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The Role of Qualitative Data and Systems Thinking in Addressing Service Decline in Market Towns

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Declaro que compus esta tese e que nenhuma parte foi submetida noutra universidade. Todas as fontes de informação foram especificamente referenciadas.

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Resumo

O retalho em cidades pequenas e vilas é um importante contribuinte para o orçamento local e influencia a perceção de qualidade-de-vida. É especialmente relevante para aqueles com dificuldades de mobilidade (ex.: população mais idosa, cidadãos de nível económico mais baixo). Tem vindo a ser reportado um declínio nestas cidades pequenas e vilas um pouco por todo o mundo.

Esta investigação teve como objetivo estudar o fenómeno do declínio do retalho e identificar modos de lidar com o mesmo, usando um caso de estudo, Thornbury, em Inglaterra. Esta investigação experimentou com o uso de diferentes métodos para analisar o declínio do retalho em cidades pequenas e vilas. Fez uso de métodos participativos (*photo-surveys* e *multicriteria mapping*) para gerar conhecimento empírico que foi criticamente discutido e analisado. A interpretação da informação recolhida foi efetuada usando os próprios participantes e usando também uma abordagem de sistemas (diagramas de sistemas e teoria das armadilhas sociais). Esta investigação afasta-se das perspetivas económica e de ordenamento urbano por fazer uso de diferentes métodos e conceitos usados em várias áreas (ex.: antropologia, processos de decisão e economia ecológica).

Esta investigação desenvolveu um modelo conceptual para descrever o declínio do retalho e identificou a existência de objetivos e interesses da população, em conflito, como uma causa adicional do declínio. A presente investigação permitiu um avanço no conhecimento através da identificação de causas potenciais para estes objetivos em conflito, pouco referidas na literatura, concluindo que algumas das medidas usadas para lidar com o declínio do retalho contribuem para agravar as causas do próprio declínio. São apresentados ainda algumas medidas que podem ser usadas para lidar com o declínio do retalho, implicações para os processos de decisão e uma reflexão sobre os métodos usados em termos do contexto de cidades pequenas e vilas.

Palavras-chave: declínio do retalho; cidades pequenas e vilas; métodos visuais; *multicriteria mapping*; armadilhas sociais; sistemas

Abstract

Retail services are a main contributor to municipal budget and are an activity that affects perceived quality-of-life, especially for those with mobility difficulties (e.g. the elderly, low income citizens). However, there is evidence of a decline in some of the services market towns provide to their citizens. In market towns, this decline has been reported all over the western world, from North America to Australia.

The aim of this research was to understand retail decline and enlighten on some ways of addressing this decline, using a case study, Thornbury, a small town in the Southwest of England. Data collected came from two participatory approaches: photo-surveys and multicriteria mapping. The interpretation of data came from using participants as analysts, but also, using systems thinking (systems diagramming and social trap theory) for theory building. This research moves away from mainstream economic and town planning perspectives by making use of different methods and concepts used in anthropology and visual sociology (photo-surveys), decision-making and ecological economics (multicriteria mapping and social trap theory). In sum, this research has experimented with different methods, out of their context, to analyse retail decline in a small town.

This research developed a conceptual model for retail decline and identified the existence of conflicting goals and interests and their implications for retail decline, as well as causes for these. Most of the potential causes have had little attention in the literature. This research also identified that some of the measures commonly used for dealing with retail decline may be contributing to the causes of retail decline itself. Additionally, this research reviewed some of the measures that can be used to deal with retail decline, implications for policy-making and reflected on the use of the data collection and analysis methods in the context of small to medium towns.

Keywords: retail decline; market towns, visual methods, multicriteria mapping, social trap, systems thinking

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Symbols and Acronyms

#	Number
AC	After Christ (after year 0)
APPSSG	All-Party Parliamentary Small Shops Group
BC	Before Christ (before year 0)
CLD	Causal Loop Diagrams
Defra	Department for Environment, Food & Rural Affairs
DIY	"do it yourself"
DM	Deliberative Mapping
DVD	Digital Versatile Disc
EU	European Union
Fig.	Figure
Foe	Friends Of the Earth
ID	Identification (refers to participants' codes in the MCM study)
IGD	Institute of Grocery Distribution
IT	Information Technology
M.I.T.	Massachussetts Institute of Technology
MCDA	Multicriteria Decision Aids
MCM	Multicriteria Mapping
nef	New Economics Foundation
NIMBY	"Not In My Back Yard"
OECD	Organisation for Economic Co-operation and Development
Phone	Telephone
Photo	Photograph

PS	Photo-surveys
RDA	Regional Development Agency
RQ#	Research Question number #
SD	Standard Deviation
SGCSPPT	South Gloucestershire Council Strategic Partnership and Planning Team
TV	Television
UK	United Kingdom
Vet	Veterinary
VOA	Valuation Office Agency

1.

Introduction

1.1. THE RELEVANCE OF THIS STUDY

Market towns have strong historical roots. Originally, they were the central point for farmers from surrounding areas to gather and sell their produce. Nowadays, for many of these towns, this function belongs to the past. However, market towns still have relevant functions. Firstly, they contain several historical buildings, features and places, which contribute to local heritage, identity and continuity for local populations.

Secondly, as their market role faded, other services arose, and market towns now provide other services and sources of wellbeing to their surrounding small towns and villages (Powe and Shaw, 2004; Lowe and Ward, 2007; Findlay and Sparks, 2008), helping to sustain rural communities. These include health, education, leisure and retail services, which are particularly relevant for the elderly, the disabled and low-income consumers because of their mobility difficulties, having trouble travelling out-of-town to access these services.

Retail services end up occupying much space in these towns and therefore they are a main contributor to the municipal budget through property and commercial taxes (Rotem-Mindali, 2012). Retail is considered an activity that affects city liveability and perceived quality-of-life (Razin, 2007 in Rotem-Mindali, 2012). Neighbouring municipalities often struggle to attract both consumers and investors to the local retail centres (Findlay and Sparks, 2008; Rotem-Mindali, 2012). Therefore, retail development has become an arena of competition for municipalities over retail entrepreneurs (Rotem-Mindali, 2012).

However, there is evidence of a decline in some of the services market towns provide to their citizens (e.g. Besser, 2009; Kures and Ryan, 2012; McManus et al., 2012), whether this be retail, transport, health, education or even, social capital.

Decline in the services that towns provide to their residents and neighbouring villages brings economic, social and environmental impacts. Reduced services in town mean accessibility issues and inconvenience for small businesses and residents who need to travel further afield for these services, being more expensive doing it so. This leads to further degradation of local businesses as residents

need to travel further afield for services, going less and less to town centres, decreasing the incentives for town regeneration. This brings impacts in terms of the local economy. The further reduction in small independent local businesses will lead to spending to be made out-of-town. This impacts on the local communities as some studies suggest that 50% of turnover from local retailers is returned to the local economy. However large retailers may return as little as 5% to the local economy (Foe, 2005). There can also be impacts in terms of employment reduction, with a nation-wide closure of small independent retail, substituted by larger chain stores and supermarkets. As small independent retail is envisaged as one of the most accessible sectors for entrepreneurs, this substitution from in town small independent retail by out-of-town (and edge-of-town) larger chain stores and supermarkets leads to higher barriers for entrepreneurs to entry retail, giving rise to a loss of entrepreneurship (APPSSG, 2006).

In terms of social impacts, retail decline in small and medium towns brings accessibility issues (already mentioned above), but also, impacts on the diversity of retail and products available to citizens in their towns. Diversity relates to the range of shops. Much retail is lost and substituted by large chain stores and supermarkets, which are less characteristic and more homogenous. Additionally, the small shop forms a form of regular social contact for many (nef, 2004). Therefore, losing local retail can lead to a reduction on social contact by some.

Environmental impacts are related to increased travel in private cars, which leads to increased consumption of fossil fuels, carbon dioxide emissions and air quality degradation.

However, some authors disagree that such a decline is taking place. They argue that population, employment and businesses in rural areas are in fact growing (e.g. Lowe and Ward, 2007; McDonald et al., 2013). With the improvement in telecommunications, services such as internet banking, internet shopping, email and even working from home are becoming increasingly widespread (Lowe and Ward, 2007; Pratt, 2009; Rotem-Mindali, 2012). Therefore, services may just be changing format. At the same time, some market towns have been experiencing a growth in community groups and volunteering activities (e.g. Herbert-Cheshire, 2000; O'Toole and Burdess, 2005). These supply many services to the community where the market and local authorities fail to provide them; for instance, leisure and evening entertainment. This high level of community participation is what Kim and Kaplan (2004) defined as social support.

Despite this, the apparent decline in services in small and medium towns has been reported all over the western world. From North America (e.g. Smithers et al., 2005; Besser, 2009; McManus et al., 2012) to Australia (Eley et al., 2008; McDonald et al., 2013), passing through Europe (Jones, 2002; Gkartzios and Norris, 2011; Lopes, 2000; Powe and Shaw, 2004; Clark et al., 2007; Findlay and Sparks, 2008; Cook, 2009; van Berkel and Verburg, 2011) and Middle East (Bittner and Sofer, 2013). For example, in France, local authorities were given the right to veto the construction of supermarkets over 1000 m^2 back in 1973. Between 1993 and 1996, all authorisations for large supermarkets were suspended, while in 1996, a law was introduced which requires a public enquiry for the construction of any outlet exceeding 6000m^2, in order to protect the social and economic cohesion of towns (Breed, 1998).

In the UK, independent convenience stores have declined 11% (5000 stores) between 2000 and 2005, 2000 of which were closed in 2005 (APPSSG, 2006). Between 1965 and 1990, 15% of small rural settlements saw their last general food shop close down. From 1991 to 1997, 4000 rural settlements were found in this situation (APPSSG, 2006). Between 2000 and 2004, there was the closure of 12,000 rural retailers (The Grocer, 2001), which has been an average of closure around 300 shops a year. Between January 2005 and October 2005 around 700 newsagents went out of business (APPSSG, 2006). In terms of financial services in the UK, there has been a decline in the number of bank branches. Between 2002 and 2007, 11% of bank and building society branches closed[1], and it is estimated that between 2012 and 2018 there will be an average of five bank branch closures per week[2]. In terms of Post Office branches, between 2003 and 2009, 28% of the Post Office network in the UK was shut under closure programmes (Department for Business Innovation & Skills, 2010). These changes have a high impact in rural communities.

One of the main causes pointed out for this retail decline is the growth of out-of-town, larger chain stores and supermarkets. Supermarket numbers have been rising (see Fig. 1.1). According to the Institute of Grocery Distribution (IGD), a research and training charity on the food and consumer industry in the UK, supermarket numbers have been rising to the point where for each £1 spent in retail in the UK, 54.9 pence were spend in supermarkets[3].

Off course, this is not just a problem that small to medium towns face, but also a problem affecting cities and urban centres. From retail fragmentation to abandoned stores, building and neighbourhoods, retail revitalisation measures have been pursued also in urban studies literature (Weaver, 2013; Kures and Ryan, 2012; Rotem-Mindali, 2012).

Several governments have recognised this potential decline in the services provided by market towns, for example the UK launched *The Market Towns Initiative* in 2001 with the goal of assessing the needs and potential of market towns and to agree and deliver economic, social and environmental improvements (Caffyn, 2004).

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[1] Metro newspaper: http://www.metro.co.uk/money/60510-bank-branch-closures-soar-over-five-years#ixzz22r3lezME (last accessed: August 2012).

[2] The Telegraph (18/02/2012): http://www.telegraph.co.uk/finance/personalfinance/consumertips/banking/9089106/Five-bank-branches-to-close-each-week-by-2018-group-warns.html (last accessed: August 2012).

[3] http://www.igd.com/our-expertise/Retail/retail-outlook/3371/UK-Grocery-Retailing/ (last accessed: March 2014).
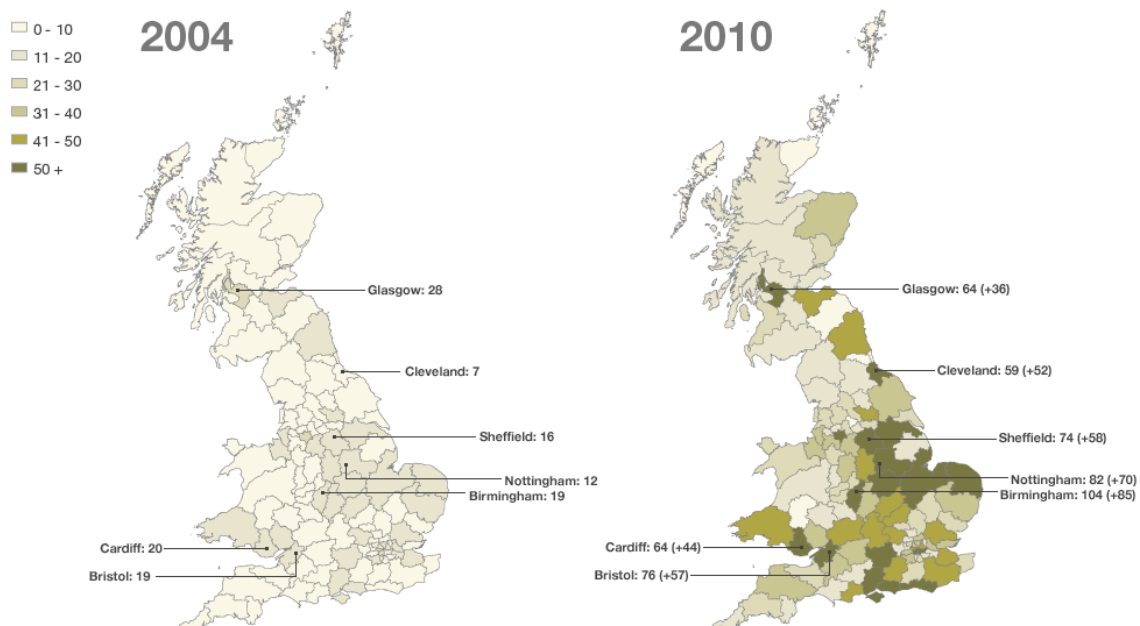
Fig. 1.1. Number of Supermarket stores in England and Scotland in 2004 and 2010
Source: BBC News UK, 22nd December 2010[4].

1.2. SERVICE DECLINE IN MARKET TOWNS

1.2.1. CHANGES OCCURRING IN MARKET TOWNS

Service decline can be seen as caused by a mismatch between the temporal scales of the changes in urban physical environment and socio-economic demand (Nijkamp, 1980; Jeffrey and Pounder, 2000). The urban physical environment has a 50–60-year period of change (Barnett and Bai, 2007), meaning that planning decisions from 60 years ago still condition today's urban landscape and day-to-day lives. However, the socio-economic demand on urban infrastructure and services changes much faster, with turnovers of up to 10 years (Jeffrey and Pounder, 2000). The most common socio-economic changes identified in the literature for service decline in market towns are changes in residents' characteristics, communications, accessibility and transport, and changes in the retail structures (Powe and Shaw, 2004; Phillipson et al., 2006; Pratt, 2009; Rotem-Mindali, 2012).

1.2.1.1 Changes in residents' characteristics

Changes in residents' characteristics occur mainly in terms of demographic changes and migrations from the urban to the rural environment. The population in market towns is ageing (Lowe and Ward, 2007), which causes the decreased mobility of citizens; this contrasts with an increasing time availability for retirees to use the town and out-of-town amenities (Powe and Shaw, 2004).

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[4] http://www.bbc.co.uk/news/uk-12007835 (last access: March 2014).

Migrants from the urban to the rural can have a high impact on the towns. This is because: first, their lifestyles are more linked with urban areas and, second, if the migrants work out-of-town, the location of the workplace affects where the population shops (van Berkel and Verburg, 2011; Bittner and Sofer, 2013; Powe and Shaw, 2004). Migration is mainly encouraged by technological developments (such as telecommunications) combined with changes in the ease and costs of travel, which create the conditions for firms and individuals to relocate to rural settlements. New incomers may also contribute to an increase in social capital, as they are more adapted to new forms of communication and able to develop new networks (e.g., McManus et al., 2012; Park et al., 2012).

Lack of affordable housing affects the arrival of new citizens and thus changes the influence migrants have in town services. In fact, housing affordability has been presented as a key driver of social reconfiguration of many areas (Gallent and Robinson, 2011; Pratt, 2009).

1.2.1.2 Changes in communication networks, accessibility and transport

Changes in communication networks, accessibility and transport occur mostly because of availability of the internet, road proliferation, and decreased costs of private transport, amongst others. Apart from what was discussed in section 1.2.1.1, technological developments also provide the conditions for decentralised shopping opportunities, such as shopping in large retail areas out-of-town (Ahmed et al., 2008; Courtney et al., 2007; Lowe and Ward, 2007; Kures and Ryan, 2012; Rotem-Mindali, 2012) and home working.

Car ownership has been increasing, together with congestion levels and daily travel (Ahmed et al., 2008; Brake and Nelson, 2007; Koroneos and Nanaki, 2007). In the EU-15[5], citizens' daily travel increased from 32 km in 1991 to 37 km in 1999 (Koroneos and Nanaki, 2007). This dependence on private cars raises issues of equality, as low income citizens will have reduced access to services, employment and leisure (Ahmed et al., 2008; Dibben, 2003). Moreover, the increase in car use impacts on the quality and number of public transport and town services (Brake and Nelson, 2007), air quality and levels of energy consumption (Brake et al., 2007; Koroneos and Nanaki, 2007; Robèrt et al., 2007). Private cars and the associated infrastructure have social and economic impacts, including: traffic accidents; the dominance of cars in terms of area presence and space used; segregation between buildings, sites, and land uses and increased time needed for moving people and goods (Mazza and Rydin, 1997; Robèrt et al., 2007).

1.2.1.3 Changes in retail structures

With the decrease in the economic importance of agriculture, market towns face a shift in citizens from producers to consumers/users, with a concomitant need for an increase in the diversity of services (Besser and Miller, 2013; Brittner and Sofer, 2013). Retail is just one of these services, traditionally offered by small owner-managed shops, with a high level of local products for sale. However, retail formats and the way people shop have been changing, from small in-town shops to

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[5] Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom.

larger out-of-town (and edge-of-town) retailers, increased chain stores, and increased internet-shopping opportunities (Rotem-Mindali, 2012). According to the New Economics Foundation (nef, 2003) and Thomas and Bromley (2002 and 2003), sometimes these changes have been accelerated by measures trying to protect town centres. For example, the UK planning policies aiming at the protection of the identity of town centres from homogenisation from major retail stores, (e.g., the 2009 *Planning Policy Statement 4, Planning for economic growth)* introduced a series of restrictions on new retail developments inside town centres. Commercial developers that do not wish to comply with these restrictions end up developing their projects out-of-town. These new out-of-town retailers compete with local retailers, attracting consumers from the town centres and contributing to the increase in the use of private cars (Brake and Nelson, 2007; Caffyn, 2004; nef, 2003).

1.2.1.4 Other changes

Regional planning policies can also contribute to the degradation of towns. In the UK, for example, regional prioritisation of urban rather than rural settlements harms small and medium-sized towns. These new planning and development policies focus for restructuring and modernising regions on eight of the largest provincial cities and not regional units (Ravetz et al., 2004). Thus they lead to preferential funding and project development and approval for cities (Gibbs, 1997; Phillipson et al., 2006). They also lead to the centralisation of services, as they are relocated from within towns to neighbouring larger urban centres. A similar situation can be seen in other countries (e.g, in Portugal, Lopes, 2000 and Australia, McDonald et al., 2013). Another changing factor pointed out in the literature (APPSSG, 2006) for the UK retail sector is the rents paid by retailers to commercial property owners, which are upward only rental contracts - where rents of property can only raise and rarely decline.

Broader-scale factors, such as globalisation (increasing global competition in, for example, food markets), climate-change and EU regulations (e.g. re-orientation of the Common Agriculture Policy), all end up having effects on small towns, which therefore need to respond to challenges that are not just local.

1.2.2. RESPONSES FOR ADDRESSING RETAIL DECLINE

In the literature on urban studies, many measures dealing with the decline in retail can be found.

There are approaches of a more command and control nature, such as planning measures. One common such measure takes the form of the development of new major retail stores adjacent to town centres (Powe and Shaw, 2004; Findlay and Sparks, 2008). Findlay and Sparks (2008) refer that these measures tend to be the preferred options by town and urban planners, intended to attract spending into towns, which otherwise would be made out-of-town. Powe and Shaw (2004) also suggested evening entertainment as a way of attracting people into the town centre, and internet shopping, through the use of a town webmaster to facilitate a town webpage with the retailers from the town. Other measures are the development of local retail plans, providing a greater power to

control and limit the size of supermarkets, thus ensuring the town centre as the primary focus of development (nef, 2003 and 2004) and policies on local competition.

There are policies more focused on fiscal interventions, using mechanisms to provide incentives both for customers and for investors/retailers. Examples of these are: business rate relieves for small retailers, support for community development finance initiatives, and the use of customer incentives, such as customer card schemes (nef, 2003 and 2004; Powe and Shaw, 2004). Several types of customer incentives can be identified in the literature, such as shop vouchers (to be used in local shops), also referred to as a type of community currency (Richey, 2007), leisure vouchers (with leisure discounts), community competitions, school awards and customer (or loyalty) card schemes.

There are also information & education policies. Examples of alternatives for addressing retail decline could be: providing information on the local economic flows (as suggested by nef, 2003 and 2004), using local media to provide information on local retail, vouchers and other promotions (Powe and Shaw, 2004), and education through employee skill levels (McGrath and Vickroy, 2003).

Other movements constitute alternatives to local development. Although not necessarily directed into addressing retail decline, these movements focus more on development as a whole, dealing with retail amongst other aspects. These are, for example, the slow city movement and the transition towns' movement. The slow city movement was formed in October 1999 by four mayors in Italy (Knox, 2005). The goal was to foster the development of places that enjoy a robust vitality based on good food, healthy environments, sustainable economies and the seasonality and traditional rhythms of community life. These ideas led to a charter with a 54-point list of pledges[6]. In 2001, the first 28 slow cities were certified. All 28 charter members were Italian. By early 2005, the list had grown to 44 (including now towns in Germany, Norway and the UK), and more than a dozen other towns were actively seeking certification through pilot programmes in Italy, England, Brazil, Switzerland, Greece and Croatia (Knox, 2005). More than 100 other towns from around the world have inquired about joining.

The transition town movement began in Totnes, UK, in 2006 (Scott-Cato and Hillier, 2010). Transition town initiatives seek to build cohesive sustainable communities to prepare for a future with limited fossil fuels and a changing climate (Ingebrightsen and Jakonsen, 2012; Richardson et al., 2012; Scott-Cato and Hillier, 2010). To become a transition town, a town must sign up to a list of criteria set by the Transition Network (Scott-Cato and Hillier, 2010). It is an informal movement, searching for proactive responses to climate change, alternative ways of organising the economy, targeting behavioural change and involving the community from the town.

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[6] http://www.slowmovement.com/slow_cities.php (last access: March, 2014).

1.2.3. DECISION-MAKING PROCESSES IN TOWNS

According to the literature (e.g. Department for Communities and Local Government, 2009; OECD, 1993; Voß and Kemp, 2006), in general, we can define four main phases in decision-making processes:

(i)   the identification of issues of concern,

(ii)   setting objectives,

(iii)   the identification of a set of strategies, evaluation of these and selection of which strategies to pursue to address the issues of concern, and

(iv)   the implementation of the options chosen, with consequent monitoring of efficiency and progress towards the goals.

Step (iii) usually involves defining a set of criteria, evaluating the options under these criteria and making a final decision on which options to implement.

In the UK, at the local level, local authorities are generally caught between national, regional and local objectives and priorities, through the different levels of policy and planning documents (Allmendinger et al., 2003; DEFRA et al., 2007). The definition of options to address the main issues or to reach the objectives set is usually undertaken by specialists within the local authorities, with some input from the public, which is surveyed by using, amongst others, public surveys (Allmendinger et al., 2003). Other main tools for the identification of policy alternatives at the local level within the UK are advisory groups and task forces, public hearings, free phone lines and the internet.

Evaluation of options is often strongly influenced by monetary evaluation tools such as cost-benefit or cost-effectiveness analyses (Gamper and Turcanu, 2007; Stagl, 2007; Stirling and Mayer, 2000). Cost-benefit analysis is a monetary evaluation of individuals' preferences on the costs and benefits of alternatives (Munda, 2006; Eales et al., 2003; Martínez-Alier et al., 1998). Cost-effectiveness analysis aims to identify the cheapest alternative for achieving an objective (Eales et al., 2003), rather than to compare costs and benefits. Efforts have been made to incorporate environmental and other values not generally included within market prices, through the use of several economic valuation techniques[7] (Pearman et al., 1996; Harris, 2002; Aragonés-Beltrán et al., 2008) or by complementing them with environmental and risk assessments (Eales et al., 2003; Campaign for Better Transport, 2007; Department for Communities and Local Government, 2009). Before a final decision is made, a document detailing the final options and the results from the appraisal is made public and subject to consultation.

Some authors suggest that such process, in particular the monetary evaluation of options, can lead to difficulties in accommodating/promoting a sustainable development path. This is because of their inability to deal with the complexity of the issues brought by sustainable development such as dealing with long-term planning and diverse side-effects (Harris, 2002); uncertainty; and the existence of

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[7] These valuation techniques are, for example, contingent valuation ("willingness to pay" and "willingness to accept" surveys), comparative methods (e.g. hedonic pricing, travel-costs, synthetic methods, econometric methods and the beta method) and capitalisation methods (e.g. production function and engineering costs).

multiple legitimate values, stakes and priorities at play (Martínez-Alier et al., 1998; Munda, 2006). Some of the aspects one might ask throughout the policy process are identified in Fig. 1.2.

Policy making process | **Some aspects...**

Social recognition of na issue of concern
- *Is there agreement that there is a town service decline?*
- *Is there agreement on the relevance and scale of the issue of concern?*

Setting objetives
- *Whether the definition of objetives has systematically been excluding certain values?*

Formulation and evaluation of strategies (appraisal) to address the issues
- *Whose views were included in the definition and evaluation of strategies?*
- *Which strategies were selected?*

Were these bottlenecks and side-effects identified? And taken into account when selecting strategies?

Implementation of strategies
- *Bottlenecks in the effectiveness of strategies*
- *Side-effects of strategies*

Fig. 1.2. Some issues within the policy making process for addressing town service decline

1.3. SCOPE AND RESEARCH QUESTIONS

This research is focused on policy-making processes in small and medium towns. The main novelty introduced by this research is to take an ecological economics perspective. Ecological economics is a scientific approach that incorporates (philosophical) principles from ecology and neoclassical economics into a single discipline to manage resource use. This seems an appropriate approach for studying town service decline and it has had little use. One of the main features of ecological economics is that it is very diverse and inclusive in terms of perspectives and theories and its methodological pluralism. The main relevant features from ecological economics used in this research are presented in Table 1.1.

Table 1.1. Main ecological economics concepts used in this research

Ecological economic features considered in this research[a]	How they were included
Integrating different scientific areas	Integrating different concepts, theories and methods: town planning , visual methods, values, uncertainty, MCDA, psychology
Integrating science and policy	Considering decision-making processes as part of the problem and as a part of the solution.
Existence of multiple legitimate values in society	Using participatory approaches (e.g. multicriteria mapping and photo-surveys)
Acceptance of the existence of uncertainty on system behaviour	Investigating for dominating feed-back loops (Chapter 4), best and worst case situations (Chapter 5), and for potential social traps (Chapter 6) – allowing for a better understanding of the town "behaviour" and identifying some bottlenecks on the implementation of strategies to address retail decline
Qualitative (as well as quantitative) data	The use of in-depth qualitative interviews, visual methods and multicriteria mapping

a. E.g. Costanza (1989 and 1996), Norgaard, (1989).
MCDA – Multicriteria Decision Aids.

The main research questions of this research are:

RQ1*: What are the dynamics (causes and possible ways of addressing) of retail decline in market towns?*

RQ2: *What insights can be gained with the adoption of a methodological pluralism perspective, as advocated by ecological economics, to study town service decline?*

The first research question is answered by the following sub-research questions, through a reflection on the Chapters 3 through 6:

RQ1.1: *What is actually changing in market towns?*

RQ1.2: *What are the causes and the mechanisms driving this change?*

RQ1.3: *What appropriate responses can be developed to address town service decline?*

The second research question is focused more on a reflection on the approaches used through Chapters 3 through 6, namely in terms of the insights the approaches help generating in terms of retail decline, and in terms of their use at a town/planning context. This research question can be decomposed into four sub-questions:

RQ2.1: *What are the advantages and limitations of using photo-surveys in the context of town planning?*

RQ2.2: *What are the advantages and limitations of combining systems diagramming with participatory tools such as photo-surveys in the context of town planning?*

RQ2.3: *What are the challenges and major advantages of using multicriteria mapping (MCM) at the town level?*

RQ2.4: *What is the usefulness of social trap theory for addressing retail decline in market towns?*

Though empirically based, the research will be guided by concepts from ecological economics and with a critical realist approach for dealing with issues of uncertainty on the outcomes of policy-making and multiple legitimate values in society. This is explored in a context of a small town, Thornbury. Thornbury is a small market town in the South West of England. Thornbury presented many of the problems other towns across Europe presented, namely a reduction of service provision.

The expected contributions of this research are to advance the literature on town planning and retail revitalisation (e.g. rural studies, land use, rural planning) by developing and critically discussing empirical knowledge, generated by the involvement of stakeholders. However, there are also relevant insights into the use of the analytical methods, such as photo-surveys (visual methods), multicriteria mapping (a MCDA method) and systems thinking stemming from their use at the town planning context. These will be discussed throughout the thesis.

1.4. STRUCTURE OF THE THESIS

The thesis is divided in three parts. The first part provides the research background, scope and research questions (this Chapter) and explains the research approach and design, the case study area, along with the methodologies used (Chapter 2). The second part (Chapters 3-6) provides the results of the empirical work and consists of four research papers. Chapter 4 focuses on understanding town service decline (see Fig. 1.3). Chapter 5 focuses of the goal setting and the formulation and evaluation of strategies to address issues of concern. Chapter 6 integrates the insights from Chapters 3, 4 and 5. Each of the Chapters makes use of novel methods. The reflection of the use of these methods is also one outcome of this research; in particular, the use of photo-surveys in a town planning context, which gave origin to an article published at the Land Use Policy journal, and therefore, is presented as a separate chapter (Chapter 3). Finally, the third part of this thesis concludes by discussing the findings and their relationship, reflecting on the implications for town planning (Chapter 7). The structure of the thesis is presented in more detail in Table 1.2.

Policy making process
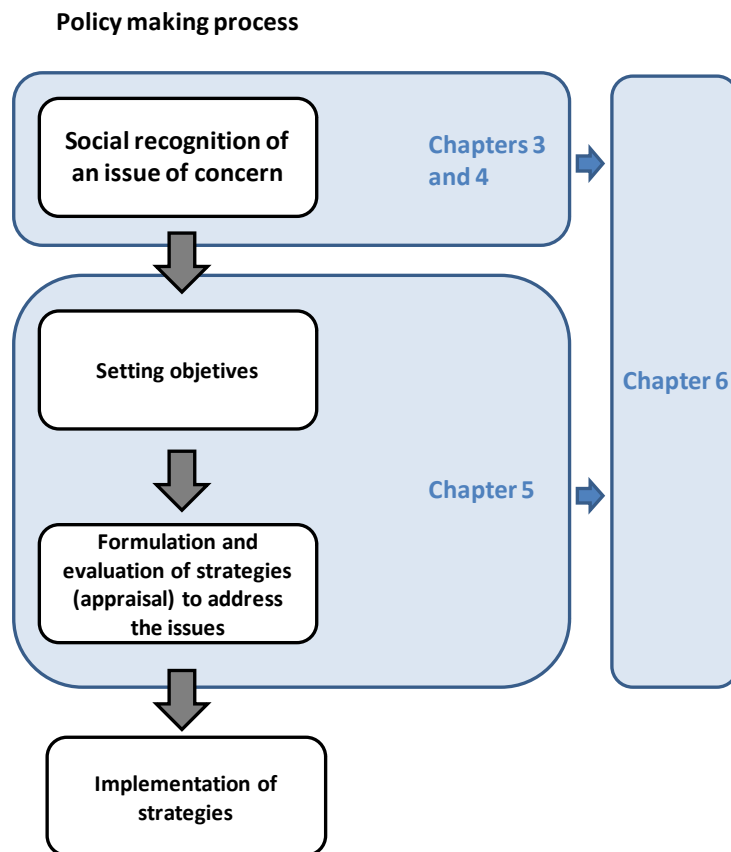
Fig. 1.3. Relationship between the chapters from this thesis and the policy-making process

Table 1.2. Structure of this thesis

Chapters	Objectives	Main methods	Main outcomes
Chapter 3[a]	Discuss some of the advantages and limitations of photo-surveys in the context of town planning	Photo-surveys	Applicability of photo-surveys in town planning: main advantages and disadvantages
Chapter 4	Explore the perceptions of working and living in market towns for their residents and provide a better understanding some mechanisms in Thornbury influencing retail decline	Photo-surveys and systems diagramming/ theory development	Main mechanisms and variables changing in Thornbury

Chapters	Objectives	Main methods	Main outcomes
Chapter 5	Initiate a discussion about how to judge policy options for town revitalisation and the extent to which different ways of judging these options may or may not contribute to improved town revitalisation strategies, compared to traditional decision-making	Multicriteria mapping	Understanding on how well the objectives/values used for the appraisal of town renewal policies represent citizens' concerns; identification of barriers to the implementation of policy options; the performance of policy options under the set of criteria defined by participants; and a reflection on the use of MCM at the local level
Chapter 6	Identify social traps in Thornbury and ways of responding to these social traps	Discussion of findings from Chapters 4 and 5, under a social trap perspective/ theory development	Identification conflicts of values and interests leading to social traps; identification of causes of retail decline; identification of measures to address retail decline
Chapter 7	What are the implications of these findings to the understanding of town service decline?	Discussion on findings from Chapters 3 to 6/ further research	Summary of what is town service decline (what is changing) and the causes and processes involved; policy implications. Evaluation of the approach followed in this research. Future work

a. this chapter has been published in the Land Use Policy journal.

2.

Study Area and Methods

A central issue of this research is to understand town service decline, which includes some of the mechanisms (social and political) which can be contributing to, or influencing the service decline. The focus of research has been on the employment of methods that enable the researcher to understand and identify some of these mechanisms. This is explored in the context of Thornbury, a small market town in the south west of England. This chapter describes the study area and the research design employed in this thesis.

2.1. STUDY AREA

The study area for this research is Thornbury, a small market town in the UK with 12 250 habitants (Census 2001), which, from the turn of the millennium, was facing some of the symptoms of service decline, such as a decline in retail services in the town centre, in the number of post-office branches, and in public transport services.

2.1.1. DESCRIPTION OF THORNBURY

Thornbury is a small market town in South Gloucestershire, South West of England (Fig. 2.1). It is located 19 km North from the city (on the north fringes of Bristol's green belt). At the time of this research, it was seen as an urban area in a rural county. Thornbury's local authority was South Gloucestershire District Council, with offices in Thornbury and Yate. Thornbury also had a town council, located on the main street, the High Street.

Thornbury has a strong history, with remains of bronze-age settlements, Roman coins dated back to 300 BC and with written references to the town dating from 896 AC. Thornbury has been a central point for farmers from the surrounding areas to gather and sell their produce in the town centre. However, this function belongs to the past, and the current Sunday market struggles to survive. There are historical buildings, such as the old cattle market building, which remain in the town centre. There

is also a Tudor castle in Thornbury, the home of Edward Stafford, Duke of Buckingham, a medieval lane and a variety of architectural styles, including Tudor and Victorian.
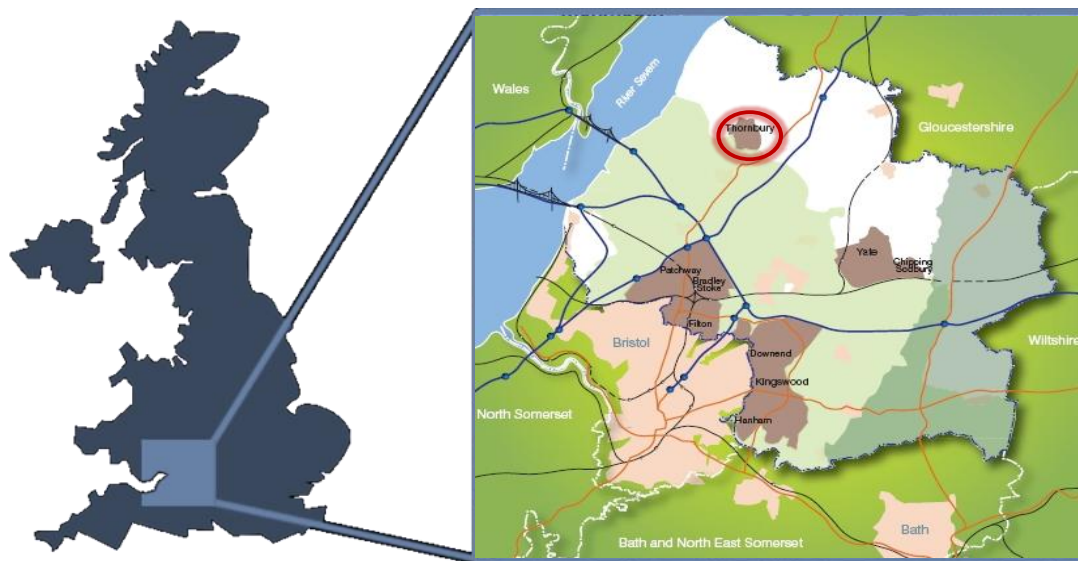
Fig. 2.1. Location of Thornbury

On the right: Source: South Gloucestershire Council.

Thornbury is a central point for several villages and smaller towns, most of these with populations below 1000 habitants. They are for example: Almondsbury, Alveston, Aust, Berkley, Cromball, Falfield, Oldbury-on-Severn, Olveston, Pilning/Severn Beach, Rangeworhty and Tytherington. The services and infrastructure that Thornbury provided to its citizens and surrounding towns and villages included employment, health services (through its hospital), education, commercial facilities, leisure (through the green areas, cafés, the sports centre, the library), business meeting space, and other services offered by the District council offices amongst others.

Thornbury has an active community, which voluntarily organises several events in the town, such as the Victorian Fair, the Christmas Lights event, Thornbury in Bloom and the Arts Festival. There are also a high number of clubs and organisations such as *Sustainable Thornbury*, the community transport *4Towns Vale Link*, a local website *myThornbury.com*, the local radio *ThornburyFM*, the museum, the library, the green waste composting initiative and several sports clubs.

2.1.2. THORNBURY'S MAIN CHALLENGES

In 2001, more than half of the population of Thornbury was in working age (UK Census 2001). In 2005, unemployment in South Gloucestershire was of 6.4% (SGCSPPT, 2006). In 2007 the unemployment rate in South Gloucestershire was on average of 1%, with a maximum of 2.7% in Staple Hill and Kings Chase (South Gloucestershire Council, 2008). Unemployment in Thornbury was of 1.5% (Census 2001). An industrial estate is located to the south of the town. One of the largest industrial companies located there was *Essilor*, which manufactured optical lenses. There were two

main retail facilities in Thornbury: the St. Mary Centre, an open-air shopping centre, and a Tesco store at the edge of the town. The Scottish Metropolitan plc, also known as the *peer-group* by the local population, managed the St. Mary Centre. St. Mary Centre was the largest shopping area in Thornbury, located right at the heart of the town centre. This centre was built during the 1970s and 1980s (The Planning Practice et al., 1996). The Tesco store was opened at the edge-of-town in December 1995 (The Planning Practice et al., 1996).

Thornbury started to present many of the problems other towns across Europe present, namely an apparent reduction of service provided to its citizens and visitors. There was an ageing population, which has been identified as a critical issue for the whole South West of England by the integrated regional strategy and the regional economic strategy for the region (South West RDA, 2006). There was also pressure for increasing amounts of housing (South West RDA, 2006). According to the *Core Strategy for South Gloucestershire* (South Gloucestershire Council, 2008), South Gloucestershire would need to accommodate 30 800 new houses by 2026 for the growing population numbers, from which 2300 houses were to be in Thornbury and its surrounding areas. This represented a huge pressure to find land for building and could jeopardise green field areas (including Bristol's green belt).

To what concerns retailing services, during the late 1990s the building of a major retail facility at Cribbs Causeway resulted in the prediction, by the Planning Practice et al. (1996), of the potential decline in town centre services, due to a shift from local to out-of-town shopping. By the turn of the millennium out-of-town shopping was mostly done on the Mall at Cribbs Causeway, the Broadmead, and the Galleries in Bristol (Gregory, 2001). In 2006, in Thornbury, no record was being taken on the number of empty premises.

Initial visits to the town centre during 2006 revealed 30 independently owned shops, 17 chain stores spread over 18 types of retail (see Table 2.1) and three closed spaces. Retailers such as department and catalogue stores (e.g. Argos), off license (although existent in Thornbury), household items (furniture, kitchen, etc.), cinema/theatre, Electronic/IT (TVs, phones, computer, etc.), DIY/builders' merchant and Camera/photo developing shops were non-existent in Thornbury town centre. In 2007, two additional retail spaces closed down (a video rental store and a supermarket).

There were also issues relating to traffic. Overall the volume of traffic on the roads in the South West of England has grown by 21% since 1991, compared to 16% nationally (SGCSPPT, 2006), where 52% of this increase was on the North fringes of Bristol, from which 30% were in South Gloucestershire (SGCSPPT, 2006). This was expected to increase even more over the next eight years (Fig. 2.2).

Table 2.1. Shops in Thornbury town centre

Source: author's own survey.

Type of shop	Number of shops in the town centre
Food retailer (butcher, baker, supermarket, etc.)	4
Newsagents/tobacconists	1
Stationary/books	2
Restaurant/takeaway/fast food/coffee shop	8
Pub/bar	4
Professional (insurance, accountancy, legal, etc.)	3
Estate agents	2
Health care shop/pharmacy	2
Clothing retailer (shoes, accessories, etc.)	2
Pet shop/pet supplies/vets	1
Barber/hair saloons/beauticians and cosmetics	1
Toys/sports/cycling/outdoor leisure	1
Mechanics/car accessories/petrol station	2
Music/games/DVD/video (includes rentals)	1
Garden centre/florists	1
Dry cleaning/launderette	1
Travel agents	1
Other (betting shop, casino, taxis, antiques, watch repairers, charity shop, cobblers, jewellers, etc.)	10

Fig. 2.2. West of England's traffic situation 2006 - 2016

Left: situation for 2006. *Right*: situation for 2016. Source: images adapted from West of England Sub-region (2007).

2.1.3. INITIATIVES FOR RESPONDING TO THORNBURY CHALLENGES

Dealing with housing pressures, ageing population (South West RDA, 2006) and adequacy of services to this population, the decreasing retail services and the increasing traffic is a challenging task for Thornbury's planning and decision-making bodies. In order to get the financial support needed to deal with such challenges, Thornbury engaged in the *Market Towns Initiative*. In parallel, South Gloucestershire council has also been conducting a series of consultations within the community for the preparation of the *Community Strategy*, which is running from 2009 until 2015. The consultation processes were aimed at identifying the main issues that local residents and businesses felt should be addressed in the Community Strategy.

The *Market Towns Initiative* would be used as a part of the *Community Strategy* development process and implementation. As a requirement for the *Market Towns Initiative*, Thornbury developed the *Town Centre Strategy Group*, a partnership composed of representatives from Thornbury's Town Council, Chamber of Commerce, some local businesses, South Gloucestershire Council and the St. Mary Centre[8]. In 2006, an audit entitled *Health-Check* was developed by the *Town Centre Strategy Group*, aimed at identifying issues relating to the economy, environment, society and community life and transport. A survey of households, small business and visitors detailing their concerns with the development of the town was later conducted, between July and August 2007, with five questionnaires targeted at Thornbury's households and businesses. Overall, 5500 questionnaires were sent out for the Thornbury community survey, and a 3.5% response rate was obtained.

Further to this, as a way of revitalising Thornbury's town centre, a refurbishment of the library building was proposed, to redevelop the library building from a single storey to a three-storey building which could accommodate commercial and office space, as well as to improve the library facilities (Fig. 2.3). Under this project, the current library would be moved from the ground floor to the first floor. The ground floor would accommodate a retailer, whose details were not provided by the council; and the top floor would accommodate *Thornbury Motors*' offices, a local car retailer. The basis for such as

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[8] St. Mary Centre is an open-air shopping centre representing a large area of Thornbury's town centre.

project was that the retailer on the ground floor would attract people to the town centre, therefore improving the retail conditions around the town centre in general. This project proved highly controversial, and at the beginning of this empirical research, no decision by the council on whether to move forward with the proposal had been made.
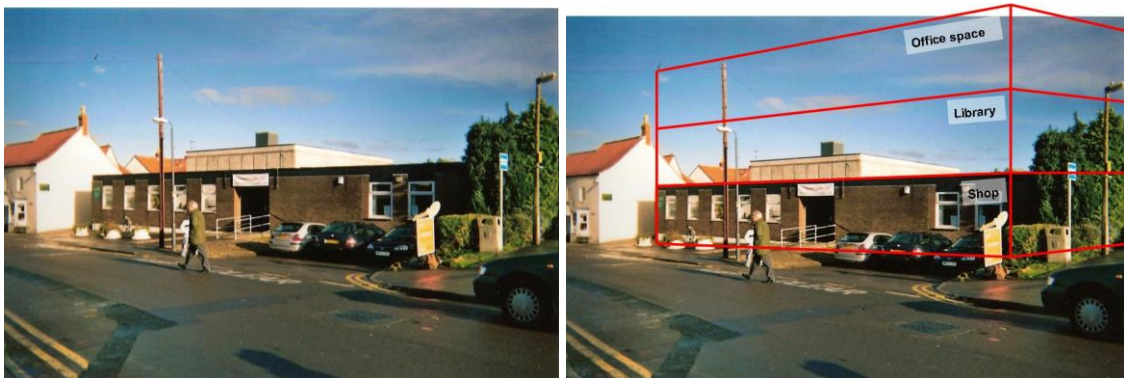
Fig. 2.3. Current and the projected library building

Left: current library building. Right: schematised outcome from the refurbishment of the library building.

2.2. RESEARCH DESIGN

This empirical research approaches the issue of service decline in Thornbury in a series of ways, aiming at investigating both the current state of the town, but also how it might behave. This was investigated using different methods for data collection (photo-surveys and multicriteria mapping) and secondary data (literature on market towns in general and on Thornbury in particular). The analysis of the data also involved different methods, including theory-building approaches, such as system thinking and social trap theory. The approach used enabled the development of an improved understanding of the changes occurring in Thornbury, of possible causes for these changes and provided some insights into appropriate responses to address the challenge of service decline in market towns. This general approach is schematised in Fig. 2.4. The remaining of this section describes, in more detail, the approach, linking it with the sequence of the methods used, as well as with the structure of the thesis (i.e., linking it with the different Chapters).

Study area	Aims	Data collection methods	Data analysis methods	Answer research questions

Thornbury

Investigate on the state of the system

Investigate on how the system behaves

Secondary data

Interviews

Photo-surveys

Multicriteria mapping

Analysis by participants

Systems' diagrams (theory building)

Criteria, barriers, bottlenecks, other aspects affecting the functioning of different measures

Social traps identification (theory building)

Reflection on the methods used

What are the dynamics of retail and retail decline in market towns?

What insights be gained with the adoption of a methodological pluralism perspective to study town service decline?

Fig. 2.4. Research design

The empirical research started with an identification of the main issues affecting Thornbury's living and working environment, together with citizens from Thornbury. The aim was to understand if there is sense of town decline amongst town residents and workers and at the same time, to unravel some of the social relationships and perceptions towards addressing retail decline. This phase of the research was an essential component of the author's learning process (due to cultural differences and lack of living experience in the town), establishing contacts and participating in some of the social networks. Chapter 3 reports on the results from this first contact with Thornbury. The empirical work was based on a photo-survey, where participants were asked to take photographs of positive and negative aspects of living and working in Thornbury and were subsequently interviewed. This is a method that has had little use in town planning, but widely used in visual sociology and anthropology, and could serve as a complement to other tools already used in town planning processes (such as surveys and questionnaires). The use of such method allowed for a discussion on its use for town planning, which is the focus of the Chapter.

The results obtained were then interpreted and complemented with the literature on market towns and with some secondary data on Thornbury to identify some of the main elements and mechanisms that are changing in Thornbury and could be understood as causes or even service decline itself. For this analysis, we used system thinking tools, in particular systems diagramming, to develop a conceptual model to describe retail decline. This analysis is described Chapter 4.

The second stage in this research explores strategies to address town service decline. This is achieved by focusing on the discussion of options for tackling town decline described in the literature, but also, on contributing to improve the quality of the processes of evaluating and selecting which options to implement. Chapter 5 tests the use of multicriteria mapping (MCM) to identify the relevant criteria to use in town appraisal processes considering the perspectives of different stakeholders. This method allows each participant to define his/her own appraisal criteria. These criteria participants felt relevant to include when evaluating retail decline options, were compared with criteria commonly used in town planning decision-making processes, in order to understand if there are differences, as these differences can result on the choice of one option over another. Chapter 5 also analyses participants' comments and appraisals of the different options and potential barriers that can affect the performance of each option. This information helps understanding some of the social, cultural and political mechanisms in Thornbury, providing valuable information on understanding retail decline and bottlenecks in addressing it.

Chapter 6 makes use of all qualitative data gathered through Chapters 3 to 5 to identify if retail decline can be seen as a social trap, possible ways of dealing with these social traps and investigating whether traditional ways of dealing with retail decline are contributing to address these social traps.

Table 2.2 presents the main methods used in this research. The relevant literature on each of the methods/approaches used (photo-surveys, systems thinking, multicriteria mapping and social traps) is presented in the respective chapters. This choice was made as each chapter constitutes a research paper, and therefore, the chapters are meant to be stand-alone chapters.

The information gathered through Chapters 3 to 6 allow understanding what is the decline happening in Thornbury and the internal and possible external factors and mechanisms feeding this decline. It also allows understanding some ways of dealing (and ways not dealing) with retail decline.

Table 2.2. Main methods used in this research

Chapters	Data sources	Data collection methods	Data analysis methods
Chapter 3	Residents in Thornbury and surrounding villages, selected through a snowballing technique	Photo-surveys	Analysis of the photos by participants. Comparison of results with the literature on photo-surveys.
Chapter 4	Chapter 3 and literature		Theory development and exploration using systems diagramming.
Chapter 5	Stakeholders from Thornbury, selected through a stakeholder analysis	Multicriteria mapping	Analysis of the criteria selected by participants; ranks of the options per participant and per criteria; best and worst case scenarios of each option.
Chapter 6	Chapters 3, 4 and 5 and literature on Thornbury		Theory development and exploration under the light of social trap theory.

2.3. ETHICAL CONSIDERATIONS REGARDING DATA AND CONFIDENTIALITY

Given the nature of the data, i.e. some of participants' personal information and their views on several aspects regarding Thornbury, written data was handled according to the *University of Leeds Code of Practice on Data Protection*[9]. When recruiting for, and at the beginning of each interview, participants were advised as to why the data was being collected and the purposes to which it would be used. This involved informing them about the research project as a whole, the outcomes, the intent to conduct an exhibition with the photographs, and the intent to produce reports with the main results from the research. They were also informed that these two forms of presenting the results would be as far as the role of the researcher would go, but participants were encouraged to do what they wished with the report.

Participants were informed at the beginning of the interviews that anonymity would be assured. During the data analysis, participants were assigned codes to replace their real names; other personal and institutional information was also treated as confidential.

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[9] http://campus.leeds.ac.uk/dpa/code.htm (last accessed: May 2014).

Before all interviews, a form was provided to the participants asking for their permission to audio-record the interviews, and informing them that if they wished to stop the interview at any point they were free to do so.

All of the data that were collected from interviews was kept safe from unauthorised access and accidental loss or destruction (as copies of the data in different formats were made). Transcriptions of audio-recordings were made and accessed only by the main researcher and audio-recordings will be destroyed as soon as data analysis is finished.

Concerning the ethical issues that relate to the visual materials collected in the research, namely in the photographs, such as brands, car number plates and humans, these are discussed in Chapter 3.

3.

Using Photo-surveys to Inform Participatory Town Planning Processes: Lessons from practice[10]

ABSTRACT

Photography based methods have been under-utilised as a participatory tool to inform urban planning and decision making processes on citizens' concerns, although they present several potential advantages in terms of facilitating communication on complex aspects to decision-makers. In this Chapter we explore the potentialities and limitations of Photo-Surveys (PS) for this purpose drawing upon the case of Thornbury, a small town in the Southwest of England. We organised a PS exercise where participants were asked to take photos on positive and negative aspects of their town. Participants were then interviewed to discuss their photos.

PS allowed obtaining high amount of in-depth information with a lower number of participants than other methods, helping to build an improved understanding of some of the issues identified. Some of the PS criticisms found in the literature such as reliability and objectivity in the interpretation of results (photos) and depth of the information gathered could be demystified. One of the main findings was that aspects that could be deemed as of difficult visual representation (e.g. feelings, past events, abstract aspects) were present in the photos.

Given the low number of participants, views gathered cannot be seen as representative, but they provide interesting insights about living in Thornbury and support reflection upon the use of the method. PS also worked as an entry point to some of Thornbury's social networks, allowing the author

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[10] This chapter was published at the Land Use Policy journal. **Full reference**: da Silva Vieira, R., Antunes, P. (2014). Using photo-surveys to inform participatory urban planning processes: Lessons from practice. Land Use Policy 38: 497-508.

to get acquainted with the community, thus paving the ground for further participatory work. However, there some issues regarding anonymity that will need to be dealt with.

PS asks for little knowledge on the town and on the main issues affecting the population, and therefore, can be useful for developing surveys and questionnaires, as a tool for participatory rural appraisal or participatory active research. It can also be used for gathering views in the early stages of the evaluation of plans and projects, explore an issue more in deep including an array of stakeholder perspectives on the matter.

Keywords: Photo-survey; citizen participation; visual representation; visual method

3.1. INTRODUCTION

Photo-surveys are a type of visual method that makes use of photographs that can be produced by participants and interpreted by the participants themselves or the researcher. Photo-surveys have been used in areas such as visual sociology, anthropology and public health to gather the views from either subjects whose verbal communication can be difficult such as young people when expressing their values and feelings, or subjects speaking on sensible matters such as HIV, young mothers, homelessness. Gathering views from these communities is extremely valuable for local policy-making. Further to this, photo-surveys are claimed to provide documentation of traditional knowledge, which is deemed relevant in areas such as adaptive management (Dougill et al., 2006), and improved awareness and engagement on local issues (see Petheram et al., 2012). All of these aspects are extremely valuable when dealing with planning issues with some degree of complexity and uncertainty.

Some of the issues identified above are not covered by traditional methods such as questionnaires/surveys, who sacrifice the richness of information in order to obtain consistent and statistically meaningful conclusions on social preferences (Creighton, 2005; Sherren et al., 2010).

However, photo-surveys have mostly remained an under-utilised method in planning and decision-making processes. This might be for several main reasons. One is the risk of bias that can be introduced by the researcher when framing and interpreting the photographs. The other is the ethics vacuum existing to what concerns the use of photographs (regarding issues of anonymity in terms of specific buildings, car number plates, people represented in the photos), especially if they are taken by participants rather than the researcher. Furthermore, there is the risk of biases towards aspects more prone to visual representation (Gauntlett and Holzwarth, 2006; Moore et al., 2008).

The argument here is that photo-surveys may be a powerful tool for informing decision-making processes about citizens' concerns at early stages of the policy-making, helping to identify community needs or issues that need special attention, or to explore in more detail certain issues. The aim of this Chapter is to discuss some of the advantages and limitations of photo-surveys in the context of town planning, illustrating the arguments with the help of a case study, in order to provide useful input for

those interested in applying this method. The focus is upon the engagement of participants, the type of information photo-surveys allow to obtain and ethical considerations.

The case study was conducted in a small town, Thornbury, in the Southwest of England, where different citizens were asked to take photos on the positive and negative aspects of their town. The meanings of the photographs were then discussed with each participant, in an interview setting. This allowed identifying the major issues behind each photo.

The remaining structure of this Chapter is as follows: first, we provide a brief review on the use of photography as a research tool, including some of the limitations discussed in the literature. We then describe the use of photo-surveys in the case study and discuss the results obtained, in light of the literature on photo-surveys. The Chapter ends with some concluding remarks.

3.2. PHOTOGRAPHY BASED SURVEYS

3.2.1. THE USE OF PHOTOGRAPHY IN RESEARCH AND PRACTICE

Photo-surveys are a type of visual research method that makes use of photo-elicitation in a semi-structured interview. Photo-elicitation was first described by Collier in 1967 as the process where photographic images are used to stimulate and guide the interview (Moore et al., 2006). Early visual research started with the observation and representation of the observed. In early photography based methods, photographs were mostly taken or found by researchers, which would then analyse them themselves (e.g. Malinowski, 1922). Since the 1970s, discussions on the trustworthiness of photographs and visual research in general started to emerge. This was mostly related with the recognition of the biases involved in producing, treating and analysing photographs (e.g. increasing mock-ups, add-ons, post-event construction and manipulation prior, during and post photo taking). In the 1980s, research on visual methods started to focus more on the interpretation and production of photos. Researchers started to account for the social context behind the photos (Emmel and Clark, 2009; Rose, 2012), the medium (technology) as well as the purpose of the photos, the audience the photos were taken to and to explore how visual materials are perceived and experienced (Rose, 2012).

Photography-based research expanded and now it includes participants as photographers (e.g. this work; Sherren et al., 2010; Woodley-Baker, 2009), rather than just the researcher. Furthermore, researchers or the participants themselves can do the interpretation of photos.

Pinto-Correia et al. (2011) in their study were focused on understanding how stakeholders in two *Montado* regions defined landscape. For this, the researchers produced photographs with landscapes and decomposed the photos into different components (trees, shrubs, house, rocky floors and sheep). Manipulating the photos, they defined new photos combining the different components. Photos were then presented to different stakeholders for them to express their preferences, asking which

landscape they preferred and why. In this situation, the researchers produced and manipulated the photos and the participants analysed them.

Beilin (2005) used photo-surveys to understand farmer's life, by asking farmers to produce photographs on what was a farmer's life. An interview was held later with the participants so that these could categorise the photographs and rank them according to what represented the most important aspects of farm life for them. In this case, participants took the photos and they were the interpreters of the photos themselves.

Having participants taking photos and/or interpreting them is a move towards reducing biases in photography-based research, but also, it involves accepting participants as experts in their own lives, creating cooperation and working alongside participants.

Photography based methods have been applied mostly in anthropology, psychology, public health, sociology and human, cultural and urban geography (Banks, 2001; Moore et al., 2008; Rose, 2012). Photo surveys have been mostly used to understand the views, perspectives and values of marginalised groups, such as rural women, drug addicts, people with HIV/AIDS, refugee and migrants, homeless and teenage mothers. As Gauntlett and Holzwarth (2006) put it, children and young people do well with visual methodologies, as visual methods give them ways of expressing their values, feelings and perspectives that could reveal difficult by expressing verbally. The use of photo-surveys with a broader group of stakeholders has also been attempted successfully. This was the case of the study conducted by Pinto-Correia et al. (2011) already described earlier, and the study described in Moore et al. (2008). In Moore et al. (2008) (and Moore and Spires, 2000), photographs are used as part of a wider project using air quality and noise level monitoring, while participants were registering their senses in a walking interview to evaluate urban environmental quality of three city centres: London, Manchester and Sheffield.

Photo-surveys have also been used in participatory planning practice. Visual images are one of the ways that planners, architects and landscape architects use to communicate ideas about existing places, analyses of them and proposed interventions. This includes physical inventories and observation, photo surveying, aerial photography, the use of graphics and analytical maps. They have been used by community planning organisations (e.g., Planning for Real[11]) and mentioned in several handbooks (e.g., Creighton, 2005; Wates, 2000).

An example of such applications is the "Flint photovoice project" (Wang et al., 2004), where youths and adults in Michigan, USA, participated in a photography assignment. The visual assignment from that project are claimed to have enabled youths to communicate their concerns about neighbourhood violence to policy-makers, and to have played a key role in community acquisition of funding for local protection against violence (Wang et. al., 2004).

The Jefferson County, in the US, had an open house series and road show to update citizens on Shoreline Master Plan progress, 03/2007. Each drop-in open house event featured poster displays

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[11] http://www.planningforreal.org.uk/ (accessed: October 2010).

(with a visual component), a repeating slideshow, an interactive digital mapping station, and a comment form.

Another example is the "Eastgate/I-90 Land Use and Transportation Project" (Transportation and Planning & Community Development Departments, 2011). This project developed by the City of Bellevue, which released an online VPS to the public in 2011. The survey consisted of a series of pictures, each picture was rated using four options: Very Desirable, Somewhat Desirable, Neutral, and Undesirable. The rating for each picture indicates which types of developments and treatments would be more appropriate for an area of the city.

Although these applications, photo-survey is still underutilised in policy-making. Given that one of the main potentialities of photo-surveys is in community profiling[12], why are photo-surveys underutilised?

3.2.2. POWER BALANCE AND EMPOWERMENT

Issues related with framing introduced by the researcher/practitioner (in defining the questions, the participants, the methods) have been being debated in post-modernist approaches to research (Metzler et al., 2003; Prosser and Loxley, 2008). In photo-surveys, there is an improved power balance practitioner-participant and empowerment of participants (Petheram et al., 2012). In photo-surveys, participants are allowed to define what is going to be discussed in the interviews, as they decide which photos to take. Moore et al. (2008) and Packard (2008) report on some participants bringing their own agenda to the interviews, using photos as an excuse to refer to other matters or viewpoints. These are examples of the power given to participants with this research method. However, some framing is still imposed by the researcher on the choice of the theme for the photos and the selection of participants (Prosser and Loxley, 2008).

Empowering participants can make them engaging more during the process. In addition, passing part of the framing to participants, the researcher is not required to have a deep knowledge on the issues at hand in order to frame the exercise. This does not happen with other methods such as questionnaires (Chaplin, 1994; Prosser, 1998; Pink, 2001).

3.2.3. RECRUITMENT OF PARTICIPANTS

Photo-surveys can require a lot of time from the participant, if participants are involved in producing and discussing the data (e.g. Wates 2000; Moore et al., 2006). The more time required from participants, the less likelihood of citizens participating. This is particularly relevant when the participatory events are not well run, or if the participants' perceive that they have a limited capacity to influence results (Reed, 2008). Furthermore, participants have less and less time for the increasing time demand involved in participatory processes (Barnett and Bai, 2007) – the so-called consultation fatigue (Reed, 2008). Problems in engaging participants can bias results towards the views of those

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[12] Community profiling involves building a picture of the nature, needs and resources of a community.

with more time available to participate, leaving out the views from those who lead busy lives. A low number of participants limit the usefulness of the results, as these become less representative of the universe of perspectives, although still providing relevant material for further investigation. Furthermore, photo-surveys exclude the views from visually impaired participants and others with lesser skills/interest on visual communication; and results are strongly dependent on the initial set of participants.

3.2.4. PHOTOGRAPHS VS. VERBAL LANGUAGE

One of the reasons for the so far limited use of photo-surveys in urban planning processes may be related with the fact that photographs are sometimes not seen as serious enough to deal with the technicalities of the problems at hand. At least, not in the same way that verbal language is taken (Rose, 2012). In these cases, it may be difficult to argue with policy-makers in favour of visual methods. However, images can provide valuable information. They are a construction, embodying values, perspectives and the purposes of those who took them (Rose, 2012), they are rich in information. Therefore, photographs are evidence of more than what is represented (Moore et al., 2008). But images will always need some verbal language behind, such as labels, titles or short descriptions to help disclosing the message conveyed, in the same way written text can benefit from images as these provide additional validity to the texts (Harper, 2002; Petheram et al., 2012).

Photo-survey apologists (e.g. Gauntlett and Holzwarth, 2006; Loizos, 2005) argue that using visual methods make easier for participants to express their concerns, or communicate their values or alternative actions to address any major issue. This communication ability is evident in the empirical studies from, for example, Pinto-Correia et al. (2011). In their study, photographs were used to understand the preferred landscape settings for different participants, by showing them photos of different types of landscapes. Participants could express their preferences by visualising the images. The images made it easier to understand the different forms of landscape. D. Gauntlett (in Gauntlett and Holzwarth, 2006) reflects on his experience that children and young people do well with visual methods to express their opinions, feelings and perspectives on different issues. This is also expressed in the studies from, for example, Beilin (2005) and Shohel and Howes (2007).

From the viewpoint of the audience, the policy-makers, Petheram et al. (2012) present an interesting study. Their study, rather than on analysing the capacity of visual methodologies to capture participant concerns, they analyse the effects these visual methodologies have on the audience, namely, policy makers and researchers. Their main conclusions are that visual methodologies can have the power to make across different viewpoints (and therefore, it is important to ensure different perspectives are included) and to generate discussions on the topics of interest.

Even though, because the primary medium of data collected is photographs, there is the possible bias towards visual aspects. Being a visual method, the results of photo-surveys can be biased towards issues of easy representation through photographs (Gauntlett and Holzwarth, 2006; Moore et al., 2008). Nevertheless, Kim and Kaplan (2004), Lynch (1960) and Woodley-Baker (2009) claim that

aspects of difficult visual representation can be represented in images, as people attribute meanings to the images observed.

3.2.5. ETHICAL ISSUES

Another major criticism to photo-surveys is that there can be ethical issues regarding the preservation of anonymity. Photo-surveys can bring issues related with the visibility to be given to people, houses, buildings or cars (car number plates) photographed (Prosser and Loxley, 2008). These issues are well present in Teti et al. (2012), whose subject were women with HIV/AIDS, and there were issues regarding public disclosure of the photos.

There are also issues with ensuring the wellbeing of participants during photo-taking (security). Taking photos involves getting involved with the environment. This can be problematic for certain topics, such as crime, illegal activities, and misbehaviour, which can endanger participants' wellbeing (Moore et al., 2006; Prosser and Loxley, 2008). There is the need to ensure the safety of participants in these circumstances. However, refraining participants from taking such photos and therefore, refraining from bringing up these issues into discussion can bias results and reduce the credibility of photo-surveys.

3.2.6. DEPTH OF INFORMATION GATHERED

Stakeholder involvement in complex decision processes, such as urban planning, can ensure that a broad range of holistic and empirical views on the issues at hand and implications of policies are included (Cameron and Gibson, 2005; Lebel et al., 2006; Voß and Kemp, 2006). In these processes, it is important that the participatory methods used allow for the identification of new emerging problematic issues (rather than just preconceived issues). Photo-surveys can be a powerful participatory method in this context. Under a careful stakeholder analysis, photo-surveys can contribute to the identification and inclusion of a wide set of different perspectives at the early stages of planning processes. This is partially because of the reduced framing imposed by the researcher. This capacity is not common to all participatory methods, such as questionnaires, which have difficulties when dealing with emergent data that do not fit within the structured format of the questionnaire. Unless the facilitator has a deep knowledge of these issues when designing the questionnaires to ensure appropriate issues are covered.

This depth of information came with a catch: the deeper the information gathered, the more time required for data collection, the smaller the sample of participants. This brings representation issues regarding the views covered (Sherry et al., 2010).

3.2.7. REFLECTIVE CHARACTER OF PHOTO-SURVEYS

It could be argued that most people cannot provide accurate descriptions about why they like or dislike things, or what their motivations are immediately when they are asked for them (Gauntlett and

Holzwarth, 2006). Nevertheless, most questionnaires and language-based individual interviews capture and preserve those instant responses as data. In group-based discussions, participants are given time to discuss these issues, allowing the results to be obtained through discussion and learning. In photo-surveys, participants are either given time to discuss the issues at hand or are given time to reflect at their own pace (Gauntlett and Holzwarth, 2006).

3.2.8. ENGAGEMENT OF PARTICIPANTS DURING INTERVIEWS

Interview based techniques (in particular semi-structured interviews) and group based methods can have engagement issues during the interview/discussion, i.e., participants providing little input during the discussions, not elaborating their answers or just being quiet during the discussions. This can bias results towards the views from those that are good speakers or feel comfortable with the data collection setting. This lack of engagement in group methods can be overcome by using a skilled facilitator, which can make the whole process expensive (Reed et al., 2009). Photo-surveys can help to overcome this lack of engagement, through the use of photo elicitation, where photos are produced by the participants themselves (Packard, 2008). This allows participants to take ownership of the interview/discussion, therefore, providing participants with some framing power. With such approaches, only issues that participants want to discuss are discussed.

3.2.9. INTERPRETATION OF PHOTOGRAPHS

Being photographs such a complex item, embodying values, contexts, views and purposes, the process of producing, manipulating and interpreting photographs can be criticized on the basis of reproducibility, robustness and objectivity. Many of the analyses carried out using photographs consist in developing narratives in a more ethnographic narrative analysis (e.g. Beilin 2005; Irving, 2010; Packard, 2008). However, how to interpret photographs is still one of the topics of debate in the literature.

Rose (2012) provided a tool box for photo-analysis, in an attempt to systematise photo analysis methods. Other authors deal with subjectivities in the analysis of results from photos by having the photographers (participants) examining their own photographs. Participants would be the ones who would state what values, perspectives or aims were behind each photograph. In these situations, interviews with participants can be audio recorded and transcribed and the researcher analyses the transcripts (verbal data) using traditional methods such as content analysis. In these cases, images are used to engage participants in the interview and to provide validity and reliability to the aspects focused during the interview. Examples of such approaches are the ones followed by Moore et al. (2008) and Cameron and Gibson (2005). Photos can also be used to get prioritisations and classifications of different issues/aspects portrayed on them.

3.3. CASE STUDY: THORNBURY, SOUTHWEST OF ENGLAND

3.3.1. THORNBURY

Given historical and recent trends in demography, life-styles, availability and affordability of communication infrastructure, small to medium-sized towns face changes to the functions and services they provide to their residents and surrounding areas. One of the results is a decreasing number of locally owned retailers in town centres. Thornbury, in the UK, is no exception. It faces many of the same problems small to medium-sized towns are subjected to. UK government recognised this by including Thornbury under the *Market Towns Initiative* that aimed at providing financial and institutional support when dealing with the decline in the provision of services to UK market towns facing such problems.

In parallel with the *Market Towns Initiative*, South Gloucestershire council (to which Thornbury belongs) had also been conducting a series of consultations within the community for the preparation of the *Community Strategy*, which is running from 2009 until 2015. These consultation processes were aimed at identifying main issues local residents and businesses felt should be addressed in the strategy.

The *Market Towns Initiative* would be used as a part of the *Community Strategy* development process. As a requirement for the *Market Towns Initiative*, Thornbury developed the *Town Centre Strategy Group*, a partnership composed of representatives of Thornbury Town Council, Chamber of Commerce, some local businesses, South Gloucestershire Council and the St. Mary Centre [13] management. In 2006, an audit entitled *Health-Check* was developed by the Town Centre Strategy Group, with the aim of identifying issues relating to the economy, environment, society and community life, and transport. A survey to households, small business and visitors detailing their concerns with the development of the town was conducted. Six-thousand surveys were sent out between July and August 2007, targeting Thornbury households and businesses. The survey had a 3.3% response rate.

In each of the surveys from the Health-Check audit, there was at least one open-ended question. These questions tried to identify the positive and negative aspects of Thornbury, in general, and on some specific aspects such as transport and the library building, for example. The main aspects identified on those questions are summarised in Table 3.1.

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[13] St. Mary Centre is an open-air shopping centre representing a large area of Thornbury's town centre.

Table 3.1. Summary of results from the Health-Check questionnaires

Retail

Quality of retail in the town centre (attractive, locally family businesses, the market, the pubs), increasing number of empty premises, the lack of some retail services (e.g. equipment for kitchens, butcher, quality coffee shop, fruit and vegetable shop, fish monger), the excess of others (Charity shops), large out-of-town supermarkets, the market, St. Mary's Shopping Centre.

Civic amenities

Green spaces & seating areas, the leisure centre, leisure activities lacking (e.g. a music club, a green tennis court, a cinema, a running park, a bowling ring), community meeting places, education (schools, the library), health (surgery, hospital, dentists), housing (lack of/costs), police, waste management (recycling centre, recycling bins), the post office.

Diversity of churches and religions.

Transport

Parking (on wrong places, disable parking bays), drivers behaviour (speeding in the town centre), pedestrian routes (width of pavements in the town centre, pleasant walking routes, road crossings), public transport (quality of buses, services, bus shelters, access to rail, disable transport service), quality of roads, noise from traffic, cycling (routes, parking).

Community

Community events, misbehaviour (e.g. graffiti, drunken behaviour on evenings, littering), general thoughts on the people from Thornbury, sense of community, historical architecture/features, identity, character, clean and well maintained, quiet, size.

Aesthetics

views from the town, the town centre.

Environment

Action towards global warming, clear air.

The availability of the results of this survey provided a body of information that could be used as a benchmark to evaluate the use of photo-surveys as an alternative method to elicit participants concerns and issues to be addressed. The idea would be to compare the results obtained with the questionnaires with the issues raised by participants in a photo-survey exercise.

3.3.2. METHODOLOGY FOR ANALYSING THORNBURY'S CONTEXT

The study population was composed of those who live and work in the area defined by the political boundaries of Thornbury and nearby villages, due to the fact that market towns offer their services not only to their own residents, but also to residents from villages in close proximity (Powe and Shaw, 2004; Findlay and Sparks, 2008). Participants were selected using a snowballing technique, in which an initial set of participants[14] were asked to provide a set of other participants who they thought would

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[14] The initial sample of participants was recruited face-to-face on Thornbury's main pedestrian street (St. Mary's Street), and through pubs, community meetings and door-to-door surveys. Recruitment in public spaces was conducted over three afternoons (two weekdays and a Saturday), where citizens were approached and provided with leaflets on the project.

be willing to participate in the photo-survey. This was complemented by advertising on a local webpage[15] and recruitment from local clubs and organisations. For the latter, the town council offices and a local community webpage provided a list of groups, clubs and local organisations. From this list, organisations were chosen randomly. Throughout the whole recruitment stage, care was taken to ensure a gender balance and a diverse age range.

Recruited participants were provided with a single-use camera and a log-sheet. Participants were asked to take 15-20 photos illustrating the positive and negative aspects of living and working in Thornbury, the time of the photos and the reason why they took each photo. Once the photographs were developed, a semi-structured interview was conducted with each participant. The photos and log-sheets from the participants were used as the main material for discussion during the interviews. The meanings of the aspects that were identified through the photographs were discussed verbally, as participants worked through the photos. The interviews were ended by asking participants to talk about any other issues in Thornbury that had not previously been discussed during the interview, to capture any issue not covered by the photos.

In resemblance to Cameron and Gibson (2005), the analysis of the results was performed based on the transcripts from the interviews, rather than the photos themselves. Analysis to the transcripts followed a content analysis, to identify the main issues identified by participants. Codes were defined during the analysis of transcripts and not beforehand, i.e. the focus of the research is more on emerging themes, rather than proving or disproving findings. The analysis to the photos themselves was only performed in certain cases, such as to understand how participants represented any abstract concept that they brought into the interviews, but these cases are identified throughout the results and the discussion in this chapter.

3.3.3. OVERVIEW OF THE RESULTS

Twelve citizens took part in the photo-survey. Although a small sample, photo-surveys provided a large amount of information. The main characteristics of participants are listed in Table 3.2. Codes were attributed to participants for anonymity reasons. The sample included two participants from Thornbury's surrounding countryside (participants A01 and C08), a balance on gender, different age ranges and other differences, such as car ownership and occupation.

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[15] www.mythornbury.com (accessed: February 2010).

Table 3.2. Some characteristics from the participants in the photo-survey

Code[a]	Age	Gender[b]	Car Owner	Type of Occup.[c]	Residence
A01	60+	F	Yes	R	Alveston
A02	50-60	M	Yes	W	Thornbury
A03	10-20	F	No	S	Thornbury
A04	60+	M	Yes	R	Thornbury
A05	60+	M	Yes	W	Thornbury
C01	30-40	F	No	B	Thornbury
C02	30-40	F	Yes	W	Thornbury
C03	50-60	F	Yes	W	Thornbury
C04	40-50	F	Yes	W	Thornbury
C06	70+	M	No	R	Thornbury
C08	60+	M	Yes	R	Oldbury-on-Severn
C10	40-50	M	Yes	W	Thornbury

[a] Participants are identified by a code to preserve their anonymity;
[b] M, male; F, female;
[c] R, retired; W, working; S, student; B, on social benefits.

The recruitment stage was not an easy task. Some potential participants referred that they would prefer a questionnaire rather than taking the time required for the photo-survey. However, all participants that took part in the photo-survey, completed the photo-taking stage, returned the cameras and took part in an individual interview to discuss the photos.

In the photo-taking stage, participants were asked to record on a log-sheet, the time, topic of the photo and if the photos were meant to describe a positive or a negative aspect. These log-sheets were returned with the cameras, and were used for the interviews, together with the photos developed. From the log-sheets, it was possible to see that some photos represented more than one issue. This can be seen from the log-sheet presented in Fig. 3.1.

Log-sheet

Please note the following information referring to each of the photographs taken

Theme: Photos that record both positive and negative aspects of Thornbury

Photo Nr.	Time	Date	Location	Brief Description
1	1145.	7/11/06.	THORNBURY HIGH ST.	CHARITY SHOP. (5)
2	1150.	7/11/06	— " —	CHRISTMAS DECORATIONS
3	1155	— " —	THORNBURY CHURCH	
4	1156	— " —	THORNBURY CASTLE	
5	1200	— " —	LOWER MORTON	THORNBURY R.F.C.
6	1205,	— " — .	HACKET LANG.	ROAD FURNITURE
7	1210.	— " —	SHOLT WAY	RECYCLING CENTRE.
8	1215	— " —	THORNBURY HILL	LEISURE CENTRE

Fig. 3.1. Example of a log-sheet

Source: photo-surveys.

In total, 209 photos were taken. All participants took more than 10 photographs. Photos did not necessarily reveal a high quality in terms of composition and quality, due to time constraints to capture a quality photo (e.g., during the day), the quality of the cameras themselves or because of participants' skills. Examples of such photos are presented in Fig. 3.2, Fig. 3.3 and Fig. 3.4.

Fig. 3.2. Vandalised skate park

Source: Participant C08, photo-surveys.

Fig. 3.3. Street lightning in Christmas

Source: Participant C02, photo-surveys.

Fig. 3.4. Bus, representing the lowering quality of bus services

Source: Participant A03, photo-surveys.

Each participant was then interviewed to discuss his/her photographs. Twelve hours of interviews were conducted. Participant A04 brought additional photos to the interview, which related to the topic, together with the 24 photos taken with the camera provided. In some cases, some of the photos were aimed at identifying more than one issue; in other cases, additional issues came out from the discussion on the photos. This was the case for Fig. 3.5, where the photo was initially meant to represent a pleasant green area built by the community, which was to be relocated. During the conversation, the participant also identified that the green area had been vandalised several times during the night. Therefore, the photo representing a pleasant green area also represented its relocation (and fear of losing it) and vandalism.

Fig. 3.5. Sensory garden

Source: Participant C06, photo-surveys.

Interviews were transcribed and the analysis was made to the transcriptions. Transcriptions were coded with codes referring to the aspects represented in the photos. Codes were developed during the analysis. An example of the codes developed is presented in Fig. 3.6.

Id	Notes	Coding
PS, A01	(…) and it just shows how Thornbury blends into the landscape (…) with nothing un-natural, very little un-natural (…) I don't like the whole large scale building sites.	Landscape, Natural landscape, aesthetics, blending with surroundings
PS, A01	(…) I think this is probably the ugliest building in Thornbury [laughs], a horrible squared block of brickwork and I think they could have done a lot better (…) in a street where the rest of the buildings blend together, this is a stalk shape with very little merit whatsoever.	Architecture, aesthetics, blending with surroundings
PS, A01	(…) the *Bibelot* building has its original sloping roof and it looks much nicer than the *Hawkins* building.	Architecture, aesthetics, original architecture
PS, A01	(…) shows how the how level [houses height] is continuing, the same sort of roof lines (…) it also means that they preserved a space which is very busy (…) keeping the area busy and usable.	Architecture, aesthetics, blending with surroundings Busy area (positive)

Fig. 3.6. Example of coded extracts from the transcript of participant A01's interview

The photos portrayed several aspects. These were: parking, driving behaviour, the quality of public transport, green spaces & seating areas, security & police working hours, the environment, management of public venues, adequacy of housing, waste management, leisure variety, health, education (including the library), energy & climate change, the post-office, certain buildings not blending in with their surroundings, the existence of abandoned buildings, some cluttered streets in the town centre, featureless fences and houses in a certain street, certain buildings (e.g., the old market building), St. Mary's Church, Thornbury Castle and Medieval Lane, friendship, love, caring, the feeling that the local authorities do care about the population, social care services, individual behaviour, networking, self-organisation and self-governance. Examples of these are presented Fig. 3.7, Fig. 3.8 and Fig. 3.9.

Fig. 3.7. St. Mary's church - a historical building in Thornbury

Source: Participant A01, photo-surveys.

Fig. 3.8. 'A healthy leisure activity and the faces of satisfaction of those working'

The allotments from Thornbury. Source: Participant A02, photo-surveys.

Fig. 3.9. The streamside walks: pleasant green areas in Thornbury

Source: Participant A03, photo-surveys.

Community misbehaviour was also present and related with litter in streets and other public places (e.g. the streamside walks), graffiti on walls, the aggressive behaviour of intoxicated citizens in the streets near pubs in the town centre, vandalism towards public infrastructure, and the parking behaviour of some citizens.

One topic that was represented in almost all participants' discourses was concerning retail services. Aspects that arose under this topic were, for example, the increasing number of empty premises, the lack of some retail services, and the excess of others. Fig. 3.10, Fig. 3.11 and Fig. 3.12 present some examples of these issues.

Fig. 3.10. Empty commercial premises in Thornbury's town centre
Source: Participant A04, photo-surveys.

Fig. 3.11. A supermarket out-of-town
Source: Participant A05, photo-surveys.

Fig. 3.12. Locally owned and managed shop
Source: Participant C04, photo-surveys.

Photo-surveys also allowed exploring some of the causes for some issues, ideas on how to address these issues and key stakeholders in the town. For example, participant A01, when talking about a cluttered street, was asked to think what could improve the situation. Participant refers:

'(...) something should be done (...) maybe masking the bins (...) or do something better a lot better because the whole aspect when you walk pass is a mess' (Participant A01).

As we can see from this example, it was possible to obtain ideas on addressing some of the issues identified by participants.

3.4. DISCUSSION

3.4.1. RECRUITMENT OF PARTICIPANTS

Some of the disadvantages of the photo-surveys were present in this work. The more time that is required from participants, the less likely it is for citizens to be willing participate. The time required for

the participants corresponded to having a camera for one week and taking 15-20 photos and a 1 hour interview. In addition, some participants felt they needed to think in advance and plan what to capture in the photos. There were difficulties in recruiting citizens to participate, and providing this time for participants to reflect might have been the cause for the low number of participants, compared to, for example, the *Health-Check* surveys, which had 198 participants.

The limited number of participants in the photo-surveys made that only partial views on certain aspects were identified (i.e., only one side of the story was captured). For example, Participant A03 complained about schools not taking responsibility for the traffic caused by parents taking their children to school by private car; however, the views from the schools were not present in the photo-surveys. Other participants identified the verbal abuse of youngsters, especially at night in the town centre, but the views from these youngsters were not captured in the survey. These are just a few examples.

Given the reduced number of participants, the views gathered cannot be seen as representative of Thornbury. In this sense, the results obtained are a useful instrument for improving the knowledge of the institutional and social dimensions of the problems at hand, but not a way of driving consistent conclusions on social preferences.

3.4.2. DEPTH OF INFORMATION

Results from the photo-surveys were compared to the questionnaire performed by Gloucestershire Council entitled *Health-Check* (see Table 3.1), which was conducted to 6000 residents, visitors, businesses, with a 3.3% response rate (198 participants). Both, the photo-surveys and the *Health-Check* had a similar purpose (to identify areas of improvement in Thornbury), although the technology/methodology used was different. Photo-surveys used cameras and an interview, the *Health-Check* used pen and paper in a questionnaire.

One of the aspects is that photo-surveys allowed identifying the same sort of issues with fewer participants than the open-ended questions from the *Health-check* survey (questionnaire) performed by the local authority to its population. Additionally, photo-surveys allowed exploring each issue in more detail, i.e., why the issues came to appear, ideas to address these, key-stakeholders that should be involved in the resolution of issues and potential conflicts existing in the town. This means that photo-surveys can provide useful data for policy-making.

Photo-surveys, as opposite to the questionnaires, do not require initially a deep knowledge about what can be the main issues in Thornbury in order to develop questionnaires covering those issues. In photo-surveys, only a very broad question is addressed to the participants, rather than several detailed questions on different aspects of the town. This means that photo-surveys and questionnaires can be complementary, where the results from the photo-surveys can inform the questionnaire design. The photos provide additional validity and reliability to the information gathered in the interviews and at the same time, ensures that responses given in the photo-survey are a result

from a reflection of participants rather than instant responses to an outside stimulus (the questions in the survey).

Given the differences in data obtained and the fact that photo-surveys had a much lower number of participants, it is possible to conclude that photo-surveys can provide relevant information related with the technicalities on town development.

3.4.3. FRAMING AND POWER BALANCE BETWEEN RESEARCHER-PARTICIPANT

Photo-surveys are meant to delegate the power from the researcher/practitioner on the research by allowing participants to take photos, interpret them and in essence, determine the line of discussion during the interviews (Chaplin, 1994; Petheram et al., 2012; Pink, 2001; Prosser, 1998).

It was clear that some participants brought their own agenda to the interviews. For example, participant A04 brought additional photos to the interview, which related to the topic, as mentioned above. The participant wanted to show photos of Thornbury from the old days and defended that Thornbury architecture and character should be preserved amongst all. Another participant, Participant C08, who worked at the community compost centre, took three photos on the compost centre (all to illustrate the compost centre as a valuable resource from Thornbury) and all remaining photos were from the surrounding area (car park, roads and skate-park). From the interview, it was clear the participant wanted to focus more on the stories surrounding the history of the compost centre as 35min of interview were about this. This can be seen as a sign of the power transferred (Moore et al., 2008; Packard, 2008).

Furthermore, this delegation of power from the researcher to the participants allowed the gathering of useful information through the photo-surveys without requiring a previous extensive knowledge about Thornbury from the researcher, as participants only need the definition of a single initial theme to produce the data. However, there were issues of power present in the research. These were translated in the results, namely in the choice and framing of the overall theme for the photos and in the selection of participants.

3.4.4. PHOTOGRAPHS VS. VERBAL LANGUAGE

The literature suggests that photo-surveys can bias results towards aspects of easy visual representation (e.g. Gauntlett and Holzwarth, 2006; Moore et al., 2008). Interestingly, the results obtained by the photo-surveys represented some aspects of a more abstract nature. This happened either through the photographs or just through the discussions during interviews. Examples of such aspects are community identity, fair trade, the local town website and radio (Fig. 3.13), the people and their ideas (Fig. 3.14), the diversity of activities organised by the community (Fig. 3.14), events that happened during the year, the absence of certain types of retailers, globalisation, and the ethos of a school. A summary of such aspects brought by participants is presented in Table 3.3. This confirms

what Kim and Kaplan (2004), Lynch (1960) and Woodley-Baker (2009) defended, that fairly complex and abstract issues can be represented in images, as we attribute meanings to the images we observe. This also makes clear that photographs show more than what is represented, as referred by Rose (2012).

Fig. 3.13. Advertisements on the Thornbury's local webpage and local radio

Cropped photos. Photos by participant C02, aiming at representing local voluntary initiatives and the active spirit of community.

Fig. 3.14. Local people and the Armstrong Hall Complex notice board

Cropped photos. These photos represent Thornbury's people, their ideas and talent, and several groups and clubs in Thornbury. Photos by participant A05.

Table 3.3. Abstract or non-material aspects represented in the photo-surveys

Aspect identified by the participants	Examples of photos
Sense of pride and belonging	Aspects in the roads into town (school children's signs on local fairs, flower arrangements, etc.). Photos looking into the mix of architectural styles Photos of certain iconic buildings and features such as St. Mary's Church, Thornbury Castle, the Pump
Active population, diversity of activities happening	Photo of a notice board full of clubs' and groups' messages
Modern and up to date local authority	Photo from a "fair trade sign" in Thornbury
Local website and local radio	Photos from adds from the local website and the local radio
Caring people and their ideas	Photo of a group of people gathering on the street, Photo of a notice board full with notices on activities and events
Events that happened during the year	Photo of the places where the events normally take place
Absence of certain type of retailers	Photo of an empty shop
Globalisation	Photo of waste on the floor and wheelie bin full – to represent a global and wasteful society, based on consumerism
Ethos of a school	Photo of the school

Photos are used to stimulate discussion and to provide additional validity and reliability to the word based transcripts from participants. They formed a guiding line through the interview and their creation stimulated participants to reflect and identify the aspects they wanted to bring to the interview. This goes in line with the literature, for example, Harper (2002) and Petheram et al. (2012), who defended/found that visual materials (photographs and videos) are useful for validity and reliability purposes. But images required the verbal language used in the interview as some photos were not explicit in terms of the aspects behind them, and some other photos represented more than one aspect (e.g. Fig. 3.5).

3.4.5. ETHICAL ASPECTS

Taking photos on certain topics such as crime, illegal activities and anti-social behaviour can endanger participants' wellbeing (Moore et al., 2006; Prosser and Loxley, 2008). Participants in the photo-surveys took photos of aspects that arise due to anti-social behaviour (see Fig. 3.15 and Fig. 3.16 for examples), but refrained from taking photos of individuals as they carried out these activities, and refrained from pointing out names. Other photos were initially meant to portray certain issues, and during the discussion anti-social behaviour appeared as an issue. For example, in Fig. 3.16, the pub was identified as being representative of the general low quality of pubs in Thornbury, according to participant A05. When discussing the photo, he also identified the noisy environment in the town centre on Friday and Saturday nights as being a negative aspect that would prevent him from walking into the town centre on those evenings. A similar process happened with the garden portrayed in Fig. 3.5, as discussed previously in Section 3.3.3.

Fig. 3.15. Anti-social behaviour

Cropped photos. Vandalised phone box (participant A03), graffiti on a wall (participant A04), dumped shopping trolley (participant A04), and dumped bin bags (participant C08). All photos taken by participants for the photo surveys.

Fig. 3.16. Anti-social behaviour

The pub was meant to represent nosy Fridays and Saturday evenings (participant A05), sensory garden was meant to represent a relaxed green area, a community effort in building the garden and it unfortunate closure, and vandalism in the garden during the night (participant C01). All photos taken by participants for the photo surveys.

There was one participant (participant A03), who took photos of litter on the floor, left by what the participant identified as being youngsters. This photo was taken to represent not the litter itself, but the verbal abuse these youngsters made to passers-by.

Therefore, participants found their way in taking photos without necessarily endangering themselves; however, with no guidance from the researcher. Furthermore, there can be ethical issues regarding the preservation of anonymity of people, houses, buildings or cars (car number plates) photographed, as found also in the literature (Prosser and Loxley, 2008; Teti et al., 2012). Overcoming the potential risks in photo taking is perhaps one of the issues that photo-surveys will need to address in the future.

3.4.6. PARTICIPANT ENGAGEMENT

An advantage of photo-elicitation (of which photo-surveys make use of) is that photos help engaging participants during the interviews (Moore et al., 2006; Petheram et al., 2012). In this research, photos formed a central line for focusing the interview, but the issues that were identified and discussed were broader than the issues identified in the photos, i.e., issues other than the ones the photos were aimed to represent emerged. In this sense, photo-elicitation helped in engaging participants.

3.5. CONCLUSIONS

The research described in this paper helped in clarifying some of the problems described for the use of photo-surveys in the literature. This was because some of these were either not present on the

results or were present, but somehow they were addressed through the way that the method was implemented.

In this work, photo-surveys did not provide quantitative data. It does not provide a representative sample of the population. However, photo-surveys provided a rich picture of Thornbury and a relatively good understanding on some of the issues affecting Thornbury without asking for a deep prior knowledge on the issues at hand from the research team. All these characteristics make photo-surveys potentially adequate for:

- the preliminary identification of needs from community members, or public participation in early stages of plans and projects;
- the evaluation of plans and projects themselves;
- evaluating the effectiveness of policies (i.e., ex-post evaluations),
- explore an issue more in detail by including an array of stakeholder perspectives on the matter,
- or just to serve as an input in defining surveys and questionnaires to gather ideas for the development of plans, programs and strategies, ensuring relevant issues are included in these.

Given the potential for generating ideas, and its participatory character, photo-surveys are a good tool to be used in Participatory Action Research or Participatory Rural Appraisal.

Research on the acceptability of photo-survey results by policy-makers is still needed, but its giving its first steps (e.g. Petheram et al., 2012).

Care needs to be taken to ensure that a cross section of perspectives is accounted for. Therefore, a stakeholder analysis is essential as a preliminary step.

However, photo surveying has still some limitations. Photo-surveys are an information elicitation method that requires time availability and active engagement by participants (as compared to questionnaires). This was found to make it harder to recruit participants for the photo-surveys. There are still ethical issues related with participants taking unnecessary risks for the sake of a photograph, when, for example, photographing illegal activities or miss-behaviour. These matters will need further attention in the future.

To conclude, photo-surveys allowed the authors to get access to some of Thornbury's social networks and to become known in the community, which is relevant for the following steps in the research.

3.6. ADDENDA TO THE CHAPTER: A REFLECTION ON THE FUTURE OF PHOTO-SURVEYS IN AN ERA OF DIGITAL PHOTOGRAPHY[16]

With the improvement in digital photography and the widespread of digital cameras, mobile phones with cameras and smart-phones, traditional photography will eventually became obsolete. It will be

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[16] This section is a reflection on the use of photo-surveys after May 2014 – after this chapter has been published at the Land Use Policy Journal.

harder to get film cameras and technology to develop the films. Furthermore, younger generations will have less and less contact with this technology; photography with film will become a foreign/stranger technology, especially for younger generations. This poses both, advantages and disadvantages.

The main disadvantage is that it will become more difficult to carry photo-surveys, as cameras will not be available or because participants will be less and less familiar with the technology.

On the positive side, as digital photography is becoming more and more accessible, it is possible to adapt photo-surveys to this new medium. Participants can take photographs using their own devices (which are more and more accessible to them) and sending these photographs via e-mail, rather than post. This can enable the process of photo surveying to become faster.

The spread of digital photographing can also allow opening the method to a wider number of participants, if combined with the use of the internet, to develop a platform (a webpage, where each participant needs to log in) and where participants can submit their photos and then be questioned about their photos.

As discussed above, digital photography will definitely pose challenges to traditional photo-surveys, but at the way photo surveying will deal with these challenges can lead to an interesting promising future for the method, in a world ever more visual.

4.

A Conceptual Model for Retail Decline in Market Towns: combining participatory photo-surveys with system dynamics

ABSTRACT

This Chapter illustrates the combined use of causal loop diagrams (CLD) and photo-surveys to understand retail decline in market towns and discuss possible strategies to revert this trend that is observed in many towns in Europe and worldwide. CLD are used to develop a conceptual model summarising the main theoretical contributions on retail decline in small and medium towns. We then apply this conceptual model to a case study, Thornbury, a small town in Southwest of England, where we have used photo-surveys to elicit relevant information from citizens. This case study was used to empirically explore and validate the conceptual model developed, identify the main variables affecting retail decline in Thornbury and the relations between these variables. The case outlined helped identifying key factors in Thornbury's retail decline, explore some of the potentialities of systems mapping and the benefits of combining CLD diagramming with participatory methods such as photo-surveys.

Keywords: Causal loop diagram, photo survey, retail decline, market town, systems' diagrams

4.1. INTRODUCTION

Human settlements (including small and medium towns) are (complex) systems. They are composed of elements, interconnections and a function or purpose. Elements can be people, buildings, vehicles, products and materials, companies or organisations. Interconnections are flows of information, money flows, flows of people, but also, interactions between people, companies and organisations, material and energy flows. The function or the purpose of a city is more ambiguous. This can be wellbeing,

services, housing, leisure or other, providing ways of satisfying needs and wants (such as products and services) of its citizens.

In the past two decades, there has been evidence of a change in the function of towns. This change is translated into a decline in some of the services small and medium towns provide to their citizens, such as retail and central services (e.g. McManus et al., 2012; Chapter 3). In part, this decline is powered by out-of-town retail competition, regional planning policies, population changes and increased use of private car (Findlay and Sparks, 2008; McManus et al., 2012). However, some authors disagree that such a decline is taking place, as they argue that population, employment and businesses in rural areas are in fact growing (e.g. Lowe and Ward, 2007; McDonald et al., 2013). It could even be that town service decline takes different forms, in some cases is represented by a retail decline, in other cases could be represented by an ageing population, or even, a reduction in population numbers (due to emigration). Whether there is a decline in retail and other services or not, the fact is that the patterns of the use of services have been changing (e.g. with the changing formats of retail, Rotem-Mindali, 2012) and it is important to study these changes.

This Chapter aims at developing a conceptual model to help explaining and understanding what town service decline is, combing the use of systems diagramming, to synthesise relevant theoretical contributions, and photo-surveys, to elicit citizens' views. We first approach town service decline in general, and retail decline in particular, from a systems' perspective informed by a literature review, by mapping the relations between different variables and causes of decline identified in the literature. According to Meadows (2008), the advantages of using systems diagramming is that it can help understanding the system elements and its interconnections, but also, it can provide insights into the system's behaviour and insights into creative system redesign (i.e. solutions to address certain issues).

The model is then applied to Thornbury, a small town in the southwest of England. Data on the town was collected through documental analysis, but also using a participatory visual method – photo-surveys, with those that live and work in this town. Combining systems diagramming with participatory tools such as photo-surveys can prove to be useful because:

- photo-surveys can bring experience-based knowledge, holistic views (Berkes and Folke, 2002), a grasp on local debates, and a firm experience of place (Sullivan et al., 2006);
- photo-surveys stimulate participants to reflect, to communicate in formats other than verbal to express aspects that could be difficult to represent otherwise (see Chapter 3; Gauntlett and Holzwarth, 2006; Pink, 2001);
- systems' diagramming can provide a powerful tool for synthetising and analysing results from photo-surveys, which constitutes still one of the topics of debate in the literature (Chapter 3).

This Chapter starts with an overview of human settlements as systems and the use of photo-surveys in studies about urban and rural settlements (Section 4.2). We then review the literature on town service decline, and based on this literature, we present a conceptual model of retail in market towns using causal loop diagrams (CLD), a diagramming technique used in system dynamics to represent the main elements of a system and their interactions (Richardson and Pugh, 1981; Kim, 1992), in

Section 4.3, then the case study is presented, describing the study area, the method methods used (photo-surveys) and the evidence gathered from the use of photo-surveys and secondary data (Section 4.4). In Section 4.5, we use the model developed and the data collected from the photo-surveys and secondary data on Thornbury to interpret and understand retail decline in Thornbury and identify the main feedback-loops influencing this decline. This discussion also addresses some of the solutions suggested in different sources to deal with retail decline in Thornbury. Finally, Section 4.6 summarises the results and concludes.

4.2. INFORMING CAUSAL LOOP DIAGRAMS WITH PHOTO-SURVEYS

4.2.1. SYSTEM DYNAMICS AND THE STUDY OF URBAN SYSTEMS

The interactions between the elements in urban systems do not necessarily follow a linear pattern. Citizens, organisations and companies do not always interact in the same way with each other, their relationships changing through time due to new knowledge, changes in values, regulations and environmental changes (Portugali, 1997; van den Bergh et al., 2000). There are also emergent properties that arise from the interactions between the urban sub-systems (Sawyer, 2004). These emergent properties are, for example, pollution[17], the face of a city[18], urban form[19], community identity, sense of place, and even sustainability itself[20]. Emergent properties cannot be ascribed to any subsystem or element in particular as these properties result from interactions between more than one element/sub-system and also because elements/sub-systems can change the way they interact (Pavard and Dugdale, 2004; Sawyer, 2004).

Studying the interactions between systems elements helps understanding systems behaviour. System dynamics, which studies systems behaviour, developed in the 1950s with the work of J. Forrester (Forrester, 1971) at the Massachusetts Institute of Technology (M.I.T.). Its use to study the dynamics of urban systems (urban dynamics) began in 1968, exploring how people, housing and industry interact with each other (Forrester,1969). This study provided interesting insights into the relation between jobs, housing and residents in urban systems, concluding, for instance, that to reduce unemployment, it would be more effective to reduce housing than to create more and better jobs or living conditions.

The applications of urban dynamics have since been increasing. Some of the first examples are the US cities of Lowell in 1971, Boston in 1974, Concord in 1975, Marlborough in 1976, Palm Coast in

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[17] Where air and water pollution result from the use of technology, planning policies and the environmental services of air and water purification.

[18] Also referred to as the image of a city (Lynch, 1960; Haken and Portugali, 2003).

[19] Resulting from planning policies, corporate behaviour and human behaviour.

[20] Keen *et al.* (2005).

1980 (Alfeld, 1995). These applications provided additional interesting results, highlighting the relevance of factors such as resource constraints (e.g. land availability as a limited resource), urban ageing (the ageing of buildings, which leads to lower rents, attracting land intensive businesses that tend to be low in terms of employment), relative attractiveness and growth vs. equilibrium (Alfeld, 1995).

The use of system dynamics to study urban systems has been growing since then, in particular in terms of urban form and land-use, which have shown encouraging results in terms of describing past urban spatial dynamics (e.g. White and Engelen, 1993; Barredo and Demicheli, 2003; Silva and Clarke, 2005; Liu *et al.*, 2008).

Causal loop diagrams are used in system dynamics to represent the relationships among the elements of a system, thus enabling an improved understanding of the structures that cause the observed patterns of behavior. Fig. 4.1 presents an example of a relatively simple CLD. In the diagram, arrows represent causal influences between elements. For example, the number of shops in a town centre can vary, depending on the number of shops closing (outflow) and opening (inflow). If the number of shops closing is higher than the number of shops opening, the stock of shops reduces and this gives origin to retail decline. The more shops there are in the town centre, the more attractive is the town centre for investors (flow (d) in Fig. 4.1). At the same time, more shops in the town centre can increase the number of people shopping in the town centre, bringing income to retailers, reducing the number of shops closing down (flow (c) in Fig. 4.1).

Fig. 4.1. Stock of shops in a town centre as a function of opening and closing shops

In Fig. 4.1, arrows include a sign (either + or −). These signs have the following meanings:

- A causal link from one element A to another element B is positive (that is, "+") if a change in A produces a change in B in the same direction;

[74]

- A causal link from one element A to another element B is negative (that is, "−") if a change in A produces a change in B in the opposite direction.

Diagrams are meant to present relationships that are difficult to verbally describe (Meadows, 2008) because normal language presents interrelations in linear cause-and-effect chains, while the diagram shows that in the actual system there are circular chains of cause-and-effect.

When an element of a system indirectly influences itself, like in Fig. 4.1, the portion of the system involved is called a feedback loop or a causal loop. More formally, a feedback loop is a closed sequence of causes and effects, that is, a closed path of action and information (Meadows, 2008). The reason for emphasising feedback loops is that they are relevant to understand what is causing the patterns of behaviour - causes of an observed pattern of behaviour are often found within these feedback structures.

CLDs of real systems are composed primarily of closed, continuous chains of feedback loops (Hussein, 2010; Meadows, 2008). There are two fundamental types of feedback loops:

- A feedback loop is called a reinforcing loop (Meadows, 2008), generally indicated by a "R" or a "(+)", when a change in the system in one direction leads to a chain of events that pushes the system further into that direction – in practice, this is when a feedback loop contains an even number of negative causal links;
- A feedback loop is called a balancing loop (Meadows, 2008), indicated by a "B" or a "(-)", when a change in the system in one direction leads to a chain of events that pulls the system in the opposite direction, balancing the initial effect – in practice, this is if it contains an odd number of negative causal links.

Both loops presented in Fig. 4.1 are reinforcing loops.

CLD allow representing the way in which complex systems work. They help to think through the way in which the factors within a system interact and feedback upon themselves, namely:

- How factors are related, and how one factor will change when another changes.
- How factors may feedback in either balancing loops or reinforcing loops.
- How external factors impact on the system.
- How gaps operate.
- How delay affects the system.
- The complexities of a system.

This can be extremely interesting when thinking in retail decline in a town. However, there has been little or no use of systems thinking to discuss retail decline in small to medium towns.

4.2.2. THE USE OF PHOTO-SURVEYS

Models are used to frame problems and answer questions. The particular problem and context of a model should always be clear. They are explicit theories of why something behaves the way it does. They should help to clarify what is being considered and what is being excluded and present

opportunities to suggest corrections and additions and improvements. For this, contextual information is essential.

To provide context for a model dealing with urban dynamics, participatory techniques, involving local citizens can reveal advantages, as citizens may have:

- experience-based knowledge;
- an holistic view (Berkes and Folke, 2002) on the interdependencies between different elements of a town;
- a grasp on local debates, especially if these are related to contested or conflicting issues; and
- a firm experience of place, i.e. time and context-specific (Sullivan et al., 2006).

To stimulate citizens' participation, visual methods can be used to tap into people's perceptions about living and working in market towns. Photo-surveys, a type of visual method, make use of photo-elicitation in a semi-structured interview to unveil participants' perspectives, histories, opinions, values, feelings or preferences towards situations portrayed in the photos (Gauntlett and Holzwarth, 2006; Moore et al., 2006). Photo-elicitation was first described by Collier in 1967 as the process where photographic images are used to stimulate and guide an interview (Moore et al., 2006). Photography has been used as a research tool by a range of disciplines (anthropology, psychology, sociology and human, cultural and urban geography) and at different levels to engage individuals and communities.

Photo-surveys can stimulate creativity, imagination and, therefore, allow for uncovering emerging issues that could otherwise be left out from the discussion, especially if participants are the ones taking the photos. This happens because:

- Photo-surveys make use of other forms of language than just verbal, which can make it easier for participants to express their concerns about development, or communicate their values, feelings, ideas and viewpoints (Gauntlett and Holzwarth, 2006);
- Participants may feel more empowered and, therefore, motivated to contribute more. This is achieved if participants are asked to develop the visual materials themselves (Chapter 3; Pink, 2001; Prosser, 1998).
- Participants are either given time to discuss the issues at hand or are given time to reflect at their own pace. In most individual participatory approaches, subjects are required to produce instant descriptions of their views, opinions or responses (Chapter 3).

Despite this usefulness in specific cases, photo-surveys have largely remained a marginalised, fragmented, under-utilised methodological tool (Chapter 3). How to interpret and confer meaning to the photographs is still one of the topics of debate in the literature. Rose (2012) provided a tool box for photo-analysis, in an attempt to systematise photo analysis methods but system dynamics was not included in this toolbox. In this Chapter we argue that photo-surveys can be successfully combined with systems diagramming to gain an improved understanding about the dynamics of town renewal and decline: while photo-surveys provide relevant contextual knowledge about the town, a system dynamics model provides the platform to integrate this knowledge in a meaningful way.

4.3. DEVELOPING A SYSTEMS MAP TO DESCRIBE DYNAMICS OF RETAIL IN A TOWN CENTRE

One of aspects focused on the literature on small and medium towns is the increasing numbers of closed shops in town centres. The pool of shops in a town centre can be seen as a stock (Fig. 4.1). The number of shops can vary, depending on the number of shops closing (outflow) and opening (inflow). If the number of shops closing is higher than the number of shops opening, the stock of shops reduces and this gives origin to retail decline. The more shops there are in the town centre, the more people will be attracted to the town centre, bringing income to retailers. This reduces the number of retail closing down and makes the centre more attractive for new investors (flows (c) and (d) in Fig. 4.1). Flows (d) and (c) in Fig. 4.1 can be decomposed.

The number of people shopping in the town centre affects shops' income, together with the costs of maintaining a shop open in the town centre. The income to retailers will affect the number of shops closing down and therefore, the pool of shops in the town centre. The pool of shops in the town centre will affect the number of people shopping and therefore, we have a reinforcing feedback loop. In addition, out and edge-of-town retail, the internet, among others, offer competition to town centre retail. This is represented in Fig. 4.2.
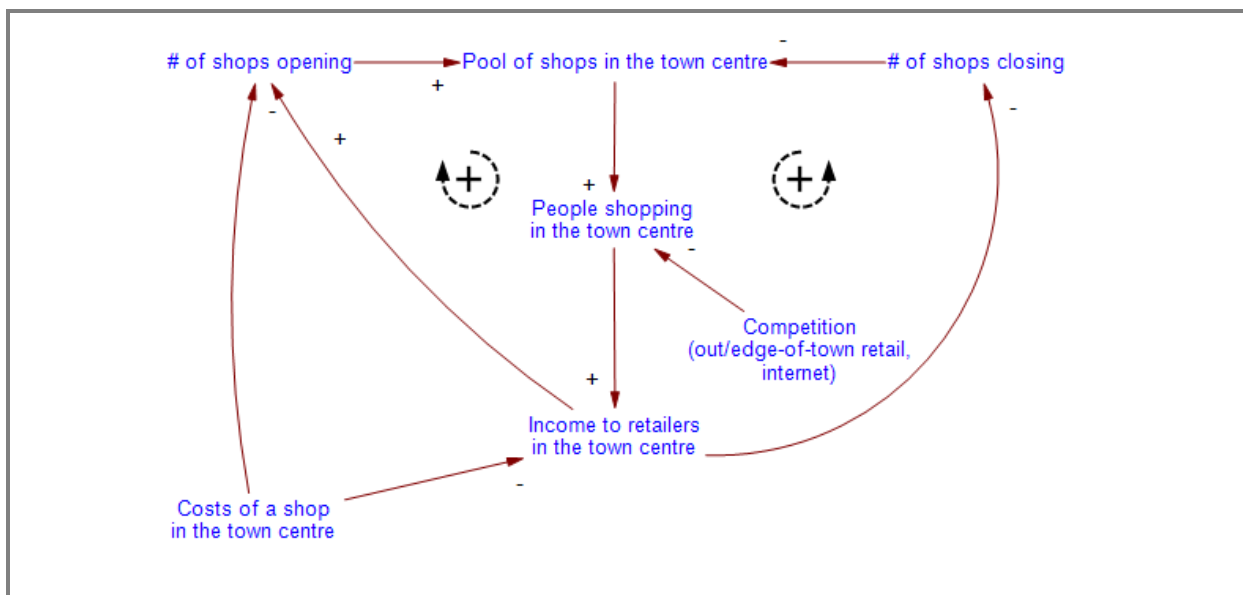
Fig. 4.2. General CLD for retail in a town centre

4.3.1. FACTORS AFFECTING THE NUMBER OF PEOPLE SHOPPING IN THE TOWN CENTRE

The number of people shopping in the town centre is influenced by the services offered in the town centre, whether these be leisure, or even employment (as the location where people work affect where they shop, Powe and Shaw, 2004; van Berkel and Verburg, 2011; Bittner and Sofer, 2013).

Affordable housing affects the arrival of new citizens, which can contribute to the number of people shopping in the town centre (Pratt, 2009; Gallent and Robinson, 2011). Transport (public and private) and accessibility (including internet shopping opportunities) also contribute to the number of people shopping in the town centre (Lowe and Ward, 2007; Ahmed *et al.*, 2008; Pratt, 2009; Kures and Ryan, 2012; Rotem-Mindali, 2012).

Housing is one of the factors that affect people visiting the town centre. Forrester (1969) describes the relation between house numbers, people and jobs. The more houses available, the more people can become residents, and the more jobs are taken (leading to less jobs available), as presented in Fig. 4.3. The reverse is also valid, the more jobs are available, the more people can wish to live in the town. Providing that this housing is available, more people can move into the town, leading to a lower availability of housing. The more houses are built, besides potentially bringing residents (which will reduce jobs available), the less physical space there is for new offices and retail space.
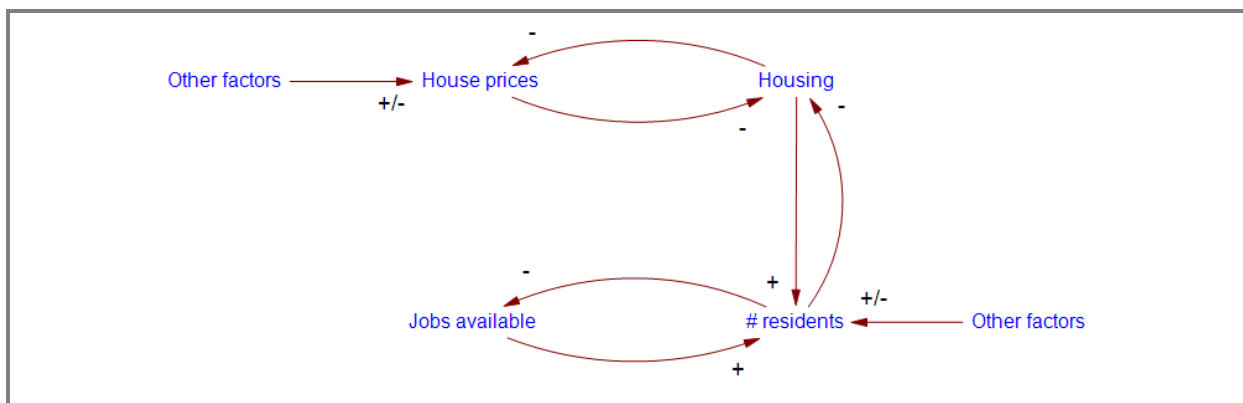
Fig. 4.3. Relation between housing, people and jobs

To what concerns transport and accessibility, the competition between private cars and public transport impacts upon the quality and number of public transport services (Brake and Nelson, 2007). Less public transport users implies a reduction in the profits and power of public transport providers, and an increased need for it to be subsidised. Increasing use of private car leads to stress in car facilities, which in turn leads to pressures to improve/increase infrastructure associated with private car e.g., car parking, new lanes (Brake and Nelson, 2007). This is schematised in Fig. 4.4.
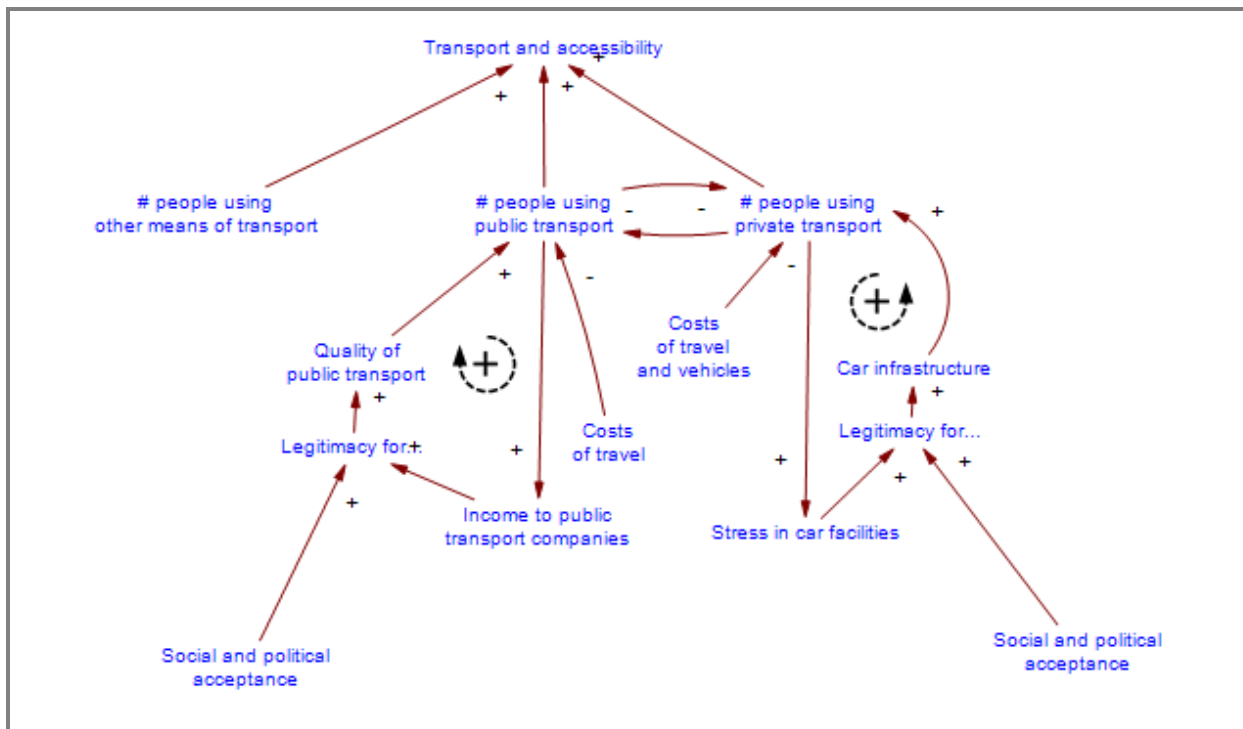
Fig. 4.4. Relation between public and private transport

Some authors (e.g. nef, 2002) suggest the pool of shops in the town centre influences the variety of products sold (the more shops, the higher the probability of having a greater variety of products available to customers) and local identity (a town centre with a great number of closed shops can decrease local identity).

nef (2002) identifies a link between a reduction in the diversity of products sold, local retail in town centres and local identity and sense of community. This is mostly because of the loss in diversity in town centres, by having less characteristic shops and less characteristic products (as, according to nef, 2002, local retail is more prompt to sell local and different products).

Kures and Ryan (2012) and Richardson et al. (2012) consider the link between local identity and the number of people shopping in the town centre. The rationale to assume such a link is because, even if there are not enough products available to satisfy a visitor's needs, the visitor might feel compelled to travel to the town centre just because the visitor feels the need to contribute to maintain the town centre, or just because the visitor enjoys being at the town centre. Of course, changes in local identity happen slowly as their effects on the number of people shopping in the town centre.

Retail customers have their own needs and wants: things that they need and things that they want (Max-Neef, 1992) to buy. If customers cannot find the products they need or want in the town centre, they will eventually travel out-of-town to acquire these products (Rotem-Mindali, 2012). This means that customers will buy fewer products in the town centre and less income will go to town centre retailers. Alternatively, and given the nature of many of the local retail (mostly locally owned), customers can communicate with retailers about the discrepancy between their needs and wants and the products they find available and retailers can then order supplies to satisfy customers.

[79]

The more shops exist in the town centre, the more variety of products can exist, the more people will be shopping in the town centre, the higher will be the profits compared to the costs of maintaining a shop open, which can in turn attract investors (new retail) into the town centre. In addition, the more income retailers have, the more they can invest in either acquiring more products to sell or in improving their image to customers, and therefore, the more income retailers have, the more they can attempt to do in order to attract customers. This is another reinforcing feedback-loop.

Kures and Ryan (2012) also refer to weather conditions, safety of the streets and cleaningness as factors influencing the number of people shopping in the town centres. All of these, together with the prices quality of products, customer service quality, social and environmental responsibility of retailers (APPSSG, 2006). Fig. 4.5 summarises all these aspects that influence customers decisions on where to shop.
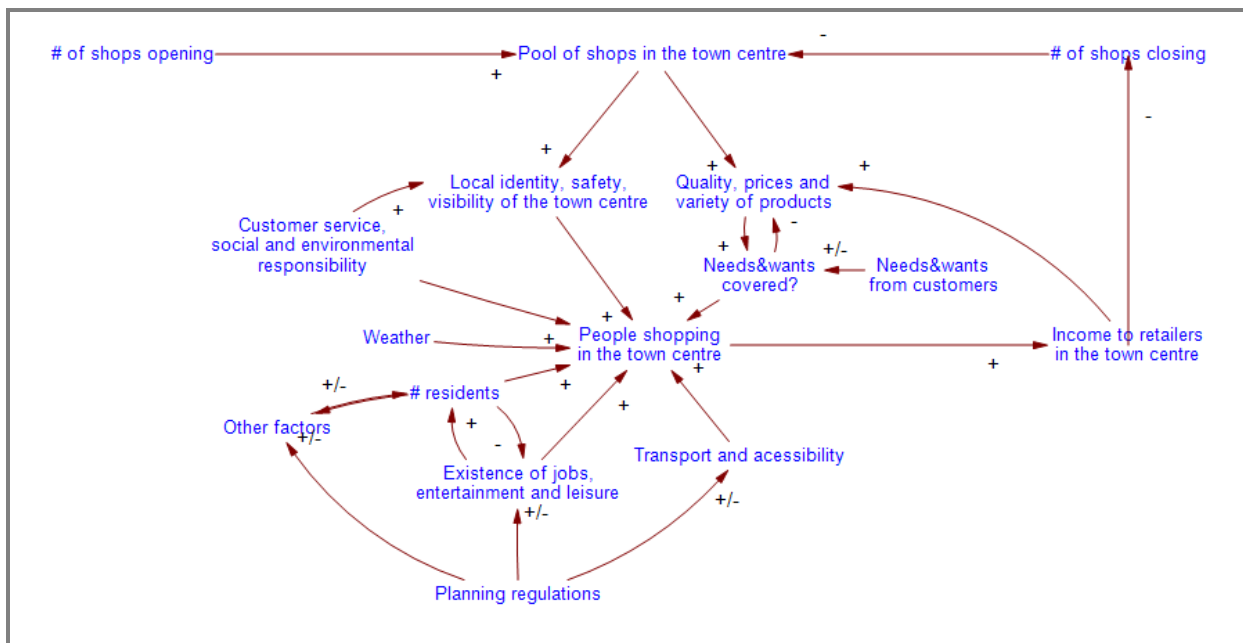
Fig. 4.5. Factors contributing to customer attraction

4.3.2. COMPETITION WITH OUT-OF-TOWN RETAIL

Regarding out-of-town and edge-of-town retail, this is said to compete with town centre retail[21] (APPSSG, 2006). Furthermore, the literature suggests that in the UK, for example, large supermarkets at the edge-of-towns are able to purchase supplies at lower prices because of the high amount of supplies acquired (APPSSG, 2006). Additionally, the literature suggests that many suppliers give preference to larger supermarkets than to smaller retail (APPSSG, 2006). This is schematised in Fig. 4.6.

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[21] http://www.igd.com/our-expertise/Retail/retail-outlook/3371/UK-Grocery-Retailing/ (last accessed: March 2014).
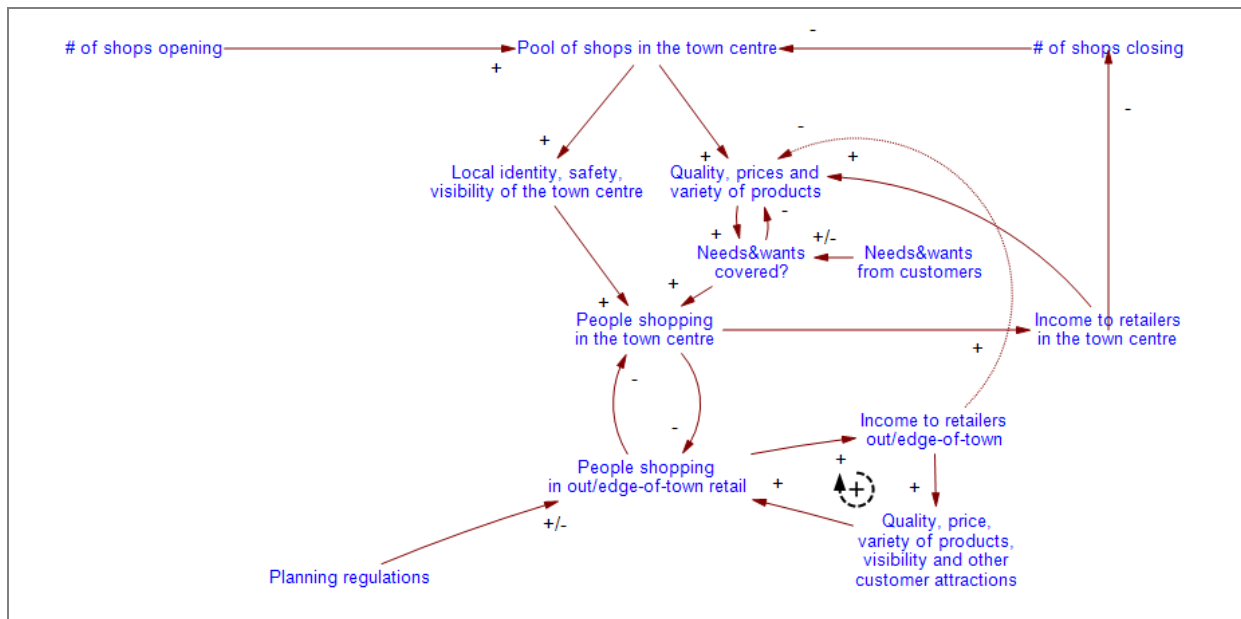
Fig. 4.6. Relation between out/edge-of-town retail and retail in the town centre

There are two reinforcing feedback loops in Fig. 4.6, which are highlighted in Fig. 4.7. The first is related with the fact that the more people shop out-of-town, the more income out-of-town retailers will have, which allows the possibility for these retailers to acquire more products, with higher quality and at lower prices. This, in its turn, will attract more customers. The second feedback loop related with the influence out-of-town retailers can have in terms of supply chains. If out-of-town retailers, by buying large amounts of supplies, are benefited with lower supply prices and are preferred by suppliers (compared to smaller, in town retail), then, the more people shop out-of-town, the more income out-of-town retail will have, and the more influence these retailers will have on the supply chains. This affects negatively the prices and variety of products smaller in town retailers can acquire, affecting the variety and prices of products sold in the town. If the prices and variety of products are not competitive with out-of-town retail, less people will shop in the town, leading to further profits for out-of-town retail.
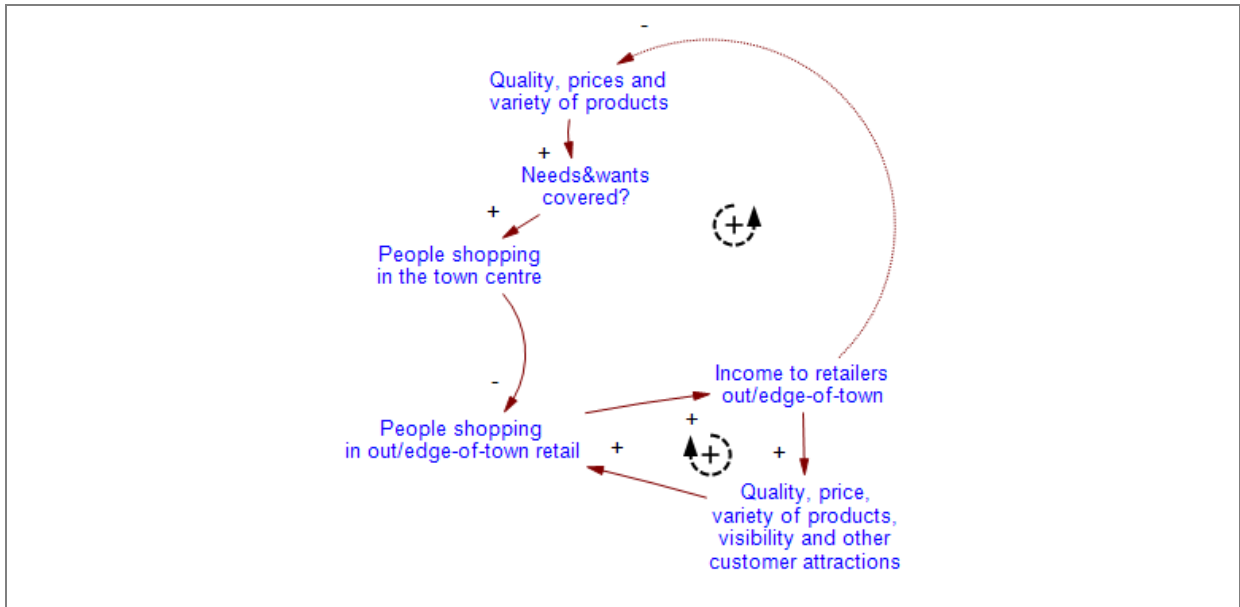
Fig. 4.7. Reinforcing feedback loops related with competition between in town and out/edge of town retail

4.3.3. RETAILERS' COSTS

To what concerns costs, these are related with the acquisition of supplies, rents paid by retailers to commercial property owners, costs with complying with regulations (e.g. environmental health, safety), VAT, business rates, utilities, salaries, among others. These costs affect existing retail, but also, new potential investors. New shops will only open if retailers see that the income they can get surpasses the costs of opening and maintaining a shop (see Fig. 4.8). Additionally, the literature suggests that planning regulations affect the location and format of retail outlets and the retail in town centres (nef, 2002; Thomas and Bromley, 2002 and 2003; Rotem-Mindali, 2012). The location of retail and their formats affect where people shop.
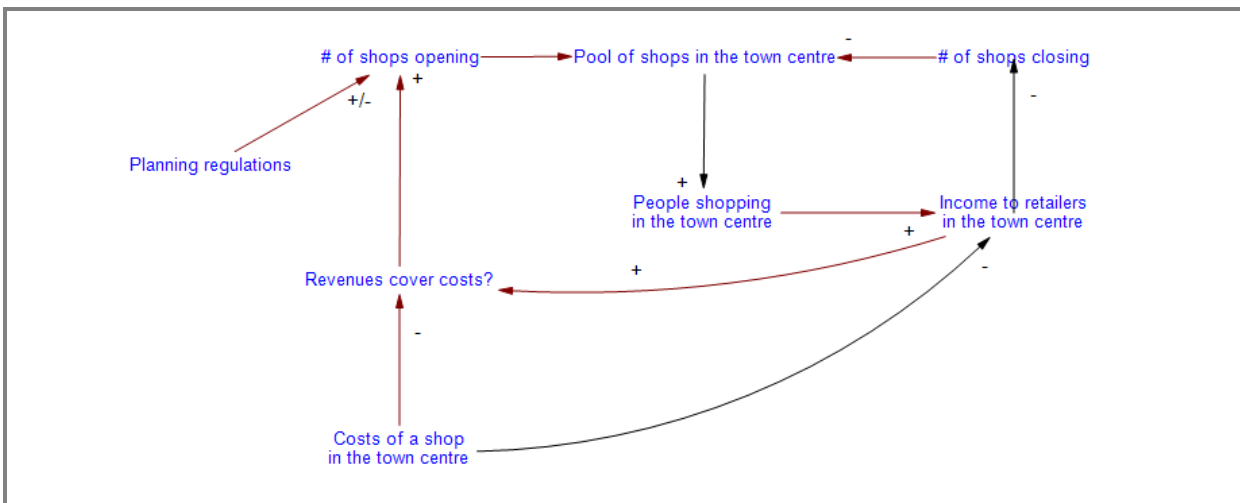
Fig. 4.8. New investments in the town centre CLD

4.3.4. SUMMARY

Table 4.1 presents the main elements of the conceptual model developed and their relation with retail decline. The model presents many elements and not all will be changing through time. Over the next sections, we analyse Thornbury to understand how each of these elements have been changing in order to understand which of these are contributing to Thornbury's retail decline.

Table 4.1. Summary of the elements the literature identifies as contributing to retail decline

Elements	Contribution to retail decline
Number of shops closing	Increase
Number of shops opening	Decrease
Income to retailers in the town centre	Decrease
Costs of opening and maintaining a shop in the town centre	Increase
Planning regulations	Depends on the policy. The literature suggests planning policies in the UK are contributing to retail decline in small and medium towns
Number of people shopping in the town centre	Decrease
Quality, price and variety of products offered in the town centre	Decrease
Customer service, social and environmental responsibility of retailers	Decrease
Safety	Decrease
Transport and accessibility	Decrease (although, the increase in private car also contributes to increasing possibility of travelling further afield to access products and services, thus contributing to retail decline)
Number of residents in the town	Decrease
Local identity, image and visibility of the town centre	Decrease
Needs and wants from residents and visitors	Increase
Housing	Decrease

Elements	Contribution to retail decline
Jobs in the town centre	Decrease

4.4. CASE-STUDY: PHOTO-SURVEYS IN THORNBURY

We have used an empirical study to test and further develop the conceptual model developed in section 4.3. This case study also allowed us to explore the use of the photo-surveys as an elicitation method to gather knowledge to validate the CLD developed in the previous section and understand retail decline in Thornbury. This section describes the study area, the methods used (i.e., the photo-surveys) and the results obtained.

4.4.1. THORNBURY, SOUTHWEST OF ENGLAND

The study area for this research is Thornbury. Thornbury is a small market town in South Gloucestershire, southwest of England (Fig. 4.9), with 12 250 habitants (Census 2001), which, from the turn of the millennium, was facing some of the symptoms of small and medium towns' decline, such as a decline in retail services in the town centre, in the number of post-office branches, and in public transport services.
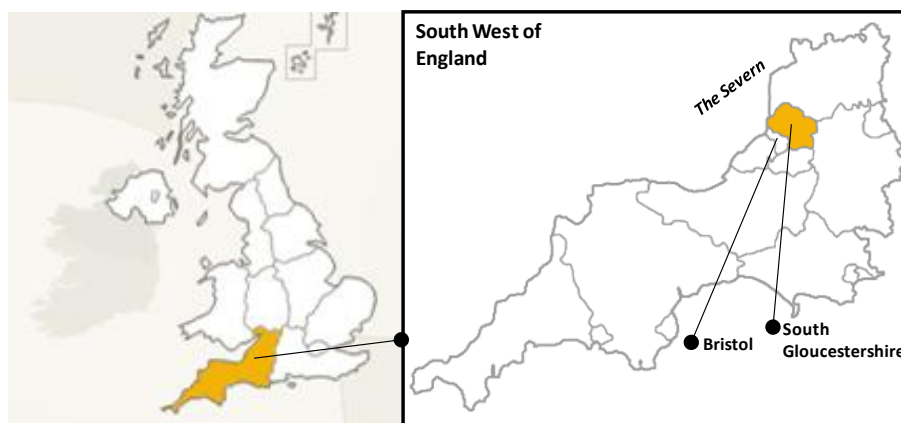
Fig. 4.9. Location of South Gloucestershire in the South west of England

On the left: South West of England in the UK. *On the right*: South Gloucestershire in South West of England. Figure adapted from Partnerships UK (http://www.partnershipsuk.org.uk, accessed in August 2008).

With the building of a major retail facility at Cribbs Causeway during the late 1990s, Planning Practice et al. (1996) warned for the potential decline in town centre services, due to a shift from local to out-of-town shopping. By the turn of the millennium out-of-town shopping was mostly done on the Mall at Cribbs Causeway, the Broadmead, and the Galleries in Bristol (Gregory, 2001). In 2006, in

Thornbury, no record was being taken on the number of empty premises. Visits to the town centre during 2006 revealed 30 independently owned shops, 17 chain stores and three closed spaces, spread over 18 types of retail. Retailers such as department and catalogue stores (e.g. Argos), beverage stores (although existent outside of the town centre), household items (furniture, kitchen, etc.), cinema/theatre, Electronic/IT (TVs, phones, computer, etc.), DIY/builders' merchant and camera/photo developing shops were non-existent in Thornbury town centre. In 2007, two additional retail spaces closed down (a video rental store and a supermarket).

Dealing with the decreasing retail services, amongst others, is a challenging task for Thornbury's planning and decision-making bodies. In order to get the financial support needed to deal with such challenges, Thornbury engaged in the *Market Towns Initiative*, a governmental initiative to support town renewal. In parallel, South Gloucestershire council has also been conducting a series of consultations within the community for the preparation of the *Community Strategy*, which is running from 2009 until 2015. The consultation processes were aimed at identifying the main issues that local residents and businesses felt should be addressed in the *Community Strategy*.

The *Market Towns Initiative* would be used as a part of the *Community Strategy* development process and implementation. As a requirement for the *Market Towns Initiative*, Thornbury developed the *Town Centre Strategy Group*, a partnership composed of representatives from the local authorities, the local chamber of commerce, some local businesses and the St. Mary Centre[22] management. In 2006, the *Town Centre Strategy Group* developed an audit entitled *Health-Check*. This audit aimed at identifying issues relating to the economy, environment, society and community life and transport. Included in the *Health-Check*, a survey to households, small businesses and visitors detailing their concerns with the development of the town was conducted between July and August 2007. The survey included five questionnaires targeting Thornbury's households and businesses. Overall, 5500 questionnaires were sent out for the Thornbury community survey, and a 3.5% response rate was obtained (see the *A1. Appendix to Chapter* 4 for more information on the survey).

Further to this, as a way of revitalising Thornbury's town centre, a refurbishment of the library building was proposed, to redevelop the library building from a single storey to a three-storey building which could accommodate commercial and office space, as well as improve the library facilities (Fig. 4.10). Under this project, the current library would be relocated from the ground floor to the first floor. The ground floor would accommodate a retailer, whose details were not disclosed by the local authority to the public; and the top floor would accommodate *Thornbury Motors*' offices, a local car retailer. The basis for such as project was that the retailer on the ground floor would attract people to the town centre, therefore improving the retail conditions around the town centre in general. This project proved controversial, as it would have a strong visual presence in the town centre, being the tallest building in it. At the beginning of this empirical research, no decision by the council on whether to move forward with the proposal had been made.

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[22] St. Mary Centre is an open-air shopping centre representing a large area of Thornbury's town centre.
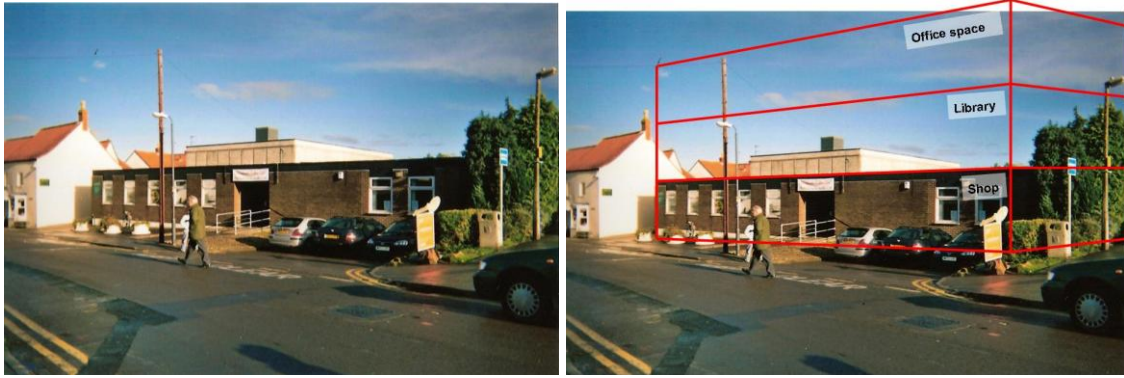
Fig. 4.10. Current and the projected library building

Left: current library building. Right: schematised outcome from the refurbishment of the library building.

4.4.2. METHODOLOGY

We have obtained and triangulated data from different sources, including a survey of the literature, document analysis, photo-surveys.

We have used photo-surveys to elicit citizens' perceptions on living and working in Thornbury, as described in Chapter 3. In summary, participants were selected using a snowballing technique. Ten residents from Thornbury and two from the surrounding villages were involved in the photo-surveys. Ages ranged from 17 to 75 years and genders were balanced (50/50). Participants were asked to take between 15 and 20 photographs showing positive and negative aspects of living and working in the town, register the time the photos were taken and the reason why they took each photo (on a log-sheet). Once the photographs were developed, a semi-structured interview was conducted with each participant. The photos from the participants were used as the main material for discussion during the interviews. All interviews were recorded and transcribed and participants coded (codes: A01-A05 and C01-C04, C06, C08 and C10) for anonymity reasons.

Secondary data on local policy documents, letters to the Editor from the *Thornbury Gazette* (a local newspaper) and previous citizen consultation reports such as the district council's *Health-check* questionnaires were also used to triangulate the data gathered from photo-surveys.

4.4.3. SUMMARY RESULTS

For the photo-survey, 209 photos were taken and 12 hrs. of interviews conducted. Results were presented in Chapter 3. In this section, we present a brief summary of these results. There were aspects that arose from the data related with retail services. These were mostly in terms of the quality of retail in the town centre: the increasing number of empty premises, the library project, the lack of some retail services and the excess of others. There was also a comment concerning the perception about the increasing number of food miles of the products sold by supermarkets. Table 4.2 presents some of these aspects.

Table 4.2. Aspects related with retail services

Diversity of shops: high number of charity shops, the range of shops, the number of vacant shops and out-of-town competition.

The lack of "owner managed shops"/"small and local shops".

Rents and business rates paid by retailers to commercial property owners and local authorities.

The lack of people shopping in the town centre.

The proposed redevelopment of the library building.

Opening times of retailers and pricing of products in the town centre.

In the *Shoppers Survey*, from the *Health-check* questionnaire, 41% of the respondents considered the town centre facilities to be OK and 19% to be good; however, 27% of the participants in the survey considered Thornbury's town centre services, facilities and activities to be poor. The *Shoppers Survey* revealed that 54% of the participants shopped in the town centre; 17% shopped daily in the town centre, 23% shopped weekly, and the remaining shopped for frequencies longer than a week. Thus, participants considered Thornbury to be a viable place for shopping in frequencies higher or equal to a week, revealing that Thornbury has the capacity to offer that service.

Photo-surveys and secondary data have shown the relevance of the aspects related to transport and accessibility to retail services' prosperity/decline. Other issues related to transport and accessibility included parking, driving behaviour and the quality of public transport. These are described in Table 4.3.

Table 4.3. Thornbury's transport & accessibility issues

Private car use	Accessibility to certain buildings, traffic and parking near schools, parking in the High Street, parking on pavements/bus stops/double-parking, traffic, too much traffic in the High Street which should be pedestrianised, traffic noise, drivers' aggressive behaviour (safety for cyclists and pedestrians), high car ownership overall.
Road infrastructure	The large number of road signs and traffic calming measures.

Private car-parking	Rules on parking in parking bays and car parks; car parking availability.
Public transport	Public transport quality (bus quality, prices, reliability, frequency of buses); lack of connections between buses and hospitals; quality of bus shelters; the need for improvement in public transport (rail access, light rail or express bus services). The need for extending times of bus services, easy access timetables, circular bus route within Thornbury, disabled access to buses, multi-bus tickets, buses from car parks into the town centre.
Cycle and Pedestrian	Pedestrian safety when crossing roads; safety issues related to the need to cycle on the road; encourage parents to walk kids to school; cycle racks; advertise cycle routes and racks; a park-and-ride system for bikes was proposed; good quality pedestrian routes.

There were a series of other aspects raised with participants related with other services than retail or transport and accessibility. These included green spaces and seating areas, security and police working hours, elderly care, the environment, management of public venues, adequacy of the amount of houses, waste management, leisure variety, health, education (including the library), energy and climate change and the post-office. Table 4.4 details these.

Table 4.4. Aspects related with other services in Thornbury

Education	The need for an improved library, need for environmental education in schools; good quality schools.
Elderly care	A home meals service is absent in the town.
Energy	The need to invest in renewable energy to reduce contribution to climate change.
Environment	Too many plastic bags are being used, food waste associated with excess packaging and sell-by-dates.
Green areas and seating areas	The number of places to rest in the town centre, the loss of the sensory garden, which was a green seating area five minutes from the town centre; Mundy playing fields and Filnmore woods as nice green areas.
Health	Crowded hospitals and closure of certain wards in Thornbury hospital; the lack of dentists; good health clinics/general practitioners.
Housing	Lack of new housing/too many houses; high house prices.
Industrial estate	In/adequate for the city size; local jobs provision; changes in traffic in the town outskirts.
Leisure	The need for more leisure places (cinema, for youth, theatre), leisure catering for all ages; some diversity of leisure activities (sports, allotments, etc.).
Policing/ Safety	Perception of few police officers in the streets; too much/too few CCTV in the streets; police work very few hours a day; thefts in the town centre.
Post-office	The announced closure of the post-office in the town centre.
Public venues	Queuing system in booking public venues; the new community centre (pros and cons); the Chantry, a community managed venue.
Waste	Frequency of waste collection.
Banks, lawyers, etc.	Quality and diversity of services offered.

In addition, there were a series of aspects that participants raised regarding: cultural and historical heritage, sense of belonging and identification of the self with the town (e.g. being proud of the town, aspects referring to the uniqueness and character of the town), aesthetics, quietness and the size of the town. There were also aspects focused on political awareness, the people, the talent and ideas, and community behaviour, e.g. the political awareness shown by Thornbury town council when trying to get a fair trade label for the town. Table 4.5 presents these aspects.

Table 4.5. Aspects related with sense of community and social capital

Aesthetics	The presence of trees and bushes; density of the town; the views from Thornbury towards the outside; buildings blending in/conflicting with surroundings, abandoned buildings, clutter in streets and parks, aesthetics of streets and buildings, diversity of architectural styles, the loss of the sensory garden, which was an aesthetically attractive garden, the visual impact of the library project, the need for more lighting and flowers to attract people into the centre.
Continuity	Several historical buildings, streets and architecture in town; fear of proposed refurbishment of St. Mary's Church; the non-usage of some historical buildings; maintaining and using certain historical buildings.
Social capital and governance	The roads into the town (school children signs on local school fairs, flower arrangements, etc); caring people and their ideas; volunteering and activism within the community; behaviour of youngsters in terms of littering, behaviour of youngsters in terms of verbal abuse, vandalised telephone boxes, vandalised cars, graffiti on walls, graffiti on a telephone transmission box, the loss of the sensory garden which was made by the community, young people in city centre because of pubs are noisy and violent, elderly care, the amount of waste citizens produce in their homes, structure of the council (party politics only).

4.5. UNDERSTANDING RETAIL DECLINE IN THORNBURY

In this section, we used the previously described conceptual model to understand retail decline in Thornbury, while, at the same time, we are using the knowledge and the improved understanding of the main issues that we gained in the photo-surveys to inform and validate our initial model.

4.5.1. PEOPLE SHOPPING IN THE TOWN CENTRE

4.5.1.1 Housing, amenities, employment and local identity

The lack of new housing and high prices of current housing were identified by some participants as negative issues in Thornbury. This is a sign that there may be difficulties in accommodating newcomers. On the other hand, South Gloucestershire will need to accommodate 2300 houses in Thornbury and the surrounding areas by 2026 (South Gloucestershire Council, 2008).

No new incomers to Thornbury can affect the number of people shopping in the town centre, not contributing to increasing income to retailers. This does not helps keeping retail open in the town centre, as schematised in Fig. 4.5.

Participants in the photo-surveys have identified a series of amenities in Thornbury town centre that could act as incentives for one to travel to the town centre (see Table 4.4 and Table 4.5). These

amenities can provide an incentive for residents and visitors to travel to the town centre and, eventually, shop. Participants in the photo-surveys did not mention jobs and employment within the town as an important issue. Although unemployment in Thornbury is low, many residents work out-of-town (see Fig. 4.11). The literature suggests that people tend to shop where they work, and therefore, little jobs in the town centre can contribute to less people shopping.
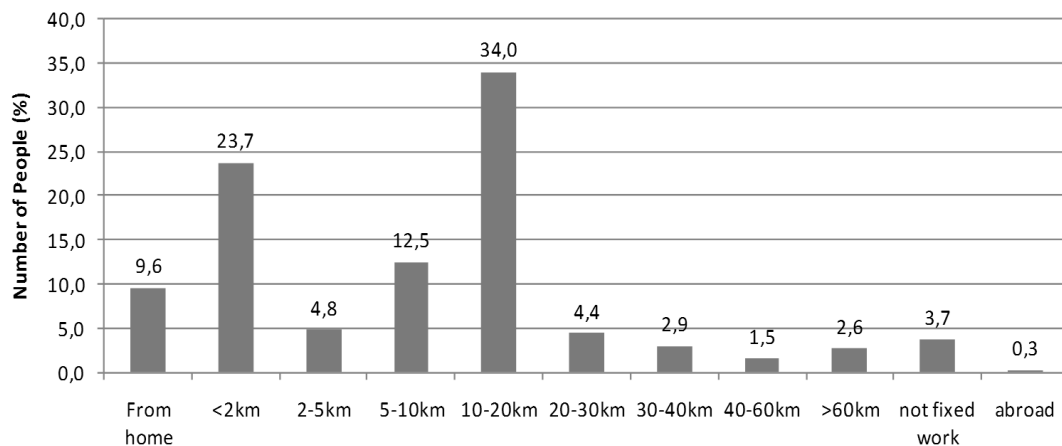
Fig. 4.11. Distance travelled to work by the Thornbury population
Source: Office for National Statistics (2007).

Participants have identified a strong sense of place and community, represented through several groups and clubs, volunteering activities, friendship, amongst other factors. Furthermore, participants in the photo-surveys identified a strong sense of social capital. Participants mentioned the high number of organisations such as "Sustainable Thornbury", the "Christmas Lights" group, the community transport "4Towns Vale Link", a local webpage "myThornbury.com", the local radio "ThornburyFM", the museum, the library, the green waste composting, and the several sporting clubs. Participants also identified "caring people", the volunteering spirit (a museum ran only by volunteers) and the several events such as the Victorian Christmas fair organised by volunteers. These activities supply many services to the community where the market and local authorities fail to provide them; for instance, leisure and evening entertainment. This high level of community participation is what Kim and Kaplan (2004) defined as social support.

Participants in the photo-surveys referred also to the aesthetics, continuity and distinctiveness of several features in Thornbury. Particularly with continuity[23], this was present through maintaining the history of Thornbury: (i) the reuse of historical buildings for modern functions, such as certain buildings on the High Street, e.g. the old market building being used as a clothes retailer; the buildings in Castle Street; St. Mary's Street; Gloucester Road; St. Mary's Church, Thornbury Castle and Medieval Lane; and (ii) retaining historical architecture in renovated housing developments; and

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[23] Used here as the identification with historical places and features (continuity with the past).

(iii) the feeling of being connected with the history of Thornbury. All of these can be related with a sense of identity, which is present amongst a few residents in Thornbury.

All of these aspects influence positively town centre retail, as represented in Table 4.5.

Is this social interaction and sense of community increasing or decreasing in Thornbury? There have been many immigration stages reported in the past on the literature on Thornbury (e.g. Gregory, 2001) and some of the participants themselves were newcomers (e.g. participant C01), and newcomers can help increasing social capital (McManus et al., 2012; Park et al., 2012). However, the future in terms of newcomers might not be so bright due to difficulties in new housing, as discussed earlier.

Two other potential causes for a decline in social capital are changes in age structures and a reduction in locally owned businesses (Besser, 2009). In terms of age structures, there have been, and there will be, some changes in the population structure in Thornbury, with an increase in the elderly and a decrease in youth. Regarding locally owned businesses, Thornbury is experiencing a decline in some retail services in the town centre. Some participants noted that, for example, St. Mary's shopping centre management (from out-of-town) is less committed to the general welfare of the community, and therefore, not really interested in reducing rents for retailers in spite of the increasing empty premises on St. Mary's grounds. These could be signs for the future decline in Thornbury's social capital.

There is lack of evidence whether social capital, sense of community and identity are decreasing or increasing and their relationship to a decline in retail. If these are not declining, then they are not strong enough to counteract other factors (identified in Fig. 4.5), such as the possible decrease in the variety of products being sold at the town centre, or the costs of maintaining a shop in the town centre; however, they could be slowing down the pace of retail decline.

4.5.1.2 Transport and accessibility

Brake and Nelson (2007) identify the declining of public transport as one of the factors affecting the number of people shopping in the town centre. This decline eventually leads to a loss of accessibility to town centres, and ultimately, can lead to retail decline. However, access to private car has been increasing (Ahmed et al., 2008; Kures and Ryan, 2012; Rotem-Mindali, 2012), together with increasing immigration to rural areas (Lowe and Ward, 2007; McDonald et al., 2013) and improvement in communication networks such as the internet (Powe and Shaw, 2004; Rotem-Mindali, 2012). In Thornbury, for example, there was a growing trend in home working. According to the 2001 Census, 9.6% of Thornbury's working population works from home, which is a high number. These factors can lead to the conclusion that the conditions for an increasing number of people visiting and shopping the town centres should be happening.

In South Gloucestershire, 87% of the population have access to a private car (South Gloucestershire Council, 2008). According to the Census 2001, in Thornbury there were on average 1.4 cars per household (SGCSPPT, 2006). The Office for National Statistics (2007) reveals that private transport is by far the preferred mode of travelling to work (73.9%), Fig. 4.12. This is further broken down into

drivers of cars or vans (66.7%), passengers in cars or vans (5.6%) or motorbike users (1.8%). The West of England claims to be giving priority to solving traffic issues (West of England Sub Region, 2007).
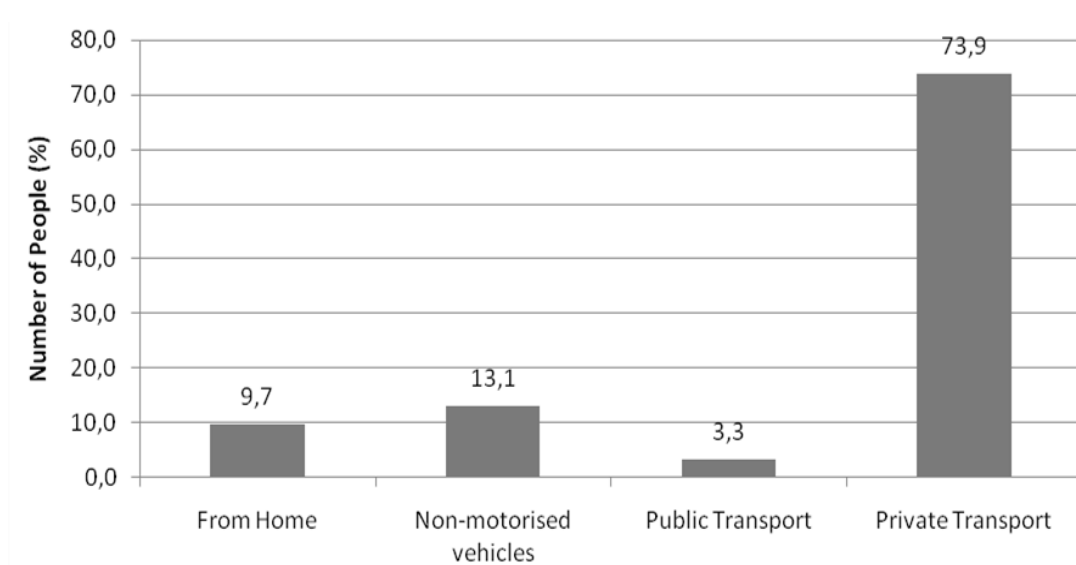
Fig. 4.12. Thornbury residents' mode of travel to work
Source: Office for National Statistics (2007).

In terms of the mode of travel to the town centre, the Thornbury community survey revealed that 134 of the participants (68%) walk to the town centre; and 123 (62%) go by car. Perhaps the mode of travel for shopping in the town centre depends on weather conditions and the amount of shopping needed to be carried home, as Thornbury town centre is in walking distance from all of Thornbury's residential areas (1.5km of flat distance, maximum).

Three participants in the photo-surveys (participants A03, C01 and C08) and the *Health-check questionnaires* referred to the increasing traffic and car ownership in Thornbury and surrounding villages. For example, participant C08 in the photo-survey, from Alveston (a neighbouring town from Thornbury) mentioned:

'[...] the road in there [participant pointing to a photo] is as busy as the main road used to be when I was a child. Look how many [cars] we've got: one, ... we've [participant and his wife] got two cars, the people over there [participant pointing to the neighbours through the window] got three, nearly everybody up that area got three cars now, so yeah, tremendous amount of congestion!' (Participant C08).

One participant in the photo-surveys and the *Health-check* questionnaires identified the existence of "too many" disabled parking places, and that they were empty almost all the time. Furthermore, the *Health-check* questionnaires identified the need for larger car parking, and suggested that there should be bus services from the car parks into the town centre. The pressure for asking for improvement on services for car use was evident from the photo-surveys and the *Health-check* questionnaires, as reported in the literature (Brake and Nelson, 2007).

Improving services for private transport will lead to further use of private car, which is a reinforcing feedback loop, as presented in Fig. 4.4.

The increase in traffic also impacts on the reliability of public transport and journey times (West of England Sub Region, 2007). The Office for National Statistics (Office for National Statistics, 2007) identified in 2004 low numbers of public transport users (3.3% of the working population) and car sharing (5.6% of the working population). Furthermore, the competition between private cars and public transport impacts upon the quality and number of public transport services, and upon town services (West of England Sub Region, 2007). Less public transport users implies a reduction on the profits and importance of public transport, and an increased need for it to be subsidised. For example, the bus service number 312 from Thornbury to Bristol Parkway is a subsidised bus, whose service was cut down due to subsidy reductions. The frequency of bus service number 312 was reduced to 60 minutes from 2007 to 2008 and the last service in the evenings was also reduced. This is a reinforcing feedback loop, as described in Fig. 4.4.

In terms of rural accessibility, 20% of households in the region still have no regular bus service within walking distance (South West RDA, 2006 and SGCSPPT, 2006). In Thornbury, many of the bus services do not run on Sundays and evenings (e.g. the bus services 201, 207, 309, 310, 312, 615, and 622). Participants in the photo-surveys (participants A01, A02, A03, C03 and C10), *Letters to the Editor* from Thornbury Gazette[24] and the *Health-check questionnaires*, all referred to the decreasing quality of public transport services, such as reliability of bus services, frequency of buses, ticket prices and lack of connections.

Cycling, pedestrian and private car seem to be prospering in Thornbury, and public transport declining. This means that transport and accessibility do not seem to be a major factor influencing retail decline in Thornbury. However, the access to private car is also enabling one to travel further afield to access jobs and reach more easily out-of-town retail. This is an enabler for the reduction in the number of people shopping in the town centre.

4.5.1.3 Variety, quality and prices of products

Even if new residents are brought over to Thornbury, this does not necessarily means that there will be more customers. The town centre needs and wants to be able to satisfy community needs for products and services. In Thornbury, certain types of retail were non-existent, such as a baker, fishmonger, electronics and household items (e.g. furniture and kitchen appliances). Participant C10 commented having difficulties with finding in Thornbury clothes adequate for his age range:

'If I want to go clothes shopping, for mid-40's, there isn't any shop where I can buy clothes from! [...] I can go to "David Smiths"[25], an excellent shop, but of a certain character, you're talking of hunting or fishing type of shop. [...] there's another shop that I was told that has some young men's clothes, but

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[24] Heaney, P. (2006). Please, more Care. Thornbury Gazette (9th November).

[25] *David Smiths* is a chain clothes retailer.

again, I'm sorry I'm not a young man anymore [...] but that doesn't mean I want to dress like my father either [...]' (Participant C10).

Other participants (e.g. participants A04 and A05) and secondary data (the *Health-Check Questionnaires*) identified other types of shops that were lacking within the town centre, such as fishmongers, butchers and household items.

So, apparently, Thornbury's town centre retail does not seem to be able to satisfy some of residents' needs and wants. According to Fig. 4.5, this can be due to two main factors: the diversity of products is decreasing, no longer satisfying community needs and wants, or the needs and wants from the community are changing, and retail in the town centre is not accompanying this change as closely and it should to retain customers. The latter can due to a time delay between changing needs, and retailers perceiving this and being able to satisfy these new needs.

Regarding this last point, there have been, and there will be, some changes in the population structure in Thornbury, with an increase in the elderly and a decrease in youth. This inevitably leads to further changes in the needs and wants from the population.

The variety of products in the town centre seems to have an important role in retail decline, as it influences whether needs and wants are satisfied or not. On the one hand, the variety of products influences the possibility of the town centre to satisfy consumers' needs and wants, which will influence the number of people shopping in the town centre, affecting the income from retailers. As referred above, some participants referred that some types of shops were missing from the town centre, which created them the need to travel out of town to acquire these products. This affects the income going to town centre retailers. On the other hand, the less income there is to retailers, the more difficulties these will have in purchasing new and diverse supplies to attract customers. This is a reinforcing feedback loop, which was represented in Fig. 4.5.

To help and break this feedback loop, retailers can recur to financial credit and loans, or attempt for subsidies or other form of support. The help from local authorities, as suggested by a participant and the literature in Thornbury, could take the forms of, for example, lowering business rates or lobbying for lower commercial property rents. For the existing retailers, reducing costs of maintaining a shop open will mean that retailers have more cash available for acquiring supplies and contribute to a higher diversity of products available, which, in turn, can attract more people into the town centre. Whether this support is provided or not, the retailer will purchase more or less supplies for his/her business.

Meadows (2008) suggests that measures targeting taxes and providing subsidies are especially good in the short-term and to the retailers (in the case of lowering commercial property rents and commercial tax reliefs), who stand directly in the flow of the issue. However, according to Meadows (2008), changing these variables (rents or taxes) rarely changes the behaviour of the whole system (retail decline). If Thornbury is having a slow retail decline, Meadows (2008) suggests that these measures would not stabilise (or revert) retail decline, although they can slow down this decline.

Meadows (2008) defends that for these sort of measures to be effective, they need to be over certain critical numbers to have any effect.

4.5.2. COMPETITION WITH OUT AND EDGE-OF TOWN RETAIL

As identified in section 4.4.1, in Thornbury, there is a major out-of-town shopping centre, the Mall at Cribbs Causeway, built during the late 1990s and a major supermarket at the edge-of-town, built over the old train station of the Thornbury. Many participants in the photo-surveys took photos of the supermarket and have related it with the decline in retail in the town centre, as people would prefer to shop at this supermarket rather than in the town centre retail.

4.5.3. COSTS TO RETAILERS

As seen in Fig. 4.5, the number of shops closing down is dependent on retailers' income, and this income is dependent on the costs retailers have with the shop and the number of people shopping for their products. One participant in the photo-surveys (participant A05) and a letter to the editor in Thornbury's Gazzette (a local newspaper)[26] have identified costs to retail, in the form of commercial property rents in St. Mary's Centre, as one of the causes of retail decline in Thornbury's town centre, calling the council to intervene and provide support or to lower taxes. Local authorities claimed having no legal way of promoting a reduction on commercial property rents. Conversations with retailers further supported the idea that rents in St. Mary's Centre were high, compared to the remaining town centre. Interestingly, a few participants in the photo-surveys saw Charity shops, which benefit from reduction in commercial rates, as prospering. Charity shops also benefit from reduced (or null) supply costs as they commercialise second hand products. Charity shops have reduced costs and were seen as prospering in Thornbury town centre by some participants. These can be a sign that costs for retailers in Thornbury town centre might be high. So, commercial property rents in St. Mary's area of the town centre could be one factor contributing to the closure of retail in Thornbury. All photos taken by participants in the photo-surveys themed "empty commercial premises" were within St. Mary's Centre.

If costs to retailers are high and income low, there will be fewer resources available to acquire new supplies, resulting in a decreased variety of products available to customers. Retailers can still recur to financial credit and loans, or attempt for subsidies or other form. This is represented in Fig. 4.13.

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[26] Anonymous (2007). Loyalty to the Town Tested. Thornbury Gazette (6th December).
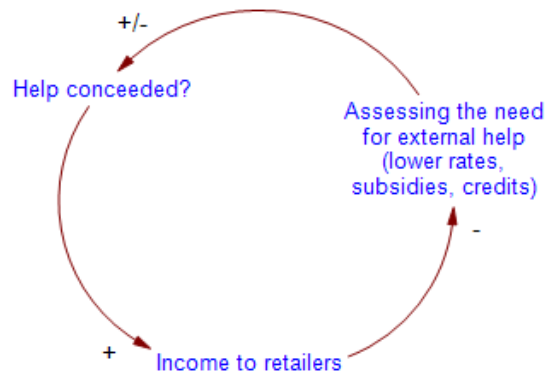
Fig. 4.13. Financial aid to retailers CLD

One option being discussed in Thornbury was the "redevelopment of the library building", which was generating some opposing views. The basis of the library redevelopment was that the retailer on the ground floor would attract people to the town centre, therefore providing visibility and appeal, which, in turn, would bring people into the town centre and potentially contribute for an increase in sales from other retailers.

However, bearing in mind that the project will be a three-storey building, the refurbished build would be one of the tallest buildings in Thornbury town centre; this can affect the aesthetics (as referred to by some participants in the photo-surveys) and local identity in the town, in a negative way. This means that the visibility created by the project may not be necessarily attractive. As identified in Fig. 4.5, this might affect the number of people visiting the town centre.

Additionally, this option had the potential to contribute to increase the diversity of products in the town centre through introducing a new retailer on the ground floor of the building, ensuring that this new retailer is different from the remaining retail already existing in the town centre. The increase on the diversity of products in the town centre could help reducing the discrepancy between the town centre visitors' needs and wants and what they find there, leading to a potential increase in the number of people visiting the town centre (Fig. 4.5). However, this increase in diversity of products will be low as this is only one new retailer introduced in the town centre.

The project ended up not being approved by local authorities, as there was no retailer found to be interested in renting the ground floor of the building. This raises the issue on whether the town centre is attractive for investors. This might happen because there is a high discrepancy between the consumer landscape in the town centre and the costs associated with maintaining a shop in the town centre (business rates and commercial property rents), see Fig. 4.8.

4.5.4. INTEGRATED VIEW OF THORNBURY'S RETAIL DECLINE

The analysis provided here offered insights into which elements from the CLD model developed in Section 4.3 are contributing to Thornbury's retail decline. Table 4.6 summarises these.

Table 4.6. Summary of the changes in Thornbury related with retail decline

Elements	Variation in Thornbury	
Planning regulations	↓	Planning regulations affect the location of retail (promoting out-of-town retail) but also relocation of services such as post-office and a hospital ward
Costs of opening and maintaining a shop in the town centre	↓	Commercial property rents in St. Mary's Centre
Revenues cover costs?	↓	The refurbishment of the library building case seems to point that the town centre is not attractive for investors
Needs and wants from visitors covered?	↓	Some participants identified their need to travel out-of-tow to get access to products they do not have in Thornbury
Housing	→←	Housing numbers are stagnant in Thornbury (although expected to increase by 2030)
Residents	→←	The number of residents is stagnant in Thornbury (which a shift towards ageing population)
Transport and accessibility	↓↑	Good infrastructures for pedestrians and cyclers. Private transport use is increasing and there is some pressure in related infrastructure. Public transport services and quality was identified as decreasing.
local identity, image and visibility of the town centre	↓↑	There is a strong social capital and there are several amenities in Thornbury's town centre such as park, allotments, amongst others. The town centre does not provide many employment.

In terms of housing and employment, the results showed that these are stagnant in Thornbury, and therefore, not contributing to improving or degrading the retail scene.

In terms of transport and accessibility to retail (see Fig. 4.4), infrastructure for pedestrians and cycling infrastructure were seen as good quality in Thornbury. Regarding private vehicles, the number of vehicles were seen as increasing, and, in the same way, stress in car facilities (such as parking). Public transport was seen as decreasing quality and increasing prices. Therefore, transport is contributing both, as beneficial and not beneficial to retail. There are two competing feedback loops regarding transport: for public and private transport. However, public transport quality and costs to

users were seen as decreasing. This leads to concluding that the reinforcing loop from private vehicle is dominating in Thornbury. This will lead into more degradation of the public transport.

Regarding other factors influencing customer choice on where to shop (Fig. 4.5), on one hand, results show an dissatisfaction with the variety of products available in the town centre, unable to match some residents' needs and wants, contributing to retail decline. On the other hand, results show a high local identity/sense o place, which would soften retail decline. Both of these (variety of products and sense of place) give origin to reinforcing feedback loops: decreasing variety of products leads to less people shopping in the town centre, which brings less profits to retailers and consequently contributing to retail decline; increasing sense of place and local identity can lead to increased number of people shopping and therefore, increased profits to retailers, leading to a reduction of retail decline. As an additional factor to reducing the number of people shopping in the town centre, there is a large supermarket at the edge-of-town, which was brought up by participants during interviews.

Sense of place and local identity seem to not be strong enough to neutralise the effects of the other factors contributing to a reduction in the number of people shopping in the town centre (i.e. variety of products, transport and accessibility, competition from edge of town supermarket, existence of jobs and the number of residents).

Costs regarding rents in the town centre were identified by participants as high. The analysis also revealed that Thornbury might not be so attractive to new investors. Perhaps this could be related with the margin for profits Thornbury presents for new retailers. The lesser number of people shopping in the town centre, the smaller the range of profits new investor will see in the town. Adding high commercial property rents to the costs, this can reduce the margin for profits making Thornbury less attractive for investors.

The dominating reinforcing feedback loops in Thornbury seem to be:

- The dominance of the reinforcing feedback loop regarding the people using private vehicles vs. the loop related with the number of people using public transport.
- The lower the variety of products available, the less likely the town centre will be able to satisfy community needs and wants. This together with and the existence of a large supermarket at the edge-of-town can lead to less people shopping in the town centre, which leads to reduced profits for retailers, contributing to retail decline.
- The higher the number of people shopping out-of-town, the higher the profits these out-of-town retailers will have, and therefore, the more capacity these will have in investing in strategies to attract more customers
- The lesser number of people shopping in the town centre, the smaller the range of profits new investor will see in the town. Adding high commercial property rents to the costs, this can reduce the margin for profits making Thornbury less attractive for investors. If little new investment is made, there will be little increase in the number of shops in the town centre, potentially decreasing the variety of products sold in the town centre, which influences negatively the number of people shopping in the town.

To understand how each feedback loop is dominating, the next step would be to develop a computational model, quantifying each element and their relationships. This would allow testing the effectiveness of different options to address retail decline. However, the model developed here already provided some insights in terms of what could be the main variables and feedback loops influencing retail decline in Thornbury.

4.6. CONCLUSIONS

4.6.1. RETAIL DECLINE

In this chapter, a conceptual model based on causal loop diagrams was developed applied to describe retail decline in Thornbury. This model included factors that affect where customers shop (Fig. 4.5) - with a bit more detail for housing and employment (Fig. 4.3) and transport (Fig. 4.4), but also, the effects of competition from out-of-town (Fig. 4.6) and the costs retailers have (Fig. 4.8 and Fig. 4.13).

One of the conclusions that can be taken from the results obtained is that there are several elements that change and affect retail decline. Which elements are changing can vary from town to town. In some towns, there might be a decrease in resident numbers, which can lead to unjustified service facilities such as hospitals and schools, eventually leading to their relocation, in others, competition with out of town facilities (e.g. retail or offices), or a general decrease in amenities offered by the town. In Thornbury, none of these seems to be strong factors, as there is no housing available and also participants found several attractive amenities in Thornbury.

Systems diagramming combined with the photo-surveys helped illuminating some key aspects of Thornbury town centre services. These were summarised in Table 4.6. In Thornbury, there has been no population decrease and, therefore, this is not a cause for the decline in services. The main aspects contributing to the decline in services in Thornbury seem to be the presence of out-of-town retail, the increasing accessibility to private car, the stagnation in population numbers, and the need for many residents to travel outside for work (and retail).

Another conclusion is that the different elements that affect retail decline can happen at different scales. Planning regulations are of a more regional or national level. Needs and wants from customers are influenced by globalisation and market forces, which are global, but also depend on individual preferences and lifestyles. Other aspects such as employment are also regional. Public transport, local amenities and sense of community are more local. Local authorities might not have the power to address all these different elements given their different scales.

Understanding people's needs and wants and ensuring local retail is able to keep up with changes in customers' lifestyles and wants are some ways of addressing retail decline. Techniques like the photo-surveys can help identifying community needs, which also help understanding what the community seeks for the town centre and whether there is a shifting function for the town centre that

could be pursued. Furthermore, attracting people to the town centre by increasing the number of residents (increasing housing or Bed&Breakfast), increasing attractions such as leisure attractions, to make conference centre more dynamic to attract more events), or even, to develop job intensive activities within the town can be additional ways of addressing retail decline.

4.6.2. THE USE OF SYSTEMS MAPPING FOR UNDERSTANDING RETAIL DECLINE

The model developed here provides a useful framework to start analysing retail decline, potential causes for this and develop ways of addressing these. Given the visual component of the model developed, this CLD can be used in combination with participatory techniques to validate and develop further the model, but also to understand additional important elements and dynamics.

It would be interesting to seek additional validation from the model developed by applying it to other towns. The model could also be used as a starting point for participatory discussions regarding possible ways of addressing retail decline. Additionally, an attempt to develop a mathematical and computational model could be made. All of these would benefit the model developed and allow further insights into retail decline in small and medium towns.

4.6.3. THE USE OF PHOTO-SURVEYS COMBINED WITH CLD

A main novelty of this chapter was the combination of photo-surveys with CLD. Photo-surveys provided great amounts of qualitative data with little participants, data related with a wide range of aspects, and with little effort and little need for deep understanding of the issues in the town. These characteristics make the method particularly useful for informing a systems mapping model. This is because of the more integrated nature of the model, asking for data on a wide range of aspects than just retail/service decline specific. The photos obtained provided additional validity to what participants identified and discussed during interviews and to the elements of the conceptual model.

CLD provide advantages to photo-surveys as well. As large amounts of data are collected by the photo-surveys, regarding a wide range of aspects, CLD provide a useful way of synthesising and analysing the information collected.

4.6.4. FURTHER WORK AND FINAL THOUGHTS

This work presented just a beginning. Further conversations with stakeholders would help exploring deeper the linkages between the different elements from the model developed. These discussions could even to explore the possible effects of different measures for dealing with retail decline. Also, to understand how each feedback loop is dominating, the next step would be to develop a computational model, quantifying each element and their relationships. This would allow testing the effectiveness of different options to address retail decline. However, the model developed here already provided some

insights in terms of what could be the main variables and feedback loops influencing retail decline in Thornbury.

This chapter studied the effects of retail decline, as well as some key variables acting as drivers to this decline. This is the case of needs and wants from customers, planning policies, as well as costs to retailers. Some of these enter on the realm of personal and collective goals, which sometimes may be conflicting. This happens in, for example, customers wanting to have a vibrant town centre, but wanting to shop out-of-town; policies protecting town centres, but repelling retail from the town centre, and therefore, promoting out-of-town retail; commercial property owners wanting to maintain commercial property rents high for higher profits, but not wanting retail to close down, which reduces their profits. These are interesting areas to investigate further retail decline and ways of addressing this.

Furthermore, applying the conceptual model to other towns facing retail decline would prove useful to further validate the model, but also to understand if the variables changing in different towns are the same. This would help to understand if there are different types of retail decline, which would mean that different approaches to address retail decline would be needed.

5.

Addressing Retail Decline through Stakeholder Appraisal[27]

ABSTRACT

One might ask which responses might be developed if different values are considered when appraising various alternatives for town renewal. This question guided the aims of this research, which were to (i) identify implications for policy-making processes in small and medium towns dealing with retail decline; (ii) collect information on how Thornbury may behave under different alternatives for retail revitalisation and stakeholders opinions on how to address it; (iii) further develop and validate the conceptual model for retail decline developed in Chapter 4; and (iv) reflect on the use of multicriteria mapping (MCM) at the town level. A case study is used, looking into retail decline in Thornbury, a small town in the southwest of England. MCM was used to elicit the values/criteria that stakeholders thought relevant to consider when evaluating retail revitalisation alternatives and for the appraisal itself.

Results showed that participants identified a wide range of criteria; the majority of these were technical (e.g. infrastructure or management-related issues) and economic criteria. Interestingly, participants included what can be considered as qualitative and broader criteria such as *Enhancing community cohesion*, *Community building*, *Consumer equality*, different from those currently used by local authorities (e.g. *Costs of implementation* or *Accessibility*).

There was no clear preference from participants for one or other options, as each these presented positive and negative aspects. Even for options where participants tended to score them poorly, there were still some issues upon which the opponents would accept that an option could have an advantage.

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[27] Parts of this Chapter (Sections 5.3, 5.4, 5.7.4, 5.9.4 and part of sections 5.5.2, 5.6, 5.8.2 and 5.10) have been presented at the 22nd International Conference on Multiple Criteria Decision Making, 17-21st June 2013, Málaga, Spain.

Participants were generally happy with the procedure and found that results transmitted their thoughts. This means that they felt their views were represented. MCM can thus capture the different views from participants. Most of the participants found that MCM allowed them to understand the complexity of the issue under analysis, making them think through each criteria separately, thinking in worst and best case scenarios and on uncertainty, as well as recognising the existence of different views.

MCM provided a rich picture of Thornbury and a relatively good understanding on some of the issues affecting Thornbury. All these characteristics make MCM potentially adequate for: (a) the evaluation of plans and projects, combined with other participatory processes; (b) evaluating the effectiveness of policies (i.e., ex-post evaluations), (c) or just to serve as an input in defining surveys and questionnaires to gather ideas for the development of plans, programs and strategies, ensuring relevant issues are included in these, (d) developing a set of indicators to monitor policies, based on the criteria identified by participants.

Keywords: Values and criteria; Multi-criteria Mapping; Market town; Town service decline; Town revitalisation

5.1. INTRODUCTION

Market towns provide many services to their citizens and neighbouring villages such as health, education, leisure and retail, sustaining rural communities (Powe and Shaw, 2004; Lowe and Ward, 2007; Findlay and Sparks, 2008). However, there has been some evidence of a decline in some of the services market towns provide to their citizens (e.g. McManus et al., 2012; Rotem-Mindali, 2012; Chapter 3).

The aim of this chapter was to explore town service decline from a different approach, by focusing on the policy-making process dealing with service decline, in addition to exploring the outcomes of the decision-making process itself.

When thinking in decision-making, one must take into account that towns and cities are sites of conflict between competing values, interests, divergent groups and the communities that represent them (Adger et al., 2003; Renn, 2008).

Decision-making processes are not immune to values (Smith et al., 2005). The values used in decision-making processes influence the outcomes from the processes (Smith et al., 2005) and therefore, they play a relevant role in the resolution of problems.

In this study, we were focused on identifying the criteria stakeholders find relevant to be used to compare different alternatives for retail revitalisation in small towns and collect information on how Thornbury could behave under certain options for addressing retail decline. Our goal was to understand what implications there would be for decision-making processes if these were to include a

wider set of values, brought by stakeholders, in the appraisal of options; and to collect information on the effects different alternatives can have in Thornbury, according to the participants in this research.

To examine this, we have used Multi-criteria Mapping (MCM) as a tool to elicit stakeholders' values, applying it to a study area, Thornbury, a small town in the southwest of England, to look into retail decline. MCM allows participants to define their own criteria.

Using MCM in a small town context has its own challenges. At the town and urban literatures, using lay citizens in participatory (consultation) processes is crucial. However, the literature on MCM seems to indicate that MCM is not suitable to be used with lay citizens, as these might not be familiar with the issues under discussion and with rationalistic decision-making processes (Stirling, 1997, 2005). We challenge these assumptions by arguing that, depending on the topic chosen for discussion, lay citizens can have valuable knowledge on the issue under discussion and general knowledge on how processes work within the town. Evaluating the MCM in a town context was a fourth aim from this Chapter.

In sum, the aims of this Chapter were:

- Identifying implications for policy-making processes in small and medium towns dealing with retail decline coming from the criteria participants identified;
- Collecting information on how Thornbury may behave under different alternatives for retail revitalisation and stakeholders opinions on how to address it;
- Further developing and validating the conceptual model for retail decline developed in Chapter 4; and
- Reflecting on the use of MCM at the town level.

The structure of this Chapter is as follows: the following section briefly explores the relevance that values taken into account when selecting policies for town regeneration have on the choice of the type of responses to retail decline. Section 5.3 presents a brief overview of MCM and describes the methodology followed in this chapter. Section 5.4 describes the definition of alternatives considered and the selection of participants for the case study; Section 5.5 describes the results from each of the steps of the MCM interview; Section 5.6 presents the overall results obtained, which include the rankings of the options, and the analysis of certain aspects such as particular criteria and certain perspectives in the appraisal. Finally, section 5.7 provides an evaluation of the use of MCM, including participants' reflection on the method. The Chapter ends with a summary of key messages.

5.2. The Relevance of Values and Priorities in Decision-making

Policy options contain ideological assumptions in terms of, for example, the way problems are defined and framed (Smith et al., 2005). The representation of policy options and competition, within which discourses constitute viable alternative realities, is a matter of power (Hajer, 1995).

Framing the decision-making process by, for example, averaging local values and preferences (eliminating the diversity of viewpoints), focusing on top-down established priorities (regional and governmental) and using quantitative and measurable criteria influences the type of responses that will be selected and pursued to address retail decline.

In general decision-making, there has also been a tendency to focus on the technical aspects of problems (Stirling, 1997; Voß and Kemp, 2006). In retail revitalisation, these criteria include revenues and sales projections, facility space needed, employment projections, enhancement of the provision of services and analysis of the consumer landscape (Findlay and Sparks, 2008; McGrath and Vickroy, 2003). Consumer landscape refers to shopping patterns where switching mechanisms play an important role, such as when consumers change their spending from one retailer to another, or go from shopping within a town to outside a town (Findlay and Sparks, 2008). Other criteria used in the evaluation of town revitalisation proposals are related to aspects such as accessibility by public transport or private vehicles and pedestrian linkages (McGrath and Vickroy, 2003; Thomas and Bromley, 2003; Kures and Ryan, 2012).

Burgess et al. (2007) make the point that if processes are being driven by technical and specialist knowledge, then alternative strategic policy options will tend to favour technology-based strategies.

Using a limited set of values in decision-making can reveal itself as problematic, as some of the values used can be in opposition to minorities' or other social actors', or even overall community's, values. During these situations, we can ask:

- Where is the legitimacy in using a given value-framework instead of another?
- Will the chosen value-frame be effective in changing people's behaviour to comply with the policies selected by the tools and policy-makers?
- If a different value set was to be considered, what alternative responses might be developed?

There will always be questions regarding the importance attributed to the voices of different social actors, i.e. whether all social actors should be given the same importance, whether decisions should be based on the majority vote, or whether veto power should be given to minorities. These are all questions that are raised in any appraisal process (Munda, 2004), which influence the outcomes of policy decisions.

But, in order to produce robust knowledge and effective strategies, the interaction of diverse factors, values and interests can prove to be relevant. In this sense, it seems appropriate to democratise the debate not just about policy responses to address problems, but also about the value-frames considered. We have pursued these values in the form of criteria used to judge different alternatives for retail revitalisation.

5.3. MULTI-CRITERIA MAPPING

This research made use of MCM, applying it to a small market town in England, Thornbury, to: (i) identify implications for policy-making processes in small and medium towns dealing with retail decline; (ii) collecting information on how Thornbury may behave under different alternatives for retail revitalisation, namely, identifying potential barriers to the implementation of policy options as well as mechanisms in Thornbury that can influence the implementation of policy options; (iii) further develop and validate the conceptual model for retail decline developed in Chapter 4; and (iv) reflect on the use of MCM at the town level. The choice to use MCM was made as the method allows uncovering the criteria and weights stakeholders thought relevant to include when evaluating local policies for retail revitalisation, and to appraise different alternatives on town revitalisation under the different criteria and under optimistic and pessimistic scenarios defined by participants themselves.

5.3.1. BACKGROUND ON MCM

MCM is an appraisal tool, developed by Stirling (1994 and 1997), that belongs to the multi-criteria decision aids (MCDA) family. MCM offers a systematic part quantitative, part qualitative approach to clarify why various stakeholders deem some options acceptable/ unacceptable and which criteria stakeholders use to evaluate the different options (Burgess et al., 2007; Stirling, 1997, 2005). MCM has been used in different contexts and for different problems, such as the appraisal of options for: energy policy (McDowall and Eames, 2006; Stirling, 1994); food production (Horlick-Jones et al., 2004; Stirling and Mayer, 2001; Yearley, 2000); addressing obesity (the PorGrow project - Millstone and Lobstein, 2007; SPRU, 2013); developing criteria for the evaluation of public consultation and engagement processes (Clark et al., 2001; Burgess and Clark, 2006); carbon storage (Gough and Shackley, 2006); regulating nanotechnology (Hansen, 2010); and salmon feed (Gillund and Myhr, 2010), all at a national scale.

A MCM process consists of the following four main stages: (1) development of policy alternatives; (2) stakeholder identification; (3) multi-criteria appraisal; and (4) analysis of results. The main differences between MCM and other MCDAs are: (a) MCM is conducted through individual interviews; (b) each participant defines his/her own criteria for appraisal and conducts the appraisal him/herself; and (c) each participant attributes weights to his/her own criteria. This means that each appraisal is unique and characteristic of the viewpoint of each participant. Furthermore, MCM asks participants to judge the different options in terms of a pessimistic and optimistic scenario, obtaining a range of scores per option. In this sense, MCM enables the mapping of participants' views and a better understanding of the values at play, potential conflicts and areas of consensus and some of the key success factors and uncertainties of different options.

As seen before, most of MCM applications have been on aspects of national policy-making. The use of MCM on a more local level, such as town planning issues, can bring some challenges. Participatory processes in town planning have been widely used, especially from the 1990s onwards, and using high numbers of participants and amongst them, lay citizens.

Most of the applications of MCM described in the literature have been based on a small number of participants and based on specialist and stakeholder judgments, while cases where MCM is used to elicit the views of citizens are not so common (Stirling, 1997, 2005).

Sample sizes are relatively small, given the policy range being debated. We can find MCM studies with sample sizes from 12 participants in the appraisal of options for genetically modified crops (see Mayer and Stirling, 2002; Stirling and Mayer, 2000; Stirling and Mayer, 2001) to 26 participants in options for regulating nanotechnology (see Hansen, 2010). The PorGrow project is somehow different. This project involved nine MCM studies in nine countries. Each study involved on average 21 participants[28], but the study altogether would account for 189 participants. Participatory processes in town planning make use of much wider numbers of participants.

Furthermore, MCM studies make use of small numbers of lay citizens. This is because the method requires participants to have a firm understanding of the issues at hand and a familiarity with rationalistic policy processes (Stirling, 2005). Due to this factor, and given the time required for each interview, Deliberative Mapping (DM) was developed, which is a tool that combines MCM with Stakeholder Decision Analysis. In DM, specialists and stakeholders are involved in a MCM exercise, and citizens pass through a similar process within a focus group setting (Burgess et al., 2007).

However, when dealing with town/local level problems, citizens may behave more like other experts in the sense that they have: (1) more experience-based knowledge; (2) more holistic views (Berkes and Folke, 2002), i.e. on the interdependencies between different elements of a town; (3) a grasp on local debates, especially if these are related to contested or conflicting issues; and (4) a firm experience of place, i.e. time and context-specific (Sullivan et al., 2006).

Therefore, using MCM to address town issues may pose some challenges. In this study, we have made use of citizens within the MCM and explored the use of the method at the town level.

5.3.2. OVERVIEW OF THE USE OF MCM IN THIS STUDY

MCM in this study was conducted as one-to-one interviews, following a protocol, working interactively with the participant using a laptop computer with customised MCM software (MC-Mapper) to graphically display the emerging outcomes of the interview, as they arise in the discussion. The interview had five steps:

- Presentation of the policy options to appraise;
- Definition of new (or selection of discretionary) options;
- Definition of criteria to appraise the options;
- Scoring of options (evaluation of each option under each criterion) – this stage is performed considering a best and worst case scenario for each option, where scenarios are developed by each participant;

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[28] See special issue in Obesity reviews (2007) 8 (Suppl. 2).

- Attributing weights to the criteria;
- Comment of the ranking of the options (estimated through a linear additive model).

Each interview was audio recorded. Interviews were conducted between September 2007 and May 2008. After the interviews, the sound recordings were transcribed using a word processor (Microsoft Word) and then labelled and archived from the period of data analysis. During interviews, the data had been saved into the *MCMapper* software, which provided a ranking of options per participant. For an analysis of the data across participants, another software tool was used. This software tool was called Multi-criteria Mapping Analyst (*MCM Analyst*), developed by Andy Stirling, from the University of Sussex, and Toby Champion, from Toby Champion Associates.

5.3.3. INTERVIEW PROTOCOL DEVELOPMENT

The interview protocol was expanded and refined based on the MCM procedure. Several rounds of pilot interviews allowed exploring the best ways of presenting the questions and reducing the length of the interviews. The pilot-interviews provided a number of insights into the MCM process. First, the quality of the answers from the participants decreases with time; therefore, interviews should take no longer than two hours. Second, a brief introduction to the problem at the beginning of the interview helps to focus the participant. This, combined with the use of photos, proved to be very effective.

Third, in order to increase the engagement of participants with the interview and to reduce the impact of discretionary options (selected by the researcher) on the results; additional options (selected by the participants) would need to be given priority over the discretionary options. This meant that participants would be asked to provide additional options before discretionary options were presented to them. As the maximum number of options allowed per participant was seven, this meant that the discretionary options would not even be presented to participants who defined two additional options.

Fourth, for the scoring of options, participants in the pilot-interviews had difficulties in moving from a qualitative presentation of options and definition of criteria, to a quantitative scoring stage. To reduce these difficulties, direct rating was used. In direct-rating, the options were written on small cards and the scoring consisted of ordering the cards according to the performance of the options each card represented. The focus here was on the distance between the different cards, as a measure of the differences in performance between the options, rather than attributing absolute values to the scores of the higher and lower performing options. The scoring process was as follows: participants were asked for the best and the worst options under a criterion, these were given the value of nine and one, respectively. Then, all of the remaining options were placed between the best and worst options, comparing the relative distance between the cards with options as a measure of the difference in terms of a relative performance of the options. The initial position for the best and worst options changed as the scoring process moved on.

Finally, the pilot-study helped to guarantee that the language used was understandable and clear to the participants, provided information on how long the whole process of collecting and analysing data can take; and provided with experience and confidence when using the method.

5.4. FRAMING THE ELICITATION PROCESS

5.4.1. PRE-SELECTION OF OPTIONS FOR THE APPRAISAL

The first step of the MCM process was to identify a set of alternatives – i.e. options for retail development in the town centre. The aim of developing this initial set of options was to identify a small number of plausible policy variants that could work as leverage points of the debate and to encourage participants to come up with criteria to evaluate/compare them. These options had to be realistic for Thornbury, and had to be familiar and relevant enough to allow for the engagement of the participants in their appraisal. The policy options were developed based on previous interviews (see Chapter 3); on literature on Thornbury (policy documents and consultation reports); and on literature on market town revitalisation. Five options were defined (see Table 5.1) and all participants were asked to appraise these. These options represent a wide range of views and hence, the level of detail differs. Some of the options that were defined were broad and had a low level of detail. This could lead to a high level of uncertainty and variability in the appraisal. However, this broadness and lack of detail has been described in the literature as a general characteristic of policies and plans, as opposed to projects (Eales et al., 2003).

Table 5.1. Core options

C1. Redevelop the library building
To redevelop the library building into a three storey building with a branded store on the ground floor, Thornbury's library on the first floor and Thornbury Motors offices of the top floor.
C2. Reduce rents and business rates for basic retailers
Provide incentives to support the establishment of a fishmonger, a butcher and a baker in the town centre, by relieving business rates for these and/or lowering rents.
C3. Maintain free car parking and extend retailers' opening times
Increase the competitiveness of local retailers in relation to out-shopping by: extending opening times into the evenings and maintaining the free available parking, a bus stop and bike racks.
C4. Alternative evening entertainment
Provide evening entertainment in the town combined with retailers' extended opening times. Examples of evening entertainment are: a theatre, a cinema or a coffee house. These should be complemented with light in the streets for aesthetics and safety reasons.
C5. Incentives for shopping in local retailers
Provide incentives for people to use local retailers. This should be publicised in the local newspaper, on the local webpage and radio. Examples of incentives are discount vouchers (in shops and services such as the sports centre) and loyalty cards.
Up to two additional alternatives to be specified by participant
Any option of the participant's choice, including combinations of the above if desired.

When participants had difficulties in coming up with their own options, the set of discretionary options was presented to them (Table 5.2). This second set of options was optional. Therefore, not all participants evaluated them, thus their performance could not be directly compared with the core options.

Table 5.2. Discretionary options

Home delivery schemes
Promote a joint home delivery of products by local shops. Orders are made through telephone or internet. A webmaster may be required to develop a webpage with the local retailers to allow easier access to the shops and ordering. The local webpage can be used for this. Advertisements for the scheme should also be made, using the local newspaper, webpage and radio.
Attract out-of-town consumers
Provide incentives for businesses and tourists to come into town, increasing the number of clients for local/independent retailers. These could be achieved through a conference centre, increasing the number of signs with directions to local attractions and improving the aesthetics of the town by using flowers etc.
Retailers events
Provide alternative forms of support and incentives for Thornbury businesses. For example, shops making use of the outdoor market to sell their products or promote more shop-community events.
Association of retailers
Reduce costs and create a spirit of community among local retailers. The association of retailers would try to develop a sense of community amongst the businesses and social capital with the residents. This could be achieved through helping local retailers to know each other's business by recommending each other's shops to their customers and helping each other out when needed (e.g. selling each other's products). A webpage with forums for discussion and face-to-face meetings could help to achieve this goal.

5.4.2. SELECTION OF PARTICIPANTS

Twenty-two stakeholders were recruited for the appraisal (three experts on planning and sustainability and 19 local stakeholders). Regional planning authorities and an edge-of-town supermarket refused to participate in this study. For the selection of participants, a stakeholder list was developed using the results from previous participatory processes in Thornbury (through a photo-survey described in Chapter 3), complemented with a literature review on town renewal to identify additional stakeholder groups with interest or influence on retail revitalisation in Thornbury. For the analysis and selection of stakeholder groups, an interest-influence matrix was used (see Fig. 5.1). Participants from stakeholder groups classed as having high influence on addressing issues at hand and high interest in resolving issues were recruited. Characteristics of the participants are presented in Table 5.3.
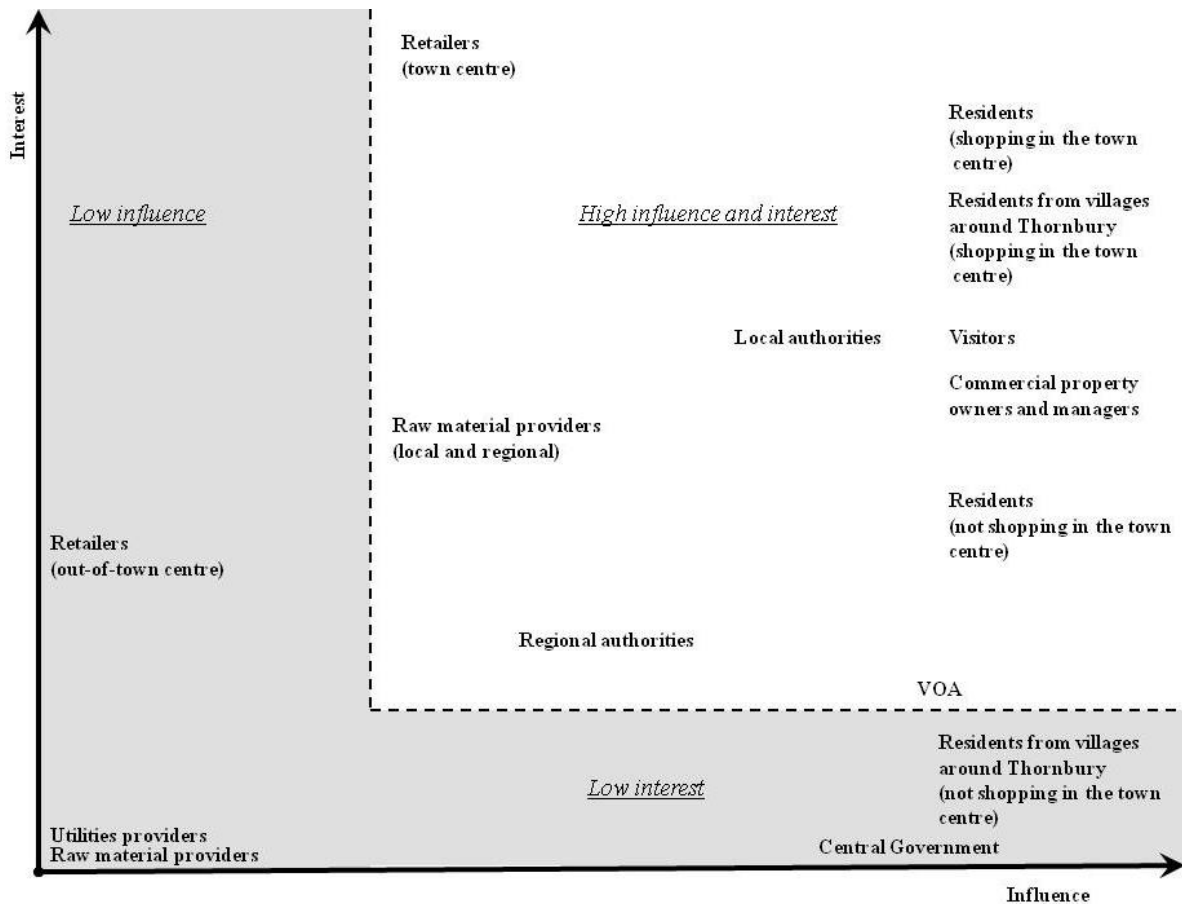
VOA – Valuation Office Agency (responsible for setting Commercial Tax Rates in England)

Fig. 5.1. Interest-influence matrix for stakeholder groups selection

Table 5.3. Participants recruited

Stakeholder group	Code	Details
Commercial property owners	**I**	Manager from Thornbury Town Halls
	N, O, V	Commercial property managers
Local authorities	**B, Q**	Councillor from Thornbury Town Council
	H	South Gloucestershire Councillor
	R	Planner for South Gloucestershire Council
Residents	**A, E, F**	Residents from Thornbury
	D	Religious leader
	S, T	Residents from villages around Thornbury
Retailers	**J, K, U**	Town centre shopkeepers
	C, L	Chamber of commerce
Specialists	**G**	Environmental economics specialist
	M, P	Sustainable enterprise specialists

5.5. INTERMEDIARY RESULTS: OPTIONS, CRITERIA AND UNCERTAINTY

5.5.1. OPTIONS FOR ADDRESSING RETAIL DECLINE

The first step in the MCM interviews was to present the core options to each participant[29], and each participant had the chance to define up to two additional options. In the cases where participants had difficulty with defining additional options, the discretionary options were presented and the participants were allowed to choose one or two options from the list, or develop their own combination of options based on these.

5.5.1.1 Participant engagement with the options

Although participants were asked to think about additional options prior to the interview, very few actually did. In addition, there was a low engagement with the discretionary options. The options *Home delivery schemes* and *Attract out of town consumers* had the highest number of participants selecting them for appraisal, as we can see from Table 5.4.

Table 5.4. Discretionary options selected for the appraisal

Source: MCM interviews

Policy option	Selected by
Home delivery schemes	4 participants
Attract out of town consumers	4 participants
Retailers events	2 participants
Association of retailers	2 participants

From a total of 21 participants.

Participant E's initial impressions on the core options were that these did not capture the whole problem Thornbury was facing:

'[...] when I've looked at the options at the beginning, I thought there were other factors not considered by the options. This [non-inclusion of such factors] is reducing the complexity of the problem into five headings. When you've got a complex situation, it's a pity to simplify it. There might be other questions that will be excluded'. (Participant E, resident).

The remaining participants had no further difficulties with understanding or selecting options for appraisal.

There were a series of other options that participants identified to be viable and comparable with the core and discretionary options. Eleven of the twenty-two participants added a total of fifteen options to

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[29] Participants were provided with a list of the core options and a brief description of the interview process a week before the interview.

the list of core and discretionary options. Table 5.5 presents these. Table A2.1-Table A2.4 in the A2. Appendix to Chapter 5 describe the additional options in more detail. In total, the stakeholder groups *residents* and *specialists* selected the higher number of options (additional and discretionary) per participant (1,5 and 1,7 options/participant, respectively). In particular, participant D (*residents*) appraised nine options in total.

Table 5.5. Additional options defined by participants

Source: MCM interviews

Policy options	Added by (stakeholder group)
Sharing shop facilities	Participant E (residents)
Free parking, extended retailer opening times and internet available in the town centre	Participant G (specialists)
Marketing Thornbury	Participant U (retailers)
Pedestrianisation of the High Street	Participant A (residents)
Central garden in the town centre	Participant G (specialists)
Performing arts centre	Participant H (local authorities)
Have an attraction in the town centre	Participant O (commercial property owners)
Maintain the post office open	Participant Q (local authorities)
Increase housing	Participant R (local authorities)
Increase housing, reduce rents, and redevelop the library building	Participant V (commercial property owners)
Saturday market	Participant A (residents)
Using community networks for marketing local businesses	Participant D (residents)
Home delivery and box schemes with association of retailers	Participant E (residents)
Weekend, evening and afternoon entertainment	Participant P (specialists)
Trying to get a balance between the numbers of big-brand and local retailers	Participant M (specialists)

5.5.2. CRITERIA FOR EVALUATING OPTIONS

In the second stage of the MCM interview, each participant was asked to define the criteria that they thought relevant to be taken into account for selecting any of the options to implement. A minimum of three criteria (with less than three, the criteria became too general) was imposed. Criteria needed to be independent (i.e., not redundant) for each participant so that a linear additive model could be used to rank each appraisal.

For the criteria weights (fourth step in the MCM interview), participants were asked to attribute the relative importance of each of their criteria on a scale from zero to 100, where more important criteria were given higher values.

5.5.2.1 Criteria used to evaluate the options

Participants developed a total set of 54 criteria. On average, each participant defined between two and three criteria (see Table 5.6). The groups *retailers* and *commercial property owners* contained the higher number of criteria per participant (three criteria per participant), and the group of local authorities only selected two criteria per participant (on average). There were similarities between the criteria presented by participants, allowing aggregating criteria with similar definitions, resulting in 34 different criteria.

Table 5.6. Average number of criteria used by participants

Source: MCM interviews

Stakeholder group	Average number of criteria per participant
Residents	2.5
Local authorities	2
Retailers	3
Commercial property owners	3
Specialists	2.7

The total set of appraisal criteria reflected a wide range of considerations (including social, economic and environmental aspects). The 34 criteria defined by participants are presented in Table 5.7. The definitions of the criteria, as developed by participants, are presented in the Table A2.5 in the A2. Appendix to Chapter 5. *Costs to retailers* and *Profits to retailers* were the two criteria mostly defined by participants (four criteria each).

Interestingly, the criteria related with economic aspects of retailers (criteria 3-5 from Table 5.7) were the most popular criteria defined, with 10 criteria. This was followed by criteria related with bringing people into the town centre (criteria 21-25 from Table 5.7) with eight criteria, and criteria related with accessibility to the town centre (criteria 10-14 from Table 5.7) with seven criteria.

Table 5.7. Criteria defined by participants

Table 5.7. Criteria defined by participants

Source: MCM interviews

Criteria	# of criteria
1. Value of commercial properties in the town centre	1
2. Rental income to land owners	1
3. Long term economic viability of retailers	2
4. Costs to retailers	4
5. Profits to retailers	4
6. Offering value for money	1
7. Economic equality	1
8. Implementing costs	2
9. Cost effectiveness of the project	1
10. Accessibility to the town centre (car parking),	2
11. Accessibility equality	1
12. Disabled access to shops	1
13. Ease of access	2
14. Time needed to travel to shops	1
15. Friendliness amongst retailers	1
16. Relation of peer group with retailers	1
17. Enhancing community cohesion	1
18. Community building	1
19. Novelty in the town/ Character	2
20. Impact on the community	1
21. Attracting people	1
22. Bring people to the town centre	2
23. Conversion	1
24. Retention	1
25. Attraction of outsiders	3
26. Diversity of people targeted / inclusivity	2
27. Attracting different age groups	1
28. Satisfying community needs	3
29. Vacant premises	2
30. Mix of shop types	3
31. Offering something Tesco supermarket does not offers	1
32. Time scale of putting the project to work	1
33. Safety	1
34. Environmental sustainability	1

Due to the lengthy interviews (reaching over 2hrs), some participants did not follow the imposition of a minimum of three criteria per participant. The minimum number of criteria used per participant was

one (participant T) and the maximum was five (participant K). Participant N (*commercial property owner*) have additionally used a criterion under which options would either pass or fail (binary criterion), with failure leading to the exclusion of the option from the appraisal.

Some participants enjoyed the use of criteria in analysing the options, as they helped to incorporating the multiple goals that exist within the community. Furthermore, the criteria helped some participants to think systematically:

'[...] I liked the separation into criteria and analyse them individually' (Participant G).

5.5.2.2 Weightings

Participants were also asked to quantitatively express the relative importance of each criterion for them (on a zero to 100 scale). These weightings are the subjective judgements of the participants, reflecting their priorities. All participants defined criteria, except participant T who, due to a lengthy interview, only defined a single criterion, and, participant Q, who felt uncomfortable with assigning quantitative values to the weights. Fig. 5.2 illustrates the range of weightings given by participants and Table 5.8 displays additional quantitative data on the criteria.
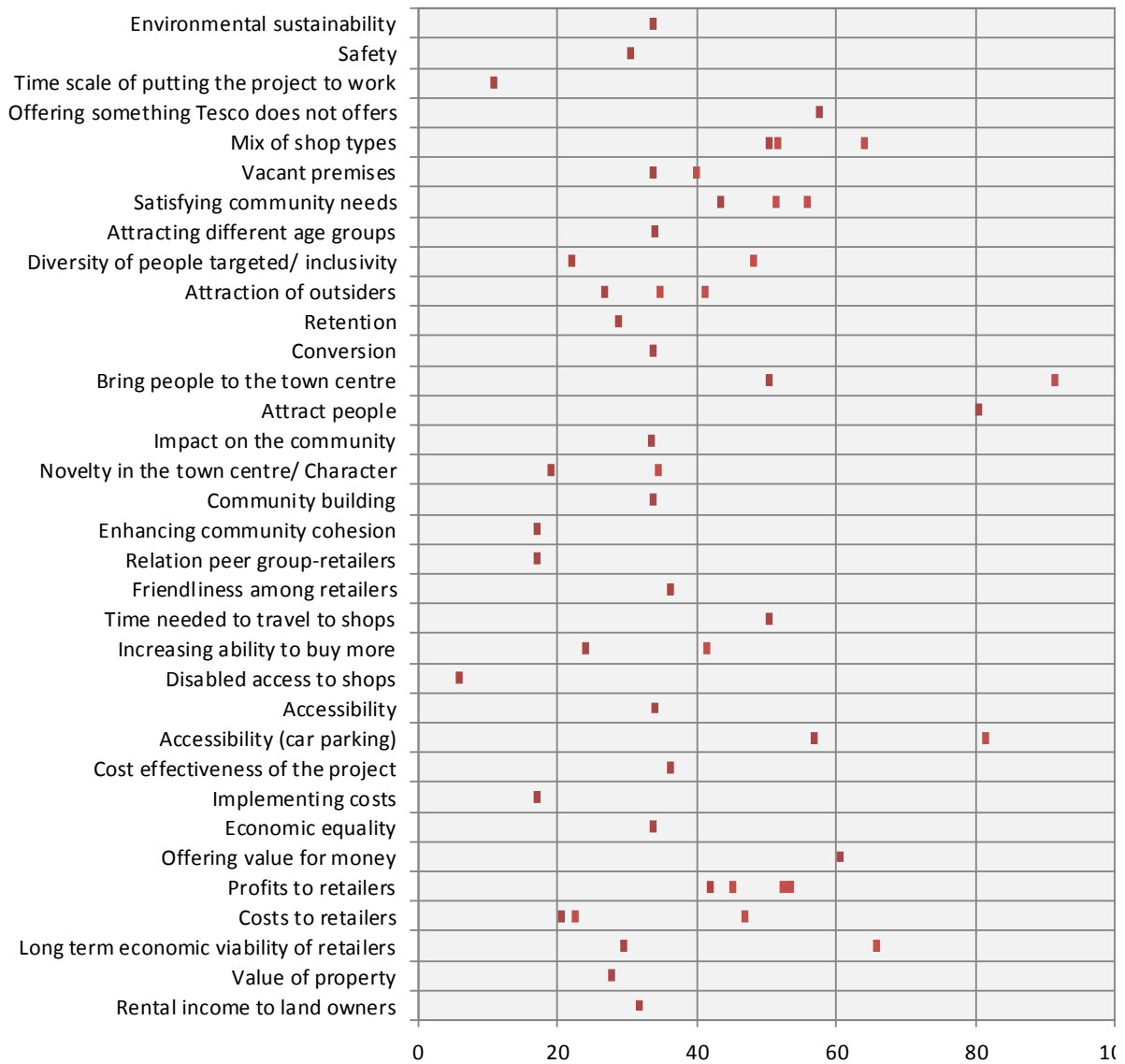
Values are subjective and normalised to a 0 to 100 scale, representing the importance of criteria groups.

The higher is the value, the higher is the importance of criteria groups.

Fig. 5.2. Criteria weights for all participants
Source: MCM Interviews

Table 5.8. Quantitative information on the criteria

Source: MCM interviews

	Criteria	# criteria	# part.	Median	Avg	SD	SD per part.
1	Rental income to land owners	1	1	31.4	31.4	0	0.0
2	Value of property	1	1	27.3	27.3	0	0.0
3	Long term economic viability of retailers	2	2	46.6	46.6	17.7	8.8

[118]

	Criteria	# criteria	# part.	Median	Avg	SD	SD per part.
4	Costs to retailers	3	3	21.0	28.5	16.0	5.3
5	Profits to retailers	5	5	49.8	49.8	14.4	2.9
6	Offering value for money	1	1	60.0	60.0	0.0	0.0
7	Economic equality	1	1	33.3	33.3	0.0	0.0
8	Implementing costs	1	1	16.7	16.7	0.0	0.0
9	Cost effectiveness of the project	1	1	35.7	35.7	0.0	0.0
10	Accessibility (car parking)	2	2	68.1	68.1	11.9	5.9
11	Accessibility	1	1	33.4	33.4	0.0	0.0
12	Disabled access to shops	1	1	5.6	5.6	0.0	0.0
13	Increasing ability to buy more	2	2	31.8	31.8	8.2	4.1
14	Time needed to travel to shops	1	1	50.0	50.0	0.0	0.0
15	Friendliness among retailers	1	1	35.7	35.7	0.0	0.0
16	Relation peer group-retailers	1	1	16.7	16.7	0.0	0.0
17	Enhancing community cohesion	1	1	16.5	16.5	0.0	0.0
18	Community building	1	1	33.3	33.3	0.0	0.0
19	Novelty in the town centre/ Character	2	2	25.9	25.9	7.2	3.6
20	Impact on the community	1	1	33.1	33.1	0.0	0.0
21	Attract people	1	1	80.0	80.0	0.0	0.0
22	Bring people to the town centre	2	2	70.0	70.0	20.0	10.0
23	Conversion	1	1	33.1	33.1	0.0	0.0
24	Retention	1	1	28.2	28.2	0.0	0.0
25	Attraction of outsiders	3	3	33.3	32.5	6.2	2.1
26	Diversity of people targeted/ inclusivity	2	2	34.1	34.1	12.6	6.3
27	Attracting different age groups	1	1	33.4	33.4	0.0	0.0
28	Satisfying community needs	3	3	50.0	48.7	5.9	2.0
29	Vacant premises	2	2	35.9	35.9	2.6	1.3
30	Mix of shop types	3	3	50.2	53.9	7.6	2.5
31	Offering something Tesco does not offers	1	1	57.1	57.1	0.0	0.0
32	Time scale of putting the project to work	1	1	10.5	10.5	0.0	0.0
33	Safety	1	1	30.0	30.0	0.0	0.0
34	Environmental sustainability	1	1	33.3	33.3	0.0	0.0

\# - Number; part. – participant; Avg. – Average; SD – Standard deviation

In general, most of the criteria weights were situated between 20 to 60. The criteria with the highest weights (above 80) were *Bring people into the town centre*, *Attract people* and *Accessibility (car parking)*. However, some of these criteria received lower weights by other participants. If we take into account average weights per criterion (Table 5.8), the criterion *Attract people* is the criterion with the highest weight.

The criteria with the lowest weights (below 10) were *Disabled access to shops* and *Timescale of putting the project to work*.

The criteria with the highest number of participants defining those (*Profits for retailers* and *Costs to retailers*) were not the criteria with the highest weights and they were not the criteria where the most disagreement on the weights existed. By looking into the standard deviation per participant in Table 5.8, we can see that the criteria were participants differed the most in terms of weights were *Bring people into the town centre* and *Long term viability of retailers*.

In terms of the individual weightings, some participants have attributed equal weights to their criteria, for example:

'[...] I would hope that one [criterion] would complement the other [criterion] and so would give them equal importance.' (Participant B, local authorities).

'[...] for me as a resident, I think meeting needs and profits for shopkeepers are both interconnected. That's how I see trade. When needs are met, there is profit.' (Participant E, resident).

'[...] I do feel the criteria are equally important, no need to explore what would happen with different weights. There are children, there are mothers, there are elderly, the [criterion] character is essential for the infrastructure, for these people. [...]'. (Participant F, resident).

Therefore, equal weights in these circumstances meant participants thought the criteria as equal importance. All participants who completed the scoring with more than one criterion have also completed the weighting stage, allowing for calculating the final ranks of the options.

5.5.3. APPRAISING OPTION PERFORMANCE

5.5.3.1 Eliciting scores for options

In the third stage in the MCM interview, each participant scores the options under each criterion. Interviewees were asked for two scores per criteria: one reflecting the performance of each option under the most favourable conditions, i.e. optimistic scoring, and the other reflecting the performance of each option under pessimistic assumptions, i.e. pessimistic scoring. Both scores represented any uncertainty or variability in the performance of each option that participants felt when assigning scores.

The scoring of options under the various criteria took up the longest part of the interviews. All participants scored all of the core options except participant Q (*local authorities*) and participant N (*commercial property owners*). Participant Q felt uncomfortable with assigning quantitative values either to the scores or to the weights. Participant N ruled out the option *Lower rents and business rates for basic retailers*, as this option would not bring any profit to commercial property owners. In total, twenty-one participants completed all aspects of the multi-criteria procedure. However, useful information was gathered from all twenty-two participants concerning qualitative considerations, such as additional options and criteria thought relevant to the appraisal of policy options. Participants C (*retailer*) and E (*resident*) felt comfortable with assigning both scores and weights only when the

researcher was taking notes relating to the justifications provided by them concerning the scores and weightings:

'[...] you should be very careful on how to interpret the graphics. People that see the graph will not understand, unless they read the whole thesis; depends on how the questions were made and what we were discussing [...]' (Participant C, retailer).

Participants found the scoring under criteria, such as *friendliness amongst retailers* (criteria 15 from Table 5.7) or *vacant premises* (criteria 29 from Table 5.7), which was very specific to certain options, to be conceptually difficult for options not related to these criteria, such as the options *Redeveloping the library project* and *Alternative evening entertainment*, respectively.

Several participants commented during the interview that they found the concept of comparing several options difficult to grasp, having been much more familiar with comparing the options with the current situation:

'[...] there is a fixed point missing to compare the different options against. Maybe use the current situation as the central value in the scale, comparing the options against the current situation in Thornbury' (Participant G, specialist).

These difficulties have also been reported in the literature on MCM (e.g. Stirling and Mayer, 2001). Under these circumstances, the solution found was to attribute a baseline score to the situation of Thornbury today, for each criterion appraised. Then, the options to be appraised were compared against this baseline score. If an option would improve the current situation, then the option was attributed with a higher score than the current situation. If an option did not make any change in the current situation, then the option was attributed a score equal to the current situation. Finally, if an option reduced the quality of the current situation, the option was attributed a score below the score for the current situation. Such process of comparing the options with the current situation does not affect the general comparison between participants as the analysis was focused on the differences in the scores between the options (relative comparisons), rather than on the absolute value of the score itself.

Some participants showed some initial concerns on how the comparison between completely different options could be performed, for example:

'[...] some options are better to attract citizens to the centre, not necessarily to increase commerce [...] others increase commerce but do not bring people into the centre [...] they are different options with different goals. Is it possible to compare them?' (Participant G, specialist).

This was before the whole appraisal process started. However, while the MCM interview proceeded, the structure of the method allowed the participant to be able to compare the different options with no major difficulties. All remaining participants had no major difficulties with the scoring stage.

While scoring the options, participants were asked provide two scores: a pessimistic (assuming worst case scenario for each option) and an optimistic score (assuming a best case scenario for each option). The difference between these two scores in each option gives an idea on the variability and

uncertainties present in scoring. Participant L (retailer), in particular, showed familiarity with the concept of optimistic and pessimistic scoring, making the process of scoring under pessimistic and optimistic situations easier. Participant I (commercial property owner) was the exception, who was not able to identify critical factors for the success each option and therefore, was only able to provide one type of score (the optimistic and pessimistic scores were equal).

The differences between optimistic and pessimistic scoring per participant were then averaged with the whole set of participants, and averaged with the whole stakeholder group the participant belonged to. Fig. 5.3 shows the average between optimistic and pessimistic scores among all participants (line) and the average between optimistic and pessimistic scores among all participants within each stakeholder group (bars). Values in the y-axis reflect participants' subjective judgments on the differences between each optimistic and pessimistic score. Even though, one of the participants under *commercial property owners* did not provided any uncertainty in scoring, *commercial property owners*' scoring had the highest difference between optimistic and pessimistic scorings per participant. This group, together with the groups *specialists* and *retailers*, presented differences between optimistic and pessimistic scoring above the overall average.
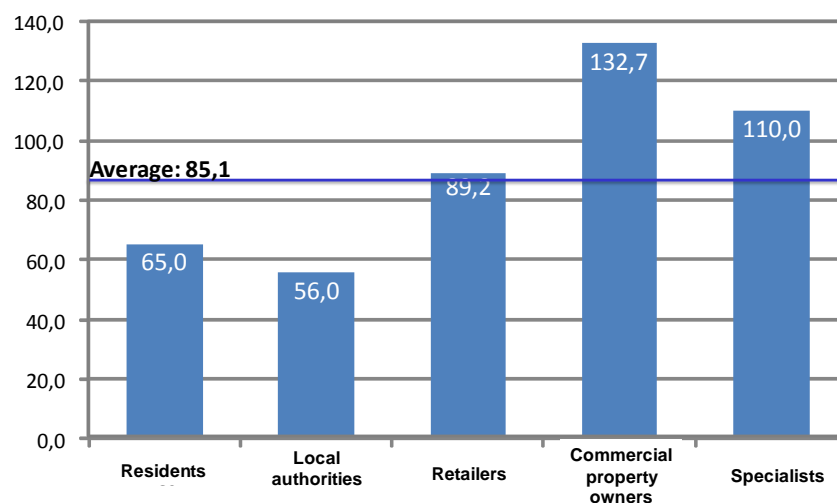
Figure includes all options and all criteria. Values are averaged within each stakeholder group (bars) or for all participants (line). The absolute values (in points) are subjective (defined by the participants) and result from the relative comparison between options under optimistic and pessimistic conditions identified by each participant, and normalised across all participants.

Fig. 5.3. Average differences between optimistic and pessimistic scores (points)
Source: MCM interviews

5.5.3.2 Uncertainty in the scoring of options
Overview of the uncertainty and variability in scoring

Participants identified a large variability and uncertainty in the scorings, represented by the differences between pessimistic and optimistic scorings. Other applications of MCM (e.g. Borg and

Fogelholm, 2007; Codrington et al., 2007; González-Zapata et al., 2007; Horváth et al., 2007; de Marchi et al., 2007; McDowall and Eames, 2007) have found similar results.

Fig. 5.4 shows the differences between the optimistic and pessimistic scores for all participants per option. The option *Redeveloping the library building* offered the highest differences between optimistic and pessimistic scores. This is because of the lack of information on the type of retailer to be located on the ground floor, the real impacts of moving the library from the ground floor to the first floor, and the aesthetics of the project.

Local authorities and *commercial property owners* were the stakeholder groups with more confidence in their scorings. The stakeholder group *residents* was the one that presented higher differences between optimistic and pessimistic scoring of the core options.
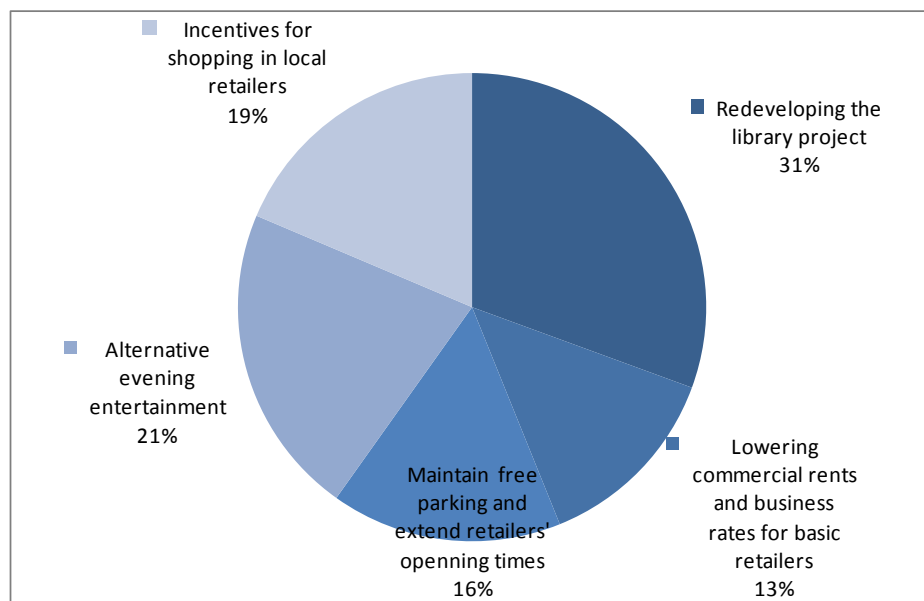
The values are in percentage for a total of 376 points given to core options. Absolute values are subjective (defined by the participants) and result from the relative comparison between option under optimistic and pessimistic conditions identified by each participant. Values are for all criteria and for all participants.

Fig. 5.4. Average differences between pessimistic and optimistic scorings
Source: MCM Interviews.

The degree of variability in scoring from criteria is presented in Fig. 5.5. The criteria that presented the higher differences between optimistic and pessimistic scoring were *Long-term viability of retailers* and *Cost-effectiveness* and the criteria with lower differences in scoring were *Accessibility (car parking)* and *Friendliness among retailers*.

#	Criterion	Uncertainty (points)
34	Environmental sustainability	298
33	Safety	222
32	Timescale of putting the project to work	593
31	Offering something Tesco does not offers	317
30	Mix of shop types	290
29	Vacant premises	373
28	Satisfying community needs	333
27	Attracting different age groups	440
26	Diversity of people targeted/ inclusivity	459
25	Attraction of outsiders	699
24	Retention	326
23	Conversion	458
22	Bring people to the town centre	181
21	Attract people	217
20	Impact on the community	612
19	Novelty in the town centre/ character	338
18	Community building	295
17	Enhancing community cohesion	647
16	Relation peer-group retailers	453
15	Friendliness among retailers	0
14	Time needed to travel to shops	486
13	Ease of access	551
12	Disabled access to shops	200
11	Accessibility	277
10	Accessibility (car parking)	99
9	Cost-effectiveness	772
8	Implementing costs	219
7	Economic equality	231
6	Offering value for money	612
5	Profits to retailers	408
4	Costs to retailers	475
3	Long term economic viability for retailers	774
2	Value of property	600
1	Rental income to land owners	686

Values are for all the core options, for all the participants. The values are in percentage for a total of 13 941 points.

Fig. 5.5. Contribution of scoring variability in each criterion to total variability
Source: MCM interviews.

Key uncertainties affecting the performance of the options

Qualitative and quantitative analysis of the interviews suggested three key dimensions to this uncertainty. These were: (i) variability in the way the options could be implemented; (ii) the level of confidence of participants in terms of how many customers (or retailers) each option would attract; and (iii) uncertainty on the behaviour of certain relevant actors, which could affect the implementation of the options.

There was variability surrounding on how the options might be implemented in practice, for example:

- for the option *Redeveloping the library building*, some participants suggested: (i) maximising the benefits of the project by having the library providing courses for adults such as IT courses; (ii) locating the library on the ground floor; (iii) making the whole building just a two-storey building rather than a three-storey building; (iv) or using the top floor as an incubator for new businesses;
- for the option *Reducing rents and business rates for basic retailers*, some participants suggested renting retail spaces to more than one retailer, which would not decrease commercial property owners' income and would reduce costs for those retailers;
- for the option *Alternative evening entertainment*, participants considered different types of entertainment that the town could accommodate, and depending on which type of entertainment, the option would perform better or worse.

Whether these aspects were considered or not made the difference between optimistic and pessimistic scores for some of the participants. This was in part due to the broadness of the options, referred to in Subsection 5.4.1. In the end, this broadness of the options allowed participants to identify additional that could improve the option performance.

The second dimension of uncertainty refers to lack of knowledge on aspects relating to the options. More than three participants identified each of the following uncertainties:

- the practicality of certain options, i.e. whether certain options could be implemented in practice according to current legal and regulatory system (related to the option *Reducing rents and business rates for basic retailers*);
- whether certain options would be enough to bring new retailers into the town centre (mainly related with the options *Redeveloping the library building* and *Reducing rents and rates for basic retailers*) and whether these new retailers would be able to survive the current situation in Thornbury town centre;
- whether the options would be able to attract people to the town centre for shopping purpose.

For example, participant T (*resident*) questions the interest of shoppers in basic retailers such as fishmongers:

'[...] a fishmonger will not work well. It will be too expensive, and people are also... not used to have a fish, just the frozen parts of a fish [...]'.

This uncertainty influenced the scoring of options for this participant.

Finally, the variation between optimistic and pessimistic scorings also occurred where there was uncertainty about how certain actors would behave, where the behaviour from these actors could strongly influence the implementation of an option, for example:

- whether commercial property owners will engage or not with the option *Reducing rents and business rates for basic shops*;

- doubts over whether retailers would be able to agree on extending their opening times so that the performance of the option *Maintaining free parking and extending retailers' opening times* is higher or whether retailers can organise themselves and provide alternative evening entertainment or a home delivery box system; or
- doubts over whether the community in general would be able to organise themselves and provide the *Alternative evening entertainment* required to attract people into the town centre.

For example: concerning rent reductions (for the option *Reducing rents and business rates for basic retailers*), some participants were sceptical that this could actually happen in practice, as it would depend exclusively on the individual commercial property owners:

'[...] rents will depend on individual landlords to decide on [...] The lowering rents could be complicated because there are quite a few landlords. [...] I can see it is a good idea, but I cannot see any mechanism on how it could be done.' (Participant E, resident).

'[...] the peer group... it will be difficult to have them agreeing with such - they don't work with the chamber of commerce in, for example, the Christmas lights [...]' (Participant U, retailer).

'[...] the peer group will never agree with this option [...]' (Participant T, resident).

Interestingly enough, participant I (*commercial property owner*) refused to score this option.

Additionally to these three key dimensions, there were different values and priorities between the participants. These differences were a source of variability in the results. The differences in values and priorities were revealed through the use of different criteria and weights attributed to the criteria by the participants.

5.6. OVERALL RESULTS

5.6.1. OPTIONS' RANKINGS

We elicited estimates of a set of criteria defined by participants in each policy-option, focusing on optimistic and pessimistic values with the objective of identifying main key factors in the success or failure of the different options, as well as uncertainties in knowledge from the different participants.

Fig. 5.6 shows the combined ranks from all participants. The main conclusions are that:

- selecting a best performing option or eliminating a worst performing option is not straightforward from both, extreme ranks (grey bars) and average ranks (green bars);
- the option *Lowering commercial rents and business rates for basic retailers* performs better than the option *Alternative evening entertainment* as the pessimistic scoring of the first is higher than the optimistic scoring of the second;
- *Lowering commercial rents and business rates for basic retailers* performs best in terms of in terms of optimistic ranks (right hand-side of the bars) and in terms of pessimistic ranks (left hand-side of the bars), but this option was also excluded from the appraisal by one participant;

- *Alternative evening entertainment* performs the worst in terms of optimistic ranks;
- the options *Redeveloping the library building* and *Alternative evening entertainment* perform the worst in terms of pessimistic ranks.
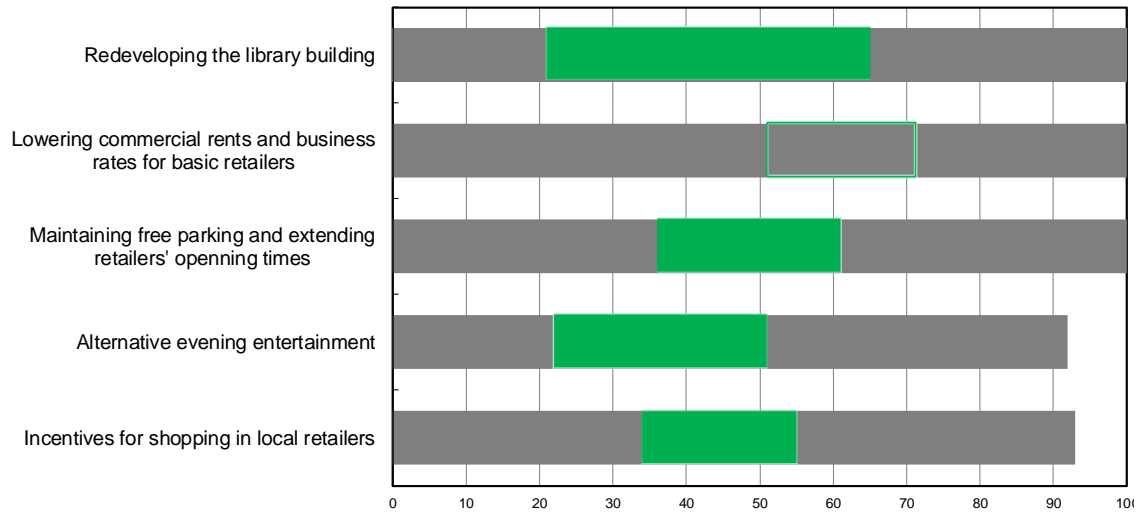
Fig. 5.6. Extreme and Average ranks for all participants
The higher the value the higher is the rank. Green bars - average optimistic and average pessimistic ranks; Grey bars - lowest pessimistic and the highest optimistic ranks for each option. Values are subjective (defined by the participants) and normalised to a 0 to 100 scale, and evaluated through participants weightings.

Fig. 5.7 provides these estimations for each participant. The spread of each bar is due to the optimistic and pessimistic scores.

C.1	Redevelop the library building	E.4	Sharing shop facilities
C.2	Reduce rents and business rates for basic retailers	E.5	Association of retailers for a home delivery scheme
C.3	Maintain free car parking and extend retailers' openning times	E.6	Free parking, extended retailer opening times, and internet in the town centre
C.4	Alternative evening entertainment	E.7	A central garden
C.5	Incentives for shopping in local retailers	E.8	A performing arts centre
D.1	Home delivery schemes	E.9	Trying to get a balanced local-big brand
D.2	Attract out-of-town consumers	E.10	Have an attraction in the town centre
D.3	Retailers events	E.11	Weekend, evening and afternoon entertainment
D.4	Association of retailers	E.12	Post Office
E.1	Pedestrianisation of the High Street	E.13	Increasing housing
E.2	Saturday market	E.14	Marketing thornbury
E.3	Community networks	E.15	Increase housing, reduce rents, and redevelop the library
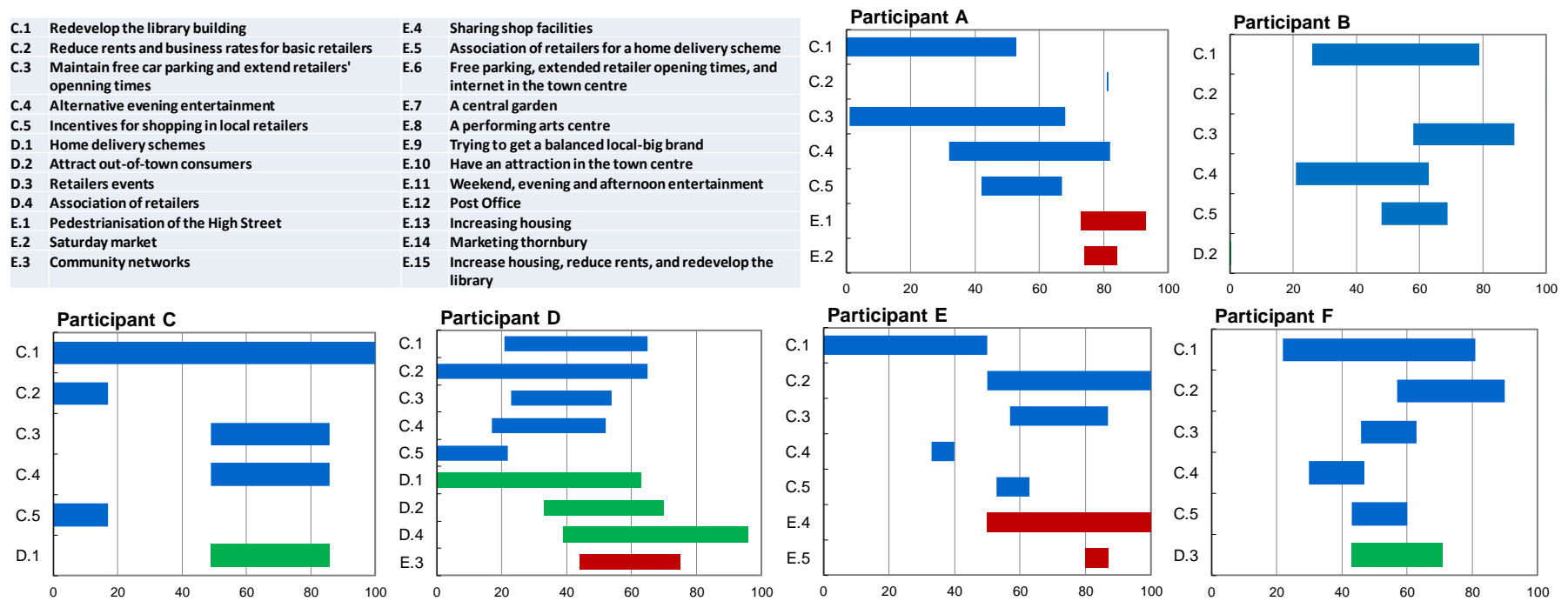
Fig. 5.7. Ranks for individual participants

Blue – Core options, Green – Discretionary options, Red – Additional options. Source: MCM interviews. Data for the Values are subjective (defined by the participants) and normalised to a 0 to 100 scale. Values represent the ranks for the options for the criteria used by each participant; the higher the value the better the rank. Base data for the graphics is presented in Table A2.6 in the A2. Appendix to Chapter 5.
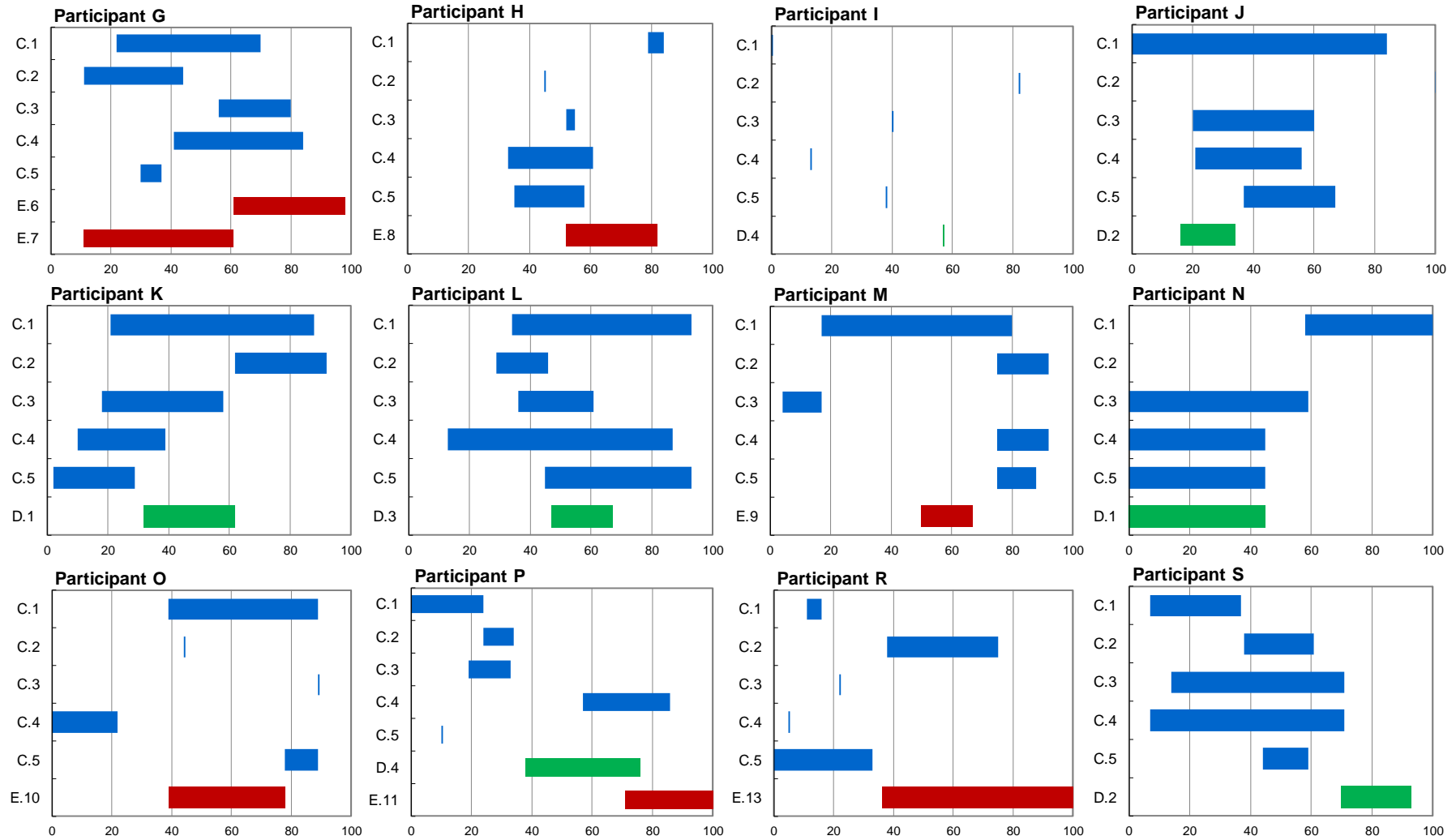
Fig. 5.7 (cont.)

Fig. 5.7 (cont.)

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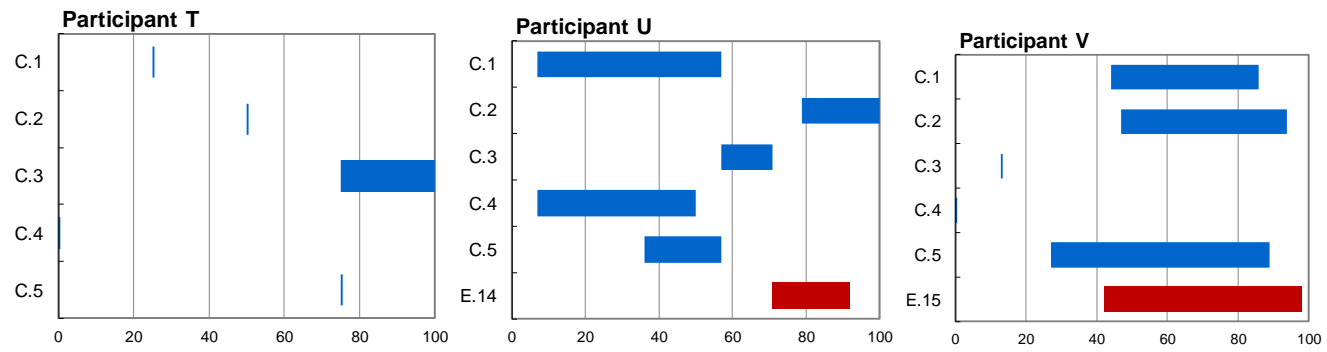
From this figure, we can see that half of the participants (participants A, T, B, R, H, U, I, N, M and P) presented options that clearly performed better than all the other options (in terms of both optimistic and pessimistic scorings). These were: *Redeveloping the library building* (for participants H, N), *Reducing rents and business rates for basic retailers* (for participants A, B, R, U and I), *Maintaining free parking and extending retailers' opening times* (for participants T, U and M), *Incentives for shopping in local retailers* (for participant T) and *Alternative evening entertainment* (for participant P).

Participant O (*commercial property owner*), although not ranking any particular option overall higher than the others, ranked the option *Alternative evening entertainment* lower than any other option. Similar happened with the ranks for participant V (*commercial property owner*), who although not having an overall best performing option, did have a low performing option overall, the *Maintaining free parking and extending retailers' opening times* option. In general, commercial property owners (participants N, O, V) scored high the option *Redeveloping the library project* and low the option *Alternative evening entertainment*.

The core option *Reducing rents and business rates for basic retailers* was excluded from the appraisal by Participant N (*commercial property owner*) as the option did not bring any profits for commercial property owners, a principle defined by the participant when appraising the options.

It can be seen from the results from the individual rankings that some participants ranked certain options poorly while others ranked them more favourably. Table 5.9 shows each core option, along with the participants who tended to score the option particularly well or particularly poorly. For those who score the option poorly, the table shows the criteria they used when being most positive about that option – i.e. the issues upon which the opponents would accept that an option could have an advantage.

Table 5.9. Positive aspects of core options

Source: MCM interviews

Option	Participants giving highest ranks	Participants giving lowest ranks	The most positive criteria used by participants giving the lowest ranks
Redeveloping the library building	F, B, C, H, L, J, K, N, O, V, M	A, S, E, F, B, C, R, J, U, P	Costs and profits to retailers; implementation costs; improving accessibility (criteria 10-14); promotes social capital and sense of place (criteria 15-20); consumer landscape in the town centre (criteria 21-27); consumer equality; satisfying needs; the number and variety of retail.

Option	Participants giving highest ranks	Participants giving lowest ranks	The most positive criteria used by participants giving the lowest ranks
Reducing rents and rates for basic retailers	A, E, F, B, J, K, U, I, V, M	F, C, G	Costs and profits to retailers; improving accessibility (criteria 10-14); diversity of people targeted.
Maintaining free car parking, and extend retailers' opening times	A, S, E, T, B, C, U, O, G	A, S, R, N, V, M, P	Value of commercial property and rental income to commercial property owners; costs and profits for retailers; offering value for money; satisfying community needs; improving the number and variety of retailers (criteria 29-31).
Alternative evening entertainment	S, C, L, P, M, G	S, B, R, K, N, U, O, I	Revenues for commercial property owners (criteria 1, 2) and retailers (criteria 3-5); improving accessibility (criteria 10-14); diversity of people targeted and different age groups; improved service landscape in the town centre (criteria 29-31); timescale of putting the project to work.
Incentives for shopping in local retailers	L, O, V, M	F, C, R, K, N, V, P	Revenues for commercial property owners (criteria 1, 2) and retailers (criteria 3-5); helps maintaining the character of the town (criterion 19); improves the consumer landscape in the town centre (criteria 21-25) and vacant premises (criterion 29).

It can be seen from the table that the less popular or more controversial options for some are likely to be opposed by others, but that even those stakeholders accept some positive aspects to these options.

Thus, *redeveloping the library building* may have achieved low appraisal scores for various reasons (e.g. there is the risk of competition between the new retailer and the existing retail in Thornbury, the retailer on the ground floor not being attractive to the population in Thornbury, or the reduction of accessibility to the library, which is moved to the first floor) but the critics of this policy option saw advantages in terms of its potential for bringing revenues for retailers, improving accessibility to retail, that it might be cost-effective, and that it contributes to improving the relationship between the commercial property owners and the retailers besides bringing more people into the town centre and

being open to a diverse range of population, has potential to satisfy community needs and in general, improve the number and variety of retail in the town centre.

Similarly, those who felt that *reducing rents and rates for basic retailers* should be given a low score were nonetheless prepared to see that the option provides revenues for retailers, improves/maintains accessibility to the town centre and targets different sets of the population (consumer equality).

Maintaining free car parking and extending retailers' opening times was often accepted as bringing revenues for commercial property owners (through increasing the value of property and rental income), to retailers (through improving profits from retailers) and consumers (offering better chance of having 'value for money'), improving the number and variety of shops, and as potentially effective in providing ways of the community to satisfy their needs in the town centre.

Alternative evening entertainment was generally given a low appraisal score, but there were possible gains to be made in terms of revenues for commercial property owners (through increasing the value of property and rental income) and retailers (depending on the event, it can bring people into knowing and spending money in the town centre), ease of access and consumer equality (targeting a diverse range of people if the entertainment is diverse) or improving the number and variety of retail and the relatively short period required for implementation.

The option *incentives for shopping in local retailers* was given a low score by some participants for various reasons (no effect in terms of accessibility, not promoting directly new shops to open in the town centre, it was considered a short-term effect option, the large scale of the investment required to attract customers, the need for agreement and leadership between retailers) but accepted that the option could bring revenues for commercial property owners (through increasing the value of property and rental income) and retailers, and might have an effect in maintaining the town's character, attracting consumers to the town centre and maintaining retail and eventually, bringing new retail.

Some of the participants expressed that the final decision should be the implementation of a set of options and not necessarily looking into excluding/selecting options for implementation. This was also reflected in terms of participants' additional options. Some of the additional options resulted from the combination of core and discretionary options and other additions to this core are discretionary options. For example:

- the additional option *Maintaining free parking, extending retailers' opening times and having internet in the town centre* (participant G, *specialist*) combines the option *Maintaining free parking and extending retailers' opening times* with having internet in the town centre;
- the option *Increase housing, reduce rents, and redevelop the library building* (participant V, *commercial property owner*) combines two core options with increasing housing in Thornbury; and
- the option *Home delivery and box schemes with association of retailers* (participant E, *resident*) combines two of the discretionary options.

This reflects the idea that participants thought that a combination of measures might be more effective than implementing a single measure. This was also reflected in the participants' comments throughout the appraisal. For example:

'I love the different options [...] but the retail scene is changing so fast. The businesses are changing, the community is changing [...] I think all the options should be used, not just one or two [...]' (Participant C, retailer).

'I would hope that one [option] would complement the other [option]' (Participant B, local authorities).

5.6.2. CRITERIA GROUPINGS AND THE RANKINGS OF OPTIONS

Participants developed a total set of 54 criteria. The total set of appraisal criteria revealed some interesting types of criteria: criteria of a more technical and economic natures, and other criteria. In this presents an analysis to these groups of criteria.

5.6.2.1 Economic and technical criteria

Economic and technical criteria relate to aspects that general literature identifies as influencing consumers' decisions on where to shop (e.g. enhancement of the provision of services), economic factors for retailers (such as consumer landscape, costs, revenues and sales projections), general economic factors (e.g. facility space needed, employment projections), and implementation aspects (such as costs and time to implement). Many of these have been the focus of many studies on town regeneration (e.g. Findlay and Sparks, 2008; McGrath and Vickroy, 2003; Thomas and Bromley, 2003).

Participants have identified several criteria that can be seen as aspects are linked with where consumers' choose to shop. There were criteria related with accessibility (criteria 10-14 from Table 5.7), price and quality of goods (criteria 6 from the same table), the range of desired products available (criteria 28-31) and safety (criterion 33).

Participants have also identified criteria related with economic aspects for retailers (criteria 3-5), indirect criteria such as rents and value of property (criteria 1 and 2), and criteria related with attracting consumers (criteria 21-25).

There were also criteria related with the implementation of the different options that participants included, such as implementation costs, cost-effectiveness and time required to implement the options (criteria 8, 9 and 32).

Fig. 5.8 presents the ranks for the options in terms of economic and technical criteria. Results are not much different from the overall results from the appraisal (Fig. 5.6). The option *Lowering commercial rents and business rates for basic retailers* performs better than the option *Alternative evening entertainment* as the pessimistic scoring of the first is higher than the optimistic scoring of the second. *Lowering commercial rents and business rates for basic retailers* performs best in terms of in terms of optimistic ranks (right hand-side of the bars) and in terms of pessimistic ranks (left hand-side of the

bars). *Alternative evening entertainment* performs the worst in terms of optimistic ranks and in terms of pessimistic ranks.
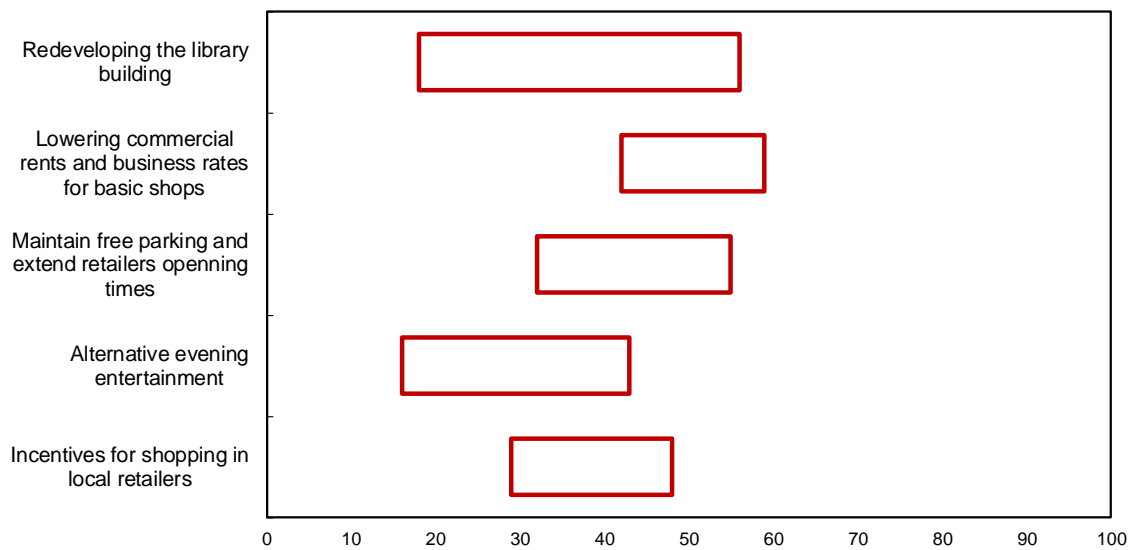
Fig. 5.8. Average ranks for economic and technical criteria, for all participants
Values are subjective (defined by the participants) and normalised to a 0 to 100 scale, and evaluated through participants weightings. The higher the value the higher is the rank.

5.6.2.2 Remaining criteria

There were interesting criteria that came up in the interviews - the criteria *Enhancing community cohesion*, *Community building*, (bringing) *Character* (to the town) and *Impact in the community*. Additionally, two other criteria related with the relationship between the main commercial property owner and retailers and between the different retailers (criteria 15 and 16 in Table 5.7) were defined. One participant reflected his/ her concerns with the environment (criterion 34). An underused criteria brought up by participants was *safety* for visitors in the town centre was considered relevant by one participant. Interestingly, participants developed criteria that show their concerns with all members of the community. These were related with accessibility for all including mother with push-chairs, disabled, but also, consumers of a lower economic level and targeting different age ranges (criteria 7, 26 and 27).

Fig. 5.9 shows the combined ranks for the criteria identified above. Results differ substantively from the overall results (Fig. 5.6) and from economic and technical criteria (Fig. 5.8). All sores are substantively lower and the option *Redeveloping the library building* improved the scoring, performing better than the options *Lowering commercial rents and business rates for basic retailers* and *Incentives for shopping in local retailers*. This option performs the best in terms of in terms of optimistic ranks (right hand-side of the bars) and in terms of pessimistic ranks (left hand-side of the bars). *Lowering commercial rents and business rates for basic retailers* performs the worst in terms of optimistic ranks and this option together with *Incentives for shopping in local retailers* perform the worst in terms of pessimistic ranks.

[135]

The differences observed between these ranking and the ranking for technical and economic criteria indicate that the option *Redeveloping the library building* brings many other benefits than just technical (for retail revitalisation) and economic benefits. In the same way, the benefits from the option *Lowering commercial rents and business rates for basic* retailers are more of an economic and/or specific technical benefits for addressing retail revitalisation, and lesser from other aspects such as community building, character, amongst others.

The reason why these results differ greatly from the overall results (and the results from the economic and technical criteria do not) is that the weights to these criteria were relatively low, ranging from 16.5 for *Enhancing community cohesion* to 35.7 for *Friendliness amongst retailers*. Criteria (see Fig. 5.2 and Table 5.8 in section 5.5.2.2).
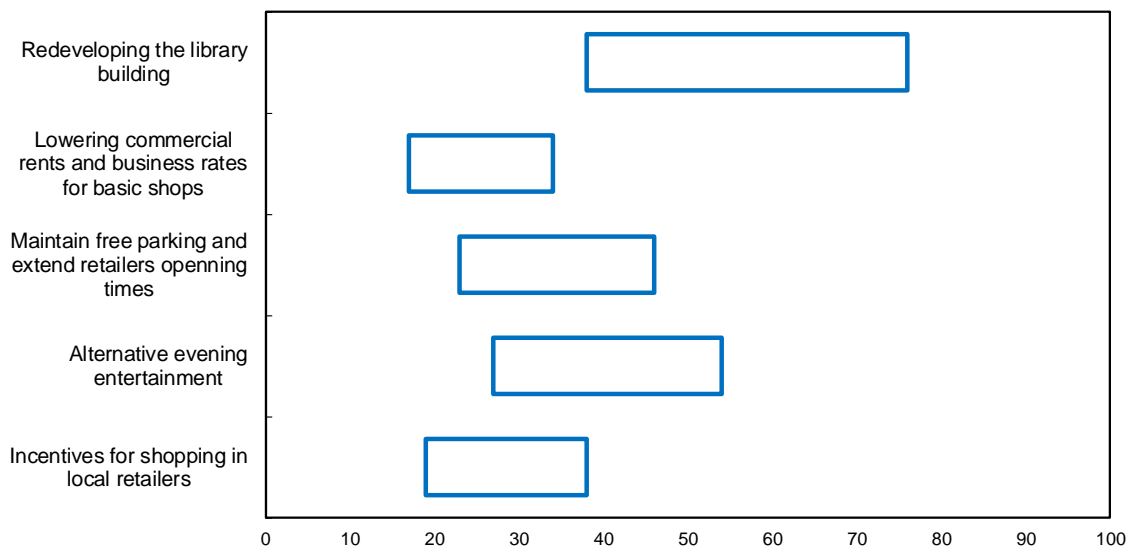
Fig. 5.9. Average ranks of options for criteria not usually used in town retail revitalisation
Values are subjective (defined by the participants) and normalised to a 0 to 100 scale, and evaluated through participants weightings. The higher the value the higher is the rank.

5.6.3. ADDITIONAL KEY ISSUES FROM THE APPRAISAL

5.6.3.1 The views from commercial property owners

One group of participants (N, O, V, *commercial property owners*) opposed to the lowering of commercial rents and favoured the option of *Redeveloping the library building*. The opposition to the reduction of rents was because this option would not bring profits to commercial property owners. Although participants under the commercial property owners group used a higher number of criteria related with income to retailers (criteria 3 and 4), the weightings representing the criteria's importance, especially for *costs to retailers*, were low (Fig. 5.10, top), which differed greatly from the retailers stakeholder group.

Criteria weights

Weights defined by participants
N, O, V
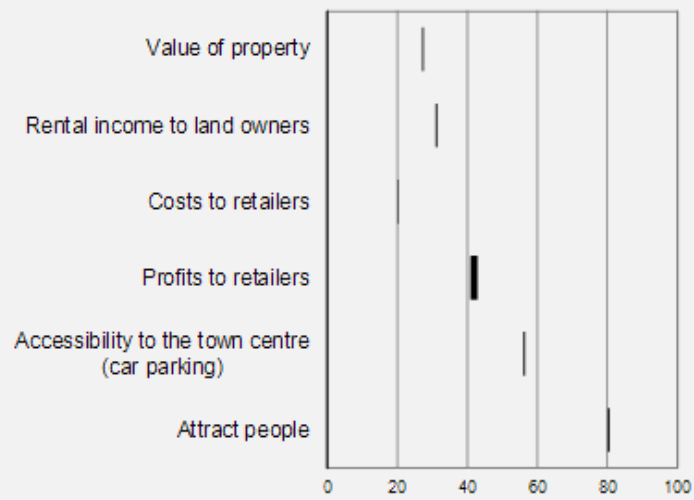
Average ranks

Ranks resulting from participants N, O, V criteria,
weights and scoring
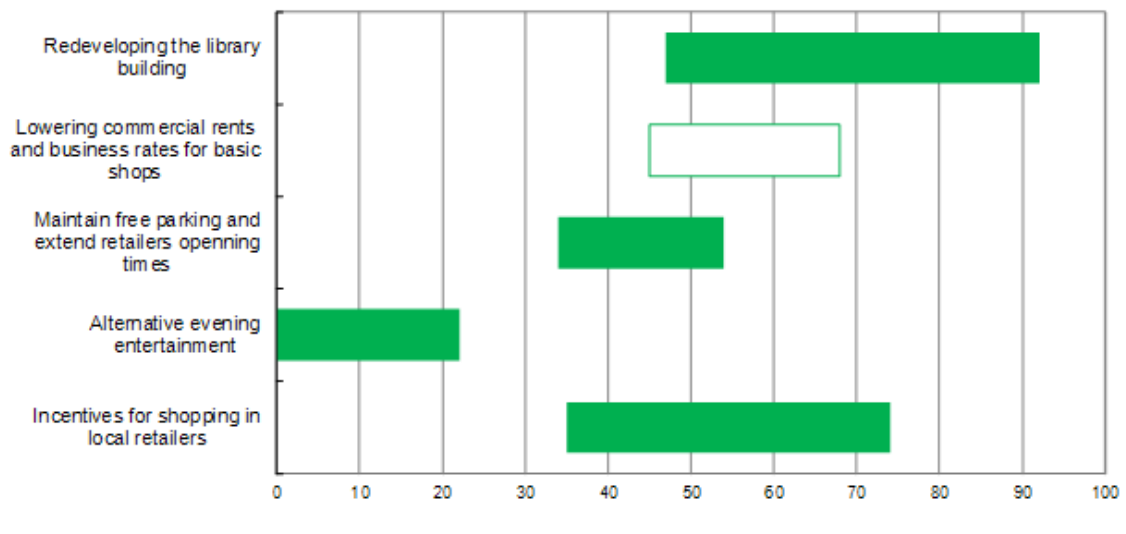
Fig. 5.10. Commercial property owners' appraisal: weights and ranks

Source: MCM interviews. Participant I views were not included. The white bar with green contours refers to an option not appraised by all participants.

Commercial property owners showed preference for the option *Redeveloping the library building*, as shown in Fig. 5.10 (bottom). The reason for this preference related to the fact that participants expected the option would: (i) bring profits for commercial property owners, as the option is expected to bring two new tenants; and (ii) bring new customers into the town, attracted by the new retailer on the ground floor, revealing a high confidence on the success of the option (i.e., the low uncertainty and high scoring).

Participant I's views differed somewhat from the rest of the participants in the *commercial property owners* group on these issues. This might be explained by the fact that this participant was only a manager from council halls and not a manager from commercial properties. In addition, the participant was once a retailer in Thornbury town centre and so attributed a higher relevance to some of the constraints imposed on retailers.

5.6.3.2 The views towards commercial property owners

The views on *commercial property owners* were some of the key differing points between participants. On the one hand, some participants used and attributed a high weight to the economic criteria that directly benefited commercial property owners (criteria 1 and 2), even more than criteria for retailers – 3-5. This was also a factor in participants excluding the core option *Reducing rents and rates for basic retailers* from the appraisal, as it would not bring profits for commercial property owners. On the other hand, other participants attributed low importance to the profits from commercial property owners or did not consider such criteria at all. Furthermore, comments through the appraisal revealed that some participants see commercial property owners as being one of the main causes of retail decline, due to the high rents or long leases imposed on retailers. This view was already identified in Chapters 3 and 4, and consequently, the MCM appraisal reaffirmed the existence of such a view and provided an insight into the opposite view, i.e. the view benefiting commercial property owners.

The remaining participants did not select any economic criteria that would directly benefit the commercial property owners. They also attributed high uncertainty to the scoring of the option *Redeveloping the library building* (in particular, the groups of *residents* and *local authorities*), and made comments which identified commercial property owners as being part of the source of retail decline in Thornbury town centre. For example, participant T (*local authorities*) identified the town centre's main property owner and the local authorities as being obstacles to resolving the current retail situation within the town centre:

'[...] in Thornbury there are two problems: the council and the peer group [...] the peer group is a Scottish company. They are not interested in Thornbury as a town but on profit. For example, recently the bookshop changed from St. Mary's to the High Street because of the high rents'.

Participants J (*retailers*) and E (*residents*) identified only the main property owner as being an obstacle to revitalising Thornbury town centre:

'[...] the biggest obstacle is the relation between the retailers and the peer group [the main land holder in the town centre]. It's more about the relationship rather than any other thing [...]' (Participant J);

'The leases are too high compared to 25 years ago in St. Mary's [Centre]' (Participant E).

Participant L (*retailers*) generalised these criticisms to include other property owners in the town centre:

'The peer group is not the problem; the landlords are, because of the leases'.

5.6.3.3 The views from specialists

The group of *specialists* were the only group who defined the *Environmental sustainability* criterion and presented some differences in the weighting of other criteria (Fig. 5.11, top).

Criteria weights

Weights defined by participants G, M, P

Average ranks

Ranks resulting from participants G, M, P criteria, weights and scoring
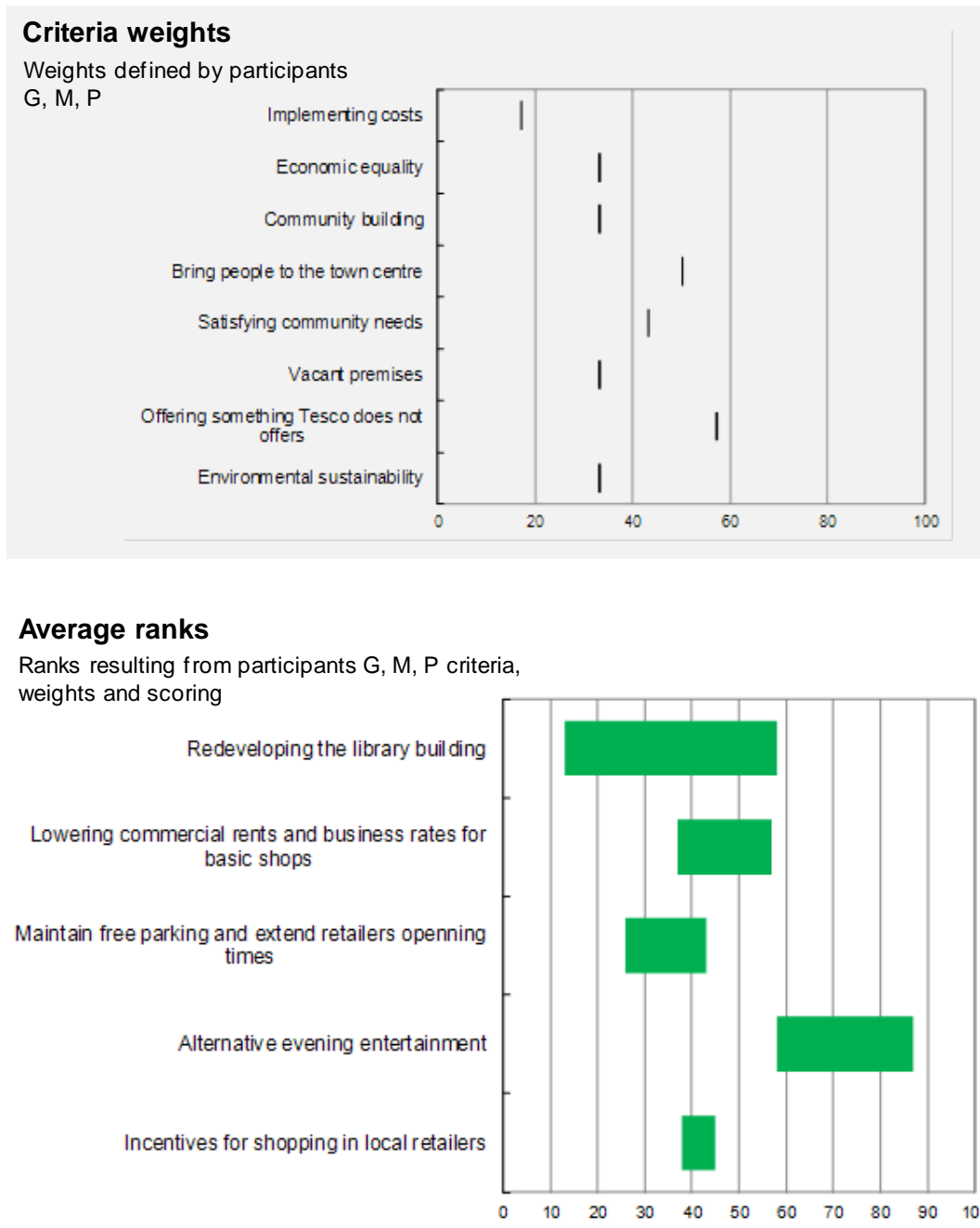
Fig. 5.11. Specialists *appraisal: weights and ranks*
Source: MCM interviews.

These differences resulted in differences within the rankings. From Fig. 5.11 (bottom), the option *Alternative evening entertainment* had the highest optimistic ranks and its pessimistic scoring was higher than the optimistic scoring of the other options. This was because the option can allow for the involvement of local organisations, groups, clubs and schools in producing some events, thus bringing

members of the community together to work, increasing the option's performance in terms of *Community building*, *Environmental sustainability* and *Satisfying community needs*. The option will not look at building a new building and if car-parking charges are imposed, then the option will contribute to a better environment. Finally, the option could satisfy community needs if care was taken to provide events catered for the local community. This contrasts with the appraisal from other participants such as participant T (*residents*), R (*local authorities*), I, O and V (*commercial property owners*).

As *specialists* are not local to Thornbury, it might be argued that their views should not be aggregated into the main analysis. The overall results without the *specialists*' rankings are presented in Fig. 5.12. The main difference occurs in the option *Alternative evening entertainment*, whose the performance becomes lower. This is because this option was seen as performing quite high for the *specialists*, and thus, removing this group's views from the appraisal makes the option less preferable.
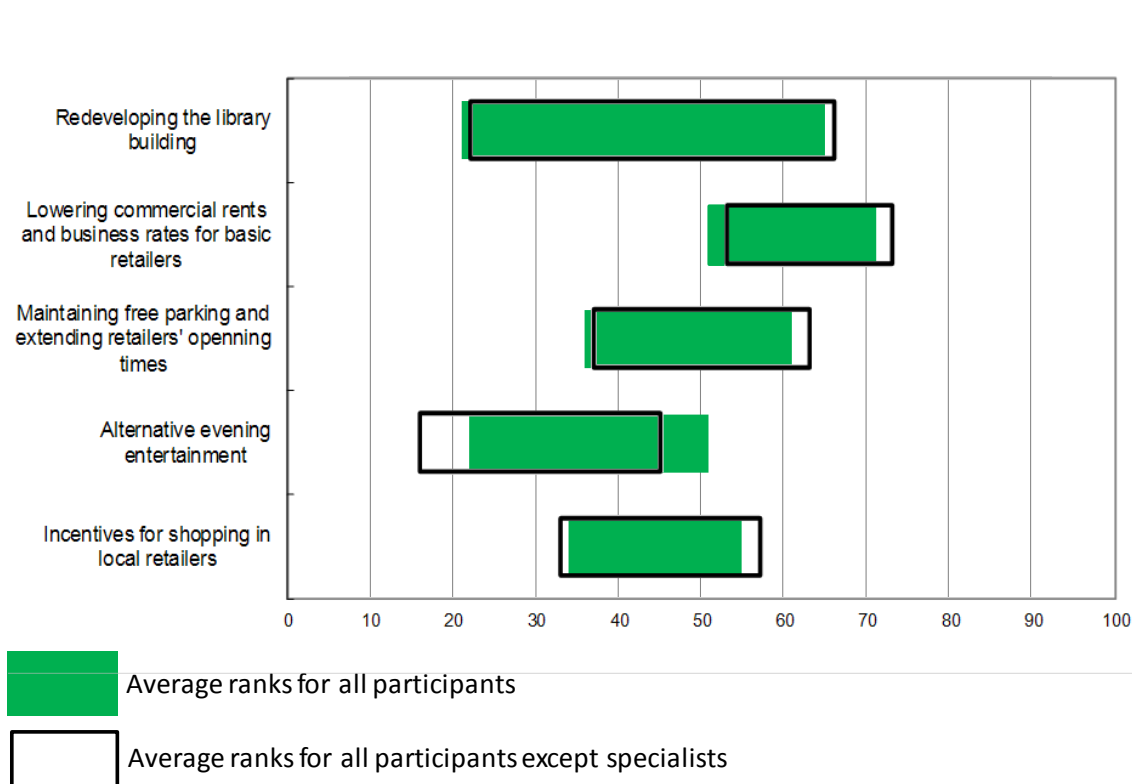
Fig. 5.12. Average ranks for all participants and all participants except specialists
Source: MCM interviews.

5.7. THE RESULTS FROM MCM AND THE CONCEPTUAL MODEL OF RETAIL DECLINE

In Chapter 4, a systems' map based on causal loop diagrams was developed for describing retail decline in a town centre. In this section, we compare the criteria obtained from participants in the MCM with the elements identified in this model and review the options appraised by participants. Table 5.10 clusters the criteria obtained in the MCM study according to the main components from the

model developed in Chapter 4. In addition to the criteria presented in the table, participants have identified criteria related with the implementation of the options (costs of implementing the options and time required for implementing), although receiving the lowest weights. These are criteria not included in the model.

Table 5.10. Main elements from the conceptual model for retail and the criteria

Main elements of the conceptual model	Criteria from the MCM
Closing shops	29
# people shopping in the town centre	6, 7, 10-20-28, 30, 31, 34
Competition with out and edge of town retailers	31
Costs to retailers	2-5

Regarding the number of closing shops, participants have identified two criteria. Participants have defined a total of 35 criteria related with/affecting the number of people shopping in the town centre. This criteria type also included the criteria with the highest weights. 12 of the criteria in this group were focused on the number of people that visits the town centre, and the remaining with accessibility, sense of community/social capital, range of products and their price/quality. There was one criterion related with competition to retailers. This criterion referred to the competition with the supermarket at the edge-of-town. No criteria related with other competitors (from out-of-town) were defined. 10 criteria were related with costs and profits to retailers. Among these costs, the rents paid by retailers to commercial property owners were one of these criteria. Although the low number of criteria related with rents, throughout the MCM appraisal, it was clear some participants say commercial property owners as a cause for retail decline, as discussed in section 5.6.3.2.

Including commercial property owners in this study allowed to understand that the model developed in Chapter 4 was lacking from the views from this group. One of the costs to retailers is rents paid, and these rents provide income to commercial property owners, which are a stakeholder group in Thornbury. In this sense, Fig. 4.8 can now be re-written to include commercial property owners' perspective. This is presented in Fig. 5.13.
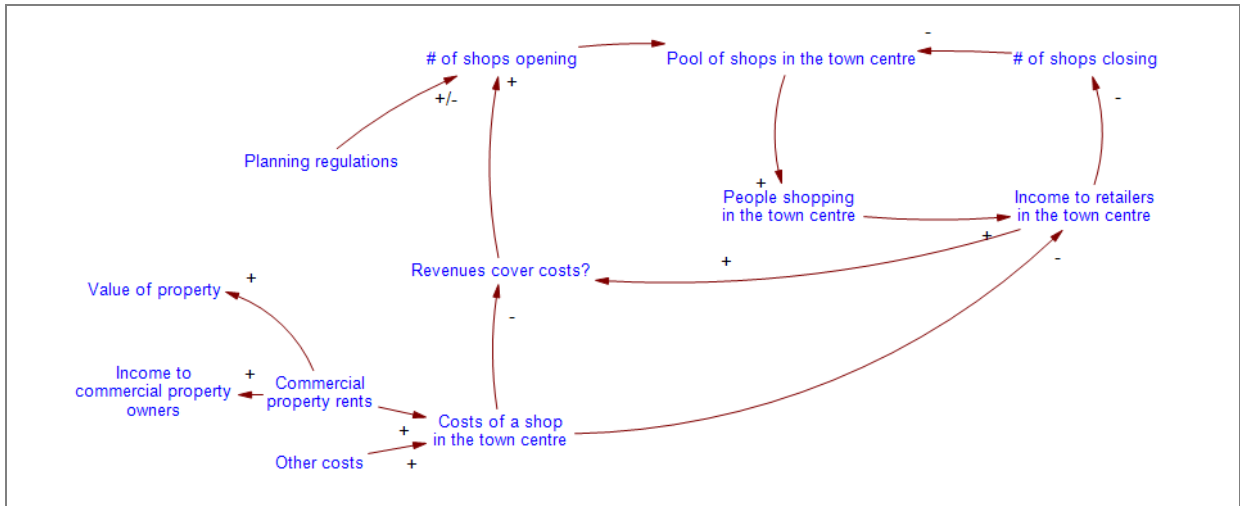
Fig. 5.13. CLD for the relation between retailers' costs and the number of retail shops in a town centre

Regarding the options appraised by participants, Table 5.11 presents a summary of participants' appraisal. The different options target different elements from the CLD conceptual model. The main differences in the appraisal between the different options related with how confident participants saw the relationship between the target of the option and the effect the option would have in terms of bringing customers. This is understandable as there are many factors influencing the choice of customers, as seen in from the conceptual model. Participants' appraisal of the options was coherent with the relationships between elements identified in the model. Interestingly, none of the participants referred to the feedback loops identified in Chapter 4.

Table 5.11. Summary of main appraisal points from participants regarding each option

Direct target (related CLD diagram)	Participants' appraisal
Redeveloping the library building:	
Attraction in the town centre (Fig. 4.5)	This option had the highest differences between the optimistic scoring and the pessimistic scoring. The reasons for these differences were: ▪ doubts whether the option would bring people to the town centre (related with if the new retailer is attractive or not, with the aesthetics of the new building – which would be the tallest building in the town centre, or due to accessibility issues brought by moving the library to the second floor); ▪ whether the people attracted by the new retailer would shop anywhere else in the town centre.
Lowering commercial rents and business rates for basic retailers:	
Costs to retailers (Fig.	This option foresees a decrease on the income to commercial property

Direct target (related CLD diagram)	Participants' appraisal
5.13)	owners.
	This lead to a commercial property owner to exclude this option from his appraisal.
	In the same way, there was a participant who referred to that if commercial property owners were willing to accept this option, the option would contribute to improving retailers-commercial property owners relations.

Maintaining free parking and extending retailers opening times:

Accessibility (Fig. 4.4 and Fig. 4.5)	Accessibility to town centre will attract customers, which will bring income to retailers and ultimately, allow increasing the variety of products in the town centre, satisfying community needs.
	However, the number of customers the options would attract was seen as low by some, limiting the positive effect of the option.

Alternative evening entertainment

Attraction in the town centre (Fig. 4.5)	Attracting people to the town centre can lead to people shopping in the town centre and even, help developing new retail to cater for audience of the entertainment.
	However, the number of customers the option would attract was seen as low by some, limiting the positive effect of the option.

Incentives for shopping in local retailers

Costs to customers (Fig. 4.5)	This option would attract people to the town centre. However, some participants were doubtful on how many people would be attracted (which depends on the size of the incentives and for how long they would be provided). Participants identified a limit to the size of incentives to ensure profit margins to retailers. The larger the incentive, the more people would be attracted, but the less profit margin there will be for the retailer.

5.8. REFLECTION ON THE USE OF MCM FOR TOWN REVITALISATION STRATEGIES

5.8.1. PARTICIPANTS' REFLECTIONS ON THE MCM PROCESS

Overall, participants felt the results from of individual rankings transmitted their own views. For example:

'Were you reading my mind? This is exactly how I was thinking about the options!' (Participant P, specialist)

'[…] the top ones [criteria] are the two main issues and they have the wider risk. As I expected […] I couldn't think of anything there that is not covered by the method. I think it represents clearly my ideas, so it's perfect […]' (Participant J, retailer).

'[…] the fact that there were less evidence [for some scoring of options], implied that there was more risk. I do agree with the final results. The very important ones are the ones that can go very good, but can go very wrong as well.' (Participant L, retailer).

Participants' agreement with their own results confirms MCM can provide a good picture on the views from participants. Participants were in general pleased with the method:

'People at the Chamber of Commerce talk a lot, and it is until you see something like this that you really know what you are talking about' (Participant L, retailer).

'[…] this exercise is something that other towns could learn from Thornbury' (Participant A, resident).

There were also several comments to the different stages of the MCM, which have already been presented throughout the results. Additionally to these comments regarding each step of the MCM process, participants also commented on the overall transparency and structure of MCM:

'The method is transparent because you see the scale, but I think the method is not intuitive […]' (Participant G, specialist).

5.8.2. REFLECTIONS ON PARTICIPANT LEARNING

Clearly, the research raised many questions through the wide uncertainty bars, but did the application of the MCM allow participants to learn something about Thornbury?

According to Keen et al. (2005) learning processes involve four main aspects: reflexivity & reflectivity, integration, negotiation & collaboration, and participation.

5.8.2.1 Reflexivity and reflectivity

Reflexivity and reflectivity relates to the monitoring of the implementation, the outcomes and implications of policies, and reflecting upon them so as to make changes on the policies, goals and the policy-making process. MCM has a reflexive character to it, and participants made several positive comments regarding this at the end of the interviews. Most of the participants felt they learned something by being interviewed. For example:

'[…] very interesting method […] very useful method […] I feel I've learnt a lot' (Participant D, resident).

Most of the participants found that the method allowed them to see the problem from different angles, making them think in different ways, either by:

(i) having to think separately through the criteria:

'[the method] makes me look at things in a different way, makes me realise that different criteria changes the order of the options […]' (Participant U, retailer).

'I feel I've learnt very much. I feel the criteria making analysis and weighting makes you realise how dangerous it is to speculate; and these tools makes you came back to reality' (Participant L, retailer).

(ii) seeing the results:

'[the method] makes you think, makes you question your perceptions; how difficult it is to study these kinds of problems […]' (Participant C, retailer).

(iii) thinking on optimistic and pessimistic scoring:

'[…] I think I have my opinions. When you have to think about worst case scenarios, you surprise yourself! This is what would happen if things don't go as they should. I think it will make good to the retailers and citizens [the results from the study] and shock the peer group and council […]' (Participant J, retailer).

'[…] I've never thought about negative and positive criteria before' (Participant E, resident).

This made some participants realise the interconnections between the different options:

'[…] the method also made me think about the interrelations between the different options' (Participant R, local authorities).

5.8.2.2 Integration

Integration refers to the incorporation of all of the different aspects of the urban environment into the analysis, i.e. introducing complexity. This can be achieved through the inclusion of the many technical and quantitative aspects of the environment, but also, through placing these more technical aspects within the social context where they are happening, i.e. the inclusion of a diversity of perspectives on the environment (Keen et al., 2005). Involving citizens that have a more holistic view (Berkes and Folke, 2002) is a starting point. MCM resulted in the inclusion of a wide array of criteria.

5.8.2.3 Negotiation and collaboration

Negotiation and collaboration refers to accepting the existence of multiple legitimate views on urban development and the need to dealing with conflicting views, perspectives, values and agendas. Participants were asked at the end of their interviews whether they felt they had learned from the method, and all of the discussion above is based on their comments. No other form of evaluating if personal learning occurred was used. This is a limitation of the method. For this purpose, the method has been combined with Stakeholder Decision Analysis to give origin to Deliberative Mapping. In Deliberative Mapping, there is a process of interaction between stakeholder, who discusses the issues in focus groups, and with experts, who discuss their results from the MCM procedure with the stakeholders (Burgess et al., 2007). Social Multicriteria Evaluation also considers a final process of discussion of results in a format such as citizens' panels (de Marchi et al., 2000).

5.8.3. DIVERSITY OF THE OPTIONS APPRAISED

Authors have been arguing for the inclusion of a diverse range of options for the appraisal for several reasons: for reducing or anticipating path-dependencies (e.g. Porter and van der Linde, 1995; Voß and Kemp, 2006), for challenging social structures and relationships (Cameron and Gibson, 2005), for exploring ways to benefit a wider range of the community, or to bring knowledge of the functioning of urban systems. However, evaluating diversity in the range of options can be a difficult task. According to Stirling (2007), diversity involves: quantity, disparity and balance. Quantity in this case is related to the number of policy options that were appraised. Disparity is related to how different the options are from one another, the more extreme the options are the higher the disparity is. Balance relates to an even distribution of options amongst the disparity range, i.e. having all options very similar to each other except one would still contribute to a higher disparity but not to a balanced set of options. A balanced set of options would include similar numbers of options spread across the wide set of disparity. In this section, I discuss (i) the number of policy options generated by the MCM, and (ii) the disparity of the options generated.

5.8.3.1 The Number of Options Generated

Participants in the appraisal of retail options have defined 15 additional options. In total, there were 24 retail options, which is a high number of options in terms of urban studies literature. Comparing these numbers with those generated in other MCM exercises, not at the urban context, the number of discretionary options taken for the appraisal was relatively lower than for example in the appraisal of food production options (Stirling and Mayer, 2001) and options for addressing obesity (e.g. Lobstein *et al.*, 2006). However, the number of additional options per participant was higher than other studies (e.g. Horváth *et al.*, 2007).

5.8.3.2 Disparity between the Options

Some participants found the options too different to be compared, for example:

'[...] some options are better to attract citizens to the centre, not necessarily to increase commerce [...] others increase commerce but do not bring people into the centre [...] they are different options with different goals. Is it possible to compare them?' (Participant G, specialist*).*

One participant (participant E, *resident*) found the options limited, leaving some questions out. Participant E (*resident*) mentions:

'[...] when I've looked at the options at the beginning, I thought there were other factors not considered by the options. This [non-inclusion of such factors] is reducing the complexity of the problem into five headings. When you've got a complex situation, it's a pity to simplify it. There might be other questions that will be excluded. […] This [method] does incorporate some qualitative stuff, but tries to incorporate the qualitative into a slightly quantitative format. It's ok but […] it's not actually. We didn't have an opportunity to come up with completely new ways of what Thornbury might be like. It's a good tool to start to look at the complexity of the problem' (Participant E, resident*).*

The options that were generated for the appraisal were not necessarily new, and have been mentioned in one way or another in the literature on urban studies, urban planning and urban sustainability (e.g. McGrath and Vickroy, 2003; NEF 2003 and 2004; Nichol, 2003; Thomas and Bromley, 2003; Phillipson et al., 2006; Powe & Shaw, 2004; Harder & Woodard, 2007; Meyer-Waarden, 2007; Richey, 2007). What this research allowed for was the application of general options found in the literature to the context of Thornbury, and to investigate barriers in the implementation of these options. This was relevant because local and regional policy documents in the study area have not yet considered some of these options.

Retail options considered here were not necessarily placing local authorities in the centre of the implementation of these options, for example:

- *Weekend, evening and afternoon entertainment* (defined by participant P, *specialist*) accounted for events that were organised by the community in existing facilities within the town;
- *Home delivery and box schemes* (discretionary option), *Association of retailers* (discretionary option), *Home delivery and box schemes and association of retailers* (additional option defined by participant E, *resident*) all placed the emphasis on retailers coordinating their efforts to implement the options;
- *Sharing shop facilities* (additional option defined by participant E, *resident*) placed retailers and commercial property owners as the main actors in the implementation of the options.

Therefore, the set of options taken for appraisal did not rely necessarily on the exiting official networks. They were flexible enough to allow new structures to emerge.

Furthermore, there was one retail option that participants found the options could challenge current equality and competition regulations. This option was *Lowering rents and business rates for basic retailers*, as discussed before, which obtained a relatively high ranking in the results from the appraisal of retail options. Lowering rents was suggested in the literature as being a measure to help combat the decrease of retailers in market towns in the UK (nef, 2002, 2003 and 2004). However, *Lower rents and business rates for basic retailers* was the option that offered more controversy and disagreements between the participants. Participant N (*commercial property owner*) ruled out this option from the appraisal, participants R (*local authorities*) and G (*specialists*) questioned the legality and equality of this option. Other participants used this option as the basis to develop their additional options, whose performance overall was high. This was the case for:

- the option *Sharing shop facilities* (additional option developed by participant E, *resident*), which could be a way to offer lower rent to retailers, and under optimistic conditions for *Revenues for retailers*, had a higher performance. However, the new shops could compete with an increase in businesses, meaning a lower performance in terms of profits for shopkeepers (E, *resident*). Overall, the option performed as good as *lower rents and rates* for basic shops under the criteria for participant E.
- the option *Increased housing, reduced rents and renovating the library* (defined by participant V, *commercial property owner*), performed as good as *Lowering rents and business rates for basic retailers* in terms of attracting people to the town centre.

In summary, regarding the options taken for appraisal, there was some degree of disparity between the options taken for appraisal based on: the comments from participants regarding the options, the fact that options were not only based on the same power structure (i.e. the implementation of the options was based on different groups of actors), and one of the options challenged the current legal system. However, this disparity could have been greater if other more creative methods had been used for the definition of options. Such methods could be workshops, scenario approaches, or visual methods that focus exclusively on the generation of options[30].

5.8.4. CRITERIA USED FOR THE APPRAISAL

5.8.4.1 Economic and technical criteria

Participants have identified several criteria that can be seen as of an economic or a technical nature, as referred to in section 5.6.2.1. Interestingly, participants also found relevant to include as criteria aspects related with whether options contribute to improve the relationship between the main property owner in the town centre (i.e. the peer group) and retailers (criterion 16), and the relationship between retailers (criterion 15), which perhaps reflects the relevance that social networks and social capital have to the community. The relevance of latent networks on small and medium towns have also been referred to in the literature (Courtney et al., 2007).

Aspects such as employment were left out from the list of criteria. This can perhaps be linked with the low level of unemployment in the town (around 1.5%, according to the Census 2001and 2011).

Overall, the highest numbers of criteria were related with economic aspects for retailers, the number of customers targeted and accessibility aspects, as referred to in section 5.5.2.1. The majority of criteria defined by participants were of what can be considered of a technical or economic nature to the problem at hand. The highest weights were attributed to criteria related with these aspects, but have also received some of the lowest weights, as presented in section 5.5.2.2.

5.8.4.2 Social and environmental responsibility of consumers

The criteria *Enhancing community cohesion*, *Community building*, (bringing) *Character* (to the town) and *Impact in the community* reflected participants' concerns with how different alternatives would impact on their sense of belonging/ place and community. These together with the criteria related with the relationship between the main commercial property owner and retailers and between the different retailers (criteria 15 and 16 in Table 5.7), are somehow linked with horizontal relationships between the different groups in Thornbury. Horizontal relationships are intended here as the relationships across sectors, including rural hinterlands (participation), neighbouring towns (cooperation), and involvement of businesses, organisations and institutions.

Although horizontal relationships (and social capital) have been considered important in terms of the roles of market towns (e.g. Courtney et al., 2007; Findlay and Sparks, 2008; Powe and Shaw, 2004),

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[30] As the photo-survey here was used primarily for identifying key concerns of Thornbury citizens and the identification of measures to address these was a secondary aim.

using them as a criterion to bear in mind when appraising policy alternatives for retail revitalisation has been underutilised.

In this study, in total, there were seven criteria related with this topic; however, weights to these criteria were relatively low, ranging from 16.5 for *Enhancing community cohesion* to 35.7 for *Friendliness amongst retailers*.

Bringing these sorts of criteria into the interviews can also be linked with the fears participants have that loosing small independent retailers will affect social capital. A relationship that has been pointed out by nef (2002).

One participant reflected his/ her concerns with the environment (criterion 34). This criterion was linked with carbon dioxide emissions coming from the use of transport, but also, from the supply-chain (carbon miles).

The presence of criteria linked with the impact on the community (represented by criteria related with social capital and sense of place – criteria 15-20) and environmental criteria (criterion 34) could be indicative of social and environmental responsibility in some of the participants. In fact, in Chapter 3 there were participants that were concerned with the environment (food miles, emissions from private transport) and were pleased with the council support for fair trade. These could be signs of concerned consumers.

In the UK, in 2004, demand for healthier, locally sourced products has led to an 11% increase in demand for organic products (Vyse, 2005) Sales of organic products through box schemes, farm shops and farmers markets' increased by 33% in 2004, while independent retailers saw a growth in sales, of organic goods, of 43%. The percentage of organic sales made by supermarkets fell for three consecutive years from 81% to 75% (Vyse, 2005). Thus, environmental and social concerns could be an aspect increasing in the UK.

5.8.4.3 Holistic approach

The range of criteria generated by participants also shows that technical aspects (e.g. infrastructure, operational issues and effectiveness) are only a part of the whole issue. Participants deemed criteria relevant in other areas, such as in terms of social capital/ sense of belonging/ sense of place, consumer equality (see criteria 26 and 27 in Table 5.7), the environment and safety.

These more holistic views of local citizens and stakeholders, in contrast to more reductionist views, are consistent with findings by Berkes and Folke (2002), where lay knowledge is described as being more holistic.

Expanding the scope of analysis can potentially better deal with emergent properties of systems, i.e. properties that cannot be attributed to any element of the town in particular, but to the relationships between several elements, for example:

- pollution, where air and water pollution result from the use of technology, planning policies and the environmental services of air and water purification;
- the face of a city, also referred to as the image of a city (see Haken and Portugali, 2003);

- sustainability itself (see Keen et al. 2005).

This is coherent with more integrated, systemic and holistic approaches to development, sustainability and governance (e.g. Stirling, 1997; Voß & Kemp, 2006).

Thus, MCM allows for the inclusion of a diversity of values, criteria and goals. This is more pluralistic than other quantitative approaches (Banville et al., 1998; Munda, 2004; Kain and Söderberg, 2008).

5.8.4.4 Qualitative and quantitative nature of the criteria

Participants generated what can be considered both qualitative and quantitative criteria (see Table 5.12). MCM incorporated qualitative and quantitative criteria into the appraisal, dealing with issues other appraisal methods, such as cost-benefit analysis and certain MCDAs, have problems incorporating, (Martínez-Alier et al., 1998; Munda, 2004). This shows that MCM can contribute to integrate values of a more qualitative nature into appraisal processes.

Table 5.12. Qualitative and quantitative criteria

Quantitative criteria	Qualitative criteria
1.Value of commercial properties in the town centre	6. Offering value for money
2. Rental income to land owners	11. Accessibility equality
	12. Disabled access to shops
3. Long term economic viability of retailers	15. Friendliness among retailers
4. Costs to retailers	16. Relation of peer group with local retailers
5. Profits to retailers	
7. Economic equality	17. Enhancing community cohesion
8. Implementing costs	18. Community building
9. Cost-effectiveness of the project	19. Novelty in the town/ character
10. Accessibility to the town centre (car park)	20. Impact on the community
13. Ease of access	22. Bring people to the centre (having a
14. Time needed to travel to shops	purpose to come into town)
21. Attract people	26. Diversity of people targeted/ inclusivity
22. Bring people into the centre	28. Satisfying community needs
23. Conversion	30. Mix of shop types
24. Retention	31. Offering something Tesco does not offers
25. Attraction of outsiders	
27. Attracting different age groups	
29. Vacant premises	
32. Time scale of putting the project to work	
33. Safety	
34. Environmental sustainability	

5.8.4.5 Divergence in weights and priorities

MCM places a strong emphasis on originating various criteria and various sets of weights, with no goal of averaging these; instead, it looks for the patterns emerging from the different criteria and weights sets. From our results, we can see that different participants attribute different weightings to similar criteria, and that there are some large divergences in some of the weightings (e.g. *Bring people to the town centre*, *Long-term economic viability of retailers*, *Profits for retailers*). According to Garmendia and Gamboa (2012), these aspects support the argument that forming a consensus or

using an average set of weights should not be a preferred approach. From an epistemological point of view, searching for a simple and straightforward ranking of policy options remains insufficient.

Considering diverse values rather than aggregating them or using average weights brings advantages, but also disadvantages. By emphasising diversity, one is not necessarily attributing to weights the meaning of trade-offs. This is particularly relevant as it allows the accommodation of divergent views and potentially incommensurable values, i.e. values which cannot be ordered in an hierarchy (Martínez-Alier et al., 1998; Munda, 2005); and can also be consistent with the definition of strong sustainability (Goodland, 1995; Costanza and Daly, 1992), where there is a minimum natural capital level that should be preserved (the critical natural capital) which cannot be traded off. The process is then more inclusive for different concepts of rationality.

Furthermore, when democratising the discussion on which criteria to include, one introduces transparency and accountability into the decision-making processes. This is one measure of usefulness for policy-makers.

Finally, being humble enough to discuss the values and criteria included, or evaluating different alternatives under different criteria sets, followed by discussions on the different outcomes from different criteria sets, will provide robustness (in terms of the effectiveness of policies and acceptability of policies to the public) to the results and potentially contribute to identifying new emerging solutions. This opens a round for deliberation regarding the ranking of alternatives and different weights.

However, by not providing a simple and straightforward selection of relevant factors, weighting of conflicting values and convergence of interests, one might make decision-making and acting difficult. This is particularly relevant under governmental modernisation agendas of rational management, where there are expectations that only high-quality numbers, an evidence basis and accountability can provide a rigorous foundation for policy-making (Byrne et al., 2009; Ravetz et al., 2004). In this sense, research on the acceptability of these sorts of results by policy-makers is still needed.

5.8.5. CHALLENGES OF USING MCM AT THE TOWN LEVEL

5.8.5.1 Engagement issues

This research involved stakeholders identifying the key issues that affect Thornbury, as well as defining and appraising options for retail revitalisation. There were difficulties in this research project in recruiting representatives of regional authorities. This can be partially due to the UK planning policies focusing on larger urban centres (e.g. the PPS6) and the general structure of government, where local authorities follow general guidelines from central government in dealing with local issues, and regional authorities focus only on the main urban centres of each region. There were also difficulties in recruiting representatives of a large supermarket just outside of the town centre. This restricted the results from the appraisal, as the views from these groups were not included. This lack of engagement could have happened for various reasons, including lack of time, lack of information, and, perhaps, lack of empathy with the approach or the researcher.

5.8.5.2 The use of lay citizens

In the literature, MCM has had little use of lay citizens. In the literature, MCM has had little use of lay citizens. The topic for the appraisal was carefully selected, as participants in the photo-surveys identified the relevant topics. This fact clearly helped with the engagement of local participants (retailers, commercial property owners and residents). Amongst the criteria defined by lay citizens (represented by the group *residents*), there were two criteria that are more holistic (*enhancing community cohesion* and *character*). Citizens defined on average 2.5 criteria per participant. This number was not the highest or the lowest. Citizens were one of the groups that appraised on average a higher number of options per participant (1,5 options per participant).

In terms of uncertainty, citizens were not the group who attributed the highest uncertainty overall. The uncertainty introduced by *residents* was below average (see Fig. 5.3). Therefore, citizens' answers rated averagely within the MCM procedure. The results obtained with this research do not seem to be restrictive in terms of the use of lay citizens with MCM in the context of local policies.

5.8.5.3 The use of out-of–town specialists

The MCM literature is focused on the participation of specialists and stakeholders. Including specialists from different fields, especially from outside the study area can offer new insights which would not be gathered otherwise (Cameron and Gibson, 2005). However, at the town level, the inclusion of specialists from outside of Thornbury can raise questions regarding their legitimacy to participate in such appraisal, as they are not members of Thornbury's community.

It was evident from the appraisal of retail options that participants from the *specialist* stakeholder group had completely different views from the rest of the participants (see section 5.6.3.3). They used environmental criteria and socially qualitative criteria, and ranked the option *Alternative evening entertainment* highly, which was ranked low for many of the other participants. Given the differences of the appraisal from the *specialists'* stakeholder group, it would not seem appropriate to include solemnly specialists in appraisal of the options, as this would not offer the whole picture of views, options, criteria and uncertainties that were identified through the inclusion of a wider set of participants. This suggests that methods relying solemnly on specialists' knowledge can offer a partial view of the problem under analysis.

The advantage of the MCM in dealing with issues regarding specialists' participation or lay citizen participation is that, as it does not provide just an aggregate picture of the results, it allows for exploring how each group of stakeholders affect the results. Whether to include the out-of-town specialist views will rely on decision-makers, who then will be the ones to decide what constitutes legitimate and illegitimate frames to include. The role of MCM and this application was to attempt in maximising opportunities to examine and challenge the legitimacy of other's framings.

5.8.6. MCM, A PIECE OF ACTION RESEARCH?

Action research refers to researchers and participants working together for examining a problematic situation or action to change it (Kindon et al., 2007). In an organisational, institutional or community context, participants are stakeholders, or other members of a organisation, institution or community. Action research in these cases is aimed at informing and changing participants' practices, strategies and knowledge. Action research involves a researcher guiding a research, and participants with a strong interest in the outcomes from the research to change their own practices or learn with the outcomes.

In the MCM, in further conversations with participant C (*retailer*), the participant referred to the different core and discretionary retail options that were starting to be applied in Thornbury and the development of café discussions surrounding the different options. For example, the option *Attracting out of town consumers* suggested outdoor environmental improvements in the town centre, such as creating flower beds. These environmental improvements are something that residents in Thornbury are now thinking about:

'[…] a lot has changed, is changing […] Flowers will be happening all year around […]' (Participant C)

Regarding the option of *Retailers events*, certain events in Thornbury, such as Thornbury in Bloom and the Arts Festival were merged into one single festival, in an attempt to attract more people into the town:

'A lot of things are happening as a result of your research, you would be surprised […] Have you heard of the 10th of May Market? They are thinking of linking the Thornbury in Bloom, the arts festival and retailers' events in one big event to attract more people into the town […] everyone is working closely together.' (Participant C).

Concerning the option *Reducing rents and business rates for basic retailers* in general, and the additional option *Sharing shop facilities* in particular, one of the shops pointed out as empty in the photo surveys and MCM is now being marketed as a two-retailer space:

'The ex-shoe shop is marketed as two units […]' (Participant C).

If in fact MCM was really responsible for such changes, and just not capturing what was already happening in Thornbury, these results show a high individual learning potential from the method. This would mean MCM has the potential to be used as an action research tool, where there was a researcher, participants addressing problematic issues in their own settings, and leading to action from participants' own initiative. Such an incentive towards action has not been identified in previous studies using MCM.

In any case, there have been several theories proposed for enhancing the likelihood to promote self-organisation. Ostrom (2005) argues that there is a consensus on variables that promote actors to self-organise in the context of common pool resources. These variables are salience, common understanding, low discount rates, trust & reciprocity, autonomy and prior organisational experience and local leadership. In this research, there was some evidence of these properties. Salience refers to

having actors depending on the "resource system" for their livelihood or important social or religious values. Common understanding refers to stakeholders having a shared image of how the "resource system" operates and how their actions affect each other with reciprocity.

This could be due to, for example:

- some stakeholders still do their shopping regularly in Thornbury, depending on the retail in the town centre (as reported by the *Health-check* questionnaire, see the *A1. Appendix to Chapter 4*), and also, Thornbury retail contribute to social values such as community identity,
- although some mistrust from residents and retailers towards some commercial property owners (as identified in the photo-surveys and in section 5.8.3.2), stakeholders might still trust one another
- many of the options suggested in the appraisal of retail revitalisation were not dependent on just one single stakeholder group, such as the local authorities,
- many Thornbury residents have previous organisational experience through their participation in local associations, evidenced by the many groups, clubs and volunteering activities existent in Thornbury.

Regarding this last aspect, market towns in general have been identified as having strong social capital (O'Toole and Burdess, 2005), suggesting that similar results may be found in other market towns. According to Ostrom (2005), these characteristics can enhance the likelihood of citizens to organise themselves for action, in the context of common pool resources. Therefore, there were present in Thornbury some characteristics to allow for self-organisation, which could justify they action taken by some citizens from Thornbury.

However, attributing these changes solemnly (or even partially) to MCM is very difficult. What is certain is that: (i) the initiatives mentioned by participant C were only applied after this research had been conducted in Thornbury, so there is a coinciding of timings; and (ii) to my knowledge, the above mentioned initiatives were not included in any planning or policy document from the regional or local authorities up to that time. However, this piece of research targeted Thornbury retail revitalisation, just as other initiatives happening at the same time such as the market towns initiative and the market towns' *Healthcheck*.

In order to validate any potential to generate change by MCM, more case studies would be required. These case studies would then need to be compared with other market towns, of similar characteristics, in order to determine what change is happening in the cases where MCM was applied and what change is happening in the cases where MCM was not applied. This analysis could make use of statistical methods such as quasi-experimental designs or non-experimental designs, such as the ones suggested by the EU for assessing the impacts of rural development programmes (Lukesch and Schuh, 2010). For now, the doubt will remain.

5.9. SUMMARY AND CONCLUSIONS

In this study, MCM was used to elicit stakeholders' appraisals on town renewal strategies. The study included the use of lay citizens as participants, which is not common in the MCM literature common because the method requires participants to have a firm understanding of the issues at hand and a familiarity with rationalistic policy processes (Stirling, 2005).

Five core options were developed for the MCM appraisal. The policy options were developed based on previous interviews and the literature on Thornbury (policy documents and consultation reports); and on literature on market town revitalisation. The core options were appraised by all participants to ensure some level of comparability between the positions taken by the participants. Twenty-two stakeholders were recruited for the appraisal. These stakeholders were selected based on a stakeholder analysis and included residents, retailers, commercial property owners, local authorities and three non-local specialists on planning and sustainability.

The use of MCM resulted in the identification of additional options, criteria for comparing the different options and the scored of the different options in the different criteria:

- 15 additional options were developed by participants,
- a total of 54 criteria were developed by participants, representing 34 different criteria,
- *Costs to retailers* and *Profits to retailers* were the two criteria mostly defined by participants (four criteria each),
- *Attract people* was the criterion with the highest weight,
- During the scoring of the core options, participants have identified three key dimensions to the variability and uncertainty in option performances:
  - variability in the way the options could be implemented;
  - the level of confidence of participants in terms of how many customers each option would attract; and
  - uncertainty on the behaviour of certain relevant actors, which could affect the implementation of the options.

From the interviews, it was possible to obtain the rankings of different alternatives for the different participants. Results showed that some participants ranked certain options poorly while others ranked them more favourably. It was seen that the less popular or more controversial options for some are likely to be opposed by others, but that even those stakeholders accept some positive aspects to these options. There were some of the participants expressed that the final decision should be the implementation of a set of options and not necessarily looking into excluding/selecting options for implementation.

To what concerns the criteria defined by participants:

- There was a range of aspects participants found relevant to include. These were related with economic aspects (for retailers, commercial property owners, consumers, general), accessibility, sense of place/ social capital, number and variety of town centre visitors,

satisfaction of community needs, number and diversity of retail, environment and safety. These are likely to vary from town to town, and through time (as discussed by Sullivan et al., 2006 in reference to local knowledge). Therefore, a process of identification of which values to include in the appraisal of different alternatives should be a part of decision-making processes.

- Most of the criteria were related with technical and economic aspects. Other aspects, related with institutional, and wider social and environmental aspects, were brought up by participants. These derive strength from more integrated and systemic approaches where town revitalisation should be placed in its social, institutional and cultural contexts, where social capital and sense of place are inherent parts.

- Participants identified a range of qualitative criteria. This is a particularly important issue in cases where quantitative evaluations are normally preferred: there are criteria that some participants found relevant that would not be taken into consideration because of their more qualitative nature. Decision-making processes and appraisal methods should be able to incorporate criteria of a more qualitative nature.

- Weights attributed to criteria varied widely in some cases. This supports the idea of avoiding aggregating individual preferences into a single vector and exploring ways of dealing with the diversity of values and priorities. MCM provides a way to operationalise this approach.

- The criteria identified, given the number of participants included, cannot be considered representative for Thornbury or for town revitalisation in general (and thus, it is a work in progress). However, the obtained results offer interesting insights into some of the criteria that are not usually included in this sort of evaluation which participants found relevant to include. In the present case, MCM allowed for the inclusion of a wider set of social perspectives and concerns, which can differ from the more technical perspectives brought in by specialists. There were no apparent issues with the inclusion of lay citizens with the approach.

- In this context, MCM can be used as a preliminary input to other stages of analysis, informing for instance the design of surveys and questionnaires aimed to expand on the list of criteria or to identify a wider set of weights. Furthermore, the criteria identified help in judging whether certain appraisal tools are adequate or not, depending on whether they are able to deal with criteria of the nature of those identified in the study (e.g. qualitative criteria). Such processes can help bringing more transparency and robustness (in terms of the effectiveness of policies and acceptability of policies to the public) to policy-making decisions.

From the criteria selected from participants, as well as comments through the appraisal, it was clear that some participants see commercial property owners as being one of the main causes of retail decline, due to the high rents or long leases imposed on retailers.

The criteria defined by participants fits within the conceptual model for retail developed in Chapter 4, where the majority of criteria felt within the aspects identified in Fig. 4.5. Participants in the MCM played a stronger emphasis on commercial rents, as a cost to retailers, as well as commercial property owners' views. In this sense, Fig. 4.8, focusing on the costs of retailers, was re-written to include commercial property owners' perspective. This is presented in Fig. 5.13.

There was no clear preference from participants for one or other options, as each these presented positive and negative aspects. Even for options where participants tended to score the poorly, there were still some issues upon which the opponents would accept that an option could have an advantage. This allows us to conclude that perhaps the solution passes through a combination of measures rather than focusing on a single one. Some of the participants who expressed that the final decision should be to implement a set of options and not necessarily excluding/selecting options for implementation.

In sum, MCM provided many advantages:

- Participants were generally happy with the procedure and found that results transmitted their thoughts. This means that they felt their views were represented. MCM can thus capture the different views from participants.
- Most of the participants found that MCM allowed them to understand the complexity of the issue under analysis, making them think through each criteria separately, thinking in worst and best case scenarios and on uncertainty, as well as recognising the existence of different views.
- It was not found that citizens had additional difficulties during the MCM process.

The main constraints found with the use of MCM were:

- MCM did not provide participants a way of knowing the other participants' views, exchange ideas and learn with this exchange of ideas. Modes of interaction between participants would provide this. This is the case for Deliberative Mapping.
- MCM asks for long time from participants (2hr interviews). This can reduce the number of stakeholders willing to participate. This is relevant as results are strongly dependent on the number of participants included.
- MCM asks for long time for both, data collection and data analysis (compared to questionnaires). This can be a limiting factor in terms of the number of views/participants to include.
- Some participants had more difficulties in dealing with the MCM process than others.

At the town level, the inclusion of specialists from outside of the town can raise questions regarding their legitimacy to participate in such appraisal, as they are not members of the towns community. In here, their appraisal can be kept separate from the remaining participants.

Care should be taken to ensure that a wide set of perspectives is included in this type of study, as criteria will strongly depend on the set of participants involved, especially if one pays more emphasis to the quantitative information generated.

In this context, MCM can be used as a preliminary input to other stages of analysis, informing for instance the design of surveys and questionnaires aimed to expand on the list of criteria or to identify a wider set of weights. Furthermore, the criteria identified help in judging whether certain appraisal tools are adequate or not, depending on whether they are able to deal with criteria of the nature of those identified in the study (e.g. qualitative criteria). Such processes can help bringing more

transparency and robustness (in terms of the effectiveness of policies and acceptability of policies to the public) to policy-making decisions.

MCM provided a rich picture of Thornbury and a relatively good understanding on some of the issues affecting Thornbury. All these characteristics make MCM potentially adequate for:

- the evaluation of plans and projects, combined with other participatory processes;
- evaluating the effectiveness of policies (i.e., ex-post evaluations),
- or just to serve as an input in defining surveys and questionnaires to gather ideas for the development of plans, programs and strategies, ensuring relevant issues are included in these,
- developing a set of indicators to monitor policies, based on the criteria identified by participants.

The potential for MCM to be explored as an action research tool is an interesting result coming from this research and would need further research. Given the potential for generating ideas, and its participatory character, MCM is suitable for Participatory Rural Appraisal processes.

6.

Social Traps in Retail Decline in Small to Medium Towns

ABSTRACT

Small to medium towns provide many services and wellbeing not only to their residents, but also to residents from villages in close proximity (Findlay and Sparks, 2008; Powe and Shaw, 2004). However, there has been evidence of a decline in retail and other services (Chapter 3; Bittner and Sofer, 2013; McDonald et al., 2013; McManus et al., 2012; Gkartzios and Norris, 2011).

This chapter aims to provide a new understanding of retail decline in market towns by investigating if there are social traps in place; attempting to understand how *business as usual* can be influencing feeding these social traps and how to address these. A social trap is any situation in which the short-term, local reinforcements guiding individual behaviour are inconsistent with the long-term, global best interest of the individual and society. To the author's knowledge, the use of social trap theory to address retail decline is new.

The focus of the chapter is on Thornbury, a market town in the southwest of England experiencing retail decline. We have analysed retail decline in Thornbury to identify potential social traps and to identify some potential measures for dealing with these traps.

This work allowed us to identify some social traps that can be linked with retail decline in Thornbury and are likely affecting retail decline in other market towns. These were (1) "inverse" tragedy of the commons, (2) policy resistance and escalation, (3) success of the successful and (4) eroding goals. Interestingly, some of the common measures found in the literature for dealing with retail decline, such as planning measures, the development of a new major retail store adjacent to town centres, or financial incentives for consumers, end up contributing to (and not addressing) the policy resistance, escalation and success to the successful traps.

Measures found for dealing with the social traps identified, in some cases, are not necessarily new, but have had lesser prominence. What is evident is that no measure deals with all social traps identified.

The analysis provided may be an interesting way for stimulating creativity in terms of defining approaches for dealing with retail decline and would be an interesting method to be combined with participatory approaches in, for example, workshops.

Keywords: Retail decline, market towns, town revitalisation, social traps

6.1. INTRODUCTION

Small to medium towns provide many services and wellbeing not only to their residents, but also to residents from villages in close proximity (Findlay and Sparks, 2008; Powe and Shaw, 2004). These services include a wide diversity of functions such as general services (banking, post-office, etc.), health, education, retailing, leisure and entertainment (including sports), offices and employment, arts, culture and tourism, transport and housing. In the last two decades, many changes have been occurring in these towns, ranging from changes in residents' characteristics, changes in retail structures (from small in-town shops to large out-of-town retailers), changes in transport and accessibility, to changes in regional planning policies (e.g. Lowe and Ward, 2007; Findlay and Sparks, 2008; McManus et al., 2012).

These socio-economic changes are leading to a pattern of decline in retail in town centres, decreasing provision of public transport services, and decline in (or relocation/ centralisation of) public services such as education, health, post-offices, bank branches. This decline in services in small and medium towns has been reported all over the western world. From North America (e.g. Smithers et al., 2005; Besser, 2009; McManus et al., 2012) to Australia (Eley et al., 2008; McDonald et al., 2013), passing through Europe (Jones, 2002; Gkartzios and Norris, 2011; Lopes, 2000; Powe and Shaw, 2004; Clark et al., 2007; Findlay and Sparks, 2008; Cook, 2009; van Berkel and Verburg, 2011) and the Middle East (Bittner and Sofer, 2013).

In this chapter, we analyse this pattern of town service decline. We start from the point of view that citizens, retailers, local authorities, commercial property owners, all actors in retail decline in market towns have different, multiple, and often conflicting, goals. For example, citizens might want to shop out-of-town to access different products and brands to satisfy their wants and needs, but at the same time, they might want a thriving town centre. Local authorities issue policies for protecting town centres' identity and local commerce by keeping out larger supermarkets and shopping centres (nef, 2003; Thomas and Bromley, 2002 and 2003), but at the same time, they want people to keep shopping in the town centre in order to keep investors interested in their town centre.

We investigate whether service decline in general and retail decline in particular can be seen as a social trap, as defined by Platt (1973), Cross and Guyer (1980) and Teger (1980), the authors who coined the term "social trap". A social trap is any situation in which the short-term, local

reinforcements guiding individual behaviour are inconsistent with the long-term, global best interest of the individual and society (Costanza, 1987). The relevance of social trap theory is that it can provide interesting insights in terms of side effects of behaviours and policies targeting retail decline, which, indirectly, contribute to further retail decline.

In Chapter 4, we have already identified some reinforcing feedback loops. Some of these can be classified as social traps. This Chapter investigates this further. Furthermore, this chapter also aims to understand how *business as usual* can be influencing feeding these social traps and how to address these. To our knowledge, the use of social trap theory to address retail decline is new. This chapter is a follow up from work developed in Chapters 3 to 5 in the sense that fieldwork data comes from these studies. The focus of the Chapter is on Thornbury, a market town in the southwest of England experiencing retail decline.

The structure of this paper is as follows: first we present a description of social trap theory and ways of addressing these social traps (section 6.2); then, we make a brief description of retail decline in market towns (section 6.3); then we describe the case study, which includes a description of Thornbury as well as the base data used (section 6.4); Section 6.5 identifies social traps in Thornbury and discusses these as well as measures for dealing with these traps and retail decline in general. Finally, section 4.6 presents some conclusions.

6.2. SOCIAL TRAPS

6.2.1. WHAT ARE SOCIAL TRAPS?

At the individual level (as well as at the community level), the same individual may often embody a number of contradictory roles and values. According to Sagoff (1988), citizens may be in favour of policies on climate change, however, their actions can reflect economical or other values (e.g. stylish values). A social trap is a situation where individual or short-term best interest conflicts with collective or long-term best interest (Costanza, 1987), as is schematised in Table 6.1.

Table 6.1. Social trap definition

Source: authors

		Short-term and long term best interest	
		Conflicting	**No conflict**
Local and global best interest	**Conflicting**	Social trap	Social trap
	No conflict	Social trap	Not a social trap

Another example of a social trap at the urban level is the *not in my backyard* (NIMBY) effect, where, for example, citizens might be in favour of recycling but can be opposed to the location of a recycling or composting plant near their houses. In this situation, we have individual interests conflicting with collective interests.

Platt, one of the authors who coined the term social traps to describe the phenomena above, was an American psychologist that studied the phenomena from a psychology point of view. Back in 1973, Platt identified some of the potential pressures that could lead into a social trap:

'(…) humans are often more strongly attracted to consuming activities that give immediate gratification than they are to avoiding the crises that are eventually caused by too much consuming for too long.

In addition, many human consumers are simply not aware of the connection between their consuming and the eventual crisis: the crisis is either perceived as just too far away, or is too dimly understood in the first place (…)' (Platt, 1973).

Platt identified two main causes of social traps: time-delays and ignorance. Time-delay result from the fact that the positive and negative reinforcements are separated in time. This is the case of drug additions and cigarette smoking, where the short-run provides pleasure and social status but in the long run there is increased risk of earlier death from smoke-induced cancer (Costanza, 1987). Another example of time-delay traps is the example provided by Sagoff (1988) on the existence of conflicting values within individuals, presented at the beginning of this section. This is a time-delay trap as the benefits (social acceptance, for example, linked with buying certain brands) bring immediate pleasure, while other effects such as climate change are felt on the long-run. Escaping paying taxes can also be seen as a time-delay trap, where the short term individual benefits his/her own financial situation by escaping taxes, but compromises the collective and long term positive benefits of taxpaying. Ignorance refers to unknowing the consequences of certain actions, and therefore, not being aware that an activity that brings immediate pleasure can, on the long-run or collectively, lead to negative impacts.

Seven years later, Cross and Guyer (1980) identified four additional causes for social traps. These were:

- sliding reinforcer, when there is a slow, almost imperceptible, change of reinforcements with time (e.g. pesticide use),
- externality, when there is externalisation of some important reinforcements from the accounting system (e.g. the prisoner's dilemma game),
- collective, when the actions of certain individuals affect a group in adverse ways (e.g. tragedy of the commons, the free rider), and
- hybrid, a combination of the causes above.

Rothstein (2005), from an institutional theory point of view and reflecting on what could be the difference between Scandinavian societies and Italian and Russian societies regarding escaping taxes and the existence of black markets, came to the conclusion that trust and social capital (or the

lack of) can also be a cause of social traps. Trust in here comes in two forms: trust on the behaviour of fellow citizens, or on the institutions that provide the long-term positive reinforcements. To explain this better, let us look into the example of escaping paying taxes. One may be escaping paying taxes because he/she might feel powerless being the only citizen paying taxes and that his/her individual contribution will have little effect, therefore, lacking trust that fellow citizens will pay their taxes. This is one of the forms of lack of trust referred to by Rothstein, which can be seen as a sort of collective trap. The other form of lack of trust refers to a citizen lacking trust on the institutions that govern citizens in terms of managing taxpayer's money effectively to provide benefits to citizens (also linked with corruption). This is the second form of trust referred to Rothstein in his book. Therefore, trust (or lack of) can also be seen as one of the causes for one getting into a social trap.

Meadows (2008), in her book on systems thinking, identifies eight types of social traps, providing not only a description of these, but also, possible ways of dealing with each of these traps. Table 6.2 presents the eight types of social traps identified by Meadows. These are used in this chapter as a guiding framework for the identification of social traps in Thornbury.

Table 6.2. Types of system traps

Source: Meadows (2008)

System traps	Definition
Policy resistance	When various actors try to pull a system stock toward various goals, the result can be policy resistance. Any new policy, especially if it's effective, just pulls the stock farther from the goals of other actors and produces additional resistance, with a result that no one likes, but that everyone expends considerable effort in maintaining.
The tragedy of the commons	When there is a commonly shared resource, every user benefits directly from its use, but shares the costs of its abuse with everyone else. Therefore, there is very weak feedback from the condition of the resource to the decisions of the resource users. The consequence is overuse of the resource, eroding it until it becomes unavailable to anyone.
Drift to low performance	Allowing performance standards to be influenced by past performance, especially if there is a negative bias in perceiving past performance, sets up a reinforcing feedback loop of eroding goals that sets a system drifting toward low performance.
Escalation	When the state of one stock is determined by trying to surpass the state of another stock—and vice versa—then there is a reinforcing feedback loop carrying the system into an arms race, a wealth race, a smear campaign,

System traps	Definition
	escalating loudness, escalating violence. The escalation is exponential and can lead to extremes surprisingly quickly. If nothing is done, the spiral will be stopped by someone's collapse—because exponential growth cannot go on forever.
Success to the successful	If the winners of a competition are systematically rewarded with the means to win again, a reinforcing feedback loop is created by which, if it is allowed to proceed uninhibited, the winners eventually take all, while the losers are eliminated.
Shifting the burden to the intervener	Shifting the burden, dependence, and addiction arise when a solution to a systemic problem reduces (or disguises) the symptoms, but does nothing to solve the underlying problem.
	Whether it is a substance that dulls one's perception or a policy that hides the underlying trouble, the drug of choice interferes with the actions that could solve the real problem.
	If the intervention designed to correct the problem causes the self-maintaining capacity of the original system to atrophy or erode, then a destructive reinforcing feedback loop is set in motion. The system deteriorates; more and more of the solution is then required. The system will become more and more dependent on the intervention and less and less able to maintain its own desired state.
Rule beating	Rules to govern a system can lead to rule beating—perverse behavior that gives the appearance of obeying the rules or achieving the goals, but that actually distorts the system.
Seeking the wrong goal	System behavior is particularly sensitive to the goals of feedback loops. If the goals—the indicators of satisfaction of the rules—are defined inaccurately or incompletely, the system may obediently work to produce a result that is not really intended or wanted.

6.2.2. ESCAPING SOCIAL TRAPS

Defining overall generic measures to deal with social traps can be difficult, as social traps range from cigarette smoking to global warming, being hard to imagine that measures to deal with one sort of problems can be similar to the ones for dealing with the other. Still, some authors have attempted to create a typology of measures. This was the case of the works developed in Platt (1973), Cross and

Guyer (1980) and Meadows (2008). For example, Cross and Guyer (1980) identified four main types of measures:

- education, used to warn people of long-term (and distributed) consequences that cannot be seen (e.g. warnings),

- insurance,

- superordinate authority, which are legal systems, government, religion, moral codes, social capital & sense of community,

- converting the trap into a trade-off, by adding compensatory positive or negative reinforcements.

Costanza (1987) reviews the measures proposed by Cross and Guyer (1980). According to his paper, education measures can be criticised on the basis that they need all people to have received and assimilated the education provided. This might not be possible, as people not interested in altering their behaviour will not allocate enough energy learn. Superordinate authority measures can be criticised in terms of the costs associated with them, when based on legal system or government, as they will need monitoring and enforcement to be effective. Superordinate measures based on religion or other moral codes area less expensive, but require a relatively homogeneous society to ensure there is a community to provide the pressure of following a given moral code or religious rules. According to Costanza (1987), converting a trap into a trade-off is a very cost-effective type of measures for dealing with social traps.

Other disciplines have been focusing on one form or another of social traps or causes of social traps. For example, adaptive management, which is a framework that was developed to be a structured learning process for dealing with the uncertainty and ignorance involved in social-ecological systems development (Folke et al., 2002, Folke, 2006 and Sendzimir et al., 2006). The literature on resilience provides also some interesting insights on how to deal with situations where there is a sliding reinforcer, where the slow changing reinforcer can be seen as the "slow variable" referred to by Carpenter et al. (2001) and Walker et al. (2004).

In terms of collective traps, there is an extensive literature regarding public goods and the "Tragedy of the Commons" defined by Hardin (1968) and later coined as a form of social trap. Examples of this literature are the work of Elinor Ostrom on lessons from empirical studies of sustainable resources use (e.g. Ostrom et al., 1999, Dietz et al., 2003, Ostrom, 2005 and 2010). Still linked with institutions, management and governance, but now on human societies rather than the management of social-ecological systems, there is the book from Rothstein (2005) focused on trust in institutions and its relation to social traps.

To deal with externalities, economic theory has developed several methods to account for variables/values not included within economic valuation. These valuation techniques are, for example, contingent valuation ("willingness to pay" and "willingness to accept" surveys), comparative methods (e.g. hedonic pricing, travel-costs, synthetic methods, econometric methods and the beta method) and capitalisation methods (e.g. production function and engineering costs). Multi-criteria decision

aids have also been proposed as a form to allow the inclusion of a wider set of values into decision-making, than traditional methods (Nijkamp, 1980; Banville et al., 1998; Munda, 2004; Kain and Söderberg, 2008). Another body of literature is game theory. Game theory is a field from mathematics developed to deal with situations where there is lack of trust within fellow players. The field was established when von Neumann and Morgenstern publish their book on "Theory of Games and Economic Theory" (von Neumann and Morgenstern, 1944).

Meadows (2008), on her book on systems theory, looks into certain types of social traps, including some of the above mentioned, and suggests ways of dealing with them, but the main message being that the best is to avoid them.

6.3. RETAIL DECLINE IN SMALL TO MEDIUM TOWNS

In the UK, independent convenience stores have declined 11% (5000 stores) between 2000 and 2005, 2000 of which were closed in 2005 (APPSSG, 2006). Between 1965 and 1990, 15% of small rural settlements saw their last general food shop close down. From 1991 to 1997, 4000 rural settlements were found in this situation (APPSSG, 2006). Between 2000 and 2004, there was the closure of 12,000 rural retailers (The Grocer, 2001), which has been an average of closure around 300 shops a year. Between January 2005 and October 2005 around 700 newsagents went out of business (APPSSG, 2006).

However, some authors disagree that such a decline is taking place. These authors argue that population, employment and businesses in rural areas are in fact growing (e.g. Lowe and Ward, 2007; McDonald et al., 2013). With the improvement in telecommunications, services such as internet banking, internet shopping, email and even working from home are becoming increasingly widespread (Lowe and Ward, 2007; Pratt, 2009). Therefore, services may just be changing format. At the same time, market towns have been experiencing a growth in community groups and volunteering activities (e.g. Herbert-Cheshire, 2000; O'Toole and Burdess, 2005). These supply many services to the community where the market and local authorities fail to provide them; for instance, leisure and evening entertainment. This high level of community participation is what Kim and Kaplan (2004) defined as social support. Some authors argue that despite the perceived decline in town services, with loss of locally-owned retail, changes in the way people communicate (from face-to-face to telephones and the internet) and increased car ownership, social capital seems not to be declining (e.g. McManus et al., 2012).

Despite this, the literature suggests that the apparent retail decline is caused by changes in residents' characteristics, communications, accessibility and transport, and changes in the retail structures (Phillipson et al., 2006; Powe and Shaw, 2004; Pratt, 2009).

Several measures to deal with the decline in retail have been suggested in the urban studies literature. There are command and control measures, which often take the form of the development of new major retail stores adjacent to town centres (Powe and Shaw, 2004; Findlay and Sparks, 2008).

Findlay and Sparks (2008) claimed that these measures tend to be the preferred options from town and urban planners, intended to attract spending into towns, which otherwise would be made out-of-town. Other measures of this type are policies on local competition, the development of local retail plans, providing a greater power to control and limit the size of supermarkets, thus ensuring the town centre as the primary focus of development (nef, 2003 and 2004). Powe and Shaw (2004) also suggested evening entertainment as a way of attracting people into the town centre, and internet shopping, through the use of a town webmaster to facilitate a town webpage with the retailers from the town.

There are policies more focused on fiscal interventions, using mechanisms to provide incentives both for customers and for investors/retailers. Examples of these are: business rate relieves for small retailers, support for community development finance initiatives and the use of customer incentives, such as shop vouchers (to be used in local shops) and other promotions (Powe and Shaw, 2004) and customer (or loyalty) card schemes (nef, 2003 and 2004; Powe and Shaw, 2004).

There are also information & education policies. Examples of alternatives for addressing retail decline could be: providing information on the local economic flows (nef, 2003 and 2004), using local media to provide information on local retail, for example (McGrath and Vickroy, 2003).

There are a few more alternative movements, not directly aimed at retail revitalisation, but at town development in general. These are, for example, the slow city movement and the transition towns' movement. The slow city movement was formed in October 1999 by four mayors in Italy (Knox, 2005). The goal was to foster the development of places that enjoy a robust vitality based on good food, healthy environments, sustainable economies and the seasonality and traditional rhythms of community life. These ideas led to a charter with a 54-point list of pledges[31].

The transition town movement began in Totnes (UK) in 2006 (Scott-Cato and Hillier, 2010). Transition town initiatives seek to build cohesive sustainable communities to prepare for a future with limited fossil fuels and climate change (Scott-Cato and Hillier, 2010; Ingebrightsen and Jakonsen, 2012; Richardson et al., 2012). To become a transition town, a town must sign up to a list of criteria set by the Transition Network (Scott-Cato and Hillier, 2010). It is an informal movement, searching for proactive responses to climate change, alternative ways of organising the economy, targeting behavioural change and involving the community from the town.

Several governments have recognised a potential decline in the services provided by market towns. For example the UK launched *The Market Towns Initiative* in 2001 with the goal of assessing the needs and potential of market towns and to agree and deliver economic, social and environmental improvements (Caffyn, 2004). In this study, we look into one of these towns benefiting from the *Market Towns Initiative*.

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[31] http://www.slowmovement.com/slow_cities.php (last access: March, 2014).

6.4. CASE STUDY

In this chapter, we make use of data from Thornbury to identify the existence of social traps in retail decline. The chapter also looks into the most usually prescribed policies to address retail decline to investigate whether these are in fact contributing to address retail decline or if they are feeding some of the social traps identified. This is made using data from Thornbury but also, using the literature on market towns. In this section, we describe Thornbury and the two studies on Thornbury that provided the insights into the analysis provided in this chapter.

6.4.1. THORNBURY, SOUTHWEST OF ENGLAND

Thornbury is a small market town in the southwest of England, 11km north from Bristol, with 12.250 habitants (Census 2001), which, from the turn of the millennium, was showing signs of a retail decline.

During the late 1990s, with the building of a major retail facility at Cribbs Causeway, the Planning Practice et al. (1996) forecasted the potential decline in town centre services, due to a shift from local to out-of-town shopping. By the turn of the millennium out-of-town shopping was mostly done on the Mall at Cribbs Causeway, the Broadmead, and the Galleries in Bristol (Gregory, 2001). In 2006, in Thornbury, no record was being taken on the number of empty premises.

Visits to the town centre during 2006 revealed 30 independently owned shops, 17 chain stores and three closed spaces, spread over 18 types of retail. Retailers such as department and catalogue stores (e.g. Argos), beverage shops (although existent in Thornbury), household items (furniture, kitchen, etc.), cinema/theatre, Electronic/IT (TVs, phones, computer, etc.), DIY/builders' merchant and camera/photo developing shops were non-existent in Thornbury town centre. In 2007, two additional retail spaces closed down (a video rental store and a supermarket).

Dealing with the decreasing retail services, amongst other problems, the *Town Centre Strategy Group* developed an audit entitled *Health-Check*. This audit aimed at identifying issues relating to the economy, environment, society and community life and transport. Included in the *Health-Check*, a survey to households, small businesses and visitors detailing their concerns with the development of the town was conducted between July and August 2007. The survey included five questionnaires targeting Thornbury's households and businesses. Overall, 5500 questionnaires were sent out for the Thornbury community survey, and a 3.5% response rate was obtained.

A refurbishment of the library building was being proposed as a way of revitalising Thornbury's town centre. This project consisted in redeveloping the library building from a single storey to a three-storey building, which could accommodate commercial and office space, as well as improved library facilities. Under this project, the current library would be relocated from the ground floor to the first floor. The ground floor would accommodate a retailer, whose details were not provided by the council; and the top floor would accommodate *Thornbury Motors*' offices, a local car retailer. The new building would be the tallest building in Thornbury town centre. The basis for such as project was that the retailer on the ground floor would attract people to the town centre, therefore improving the retail

conditions around the town centre in general. This project proved to be highly controversial, and at the beginning of this empirical research, no decision by the council on whether to move forward with the proposal had been taken.

6.4.2. OVERVIEW OF TWO STUDIES ON THORNBURY[32]

6.4.2.1 Using photo-surveys to inform participatory urban planning processes

This section reports on the fieldwork results from Chapters 3 and 4, both in Thornbury, and both making use of a photo-survey in Thornbury. In these studies, the photo-survey consisted in asking a set of participants to take photos on positive and negative aspects of their town. Ten residents from Thornbury and two from the surrounding villages (Alveston and Oldbury-on-Severn) were involved in the photo-surveys. Ages ranged from 17 to 75 years and genders were balanced (50/50). Participants were then interviewed to discuss their photos.

Secondary data on local policy documents, letters to the Editor from the *Thornbury Gazette* (a local newspaper) and previous citizen consultation reports such as the district council's *Health-check* questionnaires were also used to complement the data gathered from photo-surveys.

For the photo-survey, 209 photos were taken and 12 hours of interviews conducted. There were aspects that arose from the data related with retail services. These were mostly in terms of the quality of retail in the town centre: the increasing number of empty premises, the library project, the lack of some retail services and the excess of others. There were also a few comments concerning the perception about the increasing number of food miles of the products sold by supermarkets. Table 4.2 presents some of these aspects.

Table 6.3. Aspects related with retail services in the photo-surveys
Source: Photo-surveys, Chapter 4.

Diversity of shops: high number of charity shops, the range of shops, the number of vacant shops and out-of-town competition.
The lack of "owner managed shops"/"small and local shops".
Rents and business rates paid by retailers to commercial property owners and local authorities.
The lack of people shopping in the town centre.
The library project.
Opening times of retailers and pricing of products in the town centre.

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[32] This section presents a brief overview of results presented already in Sections 4.4.3 and 5.5.2.1 in Chapters 4 and 5, respectively.

Four participants mentioned the increase in empty commercial premises and charity shops and the competition from out-of-town retailers. For example:

'These commercial premises in Thornbury are currently vacant [participant pointing to the photo], [...] and the fact that both these premises are vacant over a year, I think this gives an indication of the nature of the problem' (Participant A04).

The decrease in retail affects the life and leisure of Thornbury residents by creating the need for people to travel outside the town:

'If I want to go clothes shopping, for mid-40's, there isn't any shop where I can buy clothes from! [...] I can go to David Smiths, an excellent shop, but of a certain character, you're talking of hunting or fishing type of shop. [...] there's another shop that I was told that has some young men's clothes, but again, I'm sorry I'm not a young man anymore [...] but that doesn't mean I want to dress like my father either [...]' (Participant C10).

Thus, in particular with clothes, participant C10 had difficulties with finding clothes in Thornbury adequate for his age range. Other participants and secondary data identified other types of shops that were lacking within the town centre.

In the *Shoppers Survey*, from the *Health-check* questionnaire, 41% of the respondents considered the town centre facilities to be OK and 19% to be good; however, 27% of the participants in the survey considered Thornbury's town centre services, facilities and activities to be poor. The Shoppers Survey revealed that 54% of the participants shopped in the town centre several times a week: 17% daily, 23% shopped weekly, and the remaining shopped for frequencies longer than a week.

The main findings from the photo-surveys were:

- Thornbury has a few out-of-town retail facilities, both, supermarkets and shopping centres.
- Amongst the participants, there was a perception that retail in the town centre is in fact decreasing and there are some types of retail that are non-existent in Thornbury.
- The literature on Thornbury and the results from the photo-surveys show that (i) there is currently little new housing in Thornbury, resulting in high house prices; however, there will be a need to accommodate new housing in Thornbury and the surrounding areas; and (ii) public transport quality is decreasing. These two factors (housing and transport) are two of the factors the literature identifies as relevant from prospering retail.
- Participants in the photo-survey identified the costs for retailers (especially the high rents paid in the St. Mary's centre) as a key factor in the decline in retail in the town centre. Some participants suggested that local authorities should take action to address this issue.
- Other services such as schools and banks, but also sense of community were not perceived as declining.

6.4.2.2 Addressing Retail Decline through Stakeholder Appraisal

We performed a previous study in Thornbury that made use of multicriteria mapping, to appraise several measures for retail decline (see Chapter 5). Twenty-two stakeholders were recruited for one-

to-one interviews. The list of participants included four commercial property owners, four local authority members, six residents, five retailers, and three specialists on planning and sustainability (from out-of-town). An initial set of five options (presented in Chapter 5) were developed and all participants were asked to appraise these during interviews. Each interview had six steps:

1. Presentation of five policy options to participants;

2. Definition of new options, in case the participant wished to add any additional option;

3. Definition of criteria to appraise the options;

4. Scoring of options (evaluation of each option under each criterion) – this stage is performed considering a best and worst case scenario for each option, where scenarios are developed by each participant;

5. Attributing weights to the criteria;

6. Comment of the ranking obtained of the five policy options (estimated through a linear additive model).

An analysis was carried out to the criteria defined by participants, but also to the quantitative and qualitative data provided by participants when appraising the different options for addressing retail decline.

One of the main results was the list of criteria defined by participants to judge the policy options. Participants developed a total set of 54 criteria. On average, each participant defined between two and three criteria. Similar criteria were aggregated resulting in 34 different criteria. The criteria developed are presented in Table 6.4.

Table 6.4. Criteria groups

Source: MCM interviews

Criteria	*# of criteria*
1. Value of commercial properties in the town centre	1
2. Rental income to land owners	1
3. Long term economic viability of retailers	2
4. Costs to retailers	4
5. Profits to retailers	4
6. Offering value for money	1
7. Economic equality	1
8. Implementing costs	2
9. Cost effectiveness of the project	1
10. Accessibility to the town centre (car parking),	2
11. Accessibility equality	1
12. Disabled access to shops	1
13. Ease of access	2
14. Time needed to travel to shops	1
15. Friendliness amongst retailers	1
16. Relation of peer group with retailers	1
17. Enhancing community cohesion	1
18. Community building	1
19. Novelty in the town/ Character	2
20. Impact on the community	1
21. Attracting people	1
22. Bring people to the town centre	2
23. Conversion	1
24. Retention	1
25. Attraction of outsiders	3
26. Diversity of people targeted / inclusivity	2
27. Attracting different age groups	1
28. Satisfying community needs	3
29. Vacant premises	2
30. Mix of shop types	3
31. Offering something Tesco supermarket does not offers	1
32. Time scale of putting the project to work	1
33. Safety	1
34. Environmental sustainability	1

6.5. RESULTS AND DISCUSSION

6.5.1. SOCIAL TRAPS IN THORNBURY

In Thornbury, as in many other towns, there are several types of actors that can be seen as affecting or are affected by town centre retail decline. These actors are citizens, local authorities, in-town businesses and out-of-town businesses. Picking up on the definition of social traps, it becomes clear that citizens and local authorities can be involved in a social trap, as these two groups of actors can get short-term benefits from the situation and long-term negative consequences. This is shown in Table 6.5. The first is a trap that can be named of "inverse" tragedy of the commons and the second one is policy-resistance, both explained later in this section.

Table 6.5. Short- and long-term consequences from out-of-town shopping

Actors	Individual or short term benefits from out-shopping?	Collective or long-term negative consequences from retail decline?
Citizens	Yes. Travelling further afield in their cars, citizens can maybe get access to a larger scope of products and brands, possibly at lower prices and that in the comfort of their cars.	Yes. They get shops closing down in their town centre, which brings several socio-economic impacts such as potential loss in jobs, decreased identity, and accessibility issues.
Local authorities	Yes. They manage to get policies for protecting town centres through and protect (on a short run) the town centre.	Yes. By attempting to support local economies, local authorities can be: (i) starting an "arms race" with out-of-town retailers; (ii) weakening town centre retail, which can lead to less vibrant town centres. These lead to the feeling of local authorities not performing well in their duties of protecting the town centre.
In town businesses	No. They get fewer customers.	Yes. They closed down.
Out of town businesses	Yes. They get customers from towns shopping there, increasing their revenues.	No. It means more people will eventually start shopping out-of-town given that there are no alternatives.

Additionally to the two situations identified above and based on Meadows (2008) (see Table 6.2), one can identify two more patterns of behaviour that can be looked at as social traps in Thornbury. These are: the success to the successful and eroding goals. All of these traps are explained in more detail below.

6.5.1.1 "Inverse" tragedy of the commons

Citizens have different goals, as shown in Table 6.5. From the photo surveys interviews, it was clear participants felt there were several types of retail lacking on the town centre and therefore, they needed to travel out of town to access some of the products they required. One of citizens' goals is to satisfy their needs and wants. Residents in Thornbury also showed their concern with the declining retail in the town centre. One can assume that having a vibrant town centre is another goal of some citizens. Hence, citizens might benefit from using the out-of-town retail (wider diversity of products available). This is an immediate individual benefit, but in the long run they might be contributing to the decline in retail in Thornbury town centre (a long run, collective effect), as less income goes into the town centre retail, which will eventually lead to the closure of some retail (as described in Chapter 4).

This gives origin to what we may call an "inverse" tragedy of the commons. The commonly share resource here is the town centre retail. This trap is named "inverse" in the sense that the issue here is not the overuse of the common good, but the underuse.

Several of the causes for social traps found in the literature (e.g. Cross and Guyer, 1980; Platt, 1973; Rothstein, 2005) can be used to justify this particular trap. For example:

- Collective: the individual benefits of out-of-town shopping prevailing over the collective benefits of a vibrant town centre,
- Time-delay: the preference for the immediate benefits of out-shopping in relation to the vibrant town centre, which is degraded over the long run,
- Sliding reinforcer: changes in local retail (due to out-of-town shopping) occur slowly and almost imperceptible to be connected to the out-of-town shopping,
- Ignorance: citizens not being aware that their out-shopping has consequences for local retail,
- Trust: citizens knowing that shopping out-of-town can affect local retail, but that changing each citizen's individual behaviour alone is not enough to help local retail (only a collective behavioural change will sort effects) and not trusting that other residents will change their behaviour, leading to each citizen not changing his/her individual behaviour,
- Externality: when the effects are not accounted for because they are not part of the accounting system (e.g. status or the price of products), such as loss of community identity, which might not be accounted for when deciding to out-shop.

6.5.1.2 Policy resistance and escalation

As stated above, citizens, retailers, local authorities, commercial property owners, all have different goals. This is represented in Table 6.5. For example, citizens might want to shop out-of-town to access different products and brands to satisfy their wants and needs, but at the same time, they might want a thriving town centre. These different goals were also evident from the criteria developed by the different participants in the MCM study, described in Section 6.4.2.2.

Policy resistance refers to when out-of-town retail, town centre retail, residents shopping out-of-town and residents shopping in the town centre, all end up pulling the system toward their own goals, whether these be profits (for retailers out-of and in- town), access to variety of brand products

(shoppers) or any other goal. If out-of-town retail starts getting lesser profits (due to, for example, effective policies from Thornbury town centre to revitalise town centre retail), it is likely that out-of-town retailers will invest in heavier marketing strategies to "fight back". This results in a never changing situation. This situation is assuming that increasing income to local retailers (or increasing income to out-of-town retailers) leads to a relaxation of local retail (or out-of-town retail) efforts to attract more consumers. If instead, when income to either local retail or out-of-town retail increases efforts to attract/keep consumers is maintained and when income reduces, responses are increased; this leads to ever increasing responses, one of the top of the other. Every time income reduces, additional efforts are put into place over the previous efforts. This leads to an *escalation* arms race between town centre retail and out-of-town retail, represented by the reinforcing loops in Fig. 4.5 and Fig. 4.6 and summarised in Fig. 6.1.
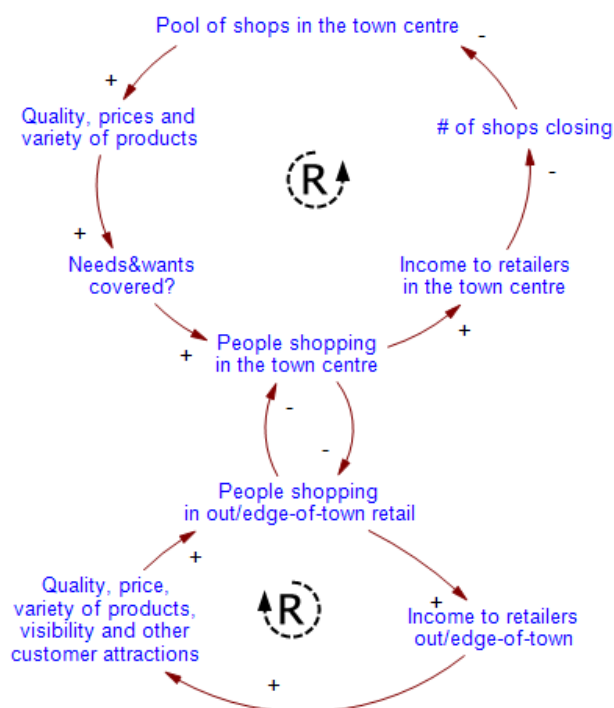
Fig. 6.1. Policy resistance between Thornbury and out-of-town retail
Arrows represent casual relations, "-" means that the two variable change in opposite directions (i.e. if the first variable increases the variable at the bottom of the arrow decreases and vice-versa), "+" means that the two variables change in the same direction (i.e. if the first variable increases the variable at the bottom of the arrow also increases), "R" identifies a reinforcing circular chain.

An example of such trap can be the case of the refurbishment of the library building in Thornbury. The project philosophy was to try to surpass the out-of-town competition and satisfy the "wants" in terms of products, from residents. Participants in the MCM study participant sought the option to improve accessibility to retail, to be cost-effective, promote improvement of relations between commercial property owners and retailers, to attract people into the town centre and to cater for a diverse range of population. However, the success of the measure will potentially lead the degradation of retail in

another town or retail out-of-town, as described in the literature for other towns (Findlay and Sparks, 2008). Out-of-town retail will continue to grow and invest in marketing strategies, as well as the needs and wants from customers will continue to change and grow. This carries Thornbury into an arms race with out-of-town - feeding this trap- and with the changing needs and wants from residents. Therefore, there is a risk that the project proposed only offers a temporary solution. This is extremely important because rebuilding the library building can be expensive.

In general, responses from market towns targeting the increase of people shopping in their town centres will eventually create a response from out-of-town retailers. This is the case for new major retail stores adjacent to town centres (such as the library project referred to above), in which Findlay and Sparks (2008) already identified that these projects end up attracting spending from consumers that otherwise would be happening somewhere else. Incentives for consumers such as costumer cards schemes and others work in similar way. Promoting retail that offers similar products and services such as the ones from out-of-town will also be feeding this trap. This means that most of the alternatives found in the literature for retail revitalisation in towns end up feeding this type of trap, by focusing on incentives attracting customers of products and services already offered by out of town retailers into their town centres.

Additionally, certain planning measures or other regulations (such as introducing codes of practice to address many power imbalances existing in the retail sector) can be contributing to this trap. Planning measures such as the development of local retail plans, providing a greater power to control and limit the size of supermarkets thus ensuring the town centre as the primary focus of development (nef, 2003 and 2004), or limiting their location (e.g. to out-of-town), such as Planning Policy Guidance 4 in the UK, will be contributing to the relocation of major retail to out-of-town, leading to a loss of investment in town centres and increased/strength competition out-of-town (as referred by Brake and Nelson, 2007; Caffyn, 2004; nef, 2003).

Another example is the case of planning measures targeting traffic, through traffic alleviation measures and pedestrianisation. These measures contribute to a pleasant town centre, but in the same way, contribute to decrease accessibility to the town centres (APPSSG, 2006).

An interesting measure that has been proposed by the APPSSG (2006) is to delegate greater power to people locally. This proposal asks for:

'There needs to be a revision of the financial and planning powers of local authorities with more explicit consideration given to protect diversity and vitality of local retailing. There needs to be a review regarding alleged abuse of resources by large businesses. This should be compounded with greater consultation between the council and local communities regarding the developments within the area.' (pp. 75, APPSSG, 2006)

However, this measure needs a consensus on the goals local communities want for their towns in order to be functional. This consensus is not straightforward, as results from the photo-surveys have shown that there is no consensus over the type of retailer different participants wanted for their town. The reasons that give origin to the policy resistance trap (different actors with different goals, pulling

the system towards their directions) are the same reasons that can put this measure to fail, where the different values at play can give origin to conflict and not reaching a consensus on which direction local communities want to take their town.

6.5.1.3 Success to the successful

The success to the successful trap is related with the policy resistance trap and market laws. In the competition between out-of-town/edge-of-town and town centre retail, the successful will systematically be rewarded with the means to win again, a reinforcing feedback loop is created by which, if it is allowed to proceed uninhibited, the winners (e.g. out-of-town retail) eventually take all, while the losers (e.g. town centre retail) are eliminated. Competition with out/edge-of-town has been seen as one of the main causes for retail decline in town centres [33], where the number of supermarkets has been raisin, while smaller retail, in town centres, has been declining. This competition is also said to influence suppliers, where bulk supply acquisition by larger retail stores is incentivised through better prices (APPSSG, 2006), represented by the dashed arrow in Fig. 4.6.

In Fig. 6.1, the success of the successful trap means that the lower feedback loop starts getting a dominating loop over the top loop. Similarly to the policy resistance trap, many of the alternatives found in the literature for retail revitalisation in towns end up feeding the success of the successful trap, as all operate in the current market system.

6.5.1.4 Eroding goals

From the results of the photo-surveys, the health-check survey and letters to the editor from local newspaper (Section 6.4.2.1), one can conclude that there is a general perception of a retail decline in Thornbury.

Visits to Thornbury revealed that between 2000 (Gregory, 2001) to 2006, four food retailers disappeared from the town centre. In 2007, there were 47 retailers and only three empty shops (see Section 6.4.1). However, between 2007 and 2008 two shops have closed down. Looking into the numbers of retail decline in the town centre, data show a little number of shops closing down, however, within the remaining shops, there was an apparent predominance of charity and second-hand shops and several types of retail were non-existent, such as butchers and fishmongers. This was well present in the photo-surveys' results.

The real dimension of retail decline in Thornbury might not be as severe as in many other towns, where 4000 rural settlements saw their last general food shop close down by 1997 (Local Works, 2006); however, the perceived state of the system influences the system itself. This means that if there is a general feeling of a (serious) retail decline in Thornbury, this will affect Thornbury, feeding the retail decline even more. This perception (either real or not) is perhaps being caused by the lack of certain key retailers and the memories of their existence in the past.

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[33] http://www.igd.com/our-expertise/Retail/retail-outlook/3371/UK-Grocery-Retailing/ (last accessed: March 2014).

The perception of a retail decline has also been discussed in the literature on small and medium towns, where some authors disagree that a service decline is actually taking place (see Section 6.3).

Meadows (2008) classifies this potential miss-perception of a state of a system as form of social trap – the eroding goal trap, in the sense that one might be thinking the situation is worse than it actually is and this affects the system, leading it into the direction of the perceived state of the system.

6.5.2. DEALING WITH SOCIAL TRAPS IN THORNBURY

As seen from the previous section, some of the measures commonly used for dealing with retail decline may be feeding some social traps, and therefore, are not contributing to address retail decline on a long-term perspective. Table 6.6 summarises these policies and the social traps they are contributing to. The first step in dealing with social traps is to try to avoid feeding them even more. This means that care needs to be taken when selecting policies to deal with retail decline to ensure these are actually addressing retail decline. Based on the literature on social traps and system dynamics (and the literature on town revitalisation), the following sub-sections present measures that can be used to deal with the social traps identified in Thornbury.

Table 6.6. Common policies for retail decline and their contribution to social traps

Policies	Type of social trap fed
Planning policies for protecting town centres or other regulations for the retail sector	Policy resistance and escalation
New major retail stores adjacent to town centres	Policy resistance and escalation
Fiscal interventions, using mechanisms to provide incentives for customers such as the use of such as customer card schemes	Policy resistance and escalation
Information on local retail degradation	Eroding goals

6.5.2.1 The "inverse" tragedy of the commons

Meadows (2008) suggests three types of measures for dealing with this trap. These are:

- education and exhortation measures, which can be used to warn people of long-term (and distributed) consequences that cannot be seen (e.g. warnings),
- regulating the commons, with the aim to add compensatory positive or negative reinforcements, mostly related with providing incentives, and
- privatising the commons with the aim to add compensatory positive or negative reinforcements.

Furthermore, when the causes of this "inverse" tragedy of the commons can be traced back to collective, sliding reinforce, ignorance or externality causes (see their definition in section 6.2.1), then, other approaches for dealing with social traps can be pursued. These are, for example:

- literature on public goods and the tragedy of the commons can offer insights into dealing with traps generated by collective causes,
- resilience literature can offer some lights into possible ways of dealing with situations caused by sliding refinforcer;
- adaptive management can be used to deal with ignorance and situations with lack of knowledge;
- economic valuation, multicriteria methods and game theory are a few bodies of literature that can offer insights into dealing with social traps caused by externalities.

Education and Exhortation

Education and exhortation measures correspond to the education measures as defined by Cross and Guyer (1980), or the use of religion, moral codes, social capital & sense of community as a sort of super-ordinate authority - the super-ordinate measures defined by Cross and Guyer (1980). In the literature on town revitalisation, education and exhortation measures can be:

- providing information on the local economic flows (nef, 2003 and 2004),
- using local media to provide information on local retail, vouchers and other promotions (Powe and Shaw, 2004),
- the use of road signs around the town and on the roads into the town could help in promoting Thornbury's assets and attract shoppers into the town (results from the *Health-check* questionnaire).
- providing a sort of monitoring on the town retail decline and make results available to different stakeholder groups such as out-of-town retailers, citizens, local commercial property owners.

Additionally, information and education can be used to address the issue of ignorance (on the side effects of behaviour) which can be one of the causes for the inverse tragedy of the commons, as referred to in section 6.5.1.1.

However, this type of measures has also some disadvantages. Grazi and van den Bergh (2008) suggests that education measures have only long term results and do not provide immediate results. Costanza (1987) suggests that education and exhortation measures (based on religion or other moral codes) are less expensive, but require a relatively homogeneous society to ensure there is a community to provide the pressure of following a given moral code or religious rules. This means that measures related with education and exhortation will only work for those who will be sensible/sensitive to the decline in retail or to social disapproval (Meadows, 2008).

Regulating the commons

Regulating the commons are the type of measures "converting the trap to a trade-off" referred to by Cross and Guyer (1980). Examples of measures are:

- Provide incentives to shops/ tax reliefs for certain shops (defining what are the basic services the town centre should always have or a threshold of viability),
- Provide incentives for customers (e.g. customer card schemes as suggested by nef, 2003 and 2004; Powe and Shaw, 2004),
- Supporting for community development finance initiatives,
- Policies on local competition, and the use of customer incentives,
- Introducing codes of practice across the retail sector (to address many of the natural power imbalances that exist within the retail sector, APPSSG, 2006),
- Limit the size of supermarkets,
- Limit the location of supermarkets in town centres.

The first measure was discussed with the participants in the MCM study and was seen as the option with the best optimistic scoring, being the preferred option for five participants as it contributed to improve the relations between commercial property owners and the retailers, satisfying community needs, contributing to consumer equality/ inclusivity and to lowering carbon dioxide emissions.

The second measure was also discussed with the participants in the MCM study. This option was seen as having little effects in terms of accessibility, not promoting directly new shops to open in the town centre, it was considered a short-term effect option, the large scale of the investment required to attract customers, the need for agreement and leadership between retailers).

The first three types of policies fall into what Costanza (1987) referred to as the most cost-effective type of measures for dealing with social traps, and what Meadows (2008) suggested that these measures are especially good in the short-term and those that stand directly in the flow of the issue, i.e.to the retailers.

Regarding specifically the incentives for customers, the literature (e.g. Noordhoff et al., 2004; Turner and Wilson, 2006; Meyer-Waarden, 2007) advise that competition amongst customer card schemes will bring no benefit in terms of customer loyalty to retailers. Incentives for customers and limiting the size or location of supermarkets and other retail can also be feeding other social traps such as policy resistance and escalation, as presented in Table 6.6.

Co-managing the commons

In Thornbury, this could be related with St. Mary's shopping area. St. Mary's centre is one of the main commercial areas in Thornbury town centre. A single manager is managing this commercial area. There are a few ways of dealing with this. Some of these could be:

- Divide St. Mary's centre: from a single manager to several managers. They will then compete with each other and ensure the spaces are rented.
- Develop a group of stakeholders from the town to manage the retail space in Thornbury, or
- Make the management of the retail space in Thornbury a cooperative, where users became also managers of the space with a say about it.

Costanza (1987) sees privatisation measures as one of the most cost-effective type of measures for dealing with social traps. Meadows (2008) suggests that these measures are especially good in the

short-term and to the retailers. Nevertheless, changing these variables rarely changes the behaviour of the whole system. If the system is chronically stagnant, parameter changes rarely kick-start it. If it is wildly variable, they usually do not stabilise it. If it is growing out of control, they do not slow it down. They need to be over certain critical numbers to have any effect.

6.5.2.2 Policy resistance and escalation

Meadows (2008) suggests, for dealing with the trap "policy resistance":

- exert power, i.e., the use of the legal system and government to impose behaviour (the superordinate authority measures defined by Cross and Guyer, 1980) and
- aligning the various goals of the systems (i.e., define an overarching goal).

Examples of power exertion policies can be:

- development of local retail plans (as suggested by nef, 2003 and 2004 and APPSSG, 2006),
- providing a greater power to control and limit the size of supermarkets, thus ensuring the town centre as the primary focus of development (as suggested by nef, 2003 and 2004),
- implementing a moratorium on further mergers and takeovers until government has brought forward proposals to secure diversity and vitality of the retail sector (APPSSG, 2006).

In terms of aligning the various goals of the systems, these measures can be:

- using sense of community and local identity as such as common goal,
- develop a vision based in desired scenarios for Thornbury, with active participation of citizens and other stakeholders (including out-of-town retailers as stakeholders) to ensure this vision is shared by all. APPSSG (2006) identified some steps in this direction with the Planning Policy Statement 4, which asks edge-of-town supermarkets and town centres to work together as a whole.
- the slow city movement, which aims to foster vitality based on good food, healthy environments, sustainable economies and the seasonality and traditional rhythms of community life (Knox, 2005),
- the transitions towns movement, which seeks to build cohesive sustainable communities to prepare for a future with limited oil and changing climate (Ingebrightsen and Jakonsen, 2012; Richardson et al., 2012; Scott-Cato and Hillier, 2010).

As referred to earlier, Costanza (1987) suggests that power exhortation measures can have high costs associated, as they will need enforcement and policing to be effective. Meadows (2008) refers that when this policing and enforcement is relaxed, there is a high risk of getting back into the social trap.

For the measures related with aligning goals, there is a need to ensure that they will not lead to other traps, such as "seeking the wrong goal". This is because system behaviour is particularly sensitive to the goals of feedback loops. If the goals—the indicators of satisfaction of the rules—are defined inaccurately or incompletely, the system may obediently work to produce a result that is not really intended or wanted. For dealing with this, one needs to ensure the indicators used to track progress

are well defined, e.g. targeting the effectiveness of the measure and not the resources put into place for achieving the measure.

Regarding escalation trap, Meadows (2008) suggests two types of measures for dealing with this trap: refusing to compete and negotiate disarmament. The first could mean stopping to attempt to offer what is already offered out-of-town and focusing on something different. This could be diversification of products (offering new products, like local produced), but could also mean offering other attractions in the town centre not necessarily linked to retail (like a theatre), or to re-educate citizens in terms of having a lesser needs and wants. The latter seems a harder task. Regarding negotiating disarmament, this could be local authorities starting conversations with out-of-town retail to have an agreement on how to move forward.

6.5.2.3 Success to the successful

For dealing with the success to the successful trap, Meadows (2008) suggests four types of measures:

- Diversification, which allows those who are losing the competition to get out of that game and start another one;
- Strict limitation on the fraction of the pie any one winner may win (antitrust laws);
- Policies that level the playing field, removing some of the advantage of the strongest players or increasing the advantage of the weakest;
- Policies that devise rewards for success that do not bias the next round of competition.

Measures related with the second and fourth points can be difficult to imagine given the powers of local authorities. The first type of measures can be evening entertainment (Powe and Shaw, 2004), retailers organised home delivery schemes, retailers events, a central garden, a performing arts centre, services such as the post-office, a Saturday market. Many of the additional options developed by participants in the MCM study were of this sort. These additional options have received high scores, being the best options for many of the participants defining them. Measures for levelling the playing field could be the subsidies for local retail or tax reliefs as described for the trap "inverse tragedy of the commons" in terms of regulating the commons.

The APPSSG (2006), in the UK, suggests for example:

- implementing a moratorium on further mergers and takeovers until government has brought forward proposals to secure diversity and vitality of the retail sector. This is a type measure that help limiting "the fraction of the pie any one winner may win", by reducing the investment of large commerce in merges and takeover of other businesses;
- Introducing codes of practice across the retail sector, to address many of the natural power imbalances that exist within the retail sector.

6.5.2.4 Eroding goals

For dealing with the trap "eroding goals", Meadows (2008) suggests two types of measures. These are:

- Keeping performance standards absolute or
- Letting standards be enhanced by the best actual performances instead of being discouraged by the worst.

The focus of the measures is on the benchmark. Examples of these sorts of measures are to define a minimum number or a minimum type of shops that should exist in the town centre, and then work towards this goal. These minimum types of shops could be a butcher, a few bakeries or a fishmonger, amongst others. Another measure is to identify the maximum number of shops that have ever existed in Thornbury and use this number of shops as a benchmark to know if there is need to act upon retail decline. In the literature on town retail decline, there is little focus on measures targeting eroding goals, and therefore, these measures are somewhat new to be used to address retail decline.

6.5.2.5 Summary

Table 6.7 presents a summary of the policies for dealing with the social traps identified in Thornbury. Some of the policies presented address one (or more) social traps; however, they can be contributing to feed other social traps. This is the case of regulating the commons and aligning goals. The first can contribute to feeding a policy resistance trap and the second, seeking the wrong goal, as already described in section 6.5.2.2.

Many of the measures presented in Table 6.7 have already been suggested in the literature on market towns. It is interesting to see that building new major retail stores adjacent to town centres does not fit within any of the measures presented here, although, according to Findlay and Sparks (2008) this is the preferred type of measure used to address retail decline. The library refurbishment project in Thornbury is one of such measures.

Table 6.7. Policies for dealing with social traps in Thornbury

Policies	Examples	Social traps dealt with
Education	Providing information on the local economic flows.	Inverse tragedy of the commons;
	Using local media to provide information on local retail, vouchers and other promotions.	Escalation
	Education through employee skill levels.	
Co-managing the commons	Divide St. Mary's centre from a single manager to several managers.	Inverse tragedy of the commons;
	Develop a group of stakeholders from the town to manage the retail space in Thornbury.	
	Make the management of the retail space in Thornbury a cooperative, where users became also managers of the space.	

Policies	Examples	Social traps dealt with
Regulate the commons	Provide incentives or tax reliefs for shops. Customer card schemes. Supporting for community development finance initiatives. Introducing codes of practice across the retail sector.	inverse tragedy of the commons; Success of the successful
Power exertion	Development of local retail plans. Limit the size of supermarkets.	Policy resistance
Aligning goals	Using sense of community and local identity as such as common goal. Develop a vision based in desired scenarios for Thornbury, with active participation of citizens and other stakeholders (including out-of-town retail) to ensure all share this vision. The slow town and transition towns' movements.	Policy resistance; Escalation
Diversification of products, services, etc.	Offering new products, like local produced, offering other attractions in the town centre not necessarily linked to retail (like a theatre).	Escalation; Success of the successful
Focus on reducing needs and wants from citizens	Prioritizing needs and wants from citizens.	Escalation
Negotiation "disarmament" with out-of-town retail	Conversations between local authorities and out-of-town retail for cooperation and partnership in terms of how to move forward together.	Escalation
Central government taking action	Strict limitation on the fraction of the pie any one winner may win (antitrust laws). Policies that devise rewards for success that do not bias the next round of competition.	Success of the successful

Policies	Examples	Social traps dealt with
Benchmarking	Keeping performance standards absolute.	Eroding goals
	Letting standards be enhanced by the best actual performances instead of being discouraged by the worst.	

6.6. CONCLUSIONS

In this research, we have analysed retail decline in a medium sized town to identify social traps in the town and identify some potential measures for dealing with these traps. The work was mostly based on the analysis of fieldwork already conducted in the town (Chapters 3, 4 and 5) and on the literature on market towns focusing on retail decline.

This work allowed us to identify some social traps that can be linked with retail decline in Thornbury and are likely affecting retail decline in other market towns, as these are related with the fact that the number of citizens, their spending or the time they have available for shopping are a limited resource. This means that if citizens do not shop in one place (e.g. in the town centre), they will shop in another (e.g. out-of-town) and vice versa.

The social traps found in Thornbury are

- "Inverse" tragedy of the commons, related with the multiple and sometimes contradictory goals of citizens,
- Policy resistance and escalation, related with the effect planning policies and regulations protecting town centres can have for retail,
- Success of the successful, related with competition with larger out/edge-of-town retailers, and
- Eroding goals, related with the perception of retail decline.

The existence of social traps in Thornbury shows the complexity of retail decline. Interestingly, some of the common measures found in the literature for dealing with retail decline, such as planning measures, the development of a new major retail store adjacent to town centres, or financial incentives for consumers, end up contributing to (and not solving) the policy resistance, escalation and success to the successful traps.

The social traps identified can be originated by several causes. For instance:

- Collective: the individual benefits of out-of-town shopping prevailing over the collective benefits of a vibrant town centre,
- Time-delay: the preference for the immediate benefits of out-shopping in relation to the vibrant town centre, which is degraded over the long run,

- Sliding reinforcer: changes in local retail (due to out-of-town shopping) occur slowly and are almost imperceptible to be connected to the out-of-town shopping,
- Ignorance: Citizens not being aware that their out-shopping has consequences for local retail,
- Trust: citizens knowing that shopping out-of-town can affect local retail, but that changing their individual behaviour alone is not enough to help local retail (only a collective behavioural change will sort effects) and not trusting that other residents will change their behaviour,,
- Externality: when the effects are not accounted for because they are not part of the accounting system, such as loss of community identity, which might not be accounted for when deciding to out-shop.
- The changing lifestyles (whether caused by demographic changes or increases in consumerist needs),
- The capitalistic system (rewarding the successful),
- The perception of a town service decline.

Most of these potential causes have had little attention in the literature on town renewal. Therefore, social trap theory allowed us to identify additional causes that can be feeding retail decline in Thornbury and in other market towns.

This chapter has discussed potential measures to deal with these traps, which, in some cases, are not necessarily new, but which have had lesser prominence when dealing with retail decline. What is evident is that no measure deals with all social traps identified. This allows us to conclude that perhaps the solution passes through a combination of measures rather than focusing on a single one.

The theory of social traps and the use of systems thinking proved to be a useful way to understand the process of retail decline. It allowed also identifying some of the side effects of policies for addressing retail decline, side effects which contribute indirectly to retail decline. It also allowed for identifying which measures could better deal with these traps and perhaps, providing a better way of addressing retail decline in these towns.

The analysis provided may be an interesting way for stimulating creativity in terms of defining approaches for dealing with retail decline, using it in participatory settings in, for example, workshops. Such combination could help participants to understand the feedback loops that originate in retail decline and help them generating/defining ways of addressing retail decline by addressing the social traps that feed retail decline. Such methods could be used at early stages of the decision making process or in parallel with policy evaluation processes for exploring new potential alternatives or the implications of different alternatives in terms of their contribution to feed social traps or address them. This would also provide to be a learning exercise to participants when exploring the different consequences policies could have in terms of the different social traps.

7.

Conclusions

This Chapter summarises the main conclusions that can be taken from the work developed in this thesis and highlights possible applications. It also discusses a number of possible future research directions that may expand to and refine the contributions of this work.

The purpose of this thesis was to understand retail decline in market towns by taking a methodological pluralism perspective. This was achieved through the integration of different concepts, theories and methods, considering decision-making processes as part of the problem and as a part of the solution, using participatory approaches to generate knowledge and the use of qualitative data, including visual data).

The approach taken allowed exploring additional causes for retail decline and possible ways to address it. This work also explored the use of methods not commonly used in town planning, but with promising advantages in terms of uncovering aspects of retail decline and decision-making processes.

The research questions that guided this work were:

RQ1*: What are the dynamics (causes and possible ways of addressing) of retail decline in market towns?*

RQ2: *What insights can be gained with the adoption of a methodological pluralism perspective, as advocated by ecological economics, to study town service decline?*

These were further decomposed into additional sub-questions:

RQ1.1: *What is actually changing in market towns?*

RQ1.2: *What are the causes and the mechanisms driving this change?*

RQ1.3: *What appropriate responses can be developed to address town service decline?*

RQ2.1: *What are the advantages and limitations of using photo-surveys in the context of town planning?*

RQ2.2: *What are the advantages and limitations of combining systems diagramming with participatory tools such as photo-surveys in the context of town planning?*

RQ2.3: *What are the challenges and major advantages of using MCM at the town level?*

RQ2.4: *What is the usefulness of social trap theory for addressing retail decline in market towns?*

This Chapter provides an overview of the main findings that lead to answering these questions. The Chapter ends with a number of future possible research directions.

7.1. UNDERSTANDING RETAIL DECLINE

In order to understand and identify the causes and mechanisms driving retail decline in market towns (research questions RQ1.1 and RQ1.2), a conceptual model was developed to describe it. This model was based on the literature looking at market towns' service decline and the fieldwork conducted in Thornbury, through the use of participatory methods: photo-surveys and multicriteria mapping. The model developed relates many elements from towns, showing how they are related with each others. Based on the results from this research, there are three main conclusions one can take.

First, many elements in towns that can be seen as contributing to retail decline in town centres. These can be generally related with: (1) the number of people shopping in town centres, (2) competition with town centre retail and (3) the costs for shopkeepers in town centres. The numbers of people shopping in town centres is linked with the number of residents and visitors (linked with available housing, jobs and other attractions in the town), transport and accessibility (including private and public transport), the quality, prices and variety of products available as well as the needs and wants from customers, local identity, safety, weather conditions, amongst others. Competition with town centre retail, coming mostly from out-of-town and edge-of-town retail are linked with planning policies, the number of people shopping in these retail facilities, and the changing formats of retail (from smaller independent retail to larger, chain retail stores). Costs to retail in town centres are linked with rents from commercial properties, supply prices amongst others.

Not all these elements need to be changing and it might happen that in different towns, different elements are changing. In some towns, there might be a decrease in resident numbers, which can lead to unjustified (or oversized) service facilities such as hospitals and schools, eventually leading to their relocation, in others, competition with out-of-town facilities (e.g. retail or offices), or a general decrease in the amenities offered by the town.

In Thornbury, these changes are the presence of out-of-town retail, the stagnant population numbers and an ageing of the population, and transport changes (decreasing quality of public transport service), costs to retailers, reduction on the variety of products available in the town centre. Aspects such as leisure, community identity and aesthetics were seen as prospering by participants in the photo-surveys conducted in this research.

Furthermore, the different elements that affect retail decline can happen at different scales. Planning regulations are of a more regional or national level. Needs and wants from customers are influenced by globalisation and market forces, which are global, but also depend on individual preferences and lifestyles. Other aspects such as employment are also regional. Public transport, local amenities and sense of community are more local. Local authorities might not have the power to address all these different elements given their different scales.

Second, many of the elements identified in the model affect each others, forming cause-effect circular chains, which directly or indirectly lead to retail decline. This is the case of, for example:

- Increasing numbers of private vehicle users leading to an increased stress in car related facilities (e.g. traffic, less parking available, noise and air pollution), which leads to increasing pressure to local and regional authorities to improve these facilities. Improving these facilities leads to increasing numbers of private vehicle users. Additionally, the increasing numbers of private vehicle users can lead to less users of public transport. Public transport companies are then faced with less profits and they will need to cut on service quality (and increasing prices), becoming less and less attractive to users;

- Lower variety of products available in retail in town centres can lead to less people shopping in town centres, shopping out-of-town. This leads to a lower income going to town centre retail, which can lead to either retail not being able to invest in a high variety of products to sell, or lead to the closure of the retail itself. Both of these situations lead to a lower variety of products available in retail in town centres;

- The more people shop out-of-town, the more income out-of-town retail will have, allowing this retail to invest in attracting more people to shop there.

These situations show that potential causes of retail decline can be also potential effects of retail decline.

Many of these linkages are feed by the existence of multiple goals and interests in various actors in towns, giving origin to social traps. In Chapter 6, these linkages were explored further, by looking into social traps in Thornbury. Four types of social traps were identified:

- "Inverse" tragedy of the commons, related with the multiple and sometimes contradictory goals of citizens,

- Policy resistance and escalation, related with the effect planning policies and regulations protecting town centres can have for retail,

- Success of the successful, related with competition with larger out/edge-of-town retailers, and

- Eroding goals, related with the perception of retail decline.

These social traps, in particular the first and the later, have had little attention from the literature dealing with retail decline. The analysis of social traps present in the Thornbury case, together with the systems diagram analysis, shows the complexity of retail decline. Interestingly, some of the common measures found in the literature for dealing with retail decline, such as planning measures, the development of a new major retail store adjacent to town centres, or financial incentives for

consumers, end up contributing to (and not solving) the policy resistance, escalation and success to the successful traps.

Finally, this research helped illuminating on some additional causes for retail decline in market towns, based on the existence of multiple goals and interests in society. These were:

- Collective: the individual benefits of out-of-town shopping prevailing over the collective benefits of a vibrant town centre,
- Time-delay: the preference for the immediate benefits of out-shopping in relation to the vibrant town centre, which is degraded over the long run, or, responses to planning policies having negative side effects, therefore, these effects of policies happening after the policy has been implemented,
- Sliding reinforcer: changes in local retail (due to out-of-town shopping) occur slowly and are almost imperceptible to be connected to the out-of-town shopping or with planning policies,
- Ignorance: Citizens not being aware that their out-shopping has consequences for local retail, or local and national authorities not being aware of some side-effects policies can have for retail in town centres,
- Trust: citizens knowing that shopping out-of-town can affect local retail, but that changing their individual behaviour alone is not enough to help local retail (only a collective behavioural change will sort effects) and not trusting that other residents will change their behaviour,
- Externality: when the effects are not accounted for because they are not part of the accounting system, such as loss of community identity, which might not be accounted for when deciding to out-shop.
- The changing lifestyles (whether caused by demographic changes or increases in consumerist needs),
- Success to the successful: the capitalistic system (rewarding the successful),
- The perception of a town service decline.

All of these potential causes have been barely identified in the literature on retail decline in small and medium towns. Therefore, social trap theory allowed us to identify additional causes and understand the processes that can be feeding retail decline in Thornbury and in other market towns.

In summary, this research helped (1) synthesising the elements that are linked with retail decline, as well as their linkages, portraying retail decline as a complex web of elements changing; (2) identifying circular cause-effect chains and social traps that contribute to this retail decline, and which have had little attention in the literature on town renewal; (3) identifying causes that help feeding social traps, leading to the dominance of some circular cause effect chains over others.

7.2. ADDRESSING RETAIL DECLINE

7.2.1. RESPONSES TO RETAIL DECLINE

This research discussed several measures, identified in the literature or developed by participants, for dealing with retail decline in town centres.

Results showed that, from the set of measures analysed, (1) no measure dealt with all social traps identified and (2) there was no clear preference from participants in the MCM study for one or other options, as all presented positive and negative aspects.

Some of the measures commonly used for dealing with retail decline may be feeding some social traps, and therefore, are not contributing to address retail decline on a long-term perspective. This is the case for new major retail stores adjacent to town centres such as the refurbishment of the library building in Thornbury, planning policies for protecting town centres, such as Planning Policy 4 in the UK, incentives for customers and information on retail decline. In the MCM study, even for options which participants tended to score poorly, there were still some issues upon which the opponents would accept that an option could have an advantage.

Further to these different goals different options contribute to, there are asymmetries in information. Our analysis identifies this as a possible cause for the inverse tragedy of the commons, where citizens could be not were aware of the potential side-effects their out-of-town shopping has for local retail. We also identified that exaggerating and alarming the population for the existence of a town service decline can lead to a social trap - eroding goals, where a perception of a higher decline than the one that actually is and because the perceived state of a system influences the system. This can further aggravate retail decline in Thornbury town centre. Furthermore, participants in the MCM study identified several key aspects related with variability and uncertainty in the scoring of the different options. These were:

- variability in the way the options could be implemented;
- uncertainty on the behaviour of certain relevant actors, which could affect the implementation of the options,
- participants' level of optimism regarding the number of customers each option can attract.

The ambiguity regarding the (side) effects of the different options, together with the asymmetries in information and uncertainty allows us to conclude that perhaps the solution passes through the implementation of a combination of measures rather than focusing on a single one. This was also mentioned by some of the participants in the MCM study.

7.2.2. APPRAISAL PROCESSES FOR SELECTING MEASURES FOR RETAIL DECLINE

To deal with retail decline, this research has provided some insights in terms of policy-making processes. These are summarised below:

- A process of identification of which values to include in the appraisal of different alternatives should be a part of decision-making processes.
- More integrated and systemic approaches should be preferred, where town revitalisation should be placed in its social, institutional and cultural contexts, where social capital and sense of community are inherent.
- Appraisal processes that can accommodate qualitative criteria should be preferred to strictly quantitative evaluations.
- The idea of avoiding aggregating individual preferences into a single vector and exploring ways of dealing with the diversity of values and priorities should be preferred.

These insights are expanded in the following paragraphs.

In Chapter 5, participants have identified 54 criteria to judge options dealing with retail decline, which were then clustered into 34 groups (aggregating repeated criteria). There was a range of aspects participants found relevant to include. These were related with economic aspects (for retailers, commercial property owners, consumers, general), accessibility, sense of place/ social capital, number and variety of town centre visitors, satisfaction of community needs, number and diversity of retail, environment and safety. Weights attributed to criteria varied widely in some cases. Criteria and weights are likely to vary from town to town, and through time (as discussed by Sullivan et al., 2006 in reference to local knowledge). Therefore, a process of identification of which values to include in the appraisal of different alternatives should be a part of decision-making processes.

Most of the criteria identified by participants in the MCM study were related with technical and economic aspects of retail decline. However, participants have identified other aspects, related with institutional, and wider social and environmental domains. These broader criteria derive strength from more integrated and systemic approaches where town revitalisation is placed in its social, institutional and cultural contexts, where social capital and sense of place are inherent parts. This leads to conclude that more integrated and systemic approaches should be preferred, where town revitalisation should be placed in its social, institutional and cultural contexts.

Participants in the MCM exercise identified a range of qualitative criteria. This is a particularly important issue in cases where quantitative evaluations are normally preferred: there are criteria that some participants found relevant that would not be taken into consideration because of their more qualitative nature. Decision-making processes and appraisal methods should be able to incorporate criteria of a more qualitative nature.

It was clear from Chapter 5 and 6 that there are different goals amongst actors. These different goals resulted in different criteria for the appraisal of retail options in Thornbury in the MCM study, which then, resulted in no consensus in terms of which policy option was the best or the worst. Only half of the participants in the MCM study presented options that clearly performed better than all the other options (in terms of both optimistic and pessimistic scorings). Furthermore, the existence of different goals is a premise for the social traps identified in Chapter 6. The existence of multiple conflicting criteria support the argument that forming a consensus, using an average set of weights, or using appraisal methods based on neoclassical behavioural models should be looked with caution. The

findings presented here are more in line with social trap theory (Chapter 6), principal agent studies (e.g. Ross, 1973), consensus building (van den Hove, 2006; Susskind et al., 1999), multicriteria evaluations (Chapter 5) and the concept of incommensurability (Martínez-Alier et al., 1998). Therefore, a shift on how appraisal processes are conducted should be considered in order to deal with the constraints discussed in here.

Dealing with multiple goals, sometimes conflicting ones, and with asymmetric information, variability and uncertainty about the system behaviour (i.e. the effectiveness of policies and their side effects) is not an easy task. Adaptive management (Folke et al., 2002; Folke, 2006; Sendzimir et al., 2006) is one of such approaches that could help dealing with these situations and that seems one approach that could be suitable for dealing with retail decline, which, to our knowledge, has had no use in addressing retail decline.

7.3. REFLECTION ON THE METHODS USED

One of the aims of this research was to identify the insights can be gained with the adoption of a methodological pluralism perspective, as advocated by ecological economics, to study town service decline. This research made use of different methods for both, data collection and for data analysis/theory building. Most of these have had little use in town and urban studies. This section summarises the key insights that came from the use of the methods in this research.

7.3.1. PHOTO-SURVEYS

The use of photo-surveys in this research helped clarifying some of the criticisms reported in the literature for the use of photo-surveys. This happened because some of these criticisms found in the literature were either not present in our case study or were present, but somehow they were addressed through the way that the method was implemented.

In this work, photo-surveys provided a rich picture of Thornbury and a relatively good understanding on some of the issues affecting the town without asking for a deep prior knowledge on the issues at hand from the research team. Photo-surveys provided great amounts of qualitative data with little participants and data related with a wide range of aspects.

Furthermore, we have successfully used causal loop diagrams as a data analysis method for the data collected from the photo-surveys. As large amounts of data are obtained from the photo-surveys, regarding a wide range of aspects, causal loop diagrams provided a useful way of synthesising and analysing the information collected.

All these characteristics make photo-surveys potentially adequate for:

- the preliminary identification of needs from community members, or public participation in early stages of plans and projects;
- the evaluation of plans and projects themselves;

- evaluating the effectiveness of policies (i.e., ex-post evaluations),
- explore an issue more in detail by including an array of stakeholder perspectives on the matter,
- or just to serve as an input in defining surveys and questionnaires to gather ideas for the development of plans, programs and strategies, ensuring relevant issues are included in these.

Given the potential for generating ideas, and its participatory character, photo-surveys are a good tool to be used in Participatory Action Research or Participatory Rural Appraisal. Research on the acceptability of photo-survey results by policy-makers is still needed, but its giving its first steps (e.g. Petheram et al., 2012). Care needs to be taken to ensure that a cross section of perspectives is accounted for. Therefore, a stakeholder analysis is essential as a preliminary step.

However, photo surveying has still some limitations. Photo-surveys are an information elicitation method that requires time availability and active engagement by participants (as compared to questionnaires). This was found to make it harder to recruit participants for the photo-surveys. There are still ethical issues related with participants taking unnecessary risks for the sake of a photograph, when, for example, photographing illegal activities or miss-behaviour. These matters will need further attention in the future.

To conclude, photo-surveys allowed to get access to some of Thornbury's social networks and to become known in the community, which is relevant for the following steps in the research.

7.3.2. SYSTEMS DIAGRAMMING

The model developed in Chapter 4 provides a useful framework to start analysing retail decline, potential causes for this and develop ways of addressing these. It also offers an integrated perspective on the town, the elements and circular cause-effect chains that contribute to retail decline directly and indirectly. Given the visual component of the model developed, the model can be suitable to be combined with participatory techniques to validate and develop further the model, for example in a participatory system dynamics modelling exercise, but also to understand additional important elements and dynamics. It would be interesting to seek additional validation from the model developed by applying it to other towns.

Given the visual component of the tool, it can prove to be a powerful communication method. The model could also be used as a starting point for participatory discussions regarding possible ways of addressing retail decline, by providing participants with a systemic view of their town and by quickly allowing to identify potential side-effects of the measures identified. Additionally, an attempt to develop a mathematical and computational model could be made. All of these would benefit the model developed and allow further insights into retail decline in small and medium towns.

The use of photo-surveys to provide contextual data for the CLD model proved useful. Photo-surveys provided large amounts of qualitative data with little participants, data related with a wide range of aspects, and with little effort and little need for deep understanding of the issues in the town. These

characteristics made the method particularly useful for informing the systems mapping model. This is because of the more integrated nature of the model, asking for data on a wide range of aspects than just retail/service decline specific. The photos obtained provided additional validity to what participants identified and discussed during interviews and to the elements of the conceptual model.

7.3.3. MULTICRITERIA MAPPING

The use of MCM resulted in the identification of additional options, criteria for comparing the different options and the scored of the different options in the different criteria. MCM showed to be a useful tool to be used for addressing town issues mostly because MCM:

- Allows generating a wide set of alternatives,
- Provides insights into different perspectives (through the criteria and weights) and the consequences each perspective has in terms of the ranks of the options (appraisals of each participant);
- Allows to identify some of the possible bottlenecks in the implementation of the options, as well as draw-backs of these options;
- Can be a first step in addressing conflicts in the town;
- Provides an insight into how the system (i.e. the town) behaves.

MCM allows generating a wide set of alternatives. In the MCM study, 15 additional options were developed by participants, together with the nine initial options.

MCM provides insights into different perspectives. A total of 54 criteria were developed by participants, representing 34 different criteria. The criteria *Costs to retailers* and *Profits to retailers* were the two criteria mostly defined by participants (four criteria each). The criteria *Attract people* were the criterion with the highest weight. From the interviews, it was possible to obtain the rankings of different alternatives for the different participants. Results showed that some participants ranked certain options poorly while others ranked them more favourably. It was seen that the less popular or more controversial options for some are likely to be opposed by others, but that even those stakeholders accept some positive aspects to these options. There were some of the participants expressed that the final decision should be the implementation of a set of options and not necessarily looking into excluding/selecting options for implementation. Participants were generally happy with the procedure and found that results transmitted their thoughts. This means that they felt their views were represented. MCM can thus capture the different views from participants.

MCM can allow identifying some of the possible bottlenecks in the implementation of the options, as well as draw-backs of these options. This happens in participants scoring, where each participant is asked to score options under an optimistic and a pessimistic scenario defined by the participant him/herself. During the scoring of the core options, participants have identified three key dimensions to the variability and uncertainty in option performances (i.e., differences between the optimistic and pessimistic scenarios): (1) variability in the way the options could be implemented; (2) the number of

customers each option would attract; and (3) uncertainty on the behaviour of certain relevant actors (e.g. commercial property owners or retailers), which could affect the implementation of the options.

MCM can be a first step in addressing conflicts. This is because of two main reasons. First, MCM is conducted in individual interviews, ensuring each participant can provide his/her view without interference from others. Second, each participant can realise that his/her appraisal is unique because of the criteria and weights each participant defined. This can open participants' mind to accept the legitimacy of other participants' views. Two participants in the MCM study referred to this second point, realising that with each interview, the researcher could obtain completely different results.

Finally, MCM provides an insight into how the system (i.e. the town) behaves. This is achieved during participant scoring of the options, where each participant is thinking on the chain of effects that the implementation of the option triggers in order to affect the criteria defined by the participant. This qualitative information is recorded both as notes justifying the performance of the option in each criterion, and in the audio recordings. The chain of effects described by the participant offer insights into the cause-effects chains used for example, in the causal loop diagrams, so MCM is a valuable tool in this respect.

Some participants had more difficulties in dealing with the MCM process than others. Most of the participants found that MCM allowed them to understand the complexity of the issue under analysis, making them think through each criteria separately, thinking in worst and best case scenarios and on uncertainty, as well as recognising the existence of different views.

Using MCM at the town level brought a few challenges. The first was that MCM has had little use of lay citizens. The use of lay citizens was discouraged as participants need to have a firm grasp on the issues at hand and be familiar with rationalistic modes of decision making (Stirling, 1997, 2005). We have challenged these assumptions by arguing that, depending on the topic chosen for discussion, lay citizens can have valuable knowledge on the issue under discussion and general knowledge on how processes work within the town. The topic for the appraisal was carefully selected, as participants in the photo-surveys identified the relevant topics. This fact clearly helped with the engagement of local participants (retailers, commercial property owners and residents). In the appraisal, lay citizens have defined an average number of criteria, defined an average number of additional options and were not the group who attributed the highest uncertainty overall. Therefore, citizens' answers rated averagely within the MCM procedure. The results obtained with this research do not seem to be restrictive in terms of the use of lay citizens with MCM in the context of local policies.

A second challenge from using MCM at the town level is the use of specialists. The MCM literature is focused on the participation of specialists and stakeholders. Including specialists from different fields, especially from outside the study area can offer new insights which would not be gathered otherwise (Cameron and Gibson, 2005). However, at the town level, the inclusion of specialists from outside of Thornbury can raise questions regarding their legitimacy to participate in such appraisal, as they are not members of Thornbury's community. It was evident from the appraisal of retail options that

participants from the *specialist* stakeholder group had completely different views from the rest of the participants. This is an aspect that will need further attention in future uses of the method in small and medium towns.

Care should be taken to ensure that a wide set of perspectives are included in this type of study, as criteria will strongly depend on the set of participants involved, especially if one pays more emphasis to the quantitative information generated. In this context, MCM can be used as a preliminary input to other stages of analysis, informing for instance the design of surveys and questionnaires aimed to expand on the list of criteria or to identify a wider set of weights. Furthermore, the criteria identified help in judging whether certain appraisal tools are adequate or not, depending on whether they are able to deal with criteria of the nature of those identified in the study (e.g. qualitative criteria). Such processes can help bringing more transparency and robustness (in terms of the effectiveness of policies and acceptability of policies to the public) to policy-making decisions.

In this context, MCM can be used as a preliminary input to other stages of analysis, informing for instance the design of surveys and questionnaires aimed to expand on the list of criteria or to identify a wider set of weights.

MCM provided a rich picture of Thornbury and a relatively good understanding on some of the issues affecting Thornbury. All these characteristics make MCM potentially adequate for:

- the evaluation of plans and projects, combined with other participatory processes;
- evaluating the effectiveness of policies (i.e., ex-post evaluations),
- or just to serve as an input in defining surveys and questionnaires to gather ideas for the development of plans, programs and strategies, ensuring relevant issues are included in these,
- developing a set of indicators to monitor policies, based on the criteria identified by participants.

The potential for MCM to be explored as an action research tool is an interesting result which would need further research. Given the potential for generating ideas, and its participatory character, MCM is suitable for Participatory Rural Appraisal processes.

7.3.4. SOCIAL TRAPS

The theory of social traps and the use of systems thinking proved to be a useful way to understand the process of retail decline. It allowed identifying some of the side-effects of policies for addressing retail decline, side-effects which contribute indirectly to retail decline. It also allowed for identifying which measures could better deal with these traps and perhaps, providing a better way of addressing retail decline in these towns.

The analysis provided may be an interesting way for stimulating creativity in terms of defining approaches for dealing with retail decline, using it in participatory settings in, for example, workshops. Such combination could help participants to understand the feedback loops that originate in retail

decline and help them generating/defining ways of addressing retail decline by addressing the social traps that feed retail decline. Such methods could be used at early stages of the decision-making process or in parallel with policy evaluation processes for exploring new potential alternatives or the implications of different alternatives in terms of their contribution to feed social traps or address them. This would also provide to be a learning exercise to participants (learning on the implications of policies in terms of social traps) when exploring the different consequences policies could have in terms of the different social traps.

7.3.5. THE COMBINATION OF THE METHODS USED IN THIS RESEARCH

In this research, photo-surveys provided a rich picture of Thornbury and a relatively good understanding on some of the issues affecting the town without asking for a deep prior knowledge on the issues at hand from the research team. Photo-surveys provided great amounts of qualitative data with little participants, data related with a wide range of aspects, and with little effort and little need for deep understanding of the issues in the town.

The use of MCM resulted in the identification of additional options, criteria for comparing the different options and the scores of the options. MCM also provided an insight into how the system (i.e. the town) behaves through the qualitative data collected during each participant's scoring of the options.

The two methods proved powerful tools for developing a systems diagram. Given the more systemic nature of systems diagram, it requires information on a wide set of aspects. This was provided by the photo-surveys. Additionally, MCM validated many of the linkages developed in the diagrams. The model developed provides a useful framework to analyse retail decline, potential causes for this and develop ways of addressing these. It also offers an integrated perspective on the town, the elements and circular cause-effect chains that contribute to retail decline directly and indirectly. Given the visual component of the model developed, the model is suitable to be combined with participatory techniques, as discussed in section 7.3.2.

Some of the feedback loops identified were further explored in the last chapter, relating them to conflicting goals and interests existent in towns. The theory of social traps proved to be a useful way to understand retail decline by uncovering which conflicts of interest can originate feedback loops, and a few insights into the causes of these, and ways of addressing them. In here, both participatory methods provided background information to help identifying the social traps.

7.4. FURTHER RESEARCH

The focus of an extension to this work should be to validate these findings with other towns facing similar issues and to deepen research on the causes and measures for retail decline identified in Chapter 6. Additionally, there are a few areas that would be interesting to explore.

In terms of Thornbury's retail decline, these are:

- Use a MCDA approach (e.g. MCM) to appraise the policy options identified to deal with the social traps identified in Thornbury;

- Gather additional empirical data to validate some of the findings and conclusions of this research;

- Investigate the role of social capital and sense of community in market towns and how these can benefit the services provided by these towns to the community;

- Explore other towns showing a retail decline and develop a quantitative model for retail decline, based on the conceptual model developed here;

- Investigate each of the social traps identified in Thornbury, through additional in-depth interviews.

In terms of photo-surveys, these are:

- Investigate on the acceptability of photo-survey results by policy-makers;

- Explore the use of digital photography in photo-surveying as a way of asking less time from participants (and therefore engage more participants), and to keep up with technological evolution;

- Explore the ethical issues existing in photo surveying, related with participants taking unnecessary risks for the sake of a photograph, when, for example, photographing illegal activities or miss-behaviour.

In terms of the MCM, these are:

- Explore the use of Deliberative Mapping at the town context. Deliberative Mapping combines MCM with other participatory approaches, allowing interaction between participants, which can lead to an exchange ideas and participant learning;

- At the town level, the inclusion of specialists from outside of the town can raise questions regarding their legitimacy to participate in such appraisal, as they are not members of the town community. The inclusion of specialists needs further attention in future applications of MCM on small to medium towns;

- Explore the use of MCM as a preliminary input to other stages of analysis, informing for instance the design of surveys and questionnaires aimed to expand on the list of criteria or to identify a wider set of weights;

- Explore the potential for MCM to be used as an action research tool.

In terms of systems diagramming (CLDs), further conversations with stakeholders would help exploring deeper the linkages between the different elements of the model developed. These conversations could even allow discussing the possible effects of different measures for dealing with retail decline. Exploring the use of systems diagramming in a workshop setting or a focus group setting, as suggested in section 7.3.2 could help validating the model and to identify measures dealing with retail decline together with stakeholders. Additionally, it would be interesting to apply this model to other towns to understand differences/patterns in retail decline across the UK, or globally.

Similarly to what was said for systems diagramming (paragraph above), exploring the social trap theory in a participatory setting, to allow exploring new potential alternatives or the implications of

different alternatives in terms of their contribution to feed social traps or address them would be an interesting research.

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A1. Appendix to Chapter 4

The *Market Towns Initiative* required establishing Thornbury's strengths and weaknesses and identifying issues and ideas, which could be brought together into an action plan for the town centre. This was carried out through a *Health-check audit*, following a procedure from Countryside Agency[34]. The consultation programme was mostly conducted through the summer 2006. Five main questionnaires were conducted:

- A community survey to every household in Thornbury,
- A survey to every business in the town centre,
- A survey to the shoppers using the town centre and a local supermarket,
- A survey of visitors to the Thornbury area, and
- A survey to local accommodation providers

The response rates for two of the five questionnaires are presented in Table A1.1. The overall key findings from the several questionnaires were summarised in Thornbury Town Centre Health Check Group, 2006/2007. *Key Findings from Overall Consultation Programme.* South Gloucestershire Council, Yate.

Table A1.1. Response rates for the Thornbury's Health-check audit

Questionnaires	Number of questionnaires sent out	Responses (nr.)	Response rate (%)
Thornbury Community Survey	5500	197	3.5
Thornbury Business Survey	140	49	35
Thornbury Shopper Survey[a]	---	132	---
Thornbury Visitor Survey[a]	---	29	---

The Thornbury Accommodation Providers Survey results were not included in here as the results were not available by the time the analysis.
[a] These questionnaires were conducted on a face-to-face basis to shoppers of visitors found in the town centre and therefore, it is not possible to determine the response rate but only the number of responses.

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[34] The Countryside Agency ceased to exist in October 2006. The Agency's powers were redistributed to Natural England, English Nature and the Commission for Rural Communities.

Reports on the partial analyses from each questionnaire were also produced. These were:

- Thornbury Town Centre Health Check Group, 2006. Thornbury Community Survey DRAFT Consultation Analysis. South Gloucestershire Council, Yate.
- Thornbury Town Centre Health Check Group, 2006. Thornbury Business Survey Consultation Analysis. South Gloucestershire Council, Yate.
- Thornbury Town Centre Health Check Group, 2006. Thornbury Shopper Survey Consultation Analysis. South Gloucestershire Council, Yate.
- Thornbury Town Centre Health Check Group, 2006. Thornbury Visitor Survey DRAFT Consultation Analysis. South Gloucestershire Council, Yate.

For more information about the consultation reports, the South Gloucestershire Council should be contacted through:

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A2. Appendix to Chapter 5

ADDITIONAL RETAIL OPTIONS

This Appendix provides a more detailed data from the appraisal from retail options. Table A2.1-Table A2.4 present the definitions for the additional options considered by the participants.

Table A2.1. Additional options by residents (participant ID)

Source: MCM interviews.

Pedestrianisation of the High Street (A)

Pedestrianisation of the High street, incentivating opening up public space for outdoor activities, cafés and restaurants, shop promotions and possibly the market stalls. Pedestrianism would be limited to the non-residential section of the High Street (between Chapel Street and Castle Court). Initial idea developed by The Planning Practice *et al.* (1996).

Saturday market (A)

The option is looking at closing the High street on Saturdays and doing the market on that street.

Sharing shop facilities(E)

Reducing the size of shops in St. Mary's by either marketing the space of one shop as two or by having shop owners getting together and sharing the same facility. In the case of the first, leases could be made shorter and leave the shops to try the new scheme.

Using community networks for marketing local businesses (D)

The option is committed to developing community relationships and volunteering. Considering that community networks can empower business networks, the option uses the community's networks to promote local businesses and activities related with business. There are already several networks that could be used: the secondary school (Castle School), the radio station, local magazine, U3A (University of the Third Age), churches, sustainable Thornbury, mythornbury.com and other websites (BS35), community halls and current festivals.

Home delivery and box schemes with association of retailers (E)

Combining the discretionary options "Home delivery and box schemes" and "Association of retailers".

Table A2.2. Additional options by local authorities (participant ID between brackets)

Source: MCM interviews.

Association of retailers for a home delivery scheme

This option is the combination of the two discretionary options "home delivery and box schemes" and "association of retailers". Retailers could share a van.

Increasing housing (R)

Increased housing in Thornbury. An option is to build outside Thornbury, on the edge, as an extension. There are a number of constraints to consider: finding the right locations, quality of the landscape, biodiversity and conservation areas.

Performing arts centre (H)

Develop a performance arts centre in the town using, perhaps, one of the car parks. The performance arts centre would attract people from Thornbury, surrounding villages and Bristol.

Maintain the post-office open (Q)

Not only maintaining open the post office open (against rumours of its closure), but also make it an independent building rather than a booth within the Coop supermarket premises.

Table A2.3. Additional options by retailers and commercial property owners (participant ID)

Source: MCM interviews.

Marketing Thornbury (U)

Developing a retail image for Thornbury, e.g., as an alternative for weekend or day trips, local food retailing and an attractive image for starting businesses. The image should also be associated with relaxation and environment. The current Saturday market should move to the High Street and leave free parking on Saturdays. This option should be a joint project between the Thornbury Chamber of Commerce, the council and community groups.

Have an attraction in the town centre (O)

This attraction could be a shop, entertainment etc.

Increasing housing, reduce rents, and redevelop the library building (V)

Redeveloping the library, lowering rents and rates and increase housing. Redeveloping the library would consider two floors: the ground floor would have more than one shop; the first floor would have the library, which would also have the areas of the ground floor with the cheapest rents.

Table A2.4. Additional options by specialists (participant ID between brackets)

Source: MCM interviews.

Weekend, evening and afternoon entertainment (P)

Afternoon, evening and weekend activities in the town looking at different users, according to their leisure time, and then constructing activities they could use at the times they are available. The option considers having community spaces rather than just public/business spaces. For example, attracting out of town consumers, retailers events, theatre, cinema, farmers' market or other events, coffee houses and shops open late.

Free parking, extended retailer opening times and internet in the town centre (G)

Extending opening times of shops and cafés, maintaining the free parking, providing bus stops and bike racks, and promoting free internet on the street, as an incentive for young people to come and stay in the centre.

Central garden in the town centre (G)

Have a central green area with tables and chairs for people in the town centre for aesthetics and resting purposes. The green area should be as near the centre as possible and should be well kept/managed.

Trying to get a balance between the numbers of big brand and local retailers (M)

Attracting big brand businesses to the town centre, taking into account the need to maintain equilibrium with local businesses.

CRITERIA DEFINITIONS

Table A2.5. Criteria definitions

Source: participants in the MCM interviews

Participant	Name of criterion	Description
1. Rental income to land owners		
N	Rental income to land owners	Referring to rents paid by retailer and empty commercial premises. The higher the income, the better the criteria scores.
2. Value of property		
N	Value of property	Refers to the value of the commercial property. Lowering rents devalues de investment and the value of the land.
3. Long term economic viability of retailers		
D	Sustainable development	Refers to the ability of the shop to survive in a long-term perspective.
C	Long-term sustainability	Criterion refers to the economic viability of businesses on a 30 years' time scale.
4. Costs to retailers		
A	Sustainable economy	This criterion considers: (i) (reducing) the number of empty shops; (ii) (increasing) the number of local businesses; (iii) (increasing) the

Participant	Name of criterion	Description
		number of people shopping in Thornbury; (iv) (reducing) the costs to retailers- the focus was specifically on this latter topic.
I	Profits for shopkeepers	Criterion related with the costs retailers have, including rents, rates, supplies and utilities (electricity, water, etc.). The lower the costs, the higher the criteria.
V	Decreasing costs for the shopkeepers	
K	Costs to traders	
5. Profits to retailers		
U	Benefiting general retail businesses	Relates to profits to retailers: reducing their expenses, increasing the income (attracting consumers).
E	Profits for shopkeepers	
O	Profits for shopkeepers	
N	Retailer income	
6. Offering values for money		
S	Offering value for money	It relates to two variables: (i) quality of products and (ii) prices of products. Quality of products refers to offering products that citizens need. Price of products refers to the "correct" value for the quality of the product.
7. Economic equality		
M	Economic equality	Providing jobs for local residents, access to a range of activities and services for the richest and poorest. Inclusive for all "classes".
8. Implementing costs		
T	Costs of implementation to the council	The costs for the council of implementing the options
G	Implementation costs	The implementation costs of the options. Who is paying the implementation, if a single entity or a group of entities.
9. Cost effectiveness of the project		
C	Cost-effectiveness of the project	Refers to the different types of costs and the effectiveness of the options in a 30 year time scale.
10. Accessibility to the town centre (car park)		
O	Accessibility to the town centre	Free car parking, location of shops and car park.
H	Accessibility	Existence of free car park space.
11. Access equality		
F	Accessibility	Easy access to all, including mothers with push chairs, wheelchairs, etc.
12. Disabled access to shops		
A	Disabled access to shops	Access to shops and services for people with some sort of disability.
13. Ease of access		
K	Increasing the ability to buy more	Pragmatic issues: transport, weight carrying, etc.
S	Ease of access	Access to the facilities: parking, opening hours, traffic, public

Participant	Name of criterion	Description
		transport.
14. Time needed to travel to shops		
A	Time needed to travel to shops	The amount of time required to travel to retailers. It is expected that all the options will affect this criterion indirectly.
15. Friendliness amongst retailers		
I	Friendliness among retailers	The way the options contribute to a friendliness feeling amongst retailers.
16. Relation of the peer group with local retailers		
J	Relation of peer group with local retailers	Improved relationship between retailers and the peer-group. How each option affects this relationship. Success of the options in terms of varying degree of participation of the peer group.
17. Enhancing community cohesion		
D	Enhancing community cohesion	Strengthening the links between the community members, and using informal networks within the community.
18. Community building		
M	Community building	Contribution of options to make the town a community rather than a drinking or shopping den.
19. Novelty in the town centre/ character		
F	Character	Options contributing to Thornbury being unique, bringing new things, not competing with outside shops but complementing, offering something new.
K	Novelty in the town	If the option brings something that does not exist already in the town.
20. Impact on the community		
D	Impact on the community	The dimension of the options, how many people are targeted/affected, the visibility of the options.
21. Attract people		
V	Attract people	Contribution of the options to attracting people into shopping in Thornbury town centre.
22. Bring people into the town centre		
G	Bring people into the town centre	Contribution of options to bringing people into the town centre, which does not imply increasing commerce, as people might travel to the town centre not necessarily to shop.
H	Having a purpose to come into town	Having some "factor" that acts as an attractor of people into the town centre or that creates a need to go to the town centre
23. Conversion		
L	Conversion	If the options target the people from Thornbury that do not usually shop in the town centre.
24. Retention		
L	Retention	If the options target the people that already come into town to shop.
25. Attraction of outsiders		
L	Attraction of outsiders	Contribution of the options to bringing people from out of town into shopping in Thornbury.
K	Bringing new customers	

Participant	Name of criterion	Description
		into the town
J	Attract out of town consumers	Contribution of the options to bringing people from out of town into shopping in Thornbury. Higher variety of retail, attracts more people.

26. Diversity of people targeted / inclusivity

Participant	Name of criterion	Description
B	Diversity of people targeted	Related with the target audience of the options. Diversity includes options catering for different age ranges, locals and out-of-town, disabled and non-disabled citizens.
D	Inclusivity	Whether options cater for, improve local conditions for people of lower income, other cultures, single mothers (being able to take their children with them), wheel chairs, people with sight problems, various forms of disability – to shop locally.

27. Attracting different age groups

Participant	Name of criterion	Description
F	Attracting different age groups	Contribution of options in targeting different age groups.

28. Satisfying community needs

Participant	Name of criterion	Description
B	Satisfying community needs	Criterion related with whether options are providing services needed by local people. Its related with diversity of products and services offered in the town centre. Participant's opinion on what Thornbury citizens might need.
E	Meeting everyday needs	Criterion related with whether options are providing services needed by local people. Its related with diversity of products and services offered in the town centre. Participant's opinion on what Thornbury citizens might need.
P	Meeting people's needs	Criterion related with whether options are providing services needed by local people. Its related with diversity of products and services offered in the town centre. Participant's opinion on what Thornbury citizens might need.

29. Vacant premises

Participant	Name of criterion	Description
R	Vacant premises	The number of vacant premises. The higher the number, the lower the criteria.
G	Keeping shops open	Includes both the current shops and the new shops that might open.

30. Mix of shop types

Participant	Name of criterion	Description
R	Mix of shop types	Relates with maintaining/increasing/providing a variety range of retail in the town centre. It includes whether options contribute to maintaining retail open and opportunities from different types of businesses to develop.
J	Increasing the variety of local retailers	
U	Diverse range of shops	

31. Offering something Tesco does not offers

Participant	Name of criterion	Description
P	Offering something Tesco does not offer	It includes a diversity of services and products.

32. Timescale of putting the project to work

Participant	Name of criterion	Description
K	Time scale of putting the project to work	Time gap between deciding to implement the option and the option be up and running or their effects being visible. The shorter the time gap, the better.

Participant	Name of criterion	Description
33. Safety		
H	Safety	Safety in the town centre
34. Environmental sustainability		
M	Environmental sustainability	The overall environmental impact of the options. Considered as the embodied carbon dioxide emissions and direct waste generated.

PARTICIPANTS' APPRAISAL OF OPTIONS

Table A2.6. Option ranks (0-100 scale)

Source: participants in the MCM interviews

Participant name	Label	Option code	Start (points)	Length (points)
A	Redeveloping the library building	C.1	0	53
	Reduce rents and business rates for basic retailers	C.2	81	0,5
	Maintain free car parking and extend retailers' opening times	C.3	1	67
	Alternative Evening Entertainment	C.4	32	50
	Incentives for shopping in local retailers	C.5	42	25
	Pedestrianisation of the High Street	E.1	73	20
	Saturday market	E.2	74	10
B	Redeveloping the library building	C.1	26	53
	Reduce rents and business rates for basic retailers	C.2	100	0,5
	Maintain free car parking and extend retailers' opening times	C.3	58	32
	Alternative Evening Entertainment	C.4	21	42
	Incentives for shopping in local retailers	C.5	48	21
	Attract out of town consumers	D.2	0	0,5
C	Redeveloping the library building	C.1	0	100
	Reduce rents and business rates for basic retailers	C.2	0	17
	Maintain free car parking and extend retailers' opening times	C.3	49	37

Participant name	Label	Option code	Start (points)	Length (points)
	Alternative Evening Entertainment	C.4	49	37
	Incentives for shopping in local retailers	C.5	0	17
	Home delivery and box schemes	D.1	49	37
D	Redeveloping the library building	C.1	21	44
	Reduce rents and business rates for basic retailers	C.2	0	65
	Maintain free car parking and extend retailers' opening times	C.3	23	31
	Alternative Evening Entertainment	C.4	17	35
	Incentives for shopping in local retailers	C.5	0	22
	Home delivery and box schemes	D.1	0	63
	Attract out of town consumers	D.2	33	37
	Association of retailers	D.4	39	57
	Community networks	E.3	44	31
E	Redeveloping the library building	C.1	0	50
	Reduce rents and business rates for basic retailers	C.2	50	50
	Maintain free car parking and extend retailers' opening times	C.3	57	30
	Alternative Evening Entertainment	C.4	33	7
	Incentives for shopping in local retailers	C.5	53	10
	Sharing shop facilities	E.4	50	50
	Home delivery and box schemes with association on retailers	E.5	80	7
F	Redeveloping the library building	C.1	22	59
	Reduce rents and business rates for basic retailers	C.2	57	33
	Maintain free car parking and extend retailers' opening times	C.3	46	17
	Alternative Evening Entertainment	C.4	30	17
	Incentives for shopping in local retailers	C.5	43	17
	Retailers events	D.3	43	28

Participant name	Label	Option code	Start (points)	Length (points)
G	Redeveloping the library building	C.1	22	48
	Reduce rents and business rates for basic retailers	C.2	11	33
	Maintain free car parking and extend retailers' opening times	C.3	56	24
	Alternative Evening Entertainment	C.4	41	43
	Incentives for shopping in local retailers	C.5	30	7
	Parking and opening times with internet	E.6	61	37
	Central garden	E.7	11	50
H	Redeveloping the library building	C.1	79	5
	Reduce rents and business rates for basic retailers	C.2	45	0,5
	Maintain free car parking and extend retailers' opening times	C.3	52	3
	Alternative Evening Entertainment	C.4	33	28
	Incentives for shopping in local retailers	C.5	35	23
	Performing arts centre	E.8	52	30
I	Redeveloping the library building	C.1	0	0,5
	Reduce rents and business rates for basic retailers	C.2	82	0,5
	Maintain free car parking and extend retailers' opening times	C.3	40	0,5
	Alternative Evening Entertainment	C.4	13	0,5
	Incentives for shopping in local retailers	C.5	38	0,5
	Association of retailers	D.4	57	0,5
J	Redeveloping the library building	C.1	0	84
	Reduce rents and business rates for basic retailers	C.2	100	0,5
	Maintain free car parking and extend retailers' opening times	C.3	20	40
	Alternative Evening Entertainment	C.4	21	35
	Incentives for shopping in local retailers	C.5	37	30
	Attract out of town consumers	D.2	16	18

Participant name	Label	Option code	Start (points)	Length (points)
K	Redeveloping the library building	C.1	21	67
	Reduce rents and business rates for basic retailers	C.2	62	30
	Maintain free car parking and extend retailers' opening times	C.3	18	40
	Alternative Evening Entertainment	C.4	10	29
	Incentives for shopping in local retailers	C.5	2	27
	Home delivery and box schemes	D.1	32	30
L	Redeveloping the library building	C.1	34	59
	Reduce rents and business rates for basic retailers	C.2	29	17
	Maintain free car parking and extend retailers' opening times	C.3	36	25
	Alternative Evening Entertainment	C.4	13	74
	Incentives for shopping in local retailers	C.5	45	48
	Retailers events	D.3	47	20
M	Redeveloping the library building	C.1	17	63
	Reduce rents and business rates for basic retailers	C.2	75	17
	Maintain free car parking and extend retailers' opening times	C.3	4	13
	Alternative Evening Entertainment	C.4	75	17
	Incentives for shopping in local retailers	C.5	75	13
	Trying to get a balanced local-big brand	E.9	50	17
N	Redeveloping the library building	C.1	58	42
	(RULED OUT) Reduce rents and business rates for basic retailers	C.2	-1	-1
	Maintaining free parking and extending retailers' opening times	C.3	0	59
	Alternative Evening Entertainment	C.4	0	45
	Incentives for shopping in local retailers	C.5	0	45
	Home delivery and box schemes	D.1	0	45

Participant name	Label	Option code	Start (points)	Length (points)
O	Redeveloping the library building	C.1	39	50
	Reduce rents and business rates for basic retailers	C.2	44	0,5
	Maintain free car parking and extend retailers' opening times	C.3	89	0,5
	Alternative Evening Entertainment	C.4	0	22
	Incentives for shopping in local retailers	C.5	78	11
	Have an attraction in the town centre	E.10	39	39
P	Redeveloping the library building	C.1	0	24
	Reduce rents and business rates for basic retailers	C.2	24	10
	Maintain free car parking and extend retailers' opening times	C.3	19	14
	Alternative Evening Entertainment	C.4	57	29
	Incentives for shopping in local retailers	C.5	10	0,5
	Association of retailers	D.4	38	38
	Evening weekend activities	E.11	71	29
R	Redeveloping the library building	C.1	11	5
	Reduce rents and business rates for basic retailers	C.2	38	37
	Maintain free car parking and extend retailers' opening times	C.3	22	0,5
	Alternative Evening Entertainment	C.4	5	0,5
	Incentives for shopping in local retailers	C.5	0	33
	Increasing housing	E.13	36	64
S	Redeveloping the library building	C.1	7	30
	Reduce rents and business rates for basic retailers	C.2	38	23
	Maintain free car parking and extend retailers' opening times	C.3	14	57
	Alternative Evening Entertainment	C.4	7	64
	Incentives for shopping in local retailers	C.5	44	15
	Attract out of town consumers	D.2	70	23

Participant name	Label	Option code	Start (points)	Length (points)
T	Redeveloping the library building	C.1	25	0,5
	Reduce rents and business rates for basic retailers	C.2	50	0,5
	Maintain free car parking and extend retailers' opening times	C.3	75	25
	Alternative Evening Entertainment	C.4	0	0,5
	Incentives for shopping in local retailers	C.5	75	0,5
U	Redeveloping the library building	C.1	7	50
	Reduce rents and business rates for basic retailers	C.2	79	21
	Maintain free car parking and extend retailers' opening times	C.3	57	14
	Alternative Evening Entertainment	C.4	7	43
	Incentives for shopping in local retailers	C.5	36	21
	Marketing Thornbury	E.14	71	21
V	Redeveloping the library building	C.1	44	42
	Reduce rents and business rates for basic retailers	C.2	47	47
	Maintain free car parking and extend retailers' opening times	C.3	13	0,5
	Alternative Evening Entertainment	C.4	0	0,5
	Incentives for shopping in local retailers	C.5	27	62
	Increase housing, reduce rents and rates, and redevelop the library	E.15	42	56