The role of Geospatial Intelligence in improving the relationship between Policyholder and Insurer
PREFACE

The usage of geospatial technologies is rapidly increasing in the insurance market as insurance companies look to combat record catastrophe losses and provide a more efficient service to their policyholders. Currently, geospatial intelligence is mainly deployed during large-scale catastrophic events, this paper suggests that this should be widened to cover the entire claims management process.

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INTRODUCTION

The relationship between customer and insurer is truly tested when the need for an insurance claim arises. Therefore, ensuring that the claim is dealt with in the most effective manner is paramount to customer loyalty.

The insurance market is undoubtedly a competitive industry with customers now able to make use of comparison websites to find the best value insurance cover available. It could be argued that the ease of switching insurance providers has resulted in a decrease in customer loyalty. Therefore, any means of maintaining a competitive advantage is hugely important to retaining existing customers; geospatial intelligence could be the answer.

Geospatial intelligence is defined by Natalia Kussul (1) to consider all aspects of geospatial data processing including intelligent methods and technologies to integrate data and products from multiple sources using machine learning techniques and emerging big data, alongside geo-information technologies. Geospatial intelligence involves the analysis of geospatial data and information to describe, assess and visually depict physical features to provide a highly visualised insight into property and surrounding features. Therefore, there are clear advantages of using geospatial solutions to transform the efficiency and effectiveness of the insurance claims sector.

Currently, insurers can see the advantages of geospatial intelligence and often use such methods as part of their response to disasters, such as with Hurricane Harvey in 2017. However, geospatial intelligence can provide increased insight into more routine, everyday claims and yet this field remains largely unexplored. Insurance companies are investing in many different methods to transform claims management with the ultimate goal of minimising costs whilst improving the customer experience. This paper considers the ways in which geospatial intelligence is currently being used to achieve this goal and also how geospatial technology could revolutionise claims management in the future.
Without doubt finding a solution to reducing insurance losses from disasters is one of the key points of research within the industry. The National Oceanic and Atmospheric Administration reported that the total economic losses from natural and man-made disasters totalled US$306 billion in 2017 mainly due to the Californian wildfires and three hurricanes – Harvey, Irma and Maria (9). Comparing this to the 2016 figure of US$188 billion and the annual average for the last ten years of US$58 billion gives a clear indication of the importance of catastrophe management to insurers (2). The current issues surrounding catastrophe management for insurers concern the high economic cost of their response alongside the increasing difficulty in predicting the scale of losses.

Martin Bertogg, Head of Catastrophe Perils at Swiss Re, highlighted the increase in insurance losses from disaster events creeping above US$100 billion consistently in recent years (2). Whilst he recognised that the industry has coped relatively well with this increase he cited the need for the industry to extend its reach to plug significant protection gaps to ensure both people and businesses are better equipped to ‘withstand the fallout from disaster events’.

Additionally, it is important not to forget the human cost of disasters with Swiss Re noting that ‘Globally, more than 11,000 people have died or gone missing in disaster events in 2017’. Dom Addesso, Chief Executive Officer of Everest Re, echoed this point even after Hurricane’s Harvey, Irma and Maria cost Everest Re US$1.2 billion in catastrophic losses in 2017 (3). David Storey, Claims Manager at RSA Canada, cited the 2016 wildfires in Alberta as an example of the value of establishing a human connection between insurer and claimant in a time of crisis.
In Alberta 88,000 people were evacuated with around 2,400 homes destroyed over a three-month period. RSA Canada managed to reach 90% of claimants within 48 hours through sending loss adjustors into the affected areas (5). In this context geospatial intelligence can play a much larger role in reducing the reaction times of insurers to catastrophe events through better allocation of loss adjusters which in turn improves the relationship between client and insurer.

There are many different factors attributing to the increase in insurance losses including unpredictability of losses, climate change and lack of policyholder preparedness. Mark Risser and Michael Wehner’s (7) paper argues that precipitation levels were increased during Hurricane Harvey as a direct result of anthropogenic climate change. Climate change is one of many challenges facing insurance companies as it can increase losses through both higher frequency and higher magnitude of disaster events. Paul Sandifer’s work (8) studies the effect of catastrophic events on human health, with a particular focus upon the impact of stress on disaster-stricken communities. It goes without saying that making an insurance claim is a very stressful experience for a policyholder, especially if the claim results from a large-scale catastrophe.

For insurers responding quickly and efficiently is paramount to maintaining client relationships; geospatial intelligence plays a vital role in improving the relationship between policyholder and insurer.

**CLAIMS MANAGEMENT: CO-ORDINATING AN EFFECTIVE RESPONSE**

Geospatial Intelligence can be used throughout the claims management process by all important stakeholders from call handlers to managers and loss adjusters. This section focuses upon the many different uses of geospatial technology including assessing the likelihood of claims before they occur and how to mitigate the damages once a claim has been placed.

Swenja Surminski’s study (10) evaluates the importance of assessing vulnerability to floods instead of simply responding to flood events when they occur. Surminski (10) argues that flood management should anticipate risk and raise levels of community preparedness in order to reduce the scale of damage, and therefore reduce the scale of response needed and minimise overall losses.
This theory can be applied to other hazards through insurance companies increasing their usage of geospatial data pre-event to mitigate and anticipate risk. In addition, Heidi Kreibich (18) highlighted how the 2002 Saxony floods in Germany prompted insurers to review the way in which their risk assessments are conducted. Whilst insurance risk assessments have moved on considerably since 2002, evaluating risk as accurately as possible is still paramount to an insurer’s business; use of geospatial data represents an opportunity to redefine the parameters by which risk is determined.

Both reducing and assessing risk are paramount to the functioning of an insurance company; being able to accurately do both of these things significantly reduces insurers costs and improves the policyholder’s experience. Hegger (11) defines preparedness for response as:

‘Risk awareness-raising initiatives, such as the provision of risk-relevant information and knowledge transfer to educate policyholders and the public about preventive and preparatory measures; capacities to warn and alert in case of an event and to stipulate risk-adequate behaviour’.

New applicants for insurance policies could be assessed using geospatial technology platforms in order to determine a client’s overall risk combining different factors such as flood risk, subsidence risk and local crime rates. Geospatial intelligence can provide this information in a highly localised, easily accessible format, and even supply high resolution satellite and drone imagery of the property and surrounding area. This information can also be passed on to policyholders to ensure that they are fully prepared for any event, man-made or natural, that may threaten their area. For example, if an area is experiencing high levels of crime an insurer can contact their client to warn them to be more vigilant. This information can be shared instantly with the client, a point which is particularly important when responding to catastrophic events.

At the first point an insurance call handler receives an alert that a catastrophic event has occurred they must mobilise their resources rapidly to respond as effectively as possible. Geospatial intelligence commences this process even before the first claim is logged with the insurance company. For this particular explanation of claims handling procedures using geospatial intelligence, a flood is used as the catastrophic event example. A geospatial intelligence platform is able to identify the probable areas of significant loss as soon as high precipitation levels are registered, with many possible outcomes outputted. Using this data insurers are able to identify the number of their policyholders who could be affected by the flood and gain an early estimate of losses. Also, with this information insurers could contact their policyholders in order to ensure that they are prepared for the oncoming floods and could even offer resources to minimise damage which would be beneficial for both parties.
The next stage in the claims management response to a catastrophic event involves analysing the resultant claims and identifying any possible fraudulent claims. A geospatial intelligence platform provides data about the claims placed after, or even during, an event to the call handlers, insurance managers and to the on the ground loss adjusters. Instead of loss adjusters simply dealing with tasks chronologically, geospatial technology can allocate tasks based upon geographic location and the most efficient routes between sites. This dataset can be altered in real-time with higher priority tasks fast tracked, providing an efficient communication platform for coordinating the response. From a manager’s perspective, geospatial data can also help to monitor the performance of loss adjusters and possible ways in which loss adjustors could improve their practices.

Foudi’s (19) sociological study considers the impact of flooding on the mental health of the people affected, with 61% of those studied stating that problems with loss adjusters and insurers added to their stress levels. Those studied also cited issues concerning a lack of clarity from insurers, with many unsure of their coverage and entitlements, and a lack of understanding of the role of the loss adjusters. This indicates that insurers need to establish a clear line of communication with their policyholders, especially in times of crisis. Using geospatial intelligence to gain a better understanding of their clients’ needs would certainly help to improve the relationship between insurance companies and their customers.

Ultimately, geospatial intelligence provides a coherent, logical and adaptable platform that can be used to coordinate the most effective response to a catastrophic event. Many different variables can be assessed on this platform without the need to access multiple data sources independently, both saving time and reducing the likelihood of human error occurring. The variety of geospatial technological advances are rapidly expanding, the following sections discusses one of the most exciting avenues of exploration; drone technology.
DRONES: UNTAPPED POTENTIAL

Drone technology has been a hot topic of media discussion in recent years, with high quality drones now available for public use and questions raised surrounding the issue of privacy. Articles written by Ben Chapman in The Independent (12), Sophie Curtis in The Telegraph (13) and multiple BBC reports (14) illustrate this. However, coverage surrounding the commercial uses of drones has been somewhat less in comparison, even though their uses are much more interesting, especially in the insurance claims sector.

On the subject of industrial drone use, Jason Wolf, a property defence attorney, suggests that loss adjusters may have to adapt their skillset to include using drones for initial loss assessments in the very near future. However, Grant Goldsmith, president of risk management agency Overwatch, believes it is more likely that experienced drone operators will assist loss adjusters in their work, especially after catastrophic events (4). Whichever prediction becomes reality the truth is that industrial drone usage is rapidly increasing as their vast potential is finally tapped in to.

Assisting loss adjusters in field assessments of claims is likely to become the prime use of commercial drones in the insurance sector over the next couple of years. Their function is to provide aerial footage and imagery of a claim site, whether that be one property or a whole area, to enable loss adjusters to better assess the value of a claim. It is probable that the safety of loss adjusters will be much improved through drone usage as drones are able to enter sites that would previously have been too hazardous.

Loss adjusters work in hazardous areas, so naturally anything to reduce their level of risk exposure also reduces the number of compensation claims logged by loss adjusters. Unlike some reports claim, drones will not replace the role of the loss adjuster and will instead serve as another tool at their disposal (16). They will provide an extra dimension to the visual assessments that are currently carried out by loss adjusters (17) particularly by enabling more rapid response to CAT events literally as they unfold and in treacherous conditions that are unsafe for field assessment. The key point to takeaway is that drones drastically shorten the overall response time for the insurer, which in turn provides a better overall experience for the policyholder.
The calculation of insurance premiums is another avenue of opportunity in terms of use of drone technology. It is probable that the use of drones will enable insurance companies to calculate personalised insurance premiums for every potential policyholder. Insurance companies specialise in measuring and precisely pricing risk, being able to do this more accurately will minimise losses and ultimately strengthen the stance of the insurance market as a whole (15).

Drone technology also has a role to play with regards to the earlier point concerning identification of fraudulent claims. It is estimated that fraudulent claims currently cost insurance companies around US$32 billion per annum, with 57% of insurers predicting this figure will continue to rise (15). Insurers could put into place a system by which they use drones to capture imagery of their policyholders’ properties on a regular basis and not solely for use after a claim has been made (6).

Data obtained from the imagery captured would enable insurers to determine when damage to a property occurred, comparing archive imagery to images captured by loss adjusters during the on-site investigation (15).

The geographical concept of place is central to the insurance claims process with policyholders’ sense of belonging threatened by damage to their homes. Insurers conveying a level of understanding and concern to their policyholders is critical to customer satisfaction. Decisions can be made faster through use of drone technology, as adjusters are able to send drones into hazardous areas whilst remaining at a safe distance themselves. Put simply, drone technology is another useful geospatial tool for insurance companies to provide the most efficient and rapid response to their clients in their time of need.
CONCLUSIONS

Geospatial intelligence has vast potential for use in the insurance claims sector, however it is clear that many insurance companies are yet to fully integrate geospatial technologies into their operating procedures. The opportunities for use of geospatial technologies in claims management are endless and widely applicable across the insurance industry. Geospatial data can be used throughout the claims process, before, during and after an event has occurred. Highly accurate geospatial data can provide the basis from a more effective and efficient claims handling process for both catastrophe management and daily insurance claims.

For a policyholder the point at which they are forced to make a claim to their insurer is normally as a result of a highly stressful situation. The manner in which an insurance company responds is key to a policyholder’s perception of their insurance company and ultimately customer retention. Using geospatial technology to improve response times will help to maintain all of these aspects.

With geospatial intelligence insurers can gain an insight into the whole claims process and add an extra dimension to their understanding of risk. Understanding a prospective clients’ level of risk before insuring them helps to reduce losses in particularly vulnerable areas, through personalised insurance premiums. The insurer benefits economically with the assessment of risk becoming increasingly localised and the policyholder’s experience is improved thanks to shorter response times and increased preparedness through a better understanding of a personalised risk assessment.

Drone technology is one the most exciting aspects of geospatial intelligence and is clearly a valuable tool to assist loss adjusters in their work. With a minimal first-time cost and obvious benefits, it is difficult to understand why drones are not yet widely used in claims management. Improving the safety of loss adjusters whilst improving a policyholder’s experience through a more rapid assessment of a site are just a few of the many advantages.

With insurance losses at a record high the desire for new ways to minimise losses has never been greater. Geospatial intelligence is surely a worthy avenue of exploration, with full integration into claims management procedures a question of when not just if. Commercial drone usage is rising rapidly as insurers seek to gain an early advantage in such a competitive market. The relationship between policyholder and insurer has always been somewhat strained at times, due to the stressful nature of their encounters. Therefore, using geospatial intelligence to improve this is surely worth exploring, with rapid response times, increased safety and increased levels of preparedness only scratching the surface of the potential of geospatial intelligence. The insurance industry would undoubtedly benefit from increased collaboration between insurer and policyholder as a direct result of integration of geospatial technologies into claims management procedures.
ABOUT GEOSPATIAL INSIGHT

Geospatial Insight is Europe’s leading provider of independent research and alternative data derived from the analysis of satellite imagery and other aerial sources, combining this intelligence with a range of other data sources to provide in-depth market insight and business analytics to clients in the corporate, financial and insurance sectors.

Established in 2012 and headquartered in the UK, Geospatial Insight provides these unique intelligence services to clients around the world. Geospatial Insight is also a member of the European Association of Independent Research Providers (EuroIRP).

VISUAL INTELLIGENCE FOR INSURANCE

Geospatial Insight is leveraging innovations in drone, satellite and aerial imagery and combining with big data capabilities to revolutionise the Insurance sector.

We enhance traditional insurance data collection and assessment methods by providing a new source of actionable information that is backed by visual evidence. This Visual Intelligence provides insurers, loss adjusters and brokers with improved capabilities to monitor, analyse and respond to risk.

www.geospatial-insight.com
Bibliography


