



Investigating SME resilience to flooding – the Braunton report

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Acknowledgement

The authors of this report would like to acknowledge the Adaptation and Resilience in the Context of Change (ARCC), network funded by the Engineering and Physical Sciences Research Council (EPSRC), for supporting this research, and for the support extended by the SMEs in Braunton to fulfil primary data collection for this research. The authors would also like to acknowledge the support received from the National Flood Forum in introducing the SME community stakeholders to conduct this case study in Braunton.

About the authors

This report should be referenced as:

Ingirige, B. & Russell, R. Investigating SME resilience to flooding – the Braunton report. December 2015, University of Salford, UK.

Published by UK Climate Impacts Programme, School of Geography and the Environment, University of Oxford, OUCE, South Parks Road, Oxford OX1 3QY.

ISBN 978-1-906360-12-2

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Executive summary

The number of major floods in Europe has risen from one per year (between 1900 and 1974) to 15 a year (between 1993 and 2001). Many parts of the UK have faced extensive flooding in recent years, notably during the winter of 2013–14, and climate change is expected to increase the frequency and severity of such disasters still further. Flood events cause significant disruptions to the business sector, especially small- and medium-sized enterprises (SMEs), which are often affected disproportionately hard by such events, and are less prepared to manage the consequences and need more support to enhance their resilience.

This study focuses on the effect of flooding on the SMEs located in a single village street in Braunton, North Devon. Seven case studies were undertaken and both content analysis and cognitive mapping techniques were used to examine the data collected. The SME interview findings were compared with interviews with other local stakeholders, such as the Environment Agency and the Parish Council. The findings of the study were shared with the Parish Councillors and SMEs as a method of validating the data.

The analysis has furnished valuable new perspectives across a range of SMEs, including several innovative ways of responding to flooding. The Braunton SMEs were found to be ‘experts by experience’ on the various resilience measures that they adopted; furthermore, there was a lot of enthusiasm among the SME community for sharing and enhancing their learning further. A key finding was that proactive initiatives by the Parish Council and the SMEs themselves have successfully kept flooding issues at the top of the local agenda, despite the fact that three years have passed since the last flood event. Studies of this nature, in which SMEs and other stakeholders are engaged in examining and identifying their own resilience levels, their needs, constraints and gaps are more likely to deliver appropriate behavioural change than the use of self-assessment toolkits.

In meeting the demands of future flooding, it is important to recognise that SMEs are entities having very specific needs, such that mitigation / preparedness measures will inevitably vary with the type of business and their individual strategies. There is a need for appropriate leadership and strong commitment on the part of all the stakeholders, in order to identify and meet these needs, if stakeholder actions are to positively contribute towards community resilience.

One of the key observations of the study was the lack of consistency in the way SMEs obtained flood insurance, together with an obvious lack of knowledge on the role of insurance within a context of flooding. The new ‘Flood Re’ insurance scheme (due to commence in 2016) does not apply to commercial organisations such as SMEs and this issue has been a key criticism of the scheme since its inception. The issue of insurance clearly forms a key factor capable of influencing behavioural change such as undertaking resilience against flooding, which would merit separate study.

This report is funded by the ARCC network (an EPSRC funded network) as a follow on fund to further contextualise, trial and test the Extreme weather risk assessment toolkit for SMEs that emerged from the EPSRC funded Community Resilience to Extreme Weather (CREW) project (2008–2011).

Introduction & the research context

The UK has experienced several flood events in recent times. The Environment Agency estimates that 5.2 million properties (amounting to 1 in 6) in England are at risk of flooding (Environment Agency, 2009). The scale and severity of the recent events in the UK, particularly that of the winter of 2013–14 is unprecedented in recent history. Climate change is expected to increase the frequency and severity of these events further (Met Office Hadley Centre for Climate Research, 2007).

Whilst the physical damage and disruption caused by flooding is generally known and understood, the significant economic damage that flooding causes to local communities is not well recognised. Although, at a national level, most of this damage is characterised by infrastructure failures, at a more local level the damage and disruption affects Small and Medium-sized Enterprises (SMEs) quite significantly. The disruption and the disaster caused to SMEs is least recognised both during and the aftermath of flood events.

In an attempt to profile resilience measures of SMEs and their coping mechanisms against flooding in the UK, this study focuses on the township of Braunton, Devon, which has experienced several flood events during the last few years. The experience of SMEs in coping with flood events, and any lessons that can be learned on improving preparedness for future flooding together with any opportunities that can be uncovered that may benefit similar communities within the UK and internationally will be studied and documented within this research project. Following on from the EPSRC funded Community Resilience to Extreme Weather (CREW) project, where the PI of the Braunton study was a Co-investigator of small business resilience to extreme weather under its programme package 2 (see www.arcc-network.org.uk/project-summaries/crew/), this project provides the ideal opportunity and the context to trial and test its Extreme weather risk assessment toolkit for SMEs (included as an appendix to this report) and identify new perspectives and learning in the area. It is expected that this new learning will contribute to some of the existing and ongoing initiatives such as the work done by the climate ready team of Defra, the ongoing UK Climate Change Risk Assessment (CCRA) report (www.theccc.org.uk) in terms of case studies (the PI is a co-author of the chapter 6 of the report), National Flood Forum activities and some of the SME engagement activities conducted at a local scale (e.g. Cheshire West and Chester Council) and the survey conducted by the Federation of Small Businesses reported in the winter of 2014. The case study snapshots, and the lessons learned in terms of emerging themes, will also add to the knowledge domain of the Environment Agency teams in the northwest of the UK, closely associated with the Salford Strategic Flood Forum (where the PI acts as a member and the representative of the University of Salford in the forum).

The objectives of the study

- Develop a customised 'extreme weather risk assessment toolkit for SMEs in line with the Braunton flood context.
- Prepare SME resilience profiles against flooding.
- Examine and understand SME support needs in Braunton.
- Critically compare resilience measures with previous studies and identify lessons learned.
- Investigate how SMEs can contribute to the community in terms of leadership and hubs to promote good practice on resilience and preparedness.

The study area

Based on the scope of the research project, Caen Street in Braunton, Devon was selected as the area for the case study site. Braunton is a large village situated 5 miles outside of the town of Barnstaple. It has a population of around 8000, and is an area popular with tourists, attracted to the nearby surfing regions of Devon. Caen Street is populated by a variety of SMEs, reflecting and servicing the commercial, residential, and tourist needs of the area.

Figure 1: Caen Street in Braunton, flooded in 2012.



SMEs located in Caen Street in Braunton have experienced two recent episodes of flooding, once in 2004 and again in 2012. Both events occurred in the month of December, but flood water reached a higher level and remained standing for a longer period in the 2012 event. The main focus of this study was the 2012 event. This event proved catastrophic to the small businesses in the Caen Street due to its low-lying locale. Six months before the flood event the Environment Agency completed an enhanced community flood defence scheme, which the community perceived as a 'seal of confidence' that the area would be flood proof. The scheme included widening of the existing channel, raising of the embankment levels, work on a culvert and a landscaped emergency flood storage area. However, the 2012 winter flood exceeded the design standard of the scheme, which was of an indicative standard of resisting a 1 in 100 year flood event. The resultant flood event was not only caused by overtopping of the river defences, but lack of drainage and heavy rainfall, combined with high levels of ground saturation during the winter, contributed towards a build up of surface water flooding within the area that is examined in this study.

Several other streets in Braunton, containing a mixture of residential and business properties, were also affected by the 2012 flood event, however the majority of the SMEs affected were located in Caen Street. All but one of the case study sites on Caen Street had experienced both events, making this a unique opportunity to study the recovery, repair and resilience strategies adopted by SMEs who have previous experience of the impact of flooding events. For more details about the Braunton flood history please visit: www.brauntoncommunitynews.co.uk, which is community website. Further details can be obtained via the Braunton Parish Council website, www.brauntonparishcouncil.gov.uk.

Review of the relevant literature & rationale for the project

SMEs have been found to be highly vulnerable to flooding and other natural hazards due to their inherent characteristics (Ingirige *et al.*, 2008, Crichton, 2006). Climate Ready business brief (2015) identifies that the recent 2012–2013 flooding in the UK resulted in losses to businesses to the value of £200m, with companies facing up to £84m in property and contents damage, up to £33m in related economic costs (such as lost working days), and a further £82m of costs relating to infrastructure disruption. In identifying the importance of the issue, the Pitt review of the 2007 floods highlighted the need for businesses to assess the risk of flooding and the potential impact on their trade (Pitt, 2008). Several recent studies have looked at the effects of flooding on SMEs in the UK, including Crichton (2009), EKOS Consulting (UK) Ltd (2008), Woodman (2008), and Ingirige and Wedawatta (2011). The recent Federation of Small Businesses Report (2015) states that two thirds of the SMEs in the UK have been impacted by severe weather during the last 3 years (n=1200). The financial cost of these severe weather events (where flooding emerged as a major factor) amounted to just under £7000 for each affected business. From a small business point of view, such an average financial cost is likely to threaten their sustainability. Despite suffering such consequences, less than 25% of the micro businesses had a resilience plan of any description. Kreibich *et al.* (2011), who studied flood resilience of small businesses (n=103) reported that more than 50% of the surveyed organisations were not prepared for flooding.

International studies into developing countries also show lack of awareness of business continuity plans (BCPs). For instance, a study from Thailand shows that 50% of those surveyed were unaware of the BCP concept at all, and only 17% of the small businesses had a BCP (Perwaiz, 2014). Out of the large businesses surveyed, nearly 50% had a BCP given the fact that 90% of the businesses in a country are small businesses. The United Nations Office for Disaster Risk Reduction (UNISDR, 2013) surveyed 1,300 small and medium-sized businesses in disaster-prone cities in the Americas and found that three-quarters had suffered business disruptions related to damaged or destroyed power, telecommunications and water utilities. This demonstrates the inter-dependence between the private and public sectors when it comes to disaster risk management, yet only 14.2% of companies with fewer than 100 employees had even a basic approach to crisis management in the form of business continuity planning.

Whilst studies have shown that small businesses tend to take up the idea of resilient investment, as well as understanding the value of being prepared for disasters, the perceived understanding of the risk did very little to motivate them to actually prepare for flooding. In the UK, a number of toolkits and checklists enabling self-assessment of the risk to business due to extreme weather have emerged, including: the Business Resilience Healthcheck (BRHC) (Business Resilience Health Check, no date); the Climate Ready campaign (Adaptation Scotland, 2013); and Weathering the storm checklist (CLASP, 2013). Despite the availability of such resources, vast improvements still have to be made to ensure that SMEs are able to change their behaviour in undertaking a comprehensive set of measures of preparedness for flooding, and also to ensure that the measures that are recommended are sympathetic to their unique needs.

It has been recognised, both nationally and internationally, that it is important to showcase resilience as being sensitive to the flood risk of a place and to the type of business. Braunton therefore presents a very good opportunity to further enhance the case study

availability, particularly because it is a typical village, where there is a lot of potential or transfer of good practice and learning to other areas in the UK.

The Braunton study also adds value, as it is in line with the current Government policy of communities being empowered to learn to live with flooding, so that small businesses are able to develop their coping mechanisms for preparedness and continuity of their businesses (see Defra, 2011) report that identifies that communities at risk of flooding should learn to live and adapt to flooding by implementing adjustments to their property (structural measures) and processes (non-structural measures such as business continuity strategies) rather than relying totally on insurance or the Government to invest in expensive schemes).

Many cities and towns that are at risk of flooding include numerous SMEs whose existence is central to the survival and vibrancy of communities living in those areas, mainly due to their ability to generate employment. SMEs, which are generally identified as businesses with under 250 employees (BIS, 2014) have been reported as some of the most vulnerable to, and worst affected by, the impacts of flooding (Crichton, 2006; Pitt, 2008; Wedawatta and Ingirige, 2012). It is prudent, therefore, to investigate property level measures (both structural and non structural) that will enable SMEs to sustain their businesses, regardless of the status of the existing community flood protection schemes in the area. This is of particular importance as some of the large community flood defence schemes located on river banks, and coastal flood defence schemes, might not have the flexibility to cater to changing climatic conditions (such as sea level rise and the more intense and prolong rainfall patterns) that have been experienced recently in many parts of the world. Flood disasters in the past have shown that the paradigms of “flood control” and “flood defence” sometimes cause more problems than they solve (Etkin, 1999; Fordham, 1999; Criss and Shock, 2001; Kelman, 2001). Instead, some researchers argue that learning to live with rivers (Fleming, 2002), and living with risk (UNISDR, 2004), whilst achieving a balance between community flood defence schemes and investing funds on engaging communities to adapt their properties and improve their business continuity strategies are more sustainable strategies. The Braunton study, therefore, attempts to bridge the current gap of more entry level data / tools on flood resilience specific to small businesses, so that the above objectives can be achieved and more case study data that is valid to other similar sites can be made more widely available.

Methodology

Seven SMEs and their representatives were interviewed, utilising an SME resilience toolkit produced as part of the EPSRC funded Community Resilience to Extreme Weather (CREW) project in 2011. The interviews were digitally recorded and then transcribed verbatim. To ensure reliability of the data analysis, participants were sent the transcripts to verify the accuracy of the information contained in this material.

Verified transcripts were used for the purposes of content analysis. The process involved entering the raw data (the transcripts) into NVivo 10 software, a powerful tool for analysing qualitative data. From the raw data, NVivo 10 facilitated the development of nodes, which are containers holding data of similar meaning. From these nodes broad codes and themes were then generated. In addition, the software allowed the researcher to generate cognitive maps. These maps provided a visual method of analysing the data, highlighting the connection between research participants or thematic codes. Figures 2 and 3 below present a diagrammatic representation of the thematic coding and the cognitive map.

Figure 2: Thematic coding under the process of content analysis.

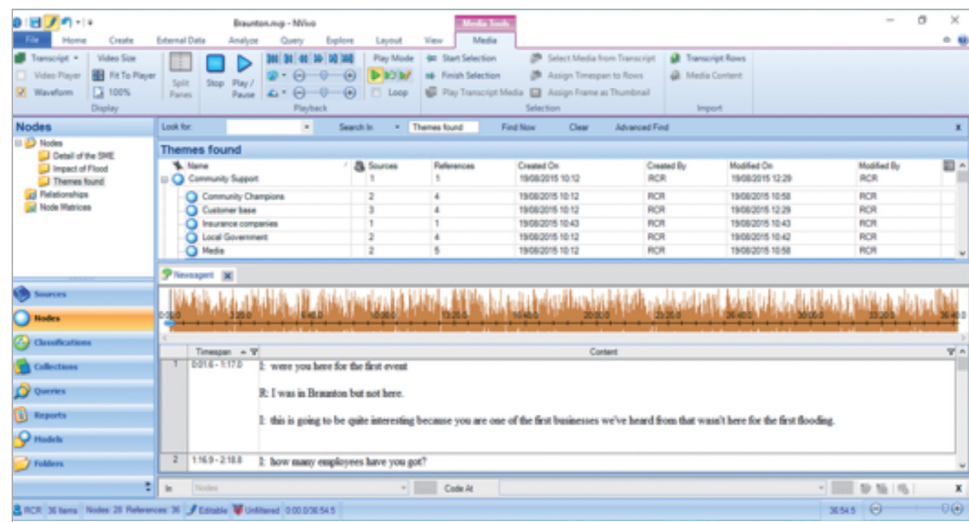
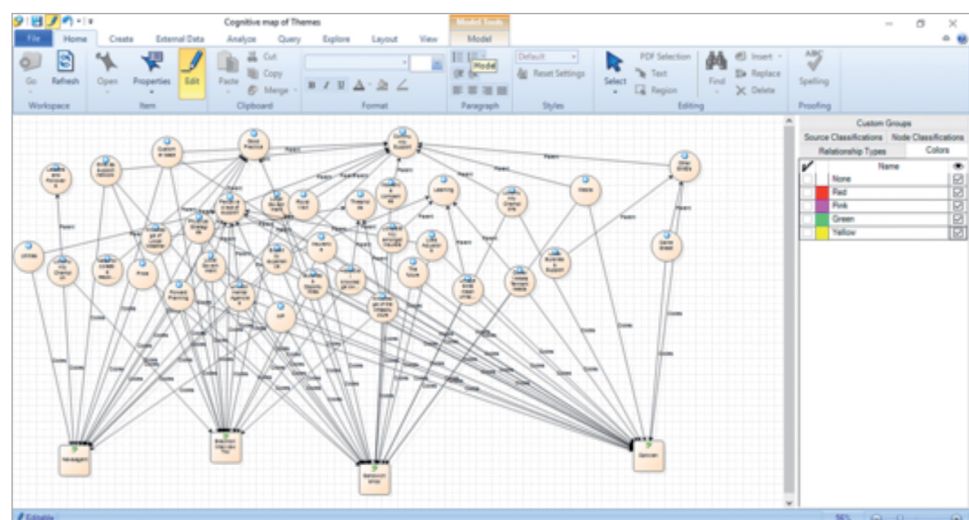


Figure 3: Cognitive map output from NVivo 10.



To validate the data analysis, the research findings were presented to a broader audience, consisting of the participating SMEs and Parish Councillors of the area of Braunton at a debriefing meeting. The meeting was organised by the Parish Council in Braunton and in association with the SME representatives. The comments from this debriefing session were utilised for further refining of the findings. As a further method of data gathering, documents, such as community emergency plans and other documentation obtained via the Parish Council and the Environment Agency, were reviewed to gain an understanding of the context, as well as new initiatives put in place as part of the on-going flood mitigation programme in the area.

The research also investigated views of stakeholders of the flood mitigation problem facing SMEs. Two representatives, one from the Braunton Parish Council and a representative of the Environment Agency in the area were interviewed. These extended interviews provided a wider policymaking angle to the research.

Case studies

Case study 1 – Sandwich shop

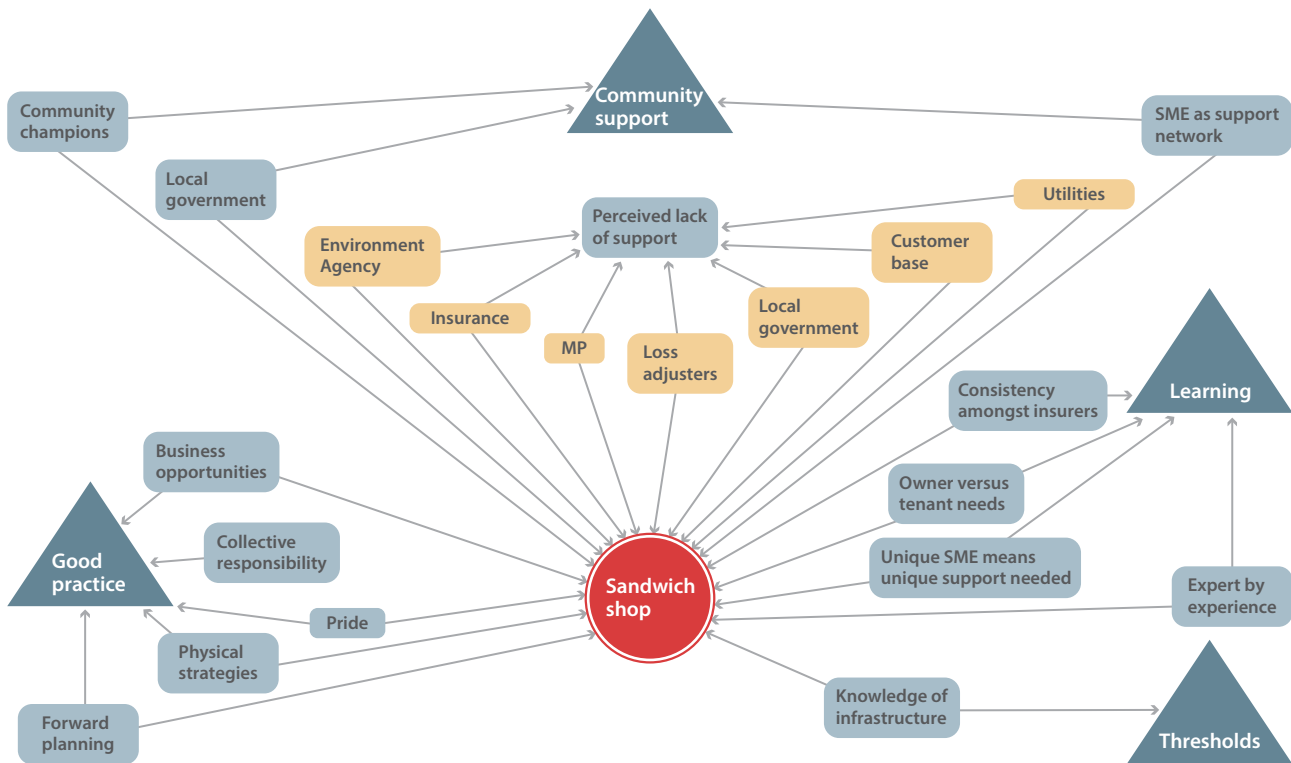


Figure 4: Cognitive map CS1 – Sandwich shop.

"I think in a weird way it felt that although you were going through a really bad time, and you were worried about your business, there was a bit of a buzz because we were on the national papers and on the news and being interviewed by BBC1 live []. You shouldn't be thinking 'Oh this is great' because it wasn't great at all [but] I think it did help to be honest."

Overall, the thematic analysis generated 5 main themes and 20 sub-themes. The cognitive map in figure 1 highlights the 4 themes (good practice, community support, learning, and thresholds) and associated sub-themes discussed by CS1. Community support was an important factor in CS1 ability to manage the physical and emotional impact of the flood. In particular, CS1 discussed the importance of the support offered by other SME's on Caen Street. The practical support offered by other SMEs appears to have provided CS1 with a buffer to cope with and manage the immediate impact of the damage caused by the flooding. Even the media attention created a form of community support, by providing an emotional defence from the psychological impact of the flood, as can be seen in this following quote by CS1.

In discussing the negative impact of the flood on the business, which included the loss of customer base, CS1 also reflected on how the knowledge gained from the way the property flooded increased his business resilience. For example, during the reinstatement work, the risk of future flood water damaging the electrics in the shop has been mitigated by installing electrical points at a raised level. In the following quote, we observe how the reinstatement work not only improved the resilience of the business but was a financial and business development opportunity to improve the overall effectiveness of the business.

The overall thematic highlights from the interview with CS1 are presented in the following case study snapshot table:

“And, also, you get to learn about your business and you get to slightly tweak it. It’s not money you would want to spend yourself but when it is money you have to spend because you’re re-opening effectively from new you get to change a few things. It not a good thing because, god forbid, you wouldn’t really want it [the flood] to happen but when it does happen you do get a chance to look at your business and could we do anything better. So there was a mild silver lining.”

Table 1: Snapshot CS1 – Sandwich shop**Impact of flood**

The flood water level within the shop reached approximately 3 feet in height. There was damage to food stocks, storage units and to electrical equipment, including electrical sockets. The business was unable to operate for 3 months. CS1 remain with the same insurance company, whilst the flood has not had a significant impact on premium the excess is no longer a fixed amount but is a percentage of any future damage caused by flood damage.

Assistance received

CS1 was satisfied with the support received from the insurance company. There was recognition that timing of the flood, a few days before Christmas day, hindered communication with the loss adjuster however any issues were quickly resolved by the insurance company. CS1 identified the assistance and support from the local business and residential community as an important element of the recovery process following the flooding.

Reinstatement/flood protection

Following the first flood, plug sockets were raised and a plastic covering was installed to the lower section. This covering offered protection at the time of the second flood event, reducing amount of time the drying out process took. Large electrical items of equipment, such as the freezer and cold food display needed to be replaced. Plug sockets have been raised to ensure that they are beyond the reach of any future flood water. The landlord of the property funded the installation flood defence barrier at the main door to the shop.

CS1 Sandwich shop	CS1 is a micro-sized business shop located on leased premises. The business had been in existence for about 9 years prior to the 2012 flooding. CS1 had experienced damage to the premises during the 2004 event.
Advice on flood protection	CS1 had not received any advice before either 2004 or 2012 event. CS1 identified the early warning system offered through Environmental Agency Flood Line as an important strategy for taking positive action to prevent flood damage to the property. In recognition of the physical and psychological impact a flood can have on a business CS1 stressed the need for both practical and emotional support to be offered.
Strategies to keep/re-attract customers	CS1 recognised the need to maintain a positive hygiene image of the business whilst it was temporarily closed. To do this CS1 took immediate action to ensure the premises looked clean and flood damage equipment was removed from the property. CS1 commented that having to refit and replace equipment following a flood is an opportunity for the business to take positive action to improve the way the business is run and the premises are laid out.

Case studies

Case study 2 – Newsagent

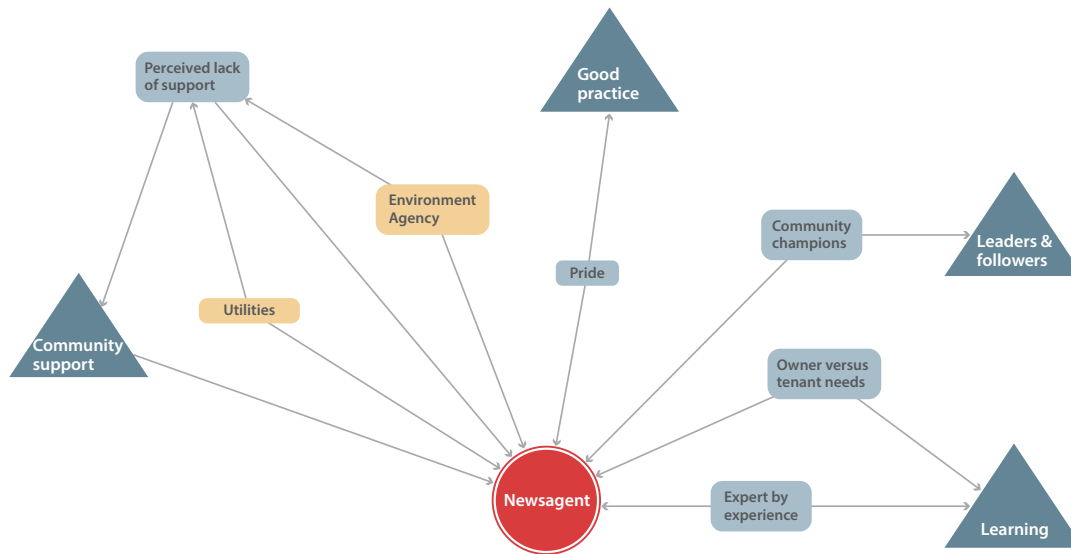


Figure 5: Cognitive map CS2 – Newsagent.

“We had the business on the market slightly before the flood... It definitely had a bearing because Caen Street has flooded. It’s been on the market for three years now.”

In CS2 we observe the vulnerability of SMEs to recurrent flood events. In 2008, CS2 purchased the newsagents, being fully aware of the previous flood event a few years earlier. Approximately three months prior to the flood event of 2012 CS2 put the business on the market for sale. Whilst there have been parties interested in purchasing the business, and at the time of the interview was currently under offer, it proved difficult to sell and remained on the market for three years. CS2 contributes the difficulties in selling the business directly to potential buyers’ prior knowledge of the previous flood events.

A sense of pride is a theme discussed by several of the SMEs during interviews. For CS2, ensuring there was minimal disruption to newspaper deliveries provided this sense of pride. The following quote graphically demonstrates the resilience shown by CS2 in providing a service to customers within a day of the flood, despite the obvious damage to the shop premises.

The overall thematic highlights from the interview with CS2 are presented in the following case study snapshot table:

Table 2: Snapshot CS2 – Newsagent**Impact of flood**

Flood waters entered the first level of shop to around a height of 3 ½ feet. Stock that could be moved to the first floor was taken to this higher level. However, despite this positive action there was damage to carpet, the shop freezer, and to some of the confectionary stock. Whilst the risk of flooding did not deter the present owners from purchasing the business, they have faced resistance from potential buyers (the business was put on the market shortly before the 2012 flood event) and CS2 senses the risk of flooding is the cause of this reluctance.

Assistance received

Practical assistance during and immediately following the flood event was provided by friends and family of CS2. CS2 continues to be insured by the same company. Premiums have increased in line with inflation, however, the excess, which was £200, has increased to £10,000. CS2 believes that government and local agencies have a limited role in guiding and supporting SMEs, any assistance should be focused on flood prevention, and maintaining and creating flood defences.

Reinstatement/flood protection

The property owner organised and arranged for the removal and replacement of the shop fittings. CS2 was able to resume delivery of newspapers a day after the flood. The shop building opened the day after the flood but this was limited to the selling of papers and stationary. Due to health and safety concerns CS2 was only able to resume the selling of confectionary once the property was in an adequate state of repair.

CS2 Newsagent	The newsagent has been in the current premises for over 70 years. The business was brought by the CS2 in 2008 and it had been put on the market shortly prior to the flood event in 2012. CS2 leases the premises.
Advice on flood protection	CS2 took action to move stock and the cash tills up to the first floor level. CS2 also made a stick, which gives an indication of the water level and the stock most likely to be at risk of damage.
Strategies to keep/re-attract customers	With this type of business it is important to manage and maintain existing relationships with customers. To do this, customers need to see the business making efforts to resume normal services as soon as possible, even if these services have to be provided in a different way.

“We’ve [normally] got 300 newspapers going out every day. Because when it happened all the newspapers were on trestle tables none of the newspapers got damage, even though they were sat in 3 ½ foot of water. But the following morning the newspapers arrive and all right we had in 2 inches of mud [in the shop,] all the paper girls and boys came in the following morning. In fact, two or three rounds when out on the morning of the flood, so those customers never actually lost anything, so that was quite good.”

Case studies

Case study 3 – Surf shop

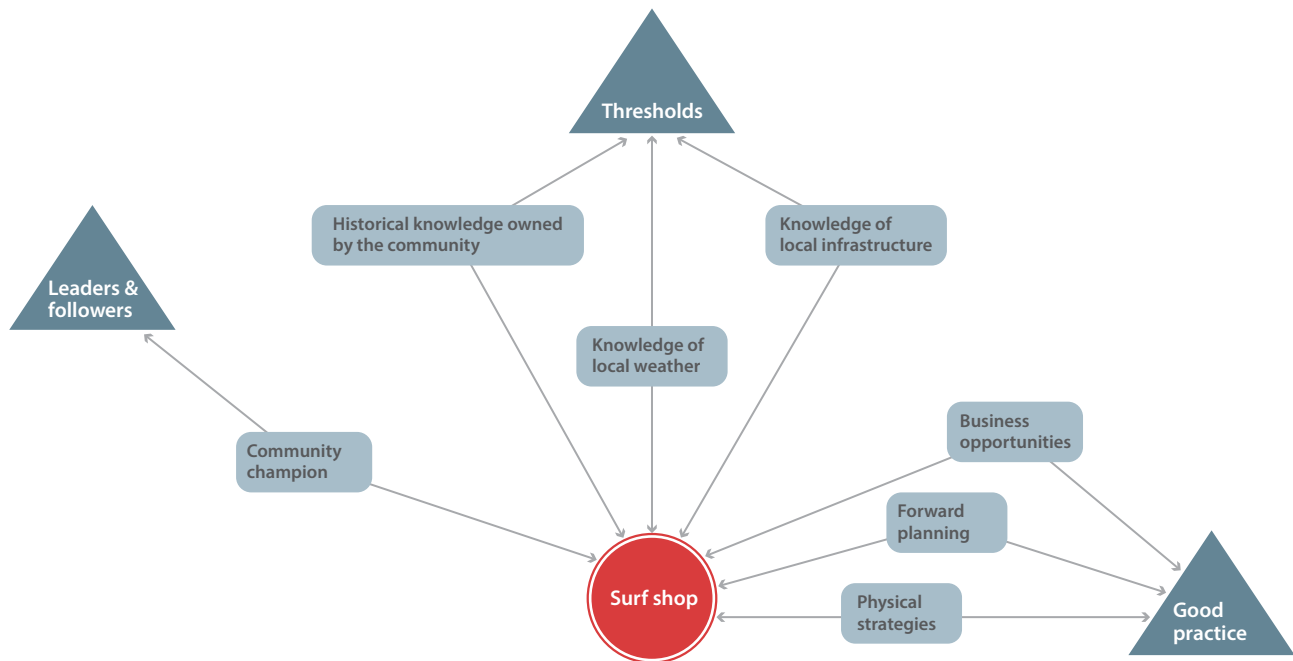


Figure 6: Cognitive map CS3 – Surf shop.

“We’re going to move [stock into the higher part of the premises] the moment there is more than eight hours of continuous rain; because both times it’s happened it was 10 hours later that we had this huge deluge. It was as if [the water] had been building up in the fields and then it came down and enveloped everybody.”

In several interviews the sub-theme “knowledge of local weather patterns” had been a strong influencing factor in the SMEs developing action plans to limit future damage to premises and stock. In the interview with CS3, knowledge of the local weather patterns has clearly shaped the action to be taken by the business.

Under the theme of good practice, the plan to evacuate stock and vulnerable equipment is one of a number of strategies CS3 has developed since the flood events. Action to improve the resilience of the business has included developing a hammock system to protect stock that cannot be moved and the double sealing of internal drain covers. In the following quote, we note CS3’s motivation to take this level of preventative action being influenced by the terms and conditions of the insurance policy, which in the case of CS3 no longer provides recovering of costs associated with flood damage.

The overall thematic highlights from the interview with CS3 are presented in the following case study snapshot table:

“The second claim we had a new insurer, and I [estimate] that claim at £80,000. But they will not under any circumstance insure us again and so we’ve got at least half £1 million worth of stock that is uninsured, that is our biggest problem. So we’ve got all kinds of preventions in the store...”

Table 3: Snapshot CS3 – Surf shop

Impact of flood

Following the flooding event of 2012, the retail shop was closed for approximately 8 weeks. Damage to the premises included water damage to walls, electrical socket floor, and stock (particularly clothing).

After several months, corrosion, caused by flood water penetrating through to underground cabling, caused disruption to telephone system and automatic car park barrier.

Assistance received

CS3 received adequate support from the insurance company. Due to the impact on premiums, CS3 no longer has insurance cover for flood damage, leaving £500,000 worth of stock uninsured in any future event.

Reinstatement/flood protection

Reinstatement work involved the drying and repairing of wall. Electrical sockets have been raised. Given the risk of uninsured stock CS3 has taken several proactive steps to improve flood resilience of the premises, this includes:

- Hammocks system for raising clothing
- Sealing of drain covers
- Evacuation plan of vulnerable equipment and stock to the highest part of the premises if there is eight or more hours of continuous rain.

CS3 Surf shop

CS3 is one of the larger employers along Caen Street. The business has been in its current location since the late 1970s and has slowly expanded to include properties attached to the existing shop and an extension. CS3 has both a retail and trade arm, and currently supply to around 300 to 400 shops with surfing equipment. The premise is owned by the Directors of the company, which includes residential units above the retail premises.

Advice on flood protection

CS3 has taken positive action to reduce damage to the stock that cannot be easily moved in the event of a future flooding. This includes;

- Shelving fitted above a certain level
- Hammock system developed for moving low hanging clothes away from the area of potential flooding
- Double sealed internal drains
- When the property was recently re-developed it was done so following recommendations from a floodplain survey.

Case studies

Case study 4 – Card shop

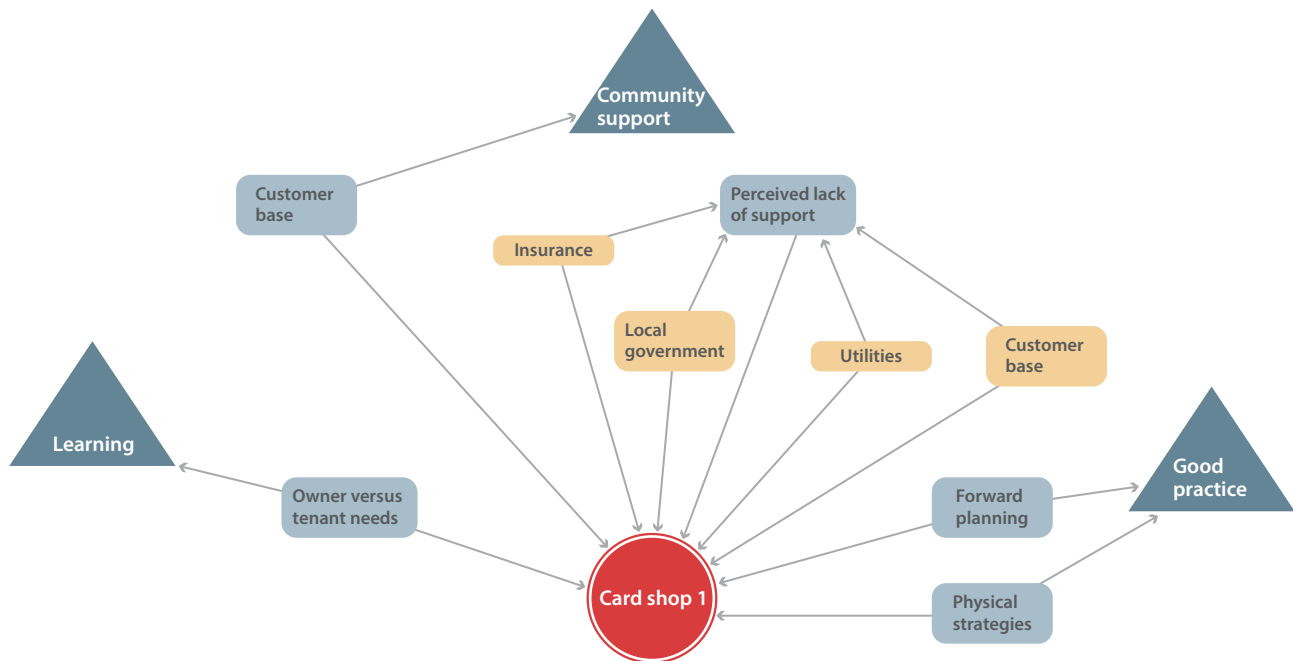


Figure 7: Cognitive map CS4 – Card shop.

"I said to the [landlord] do you want to do your walls, and he said he didn't want to do that. I was just thinking of the business and all I wanted to do was reopen. So we ended up putting new slat walls in. Repairing [the walls] the best walls the best we could. But I'm afraid [the landlord] didn't want to do anything. Perhaps [the landlord] hasn't got the money to do it?"

In CS4 we observed the impact of the subtheme "owner versus tenants' needs" on SMEs who own the business but not the property. In the following quote, CS4 describes the landlord's reluctance to undertake detailed repair work to the walls of the premises. The repair work to the premises threatened to delay the reopening of the business and for this reason CS4 took responsibility for the reinstatement work. The action taken by CS4, on behalf of his landlord, ensured the business was able to capitalise on Valentine's day, an important trading period for this type of SME.

The majority of SMEs spoke positively about the support and assistance they received from both loss adjusters and insurance companies. But there was also a tone of inevitability, in many of the interviews of the insurance payment not covering the full financial loss to the business. The following quote, from CS4, is an example of this tone of inevitability.

The overall thematic highlights from the interview with CS4 are presented in the following case study snapshot table:

Table 4: Snapshot CS4 – Card shop**Impact of flood**

“Yes, eventually we got [the insurance payment]... but as I said, you never get what you were hoping for, if you know what I mean.”

The flood occurred during one of the busiest trading weekend of the year for CS4. In total, approximately 80% of the stock was damaged and it was a month before the business could re-open to the public.

Following the flood, CS4 experienced no significant difficulty in gaining insurance cover. There has not been a significant increase CS4 insurance premium but in any future claim the excess payment will be a percentage of any future claim.

Assistance received

Initially CS4 had to negotiate with the insurance company for the recovery of costs for damaged stock that had been stored up to 6 inches from the floor. Once this issue was resolved, CS4 received adequate support from the insurance company and had a good service from the Loss Adjuster. CS4 is also disappointed that VAT is taken off the replacement costs of the stock.

CS4 values the flood defence work that has been undertaken by the Environment Agency and Local Parish Council; and the practical support received from other SMEs on Caen Streets and from members of the local community, for example they were loaned dehumidifiers.

Reinstatement/flood protection

Work included drying the property out and repairs to flood damage walls. Repairs to the property were undertaken by CS4 and not the landlord, without taking this action CS4 would not been able to reopen for the Valentine trade.

Other flood protection work included the raising of electrical sockets. CS4 would like to invest in making the windows flood resistant.

CS4 Card shop	CS4 is micro-retail business. It specialises in the selling of cards, gifts, and children toys. The current owners purchased the business in 2007, and had not experienced the flood event of 2004.
Advice on flood protection	<p>CS4 still feels vulnerable to the risk of flooding but now feels their experience has increased the confidence to manage the aftermath of a future event. CS4 believes it is difficult to provide other SMEs advice on flood protection because each SME and property is different. However CS4 took the following flood protection action:</p> <ul style="list-style-type: none"> • Raised plug sockets • Relocated stock being stored to invulnerable areas of the premises • All stock displayed 6 inches above floor level.
Strategies to keep/re-attract customers	<p>To attempt to keep and re-attract customers, CS3 took pro-active steps to re-open for the Valentine trade. To achieve this, it was necessary for CS4 to undertake work that should have been the responsibility of the Landlord.</p>

Case studies

Case study 5 – Estate agent

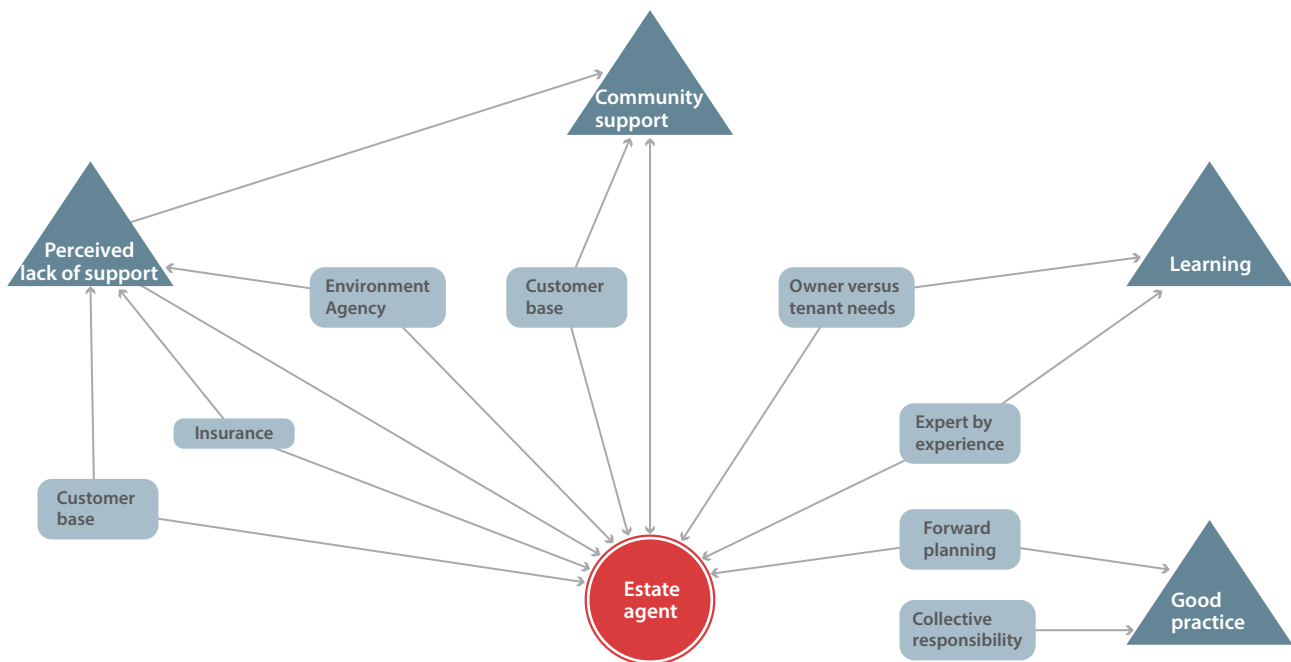


Figure 8: Cognitive map CS5 – Estate Agent.

“So we all [relocated] to Barnstaple. The particular problem there was parking because we had to park quite far away, so it became very difficult to get to the car to go to appointments and come back. So literally, going to one appointment could take 2 ½ times as long.”

CS5 was the only SME able to relocate to a sister branch of the business, situated in the nearby town of Barnstaple. The ability to relocate to the sister branch reduced the disruption to the business when compared to the other SMEs, who remained closed until the reinstatement work was completed. The option of relocation, however, did not come without its own drawbacks: in the following quote CS5 discusses one of several daily inconveniences caused through having to conduct business outside of Branton village.

The majority of support and assistance received from the local community was described by the SMEs as overwhelmingly positive. For example, earlier in this report CS1 discussed the role of community support in aiding in the emotional and physical recovery of the business. Despite this a number of SMEs, including CS5, having to take proactive steps to protect their business from what appeared to be rumours generated by the local community. The quote from CS5 describes one such experience.

The overall thematic highlights from the interview with CS5 are presented in the following case study snapshot table:

“...people said we were not coming back. It couldn't have been further from the truth, so as soon as I heard that, I put on the window 'we will be back'. People automatically assume the worst, don't they, and they like to be purveyors of bad news.”

Table 5: Snapshot CS5 – Estate Agent

Impact of flood

CS5 is located in the lowest part of Caen Street. Following the flooding CS5 was unable to occupy the building until it re-opened, 4 months after the event. During this time CS5 relocated to the Barnstaple branch of the business. Whilst relocation enabled CS5 to continue business, it incurred additional costs associated with travelling between Barnstaple and Braunton when undertaking property viewings and evaluation. Anecdotally, CS5 believes not having a physical presence in the village for this 4 months period resulted in it missing out on a local property development.

CS5's insurance no longer covers damage or losses as a result of flooding.

Assistance received

CS5 is satisfied with the support they received from the insurance company. They were able to relocate to the Barnstable Office, which included redirecting phone lines to this branch. CS5 reports good support from the Landlord, who has taken action to install flood defences and removable wall panelling.

Reinstatement/flood protection

CS5 reports a delay in the start of reinstatement work due to the lack of de-humidifying equipment. Reinstatement work included repairs to the walls, replacement of flooring, computer equipment and office furniture. Flood protection work has included the raising of electrical points, computer equipment being stored above the previous level of flooding, and purchasing office furniture that is resistant to water damage. Whilst the insurance company did not provide financial assistance with the flood protection measures taken by CS5 and the Landlord, they did cover the cost of the furniture.

CS5 Estate agent	The estate agent is one of three branches based in this area of Devon. The business has been in its current location since 2002 and the property is leased.
Advice on flood protection	<p>Prior to the event, CS5 had not received any specific flood protection advice. Following the flood CS5 installed:</p> <ul style="list-style-type: none"> • Water defence at doors • Panelling that provides water protection and can be removed in the event of a flood • Raised electrical points IT system off floor • Things take time to co-ordinate.
Strategies to keep/re-attract customers	<p>CS5 employed the following strategies:</p> <ul style="list-style-type: none"> • Relocation to the Barnstable Branch of the business • Ensuring the community was informed that the branch would be returning to Braunton • Having an internet presence • Diverting the phone.

Case studies

Case study 6 – Bakery

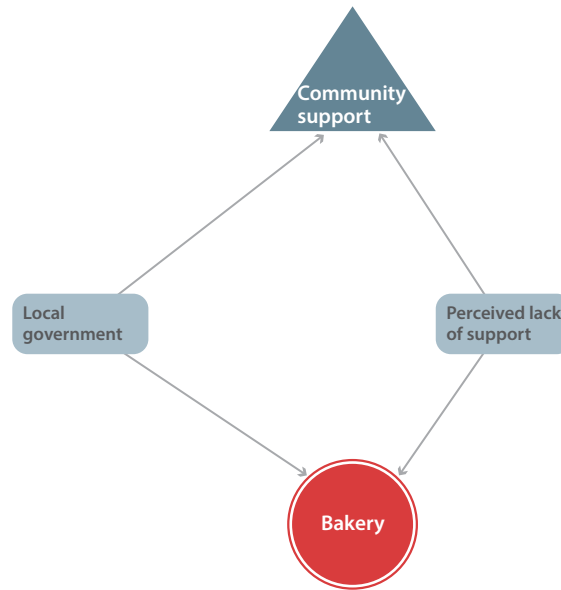


Figure 9: Cognitive map CS6 – Bakery.

The overall thematic highlights from the interview with CS6 are presented in the following case study snapshot table:

Table 6: Snapshot CS6 – Bakery**Impact of flood**

The flood of 2012 occurred at one of the busiest weeks of the year for CS6. Due to the extent of the water damage and the re-branding exercise being taken by the owners of CS6, the shop was closed for over 6 months. There was also damage caused to the electrical equipment in the shop.

Assistance received

CS6 received full support from the head office of the company, who managed the insurance process and reinstatement work.

Reinstatement/Flood protection

Following the flood action was taken to dry the walls and then reinstating the plaster work. Due to the age of the property, the drying process took longer than expected.

Replacement of electrical items and shop counters took place as part of the re-branding exercise of the business.

CS6 Bakery	CS6 is one of a chain of bakeries situated across Cornwall and Devon.
Advice on flood protection	CS6 did not receive flood protection advice prior to the events of 2004 and 2012. In offering advice to other SMEs located in flood risk areas, CS6 recommends having access to sandbags and where possible equipment and stock are moved away from areas likely to be effected by flood water.
Strategies to keep/re-attract customers	<p>Once CS6 was able to enter the building, a sign was posted in the window, detailing the direction of the next nearest branch of the bakery.</p> <p>A re-branding of the bakeries had been planned prior to the flood event of 2012. A decision was made to use the reinstatement work to the shop as an opportunity to be a pilot site for the re-branding exercise.</p>

Case studies

Case study 7 – Optician

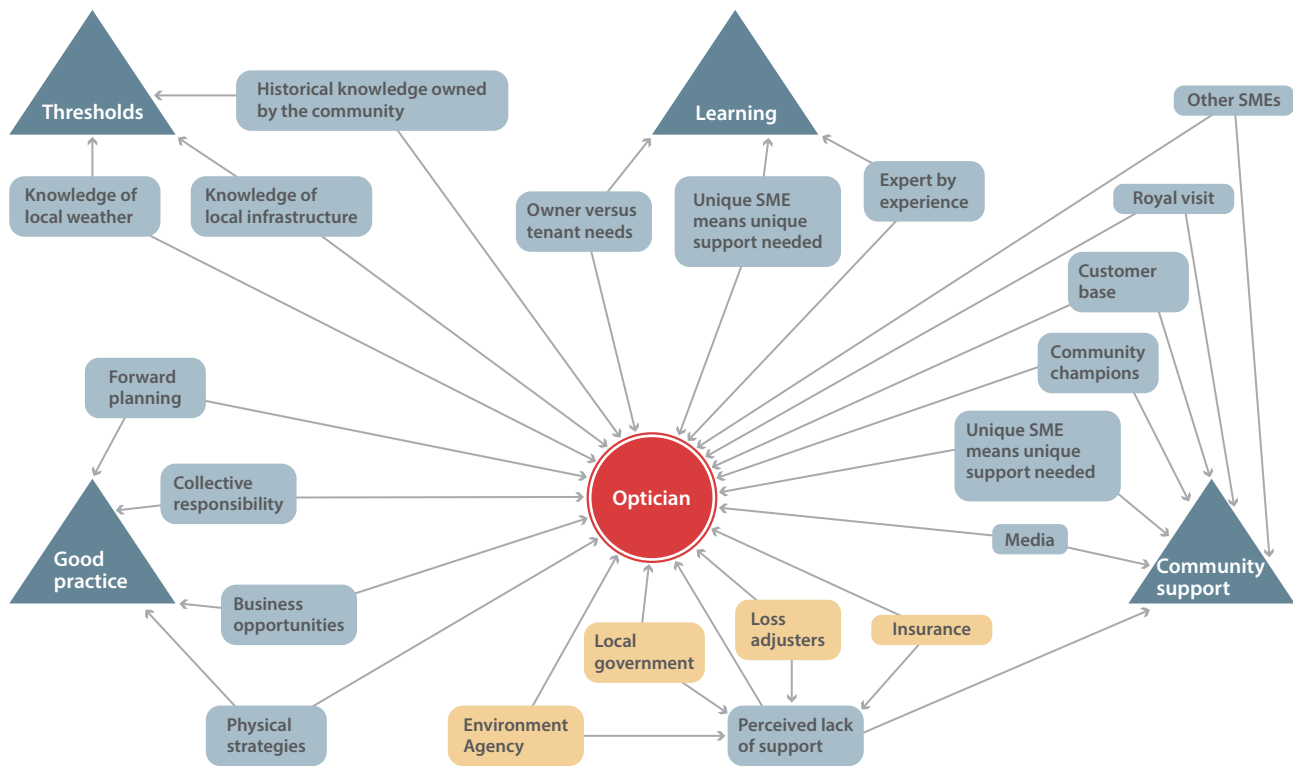


Figure 10: Cognitive map CS7 – Optician.

“And now it doesn’t seem a good idea because if I rented this place I could just go and move... I wouldn’t have a problem of what to do when I retire and I have to come to sell a building that floods. That’s the worst bit of it, [selling the building] it’s [] my retirement plan.”

In CS7 we observe how it was necessary for a number of the SMEs to spend time and resources explaining to loss adjusters and insurance companies regarding the unique nature of their businesses. For CS7, time was spent explaining to the insurance company about the cyclic nature of eye test appointments and subsequent impact this has on income generation throughout the financial year.

The seven SMEs shared similar physical and emotional experiences in recovering from the effects of flooding to the business premises. However, CS7 is an example of an SME who owns both the business and the building. In the following quote, CS7 expresses concerns about the impact the flood has had on his future retirement plans, a concern not expressed by SMEs who rent their properties.

The overall thematic highlights from the interview with CS7 are presented in the following case study snapshot table:

“If you have your eyes tested, you go back every two years to have them done. And if you weren’t seen two years ago because [of the flood] you don’t get a reminder. And they couldn’t understand that. And [the insurance company] wanted me to do home visits to everybody, which you can’t do because it’s not offered under the health service... I had to send them a complete copy of the health service regulations that we work under before they would accept the fact I couldn’t do that.”

Table 7: Snapshot CS7 – Opticians
Impact of flood

The damage to the shop was extensive and included damage to walls, electrical socket and carpets. Whilst patient notes were not damaged in the 2012 event, ophthalmological equipment was. CS7 is insured for flood damage but now has an excess of £10,000. Prior to 2012 the excess had been in the region of £500.

Assistance received

CS7 the support received from the insurance company was reasonable. Although, at times the insurance company was not always aware of the specific needs of CS7 business, for example the 6-monthly cyclic nature of client appointments and the impact this has on income generation.

Reinstatement/Flood

During the reinstatement process, CS7 did not receive any specialist guidance and the action taken was based on thinking through strategies to reduce future damage to equipment and to the fabric of the building. Reinstatement and flood protection work included:

- Repair and reinstatement of walls
- Heating system changed from storage to gas central heating
- Carpets replaced
- Storage units replaced and raised
- Height adjustable table for the ophthalmological equipment
- Flood gates
- Fitting of easy to remove carpets.

CS7 Optician	CS7 has been an optician in the current premises since 1993. CS7 owns the premises, which includes a residential unit above the shop. A second branch of the opticians is located in Ilfracombe and CS7 was able to continue running the business from this location.
Advice on flood protection	CS7 had no specific flood protection advice prior or following the events of 2004 and 2012. Prior to the 2012 event CS7 did receive a call from the Environment Agency as part of their early flood warning service. This action gave CS7 the opportunity and time to move confidential patient records away from the area of the shop that eventually got flooded
Strategies to keep/re-attract customers	After the initial clean-up of the premises the shop remained open for the collection of contact lenses. However, this had to be stopped once the builders were onsite.

Other stakeholder feedback & debriefing

The interviews with the Local Parish Council and the Environment Agency highlighted the positive action they have taken following the flood events of 2004 and 2012. This action has included policy and infrastructure changes, including the development of the Braunton Community Emergency Plan, which is now reviewed yearly. The Environment Agency has also published a post flood review report in 2013 indicating some of the underlying causes for the flooding and detailing some of the lessons learned. Both organisations have consulted with the local community about the changes they have made since the flood. As the length of time since the event gets longer, the Parish Council is concerned about how they maintain the public's interest in what they are doing. During the debriefing meeting held with the SMEs and the Parish councillors, it was noted that, whilst the Environment Agency has invested in new capital projects such as the flood defence scheme built in the Braunton area, this should be associated with more maintenance work (revenue accounting stream) so that the changes implemented become more effective. It was the view of the community that all parties should work together both on soft and hard measures, so that the public interest on flood mitigation and preparedness is maintained as high priority throughout.

Conclusions & learning

Whilst each flood event is unique, the interviews undertaken as part of this project provides insights into the impact flooding has on the resilience of SMEs. Through these insights, other SMEs can learn how what impact such an event would have on them and how to build resilience into the business. In addition, local and national government agencies also have an opportunity to build understanding of SME specific issues. In the remaining part of this section, we highlight the five main themes of learning from this research project.

1. Community support

The interviews revealed community support was important to the SMEs as it provided both practical and emotional assistance. Emotional and psychological support came predominantly from the SME's existing customer base, friends and family, media attention and from other business owners on Caen Street. It was evident from the interviews that the Royal visit from Duke and Duchess of Cornwall was a significant boost to the morale of the businesses on Caen Street. Example of practical and emotional support included:

- Customers offering assistance with cleaning up
- Family and friends steam-cleaning shop shelving
- Local builder offering use of his skips
- One business on Caen Street provided assistance to other businesses in helping to move stock to prevent flood damage. This also shows collegiality and, to a certain extent, assistance across sectors.

There was a perceived lack of support from utility companies, local and national government and associated agencies. However, a number of those interviewed were unsure as to what precise support the above agencies could give.

After their experience with flooding, most of the interviewees were willing to share their experience with other SMEs. However, they were unsure as to how they could be of assistance to other businesses going through a similar flood experience.

One particular community champion was identified as an important element of support during and since the flood. This individual provided practical support during the initial flood event and subsequently has continued to ensure that the event remains a priority to stakeholders. Community champions were also identified as important elements of support to the SMEs.

2. Post-flood resilience strategies

Physical strategies for forward planning

Since the flood, a number of the companies have developed good practice strategies. A number of those interviewed identified that there was little they could do to prevent floodwaters from entering their building, however they could take action to mitigate damage. These could form part of the preparedness plan for any future flooding too. Examples of strategies employed included:

- Installation of flood barriers at doors
- Purchasing furniture that is flood resistant
- Creating a zone where stock is not kept
- Installing wall panelling that can be removed if damaged easily removed after flooding
- Installing electrical sockets above flood risk height
- Sealing drains running under floors
- Raising storage and keeping high value items in upper drawers.

Some of the strategies adopted can be seen below.

Figure 11: High value items raised above the previous flood height.



Figure 12: Firm fixing of an under floor drain that previously caused internal flooding.



Figure 13: Easily removable wall panelling so that they do not have to be forcibly detached.



Figure 14: Raised storage and high value items in upper drawers.



Figure 15: Raised wall sockets for safety.



A deep understanding of their businesses enabled SMEs to find creative ways to mitigate future flood risk damage. For example, one SME purchased height adjustable furniture; enabling him to move expensive equipment out of the area that had experienced flooding previously.

One of the interviewees identified that flood protection needed to be a collective responsibility of the SMEs on Cain Street. It was felt that, although the SMEs had taken action to mitigate the risk of floodwater entering their properties, damage to their buildings could still occur due to neighbouring businesses not taking action to prevent the risk of the flood.

“The only [way] we can be [less] vulnerable would be if we could make this an island of security, which we can’t because not everybody has put flood gates up. My next door neighbour hasn’t, he doesn’t own the building, he possibly can’t afford to do it. For what ever reason he does not have any flood gates, which means when water comes in to him it will soak through to my wall.”

The above quote from one of the SMEs show that in certain instances, the community as a whole should pull together to make a difference. Hence this is an important consideration for community leaders and policymakers when initiating behavioural change to achieve community resilience.

Contingency forward planning

Only one company had developed a more formal contingency plan for future flood events. This company was one of the larger SMEs on Cain Street, with a number of employees, which perhaps either enabled him or required him to have a plan to ensure appropriate coordination of the staff. Whilst other SMEs did not have formal plans, it was evident from interviews that they had developed cognitive strategies for what they would do in the event of a flood, for example, where to move stock. Rather than a formal written contingency plan, these cognitive strategies were thought-through plans of action the SME would take in the event of a flood.

Business opportunity

Taking the flood event as an opportunity to develop their business was another area of practice demonstrated by the SMEs. For example, one SME identified the damage to equipment as an opportunity for him to replace equipment that was beginning to look old. Another SME took the opportunity to get his business up and running again within a day of the flood to demonstrate to his customers the value of his business to them. The behaviour was also consistent with the reputation that the business owner wanted to maintain in the village to counteract any competition among small businesses operating in the same sector.

Support to loss adjusters

A number of the SMEs identified the support they had to give loss adjusters in order for them to understand their businesses. Each business is unique, and at times frustration arose when having to explain to the loss adjusters the specific requirements of their business. For example, one business had to explain the cyclic nature of his operation, which was caused by the way repeat appointments with clients affected the flow of income into his business.

3. Thresholds

Whilst there was an acknowledgement about the usefulness of the early warning information from the Environment Agency, concerns were raised by the interviewees that local community knowledge of how weather conditions and the flow of the river affects risk of flood was being ignored by government agencies.

A number of the businesses had developed their own threshold for when they would instigate flood management procedures. This was demonstrated by one of the interviewees, who fits flood barriers when there has been rain for a certain period of time. Another interviewee said he now would consider moving his stock if there is a combination of eight hours of continuous rain, low air pressure and high tide.

It was interesting to note a number of the SMEs had a detailed knowledge of the surrounding drainage infrastructure of Caen Street and of the behaviour of the River Caen. They were able to explain how this has contributed to previous flooding events, and to the event of 2012. Another important observation of one of the interviewees was also connected to thresholds, where in the event that they perceive such thresholds are reached, they have developed a mechanism to isolate their most expensive equipment within their business to be stored on a special height adjustable stand as shown in Figure 16.

Figure 16: Cost significant items on height adjustable stands and height adjusted once perceived flood risk thresholds are reached.



4. General learning

This section provides subthemes of general points learnt through the data analysis to date.

Owner versus tenant of building

It was evident from interviews that SMEs who owned the building, as well as the business, not only suffered immediate financial impacts on their business but also had additional concerns regarding future plans for the building. Two of the interviewees had purchased the building as a means of supporting their retirement plans, and expressed that this was now under threat due to the impact the flood had on the potential resale of the properties.

For those who were tenants, there were complexities raised around managing the insurance process due to needing to negotiate with their own insurers as well as with the property owner's insurance company.

Inconsistency amongst insurers

No consistent approach existed between how insurers dealt with renewal of insurance cover. A number of insurers would not provide cost effective cover for flood damage, whilst other insurance companies raised the premiums and excess by only a small margin. Overall, the SMEs reported a reasonable service from their insurance companies and loss adjusters. There was acknowledgement that the situation in 2012 was more difficult for the insurance companies, as the event took place prior to the Christmas period.

Expert by experience

Apart from two interviewees, all SMEs had experienced the previous flood event in 2004. It was evident they were able to use what they had learnt in the 2004 event to manage the process after the second flooding. Several of the businesses felt that the flood event in 2004 equipped them to inform builders and other related professionals on what needed to be done.

Unique SMEs means unique needs

From the data gathered from the interviews, it is evident that each SME on Caen Street is unique. This means their response to the flood has also been unique. For example, the flood occurring just before Christmas was advantageous for some companies, as this is their quiet time, but for others it was their busy period. Some of the businesses were able to provide services again within days of the event, whilst others had to be closed for a prolonged period of time. Some businesses used the time of disruption as an opportunity to refurbish their properties by moving their staff temporarily to their other branches in the chain. Despite losing business to their competitors during the closure, they now seem to have settled into their usual trading position within the village.

5. Leaders and followers

Three SMEs identified XX [anonymised] as a key leader in the flood event. Not only did XX [anonymised] provide initial practical assistance but it was felt that his leadership has kept the flood event on the political agenda and in the minds of local officials. He has also had a role in keeping the local SMEs up to date with the progress being made by the Local Parish council and Environment Agency.

Synthesis & contributions to knowledge

The case study analysis in Branton enabled the research team to gain new perspectives from a collection of new SME sectors. This opportunity, in 2015, yielded key information on new SME sectors in their levels of flood resilience, using a 'risk assessment template' developed in 2008. The interview findings show that SMEs adopted several unique ways to respond to flooding. The individual (resilience) profiles created with the case studies undertaken with the 7 SMEs identified the diversity of their individual needs with regard to the support they required before, during, and after the flood event. Again, this is due to no two SMEs being the same. In other words, the same hazard might present different impacts for each individual SME. For instance, two SME businesses located side by side on the same street might be impacted differently. The impact depends on their levels of preparedness, measures of resilience adopted and their specific business characteristics (e.g. a SME dealing with very expensive stock will be impacted more compared to a SME that has less expensive stock and equipment, according to the type of sector and business). A potential consequence of this is to enable local and national government, as well as insurance and utility companies, to provide appropriate and adequate support to these vital members of the community, and their ability to identify these unique needs. Whilst the SMEs valued the immediate support that they got from other members of the community and agencies, they expressed a severe lack of support from utility companies, both during the immediate aftermath as well as during the reinstatement / refurbishment period after a flood event. The SMEs recognised the exact support needs the utility companies could have potentially provided, and noted that the utilities did not align their work commitments in line with the reconstruction efforts needed at the time.

In meeting the demands of future flooding, it is important to focus on SMEs as entities having specific needs. These needs should be looked at in terms of how the mitigation / preparedness measures link with the type of business and their strategies. The flood mitigation and preparedness actions cannot be assumed as standardised and predictive. There needs to be appropriate leadership and strong commitment on the part of all the stakeholders, to identify these needs in a way that the stakeholders' actions contribute towards community resilience. A community flood defence scheme can offer several levels of protection to the community, but the community at risk should understand its purpose, scope and limitations. The scale of the flood defence scheme should not be ambiguous so that it inadvertently gives a false sense of security to the community. The stakeholders should work collectively to ensure to promote proper understanding, awareness, and support to incentivise the SME community to build resilience at a property and a business level, without over reliance on new community flood defence schemes. The Government investment in flood protection should, therefore, be appropriately allocated amongst the various levels of protection, mitigation and preparedness to achieve longer-term sustainability of the SME community.

The interview findings show that the levels of preparedness of SMEs differed substantially; some were very keen in coming forward, to share some of their experiences with similar SMEs and SMEs located in other locales, displaying their interest not only in sharing their knowledge, but also potentially in providing support to others in need. The recently concluded FSB survey in 2014 also found that around 40% of the businesses were interested in becoming a hub, to disseminate information of their flood preparedness benefits, expressing a willingness to showcase some of their practice as case studies and information to others. The Branton SMEs also showed a lot of interest in engaging with the rest of the community, as the majority of them have coped with two recent

flood events. The SMEs were found to be ‘experts by experience’ on the various resilience measures that they adopted. There was a lot of energy among the SME community to share and enhance their learning further. It was interesting to note their recognition of the link between their existing coping strategies and their business strategies. Therefore, their uptake decision with regard to flood resilience seemed linked to their types of business in most instances. These too cannot be standardised, as each SME context is likely to be different.

This research complements some of the work undertaken by Climate UK (Business Resilience Health Check, no date) and the work conducted by the Climate Ready team of the Environment Agency, particularly in relation to their recent initiative on “getting UK businesses resilient to extreme weather and prepared for future risks and opportunities from climate change”. Similar initiatives have been popularised by institutions such as the Cheshire West and Chester Council, known as “weathering the storm” initiative (CLASP, 2013). Although the current self-assessment methods are well developed and tested with several case scenarios, the mere existence of such toolkits does not necessarily enable SMEs to undertake resilience measures. The Climate Ready team acknowledges that there is a gap at entry level for data / tools to engage SMEs, which should be simple but yet effective. The CREW template used in engaging businesses in Braunton is not a self-assessment or ‘healthcheck’ tool, but it is an instrument to identify and propel thoughts and considerations of the SMEs in making informed decisions on flood resilience in a way that is sympathetic towards their SME business strategies. In the SMEs’ own words, what they value is more of a “practical and emotional assistance” to improve themselves to better prepare for future flood events. In this research, SMEs in Braunton identified their unique needs in their uptake of resilience measures. The 7 case study profiles and the learning points enable the showcasing of good practice so that others in a similar context can gain further leaning opportunities.

One of the key observations of the study was that there was no consistency in the way people obtained flood insurance. There was an obvious lack of knowledge on the role of insurance, and an awareness of the difficulties that insurance might present within a context of flooding. As a principle of insurance is the avoidance of ‘betterment’, it is important that some of the Government policymakers play a lead role in extending support to the SMEs when properties are being reinstated / refurbished. New funding mechanisms could be explored to elicit resilient reinstatement / refurbishment, which is currently inhibited by the ‘non-betterment’ principle of the insurance companies.

The above work provides an added dimension to the work that has already been done, and the work on-going; it furnishes case study information that will be of interest to the ongoing work of UK CCRA2 ‘Business and Industry’ theme (Chapter 6 – risks/opportunities to the private sector) (Committee on Climate Change, 2015).

Recommendations & further work

Since undertaking our study, Braunton SMEs and the wider community (in association with the Devon council, Environment Agency and the Parish council), are exploring the utilisation of a new grant to mitigate Braunton's surface water flooding problem. This solution will contribute significantly towards mitigating any future flooding in the area. Notwithstanding the above, the SME resilience building exercises should continue in line with the current initiatives and the current community spirit.

Our study therefore recommends the following:

- The Braunton study identified some innovative measures adopted by the SME businesses. More work needs to be done in relating these measures to the context of flooding and the business sector. The research team recognised the unique understanding that some of the SME business owners had in taking up the measures, as some of them had limitations if the immediate members of the community did not pull together. For example, in the case of a terraced property, an individual SME action such as putting in a door guard might not be meaningful if the neighbouring property owner does not respond similarly to a call to action.
- Most SMEs had insurance, however there was very little standardisation in the way they obtained their insurance. Some decided not to insure in the light of the very high premiums and excesses. The new 'Flood Re' insurance scheme does not apply to commercial organisations such as SMEs; this issue has been a key criticism of the scheme since its inception. However, it is important to understand that the issue of insurance is at the heart of any behavioural change on undertaking resilience against flooding. Leadership and policy should therefore be focused on it.
- Use National Flood Forum and ARCC networks to share good practice among communities and the cross sector participants. Two of the SME representatives have already been invited by the National Flood Forum to share their experiences with participants at a conference (Flood resilience pathfinder project evaluation event, London, December 2015).
- Existing business resilience toolkits are good, but their usage is limited to self-assessment toolkits or business self-help schemes: SMEs need support and engagement. Strategies should incorporate SME engagement rather than passive self-assessment. The Braunton SMEs reported that they valued the 'practical and emotional assistance' that they receive.
- Both the Parish Council's, and SMEs' own initiatives have managed to keep the flood disaster in Braunton at the top of the agenda, despite the fact that three years have passed since the last flood event. Collaborative work that integrates the councils, agencies and local people should continue on the same scale; this includes ongoing work such as community flood warden schemes, websites and other work, to maintain awareness of the Braunton flood risk amidst the normal functioning of the work of the community.

In taking this project forward, we recommend the following questions need further exploration:

- How can insurance companies participate more actively in promoting SME resilience?

- How do we manage the competing needs of the whole community in the event of a flood event / flood disaster?
- How do we encourage SMEs to become resilient to disaster – how can Braunton's initiatives be taken further into more areas in the UK?
- How can the knowledge and the experience from the SMEs in Braunton used nationally?
- How can all of the above be maintained at the top of the agenda on a continuous basis, not just after a flood event?

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Appendix

Extreme weather risk assessment template for businesses

Note: This template should be read in conjunction with the 2-part Interview guidelines – see page 42.

Business areas	Resilience				
	Very high	High	Moderate	Low	Very low
Markets in which you operate					
Demand for goods/services					
Whether the EWEs are capable of having an impact on the demand for goods / services you offer (weather dependency of your products / services)					
Access of customers to goods/services you offer					
How the EWEs affect the ability of your customers to access the goods / services you offer (your markets)?					
Alternative products/services					
Opportunities to offer alternative products / services to address weather extremes (ability of your company to make use of EWEs)					
Business reputation / image					
Possibility of adverse effect on the reputation / image of your business among the customers, if your business is affected by an EWE					
Competitiveness					
Potential of EWEs to affect your ability to compete with your rival companies.					
Investment, liabilities and insurance					
Investment, loans					
Risk of EWEs having an adverse impact on the ability of your business to attract investments, obtain loans					
Insurance					
Potential for increased insurance premiums, withdrawal / refusal of insurance policies					
Liabilities					

	Very high	High	Moderate	Low	Very low
Ability to meet the liabilities towards internal/ external stakeholders					
Statutory compliance					
Requirements to comply with statutory rules and regulations addressing the risk of EWEs					
Stakeholder reputation					
Potential of EWEs affecting the stakeholder reputation of your business (e.g. among authorities, business networks, supply chain)					
Supply chain and logistics					
Transport and delivery systems					
Risk of EWEs disrupting transport and delivery systems in and out of your business					
Supplies of goods and services					
Availability, price and procurement of goods and services for your business					
Utility supply					
Risk of disruptions of utility supplies to your business					
Communication network					
Risk of loss of communication systems					
Businesses in the supply chain					
Potential for failure of businesses in the supply chain due to EWEs					
Your business premises					
Vulnerability to flooding and other EWEs					
How vulnerable your business premises is for flooding and other EWEs					
Stocks and equipment					
Potential of your stocks and equipment being damaged by floods and other EWEs					
Internal environment, working conditions					
EWEs affecting the internal environment of your business premises and thereby creating productivity, health and safety issues					
Business information, data					
To what extent EWEs can affect your business information and data (both paperbound and electronic)					

	Very high	High	Moderate	Low	Very low
Accessibility					
Risk of EWEs disrupting the access to your business premises					
Your work force					
Travel arrangements					
How EWEs can disrupt the travel arrangements of your staff, availability of alternative arrangements					
Employee retention					
How the risk of EWEs might affect the employee retention and your ability to attract new employees					
Awareness					
Awareness of your employees regarding the risk of EWEs					
Skills and competencies					
Availability of necessary skills and competencies by your employees to deal with an EWE					
Roles and responsibilities					
Clear identification of roles and responsibilities of your employees on how to work during an EWE situation					
Production processes and services you offer					
Disruptions to produce / offer services					
Potential of EWEs disrupting the processes of producing goods / services you offer					
Productivity					
Potential of EWEs affecting the productivity of your production processes / services					
Cost					
Whether EWEs lead to increased costs of production					
Quality, product standards					
Potential of EWEs affecting the quality, product standards of goods / services you offer					
Time					
EWEs leading to increased time to produce / offer services					

Interview guidelines

Part I

This section seeks to get the conversation started and identify the perspective of high level management on the effect of flooding.

A. General information

1. Number of employees
2. Number of years in business
3. Number of years in current location
4. Main business activities

B. Flood events and the business

1. Has your business experienced flooding before?
 - a. If yes, when? What was the impact and how did you respond, as an individual / company / community? [ask for the source of the flood (river or sea, flash flooding etc. – may be from 2 respondents)]
2. Do you think that flood risk could have a critical impact on your business?
 - a. What kind of threat do you consider bigger (crime) and smaller.
2. Has the business considered flooding before and done anything about it?
 - a. What could be done to increase the resilience of your business to flooding?
 - b. What difficulties (if any) prevent you from implementing these measures at present, how could they be overcome?
3. What kind of support do you think might help enhance your preparedness for flood events and assist in your recovery after the event?
 - a. Who do you expect to provide such support?
 - b. Who do you trust about these matters?
5. Have any government agencies or utilities approached you about flood events related matters before?
6. If yes, who and what kind of information did they give you, what did you think of it?
7. Are you prepared to act as a hub to provide information to your network / provide leadership in case of future flood risk mitigation or future flooding?
8. Our research is interested in the idea and practice of community. Understanding the relationships between local businesses, residents and decision makers. Could you recollect a typical relationship that you have with?
 - a. A local householder / customer
 - b. Another business
 - c. Local decision-makers (council, MP)
 - d. Are you a member of any kind of business association?
9. Do you think your business is resilient enough to flooding?
 - a. Where do you consider your business (what aspect of your business) particularly exposed and what aspect you feel is strong?
10. Do you own or rent these premises?
 - a. If renting, does the landlord consider flood protection?
2. Is your business insured against flood impacts? Did you experience any changes to premium or excess after a flood event? Did any insurance company refuse to give you insurance cover? What are your experiences?
3. Do you have any questions about making your business more resilient to flooding?
 - a. Would you like to receive more details about our research findings at the end of the project?

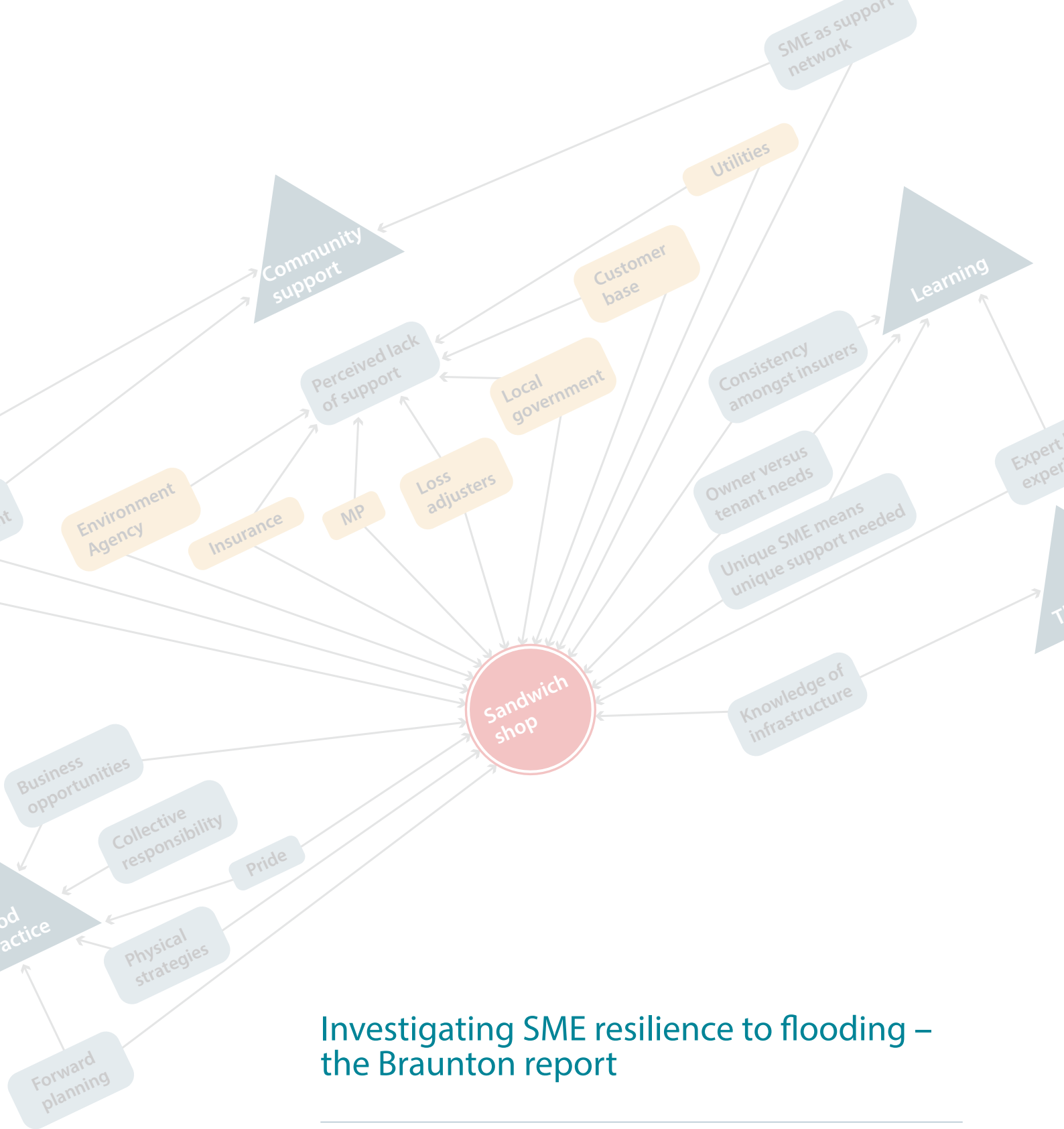
Part 2

Detailed interviews for risk assessment

This section seeks to explore the resilience of the organisation to flooding in more detail. There are five primary questions in the interview, each with 5 secondary questions, which will be used strategically to enable interview flow and avoid duplication.

The order: People > logistics & supply > production > markets > finance > premises

1. How do you think flooding can affect your **workforce / employees**?
 - i. Does the organisation have contingency plans for various flood scenarios? What are your common flooding scenarios?
 - ii. Has the company allocated roles and responsibilities amongst employees on how to deal with flooding?
 - iii. What proportion of your workforce is local, how do your employees travel to and from your office and how is flooding likely to affect this?
 - iv. Do you think that your employees have the necessary skills and competencies to deal with a flooding situation?
 - v. Can you foresee any impacts on employee retention and recruitment during and after a flood event?
2. How vulnerable are your **logistics and supply chains** to flooding?
 - i. Does the organisation have contingency plans for flooding? (ask if they're a new respondent only)
 - ii. Are your or your outsource company's transport / delivery systems liable to disruptions due to flooding? (Which ones, where and when?)
 - iii. How would the loss of utility services due to flooding affect day-to-day operations?
 - iv. How would flooding affect the procurement of goods and services to your business?
 - v. How susceptible are your key supply chains to failure due to flooding? (give an example)
3. How will flooding affect your **production processes and services** you offer?
 - i. Does the organisation have any contingency plans for flood mitigation? (ask if they're a new respondent only)
 - ii. How will flooding affect your production / site activities, projects?
 - iii. What will happen to the cost of production after a flood event? (1) How may flooding cause delays and overruns in your site activities?
 - iv. Do you foresee that flooding will lead to quality issues on site activities?
4. How would flooding affect your **markets**?
 - i. Does the organisation have contingency plans for flooding scenarios? (ask if they're new respondent only)
 - ii. How will flooding affect the demand for what you offer?
 - iii. How will flooding affect customer access to your goods and services?
 - iv. Will your business's image be affected / enhanced by experiencing a flood event?
 - v. Do you think that your response to flooding can affect your ability to compete with your rivals? a. Can you identify opportunities to tailor your products / services to flooding and post flood situations?
5. How would flooding affect the **financial** situation of your business?
 - i. Does the organisation have contingency plans for flood scenarios? (ask if they're a new respondent only)
 - ii. Will the risk of flooding have an adverse impact on your ability to attract a. investment, b. loans, and c. insurance? (check existing flood insurance)
 - iii. How will flooding affect your ability to meet your liabilities to stakeholders. a. How could flooding affect the image of your company to your stakeholders?
 - iv. Will your business be required to address any statutory rules or regulations regarding flooding? For example, accessibility, flood protection, health and safety.
6. How will flooding affect your **business premises**?
 - i. What are the coping measures that are already in place to reduce the risk to your business premises? (1) What are the coping measures you expect to implement in future? For example, flood gates, alternative premises, PP1...
 - ii. How and where are your business premises susceptible to flooding?
 - iii. How will the following be affected in the event of flooding? a. access, b. stocks, c. equipment, d. business information and data, e. workplace environment – the health and safety of your employees?
 - iv. Why is the business located here? a. what level of flood frequency would impact a decision to relocate? b. how much would rents have to increase in this locality for you to consider moving?



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December 2015

ISBN 978-1-906360-12-2