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Case study 2 - The Black Saturday Bushfires
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Case study 1 - The Ford Fairbridge
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Case Study 3 - 2011 Queensland Floods
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How is crowd sourcing used in the floods?
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How is crowd sourcing used in the floods?
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What is crowdsourcing? Thecasesolutions.com

Crowdsourcing was originally developed up a business use case, which considered the new technology of web 2.0 and its potential for business use, but is now used in the context of a crisis response.

Crowdsourcing is defined as a process in which the use of a large number of people, typically via the internet, to solve a problem or complete a task that is traditionally done by an individual or a small group of people (Chaffin & Galletta, 2014, p. 104).

Crowdsourcing is a form of outsourcing that involves the use of a large number of people, typically via the internet, to solve a problem or complete a task that is traditionally done by an individual or a small group of people (Chaffin & Galletta, 2014, p. 104).

Types of Communication
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Roles in a crisis situation

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Challenges of a Crisis

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References

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Conclusion

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What is crowdsourcing? Thecasesolutions.com

1 Crowdsourcing was originally coined by Jeff Holmbeck, which is defined as the act of delegating a task or job to a crowd of people.
2 Crowdsourcing is used in a number of ways, including:
- **Open innovation:** A company invites external people to contribute ideas and solutions.
- **Microtasking:** A company breaks down a large task into small, repetitive tasks that can be done by a large number of people.
- **Design crowdsourcing:** A company asks a crowd of people to design a product or service.
- **Software development:** A company asks a crowd of people to write code for a software application.

3 Crowdsourcing offers advantages and challenges. Advantages include:
- **Cost reduction:** Crowdsourcing can be a cost-effective way to get work done.
- **Speed:** Crowdsourcing can be a fast way to get work done.
- **Quality:** Crowdsourcing can result in high-quality work.
- **Innovation:** Crowdsourcing can lead to new and creative solutions.
Challenges include:
- **Quality control:** It can be difficult to ensure the quality of work done by a crowd.
- **Security:** Crowdsourcing can pose security risks.
- **Legal issues:** Crowdsourcing can raise legal questions about intellectual property and liability.

4 Crowdsourcing is a powerful tool that can be used to solve a wide range of problems. However, it is important to understand the advantages and challenges of crowdsourcing before using it.

Roles in a crisis situation

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1 In a crisis situation, there are several key roles that need to be filled:
- **Decision maker:** The person who has the authority to make the final decision on what to do.
- **Communicator:** The person who is responsible for keeping everyone informed and coordinated.
- **Coordinator:** The person who is responsible for organizing and managing the response.
- **Implementer:** The person who is responsible for carrying out the plan.
- **Evaluator:** The person who is responsible for assessing the progress and effectiveness of the response.

Challenges of a Crisis

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1 **Communication:** In a crisis, it is essential to have clear and consistent communication. This includes:
- **Establishing a communication plan:** A plan that outlines how information will be shared and who will be responsible for it.
- **Using multiple channels:** Using a variety of communication methods to reach everyone.
- **Being transparent:** Providing accurate and timely information to all stakeholders.

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2 **Coordination:** In a crisis, it is essential to have a clear and consistent plan. This includes:
- **Establishing a command structure:** A clear hierarchy of roles and responsibilities.
- **Assigning tasks:** Making sure everyone knows what they are responsible for.
- **Monitoring progress:** Keeping track of how the plan is being implemented.

Conclusion

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1 In conclusion, crowdsourcing is a powerful tool that can be used to solve a wide range of problems. However, it is important to understand the advantages and challenges of crowdsourcing before using it.

2 Crowdsourcing offers advantages and challenges. Advantages include:
- **Cost reduction:** Crowdsourcing can be a cost-effective way to get work done.
- **Speed:** Crowdsourcing can be a fast way to get work done.
- **Quality:** Crowdsourcing can result in high-quality work.
- **Innovation:** Crowdsourcing can lead to new and creative solutions.

3 Challenges include:
- **Quality control:** It can be difficult to ensure the quality of work done by a crowd.
- **Security:** Crowdsourcing can pose security risks.
- **Legal issues:** Crowdsourcing can raise legal questions about intellectual property and liability.

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Case Study 3 - 2011 Queensland Floods

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1 The 2011 Queensland floods were a major natural disaster that caused significant damage and loss of life. The floods were caused by heavy rain and resulted in widespread flooding across the state.

2 The floods had a major impact on the Queensland economy and infrastructure. Many roads and bridges were damaged, and many homes and businesses were destroyed.

3 The floods also had a significant impact on the environment. Many animals and plants were killed, and large areas of land were destroyed.

4 The floods were a major challenge for the Queensland government and its people. It took many months to recover from the damage and loss.

5 The floods were a major disaster that had a significant impact on the Queensland economy and infrastructure. It is important to learn from the floods and to take steps to prevent similar disasters in the future.

Case Study 2 - The Black Saturday Bushfires

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1 The Black Saturday bushfires were a major natural disaster that caused significant damage and loss of life. The fires were caused by a combination of factors, including dry weather and strong winds.

2 The fires had a major impact on the Victorian economy and infrastructure. Many homes and businesses were destroyed, and many people lost their lives.

3 The fires also had a significant impact on the environment. Large areas of land were destroyed, and many animals and plants were killed.

4 The fires were a major challenge for the Victorian government and its people. It took many months to recover from the damage and loss.

5 The fires were a major disaster that had a significant impact on the Victorian economy and infrastructure. It is important to learn from the fires and to take steps to prevent similar disasters in the future.

Types of Communication

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1 **Internal communication:** Communication within an organization. This includes:
- **Meetings:** Regular meetings to discuss progress and address issues.
- **Reports:** Regular reports on the organization's performance.
- **Newsletters:** Regular newsletters to keep everyone informed.

2 **External communication:** Communication with people outside the organization. This includes:
- **Public relations:** Managing the organization's reputation.
- **Marketing:** Promoting the organization's products and services.
- **Customer service:** Providing excellent service to customers.

3 **Digital communication:** Communication using digital technology. This includes:
- **Email:** Sending and receiving electronic messages.
- **Instant messaging:** Communicating in real-time through text.
- **Video conferencing:** Meeting with people from different locations.

4 **Traditional communication:** Communication using traditional methods. This includes:
- **Phone calls:** Talking to people over the phone.
- **Face-to-face meetings:** Meeting with people in person.
- **Printed materials:** Using brochures, flyers, and other printed documents.

Sudarshan Chemicals India: Crowd-sourcing for Corporate Sustainability

What is crowdsourcing?

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Crowdsourcing was originally developed as a business solution, which is considered the next technological evolution beyond outsourcing, but its use in the context of a crisis requires a change in process and design (Sutherland 2013, p. 398).

Crowdsourcing is used to describe a connected crowd, this can either be an individual, an institution or a non-profit organisation or company (Oxendine & Waters 2014, p. 51), which uses online tools and systems to solve problems (Dailey 2014, p. 448).

Crowdsourcing in time of crisis:

“Crowdsourcing, digital volunteerism and emergent online collaborations are rapidly becoming established features of crisis events” (Dailey 2014, p. 448). A major crisis or disaster requires a collaboration of organisations, individuals and society. There is a series of stages in emergency management, these include planning, preparing, detecting, responding and recovery. The quality of the combined information obtained from the responders such as the government, professionals, volunteers or citizens determines the outcome in regards to loss of life or damage to property (Pipek, Liu & Kerne 2014, p. 339).

As crisis management becomes more complex through the use of collaborative technologies such as “social networking platforms, mobile devices, location awareness services, crowdsourcing systems and web based systems” (Pipek, Liu & Kerne 2014, p. 339) enables us to understand, create and evaluate current emergency management and responses (Pipek, Liu & Kerne 2014, p. 339).

Roles in a crisis situation

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Within a crisis situation such as a natural or man made disaster it is of vital importance that information is collated, processed and distributed in a speedy manner in order to allow people to enact the appropriate response to the situation. The Internet and crowdsourcing has improved the flow of such information both in the ways people contribute and gather it (Citizen Journalism & Crowdsourcing). Within such as a situation many people take on many different roles in order for this to happen.

Citizen journalism is described as “gathering, writing, editing, production and distribution of news and information by people not trained as professional journalists” (Curtis, A. 2012). This sort of journalism was seen used to affect in the Kinglake bushfires of 2009 when local radio stations were alerted to and distributed information regarding a fire in Kinglake before the CFA was aware of the situation due to the reports that citizen journalists were contributing (Citizen Journalism & Crowdsourcing).

While the collection of distribution of information is an important part of crowdsourcing there are further aspects that exemplify how this tool can be used in times of crisis. Further to Citizen journalism there is the important way that volunteers play an important role in crowdsourced disaster assistance. In the aftermath of the 2010 Haiti earthquake there was an outpouring of support from “voluntweeters” who took it upon themselves to lend their bilingual abilities to the crisis by translating twitter posts from the disaster affected region to other languages so as to assist emergency response teams with their efforts (Starbird & Palen, 2011)

Challenges of a Crisis

Emergency response planning is usually reactive as there is little time for planning, and it is often unorganised as the size, the location, the nature of the incident, and the time of day are key factors that affect the evacuation (Oxendine & Waters 2014, p. 51).

Some challenges that exist in crisis situations involve determining what has happened, who is affected, where it has occurred, how to reduce the risks for victims and first responders, and how to communicate these risks and plans of action (Oxendine & Waters 2014, p. 50).

There is also the public's expectations. With a surge in the use of social media as a means of sharing information, there is now an expectation that information will be received through social media (Oxendine & Waters 2014, p. 51). With limited information in a crisis situation this often slows the release of information to the public. Therefore utilising social media networks before an event occurs will assist in creating trust between government agencies and citizens (Oxendine & Waters 2014, p. 56).

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Types of Communication

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First responders and volunteers face many challenges to deliver humanitarian aid and begin restoration in times of a crisis. The primary challenge facing responders is dealing with a traumatized population, public health issues such as containing infectious diseases hygienically and treating large-scale injuries and casualties. Secondly the scale of decimated infrastructure of roads and buildings makes responding to a crisis incredibly difficult. In addition to challenging logistics, when a country's electrical grid and land-mobile radio networks are down the communications equipment will fail and cause problems. Even with all the methods of communication, repairs and power related problems such as charging their phones and computers can arise for people using their devices in a crisis. Another problem is the sustainability of providing resources for a large amount of people such as accommodation, food, shelter, water and clothing. When a town or city has been destroyed by a crisis, the logistics of delivering aid where it is needed is inherently difficult and relies on good teamwork and organisation.

Types of communication available to utilise

Depending on the context of a crisis, there are several technologies that victims and responders can use to deliver or receive help.

Social media channels such as Twitter and Facebook are instrumental for updating news and crowdsourcing support by providing real time information of the location and needs of the crisis. Websites and emailing tend to be more beneficial for people outside of the crisis rather than those immediately in it.

Facebook is great for rallying donations and creating groups of supporters, as well helping victims and responders keep in touch with each other. Twitter is brilliant for delivering sharp bursts of information directly to the people who need to see it.

Telecommunication via phone and SMS provides people with communication access to organisations like hospitals, government headquarters, journalists at media outlets and aid organisations like the Red Cross.

Broadcasters across radio and television channels are also extremely useful for communicating information to large amounts of people who don't have an internet connection.

In reference to Case Study 1, the earthquake in Haiti represented one of the first times that sophisticated telecommunications technology could be effectively employed to help victims of a crisis.

The first crowdsourcing element that was used to manage communication during the earthquake was Ushahidi, an African crowdmapping software program.

This program first rose to popularity in 2008 following the violent aftermath of a Kenyan election, and was used to create a user-generated content map of casualties.

Ushahidi was used in Haiti as a multi-media inbox connected to a live map. Twitter users would urgently tweet messages for help or report casualties, and then these tweets would be sent to a responders inbox and mapped out geographically.

Volunteers, or "digital humanitarians" would monitor the incoming information and formed the Ushahidi Haiti Crisis Map, a live map of 2,000 individual reports. Ushahidi provided GPS coordinates for 7 key locations across Port-au-Prince where many Haitians were known to be trapped under rubble. The coordinates were then communicated to the Search and Rescue (SAR) teams.

Additionally, humanitarian information was crowdsourced via SMS. An international SMS number was set up for victims who could then text information to add to the crisis map.

Within days Digicel, the largest telecommunications company in Haiti provided a toll-free SMS number allowed anyone in Haiti to text in their most urgent needs and location.

Another crowdsourcing tool provided during the crisis was a web-based platform that enabled Haitian-Creole speaking volunteers to translate and geo-locate text messages sent to the SMS number.

This was important for fluent communications between volunteers and victims who spoke different languages. Volunteer translators joined the cause after hearing about the need for volunteers via Facebook.

Case study 1 - The Haiti Earthquake

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Case Study 1 - Haiti Earthquake

In 2010 Haiti was struck with a catastrophic earthquake registering a magnitude of 7.0mw. The epicentre was near Port-Au-Prince. It affected 3.5 million people and there was an estimated death toll of 220,000 people leaving 1.5 million people homeless (Haiti Earthquake Facts and Figures).

What crowdsourcing communication was used:

Despite extensive damage in Haiti, most cell tower infrastructure remained intact. A corporation called Crowdfunder assisted by repurposing their service and in conjunction with Digicell set up a system where victims could send a free SMS with a short code 4636 to broadcast their location and urgent needs. This free text service was broadcasted through radio, word of mouth, and by other means to inform victims of this service (Biewald 2010). These messages were then sent to a team of global volunteer translators who translated the message from Kreyol and French into English (Sutherland 2013, 398).

For the Haiti earthquake, the most useful tool used was the open source web based platform called Ushahidi. This sophisticated tool integrated Twitter, Facebook, smartphone apps, texts, blogs, YouTube and videos (Linden 2013). In combination with the SMS and Ushahidi, rescue teams were able to map locations of people needing help, to define structures that are unstable and other vital information (Linden 2013).

Recommendations:

The most difficult aspect of any type of translation is understanding the content, intent and that the correct contextual information is conveyed (Sutherland 2013, 401). If there had been the involvement of cultural information experts or two way communication when addressing aid this would have created a different type of dynamic providing the beneficiaries with a voice instead of just being recipients (Sutherland 2013, 402).



Case study 2 - The Black Saturday Bushfires

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Case Study 2 - The Black Saturday Bushfires

Saturday 7th February 2009 was one of the darkest days in Australian history, when weather conditions in rural Victoria were amongst the worst bushfire weather conditions ever recorded, with temperatures up to 46 degrees celsius and winds in excess of 100km per hour. (Black Saturday Bushfires).

Named the Black Saturday Bushfires, this natural disaster killed 173 people, injured 414 people, destroyed 2,100 homes and displaced 7,562 people (Black Saturday Bushfires).

What crowdsourcing communication was used:

During the Black Saturday Bushfires, local radio stations became the major source of information. In terms of crowdsourcing, citizen journalists provided information through radio journalists when it was identified that official organisations were failing to provide adequate and up-to-date information (Citizen Journalism & Crowdsourcing).

During these bushfires, radio stations used crowdsourcing to help overcome the gaps in information supplied by official organisations such as the Country Fire Authority (CFA). There is an example of a local radio station producer who managed a continuous broadcast on the day of the bushfires. This radio station received many phone calls from citizens who were affected and provided information about the bushfires, as the (CFA) website which was the official source of information started to fall behind in delivering up-to-date information (Citizen Journalism & Crowdsourcing).

The radio station took several calls from an area that went on to be the worst affected town with over 40 fatalities and 500 homes lost (Peake 2014). Citizens from Kinglake called up the radio station advising that a fire had started in their town, so the radio producer called the (CFA) to enquire about fires in Kinglake, to which the (CFA) replied that there were no fires in Kinglake. After the (CFA) identified that their information was incorrect, the radio station was tasked with delivering information supplied by citizens in the affected areas (Citizen Journalism & Crowdsourcing).

Recommendations:

Like all natural disasters there needs to be reliable up-to-date information provided to citizens that are affected. After the Black Saturday Bushfires, Bushfire Connect was established. "Bushfire Connect combined several information channels, which gathered crowdsourced bushfire information through SMS and Twitter, which was then moderated and mapped, and then sent out alerts via email or SMS, the moderation filtered out noise and made alerts relevant and reliable" (Dempsey 2012).

Bushfire Connects mission was to use social media and allow citizens to produce and use up-to-date, trusted and transparent information during bushfires (Mares 2011). This is a great example of how important citizen journalism and crowdsourcing can be used in crisis situations where lives are at risk (Citizen Journalism & Crowdsourcing). However in 2012 Bushfire Connect closed down due to a lack of resources, which again leaves bushfire information up to official organisations which do not utilise crowdsourced information resources (Dempsey 2012), and the need for a crowdsourced alternative.



Case Study 3 - 2011 Queensland Floods

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The 2011 Queensland floods as many Australians know were a devastating series of events that flooded over 30,000 homes, 6,000 business's and towns and regional centers across the state were affected (Hayes & Goonetilleke, 2012, p.1).

How crowdsourcing was used within these events:

Conventionally within emergency situations mainstream media will use traditional forms of information distribution such as radio, television and telephone lines in order to distribute emergency information. This however changed when the Queensland floods saw media services resort to social media such as Facebook and Twitter as alternative streams of information. In particular the hashtag #qldfloods became a focal point for Queensland residents and emergency services to receive and distribute information pertinent to the flooding going on in their area (Bruns et al. 2012, P.7). Further to this utilizing the platform Ushahidi initiatives were formed which were designed to harness the power of crowdsourcing through visualizing the places and content of tweets across Queensland regarding the floods (Ross & Potts, 2011). This platform facilitated citizens becoming suppliers of information and created a real-time public map with which individuals and journalists could quickly bring up information regarding different areas as quickly as citizens could upload it.

Recommendations:

While it has been recognized by emergency services that social media and crowdsourcing is becoming more important these services still need to develop and establish strategies to effectively utilize these tools in order to maximize their social footprint in times of crisis. This updating of policies particularly needs to focus on aspects such as social media training and developing ways to facilitate further community involvement of information contribution and dissemination (Bruns et al. 2012, P.9).