Chapter 6
Machine Learning Studies in Business During the COVID-19 Pandemic

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ABSTRACT

The accuracy of decision-makers in making managerial decisions and applying these decisions in uncertain environments will increase with the use of decision-making tools often and effectively. Machine learning, as one of these tools, provides a more effective definition of uncertainty conditions in the use of data in decision-making processes, on the basis of artificial intelligence. The rapid development of machine learning techniques enhances the Smart working models to help employees to execute functional jobs by processing information into each workflow. The change in business operations during and after the Covid-19 outbreak will enable machine learning techniques to be used more in predicting uncertainty. This attempt will be beneficial in pointing out new research trends of machine learning in the business context for the future.

1. INTRODUCTION

The effects of the COVID-19 pandemic have been seen all over the world since 2020. Countries have chosen different courses of action like online education and working, isolating the streets, restraining tourist activities, reducing the crowds in places and so on (Riswantini et. al., 2021). People's tendencies have changed from investing to saving money which causes a decrease in economic improvement. Since saving

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money has affected the economy negatively, it's not sure that people will maintain their conservatism as in the previous period. Alterations in behaviour concerned to pandemic outbreaks appear to be linked to individual preservation (Funk, Gilad, Watkins, & Jansen,2009). The people of the current community have focused their lives around comfort rather than thinking about the annoying future (Donthu and Gustaffson, 2020).

Different areas of community have been affected by the COVID-19 outbreak in various directions. The business is one of the areas which have challenged difficulties during this period (Riswantini et al, 2021). Healthcare workers have faced extended work shifts and never-ending assignments. Moreover, percentage of unemployment is as high as the Great Depression of the 1930s. The areas with the huge increases in losing jobs are those that need the client's physical existence while interest for these services is decreasing (for example, accommodation, tourism and leisure) (Donthu and Gustaffson, 2020).

It is important for business owners to predict turnaround in client's actions since the actions and trading habits of the clients have been changed in this erratic pandemic outbreak. Business owners have turned to leveraging the online channel to maintain their business in the competition and have included product recommendation property to advance their services and client satisfaction. The pandemic has slowed down the investment rates and the finance environment is not stable because of the confused stakeholders. Although some investors detain their share, the other investors profit by this period.

The knowledge brought by the pandemic outbreak endorses this, as many companies fail to realize that their business functions were not suitable to deal with the crisis. Data science, which becomes crucial in this environment, presents huge conflicts for the business actions involving the ones based on data quality and integration. Data science is only an instrument which can be utilized for both constitution and demolition. Just like data science, artificial intelligence and machine learning have also been the focus of similar discussions.

Inevitable rise of artificial intelligence and machine learning leads companies to revise their hiring policies and employ data scientists. A breach for expertise in data science becomes an issue causing struggles in challenging new technical companies for a lot of empty positions and experts. On the other hand, this situation will not continue so long since machine learning will automatize the duties of data scientists. Apprehending difficulties in organizational processes, building mathematical models of those processes and utilizing the newly built models will stay pertinent in the age of automatization (McKinsey et. al., 2020). Eagerly naming this kind of magnification challenges will not only give business processes "street credit", but will enhance its organizational legitimacy and provide it with an opportunity to deal with the unexpected (Minbaeva, 2021).