

Abstract

Climate change is one of the largest defining issues within current society. Greenhouse gases generated through the burning of fossil fuels and other related human activities has resulted in increased temperatures, rising sea levels, and shifting weather patterns. The climate crisis poses a great risk to intrinsic sources of human livelihood and continues to negatively affect the environment and by extension the agricultural sector. The agricultural sector within South Africa has yet to develop its resilience to climate change and therefore continues to remain at risk. Seasonal forecasts provide an opportunity for farmers and agricultural experts to enhance their resilience to climate change. Crop farmers could incorporate such information into their decision-making processes. The TAM-Trust Model, an extension of the Technology Acceptance Model by Davis (1989), was used to explain how seasonal forecasts were perceived by farmers. Through a qualitative methodology, data were gathered using focus group workshops. A Thematic Analysis was conducted to uncover the various areas of interest related to the TAM-Trust model with groups of farmers from the Eastern and Western Cape. The research aimed to examine farmers' perceptions regarding the perceived trust, perceived ease of use, and perceived understandability of the seasonal forecasts (SFs), and the differences in farmers' perceptions between the Eastern Cape and Western Cape. Such information could aid climate scientists in enhancing the SF model in relation to farmers' needs, which may ultimately lead to greater adoption of SFs. Data were collected from a total of 150 participants: 54 from the Western Cape and 96 from the Eastern Cape. The results indicated that both farm groups were not inclined to trust SFs due to a lack of reliability, accuracy, and reduced trust in scientific knowledge. The farmers noted that their levels of trust were reliant on their experiences with the SF. However, they provided various aspects of development that they believed would enhance their trust in the SFs. Western Cape farmers were interested in knowing how SF information was derived, whereas EC farmers would be more inclined to trust SFs if they aligned with indigenous knowledge. The presentation of the SFs were perceived as difficult to understand by both farm groups who preferred simpler, less time-consuming presentations of forecasts. Training was cited as an important criterion to enhance the understandability of the SFs by EC farmers. Accessibility reduced the usefulness of SFs for both WC and EC farmers, however, accessibility could be enhanced through developing effective dissemination channels. Language barriers and a lack of accuracy further reduced the usefulness of SFs. However, SFs were ultimately useful during preparation and decision-making. Exact seasonal timeframes, information of particular climate conditions and the localisation of SFs were all factors that could enhance the usefulness of SFs.

Keywords: *Seasonal Forecasts; Crop Farmers; TAM-Trust Model; Perceived Trust; Perceived Ease of Use; Perceived Understandability; Eastern Cape; Western Cape*