuration of retail centres in Bandung?
Topic: Spatial configuration
1. In your opinion, how should retail centres look like in order to keep them attractive?
2. Do you think the spatial configuration can influence the existence of retail centres?
3. If yes, in what way the spatial configuration contributes to keep retail centres exist?
4. How accessibility can affect the existence of retail centres? How important is it?
5. How does the existence of public space affect in retail centres?
6. What kind of physical environment required to keep the retail centres resilient?
Topic: E-commerce
2. How does e-commerce being controlled in spatial zoning plan?
3. How planning policy actually play roles in controlling e-commerce?
Topic: Institutional support
1. Are there any incentives from the government to support existence of the offline retailers?
2. How the spatial planning agency play roles in keeping the offline retailing exist?

Appendix B: Observation list

Accessibility
Easiness to access by foot
Closeness to access by public transportation
Types of public transport that can be accessed
Easiness to access by car
Existence of parking space (off street/on street parking)
Public space
Existence of public space and other non-retail space
Activity of people in public space
Ownership of public space (belongs to government/developer)
Special event done in public space
Streetscape
Street pattern (suitable for car/pederstrian/bike)
Availability of pedestrian sidewalk
Other services
Kind of service buildings surrounding the retail centre (bank office, post office, ATM, mosque, etc)