AI and Crisis Management

It is becoming increasingly apparent that artificial intelligence (AI) **the simulation of human intelligence processes by machines, particularly computer systems'.** has the potential to influence many areas of the world that we live in - crisis management is no exception. Indeed, we are already starting to witness the types of advantages and possible disadvantages AI offers to organisations in their attempts to become crisis prepared.

There are many that believe that the foundations of AI have been utilised within the field of crisis management for a while now.

Eric Smith (SE24 -Head of Global Recall) highlights the fact that *'AI in one form or another has been around for a long time. Our interest in big data was perhaps the start of utilising predictive thinking making use of algorithmic computer applications'.*

Smith goes on to suggest that *'The relationship between big data and artificial intelligence (AI) is a symbiotic one, where big data provides the fuel for AI algorithms and AI techniques help make sense of the vast amounts of data. However, analysing, and extracting insights from big data can be challenging and time-consuming for humans alone. This is where AI comes into play'.*

Overall, AI can be a valuable tool in crisis management by providing real-time insights and predictions to decision-makers and helping to coordinate and allocate resources more effectively. However, it is important to note that AI is not a substitute for human decision-making and that ethical considerations must be considered when deploying AI in crisis management.

It may be argued evidence exists relating to the positive contribution that AI is able to make in the time of crisis.

In the case of the COVID-19 pandemic, AI and big data were identified as valuable tools for crisis management. The pandemic created severe impacts on global health, social, and economic safety. AI and big data were used to address major business challenges during the pandemic, such as production and supply-chain disruption, business model selection, inventory management, budget planning, and workforce management. The use of AI and Big Data were used to enhance supply chain management, inventory management, business models, workforce management, and budgeting, thereby enabling resilient business operations.

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Several advantages of using AI in crisis management include:

1. Speed: AI can help in providing real-time analysis of data, which can help to provide a quick response during a crisis. For instance, AI-powered tools and systems can track the spread of a virus during a pandemic and provide real-time updates to the authorities.

2. Predictive capabilities: AI can be used to forecast and predict the occurrence of a potential crisis. By analysing data from a range of sources, AI systems can identify emerging patterns and predict potential crises before they escalate.

3. Ability to handle large data sets: Crisis management involves dealing with a large amount of data from multiple sources. AI can be used to manage and analyse this data effectively and efficiently. This can help to provide accurate and timely information about the crisis.

4. Improved decision-making: AI can assist decision-makers in crisis management by providing valuable insights and analysis. This can help them make informed decisions that can bring positive outcomes.

5. Cost-effective: AI has the potential to reduce costs associated with crisis management. By automating repetitive tasks and reducing the time taken for decision-making, AI can help to save costs and resources.

6. Remote management: In certain types of crisis situations, it may be difficult for humans to access the affected areas or perform certain tasks. AI can be used to remotely manage and monitor such situations, reducing the risk of human exposure to danger.

Overall, the advantages of AI in crisis management are significant, and it can play a crucial role in ensuring an efficient, effective, and timely response to a crisis.

There are also several potential disadvantages associated with using AI in crisis management. Some of these disadvantages include:

1. Limited human input: AI systems may not always consider the unique nuances of human behaviour in crisis situations. This can lead to inaccurate predictions or responses that are not appropriate for the specific context.

2. Data quality issues: AI systems require high-quality data to provide effective analysis and predictions. In crisis situations, data quality may be compromised or limited, which can affect the accuracy of AI-powered tools and systems.

3. Technological limitations: AI systems depend on advanced technology and infrastructure to provide effective crisis management solutions. In certain situations, such as developing countries or rural areas, the technology and infrastructure required for AI may not be available or affordable.

4. Ethical concerns: The use of AI in crisis management raises ethical concerns, including questions of data privacy, surveillance, and algorithmic bias. These issues must be carefully addressed to ensure that the use of AI in crisis management is ethical and just.

5. Human replacements: As AI becomes more advanced, there is a risk that it may replace human labour in crisis management roles. This could result in job losses and further exacerbate existing inequalities.

Overall, the disadvantages of AI in crisis management highlight the importance of striking a balance between the use of AI and human expertise and judgement in crisis situations. The limitations and

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risks associated with AI must be carefully considered and addressed to ensure the development of equitable, ethical, and sustainable crisis management solutions.

The development of crisis management and AI will likely continue to be closely intertwined as AI technology advances and becomes more integrated into various aspects of our lives.

Looking to the future, Eric Smith suggests that *'there are ways in which crisis management and AI can evolve together'* – these include:

1. More tailored and personalized response: With the help of AI, crisis management systems could provide more personalized response to individuals affected by crisis situations. For instance, AI could analyse individual data to understand the specific needs and requirements of people during a crisis and provide tailored support accordingly.

2. Improved situational awareness: AI can provide real-time data analysis and insights that can improve situational awareness and help decision-makers take timely and informed actions. AI-powered systems could also provide predictive models to anticipate and prevent future crisis situations.

3. Better coordination: AI can facilitate better coordination between various stakeholders involved in crisis management. For instance, AI-powered platforms can help connect emergency responders, government agencies, and community organizations to efficiently allocate resources and address critical needs.

4. Ethical considerations: As AI becomes more integrated into crisis management, it will be important to ensure that it is being used ethically and without bias. This requires careful consideration of ethical guidelines and standards in the design and deployment of AI-powered crisis management solutions.

Overall, the development of AI in crisis management presents exciting possibilities for improving the effectiveness and efficiency of response efforts. However, it is important to recognize the potential risks and challenges associated with integrating AI and ensure that it is used thoughtfully and responsibly.