Chapter 5
Data Literacy and Digital Transformation in the Insurance Industry

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ABSTRACT

With the data-driven business of the times, data literacy has emerged as a crucial skill set, especially in complex and information-based industries like insurance. The current research focuses on the impact of data literacy in enhancing decision-making capability in an insurance firm. A sample database of 1000 employee records was constructed with features like job title, experience, tools used, training hours, and decision rate. After preprocessing and PSO-based feature extraction, Bi-Stacked Artificial Neural Network (Bi-Stacked ANN) was employed to estimate data literacy in comparison to business impact. It was able to predict performance outcomes and identify key literacy features with influence on high-impact decisions. Findings show higher data literacy, especially training experience and tool competency, is positively related to decision-making performance. The study confirms the worth of investment in data literacy initiatives to unlock the maximum potential of analytics across insurance processes

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INTRODUCTION

With the advent of the highly competitive and fast-paced insurance environment of the current times, information is most likely the most coveted resource to have. With digitalization slicing deeper into things, data tapping has turned into the bare essentials for insurers who want to drive decision-making, automate functions, and fuel customer experience. Data literacy or reading, interpreting, making, and communicating data is something that needs to be acquired in order to become as an insurance professional. With data culture literacy, insurance firms better understand data analytics, can foresee risks, and make well-informed decisions, and hence business growth and sustainability in the long term.

Technologies of big data, artificial intelligence, and machine learning transformed the practice in the insurance industry significantly. Insurers now have access to gigantic structured and unstructured data from policyholder information to claim history to even social media information. But with more and more information surrounding us, most insurance professionals themselves are still not good enough to read and understand the information as much as they wish. A deficiency in such data literacy can be a restraining factor to an insurer in gaining maximum advantages of analytics from their end. For being capable enough to come through this, insurance firms have to invest in data skill development and have to genuinely make attempts at employee data skill development.

The most critical component of the data literacy of insurance is that one must be capable enough to effectively analyze the risk data. Insurers employ data to quantify the risks involved in insuring individuals, property, and enterprises. Insurers can anticipate and measure risk and set premiums, and minimize the possibility of loss by utilizing analytics. Insurers can also detect new risks, foresee trends in the market, and help create tailored policies for customers according to their respective risk exposures using predictive models and artificial intelligence-based analytics. Data literacy helps one read and use such tools.

Another significant advantage of data literacy in insurance is increased operational effectiveness. The insurers receive an enormous amount of claim data, and it can be time-consuming and cumbersome to process the same manually, which can take years. Insurance companies, with data-driven decision-making powers, are able to convert the claim processing into a streamlined process, do away with repeated processes, and obtain faster settlements. Machine learning solutions, for instance, can assist by detecting fraud claims at an early stage, hence saving valuable time and money. Not only is this operationally cost-effective but also improves the overall customer experience by offering faster and more accurate claims results.