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# Tech, Inclusive Insurance and Actuaries

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Low-income people face numerous challenges in accessing appropriate financial products. In overcoming these challenges, an increasing number of innovations and technologies have emerged in the arena of microinsurance. A growing discussion highlights the evolving intersections of the actuarial profession with technological innovation around microinsurance. The Society of Actuaries (SOA) commissioned the MicroInsurance Centre at Milliman to develop a literature review on emerging technologies that interact with the actuarial profession within the space of microinsurance. As an extensive literature review assembled with key-person interviews, this research intends to spark readers' interest in, and create a vision for, how microinsurance and its associated technologies

may impact the actuarial industry in the future. This research gives an overview of the technology, a description of how the technology impacts the specific aspect of the microinsurance process and possible implications and applications for actuaries as a result of the technology.

Concrete examples of disruptive technologies being applied in the inclusive insurance space around the world are split into four key themes:

- **Rating:** big data, machine learning, remote sensing technology and pricing tools
- **Distribution:** mobile networks, telemedicine and digital marketing channels
- **Claims adjustment:** claims administrative systems, smart-phone applications, satellite technology, machine learning, data mining, internet of things (IoT) and blockchain
- **Payment facilitation:** mobile money, airtime and others

Through this research, the authors explore the role of actuaries in microinsurance within the new world of cutting-edge



technologies. Some actuaries argue that microinsurance has typically been simple and short term in nature—namely, credit life and hospital-cash products. Thus, as long-term risk managers, actuaries have a limited or even no role to play.<sup>1</sup>

On the flipside, practitioners like Veronique Faber, former executive director of the Microinsurance Network, believe that “most microinsurance services are developed without proper actuarial experience. ... Actuaries, who deal with business risk, are the pillar of insurance companies worldwide.”<sup>2</sup> Nigel Bowman, chair of the International Actuarial Association’s microinsurance working group, argues that the key to the role of actuaries in microinsurance lies in the word “proportionality.” That is, the level of actuarial skills required depends on the level of risk inherent in the insurance product offered, as well as the extent to which product providers can manage potential risks.<sup>3</sup>

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With tremendous advancements in technology, particularly with machine learning, the future role of actuaries has often been questioned. Is the actuarial profession becoming obsolete in the wake of technological innovations? The role of actuaries in microinsurance is no exception. Undoubtedly, the work of actuaries will be advanced or made more efficient with technologies like machine learning or predictive analysis. However,

actuaries bring greater value than acting as a simple “calculator.” While the profession is often perceived to offer technical skills, it is the blend of high technical capabilities, ethics and integrity, effective communications, and qualitative judgment that makes this profession valuable.

At the same time, actuaries must embrace—intervene and interface with—technologies in order to stay relevant in this changing world. As technology grants access to quality data, actuaries can help with developing models that translate the data to actually inform business decisions. Experience has further shown that even with technology, a customer-centric approach is important in combination with methodologies that are actuarially sound. As new products and new environments continue to emerge— inclusive of the microinsurance industry developing alongside innovative technologies—actuaries must continue to evolve in their ability to serve all aspects of the insurance market. ■



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#### ENDNOTES

- 1 Garand, Denis. Email interview. April 4, 2019.
- 2 Blacker, J., and M. Yang. 2015. Introduction. In *Actuaries in Microinsurance: Managing Risk for the Underserved*. New Hartford, CT: ACTEX.
- 3 Bowman, N. The Role of Actuaries in Inclusive Insurance. *Inclusivity Solutions*, n.d., <http://inclusivitysolutions.com/the-role-of-actuaries-in-inclusive-insurance/> (accessed July 30, 2019).