ADOPTION OF DIGITAL ADVISORY SERVICES INNOVATIONS AMONG AGRICULTURAL EXTENSION WORKERS IN SOUTH-WEST NIGERIA

BY

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ABSTRACT

The use of digital innovations is crucial for agricultural extension workers considering their ability to enhance the accessibility and efficiency of agricultural extension services through the provision of timely and useful information to farmers. Hence, this study assessed the adoption of Digital Advisory Services (DAS) innovations among agricultural extension workers in South-west, Nigeria. Simple random and purposive sampling techniques were used to select 125 Agricultural Extension workers for the study. A structured questionnaire was used to obtain primary data on respondents' personal characteristics, accessibility to required devices, adoption of DAS, frequency of using DAS, perceived characteristics of DAS, perceived benefits of DAS, and constraints to the adoption of DAS. Data were analysed using frequency counts, percentages, mean, Chi-square statistics and Analysis of Variance (ANOVA). Results show that 68.0% of the respondents were male, 61.6% had first-degree qualification with a mean age and work experience of 41 years and 11 years respectively. The most accessible devices required for DAS innovations were android mobile phone ($\bar{x} = 2.96$) and internet services ($\bar{x} = 2.71$). All (100.0%) of the respondents were aware of the DAS innovations primarily through their fellow extension agents (60.8%) and training programmes (64.0%). Most (90.4%) of the respondents were at the interest stage with regards to the adoption of Maize Farm Assistant, Akilimo and Cassava Matters apps while 87.2%, 83.2% and 73.6% were at the evaluation, trial and adoption stages for Akilimo app. The most frequently used DAS innovation was Akilimo android app ($\bar{x} =$ 1.39). All (100.0%) the respondents perceived Maize Farm Assistant and PBR Cowpea apps to be affordable. Furthermore, Akilimo app ranked first in complexity ($\bar{x} = 1.45$) and relative advantage ($\bar{x} = 3.05$), while Maize Farm Assistant ($\bar{x} = 2.89$) and PBR Cowpea ($\bar{x} = 2.89$) apps ranked first in trialability. Also, Seed Portal ($\bar{x} = 3.20$) and

Cassava Matters ($\bar{x}$ = 3.20) apps ranked first in accessibility, while Seed Portal ($\bar{x}$ = 2.90) ranked first in compatibility. The most perceived benefits of using DAS were making work easier ($\bar{x}$ = 4.44), helps reach more farmers ($\bar{x}$ = 4.35), offers high quality advice to farmers ($\bar{x}$ = 4.35) and saves time and energy ($\bar{x}$ = 4.32). The major constraint to the adoption of DAS was high cost of data ($\bar{x}$ = 2.71). Overall, 54.4% of the respondents had low level of adoption of DAS innovations. Chi-square statistics showed significant ($p \leq 0.05$) associations between respondents' accessibility to android phone (χ^2=19.07; df=3), internet connection (χ^2= 10.82, df=3)) and adoption of DAS innovations. ANOVA results show significant ($p \leq 0.05$) differences in the perceived benefits (F=6.96) and constraints (F=2.93) to DAS across the levels of DAS adoption. The study concluded that most of the extension workers in southwest Nigeria had low level of adoption of Digital Advisory Services innovations despite their awareness and recognized benefits of the technology. The study therefore, recommended targeted training and access to digital tools to increase DAS adoption among agricultural extension workers in Southwest Nigeria.