

Research Application Summary

Cocoa farmers' assessment of extension delivery in selected districts of Brong-Ahafo Region, Ghana

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Abstract

This paper analyses perception of 120 farmers engaged in cocoa farming in two districts of Ghana on extension service delivery. Overall, they were satisfied with quality of extension delivery, especially the e-extension. However, print media was perceived as only infrequently used and ineffective.

Key words: Cocoa farming, extension delivery, Ghana

Résumé

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Cet article analyse la perception de 120 agriculteurs engagés dans la culture du cacao dans deux districts du Ghana sur la prestation de services de vulgarisation. Dans l'ensemble, ils sont satisfaits de la qualité des services de vulgarisation, en particulier de la vulgarisation électronique. Cependant, les médias imprimés ont été perçus comme peu utilisés et inefficaces.

Mots clés : Cacaoculture, services de vulgarisation, Ghana

Background

The Ministry of Food and Agriculture indicated that 45 percent of the total workforce in Ghana comes from the agricultural sector of which smallholder farmers are a majority (MoFA, 2016). Cocoa (*Theobroma cacao*) continues to be a major crop grown in Ghana. Ghana ranks as the second highest exporter of cocoa worldwide behind Ivory Coast (Pohlan *et al.*, 2010). However, Ghana is yet to attain its 1 ton per hectare potential as well as attain the one million metric tonnes it made in the 2009/2010 cropping season (COCOBOD, 2018). This requires pragmatic measures including attending to extension needs of cocoa farmers. Agricultural Extension has been variously defined. Christoplos (2010) refers to Agricultural extension as “systems that facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agribusiness, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices”. Cocoa

Extension delivery refer to the dissemination of cocoa farming innovations on Good Agricultural Practices (GAP), certification, purchases, farm enterprise management, facilitation of cocoa farming inputs and provision of other cocoa related services using appropriate extension methods, including training materials by extension service providers.

Cocoa extension as for other extension and advisory services provided in Ghana is decentralized-provided by Cocoa Health and Extension Division (CHED) of COCOBOD, and pluralistically-participated in by arrays of private profit-oriented businesses and the third sector-NGOs, FBOs, CSOs, among others. As such CHED is responsible for the control of cocoa swollen shoot virus disease, rehabilitation of old and unproductive cocoa farms and other extension services. It also has the oversight and Management responsibility of new Cocoa Extension System of COCOBOD in the context of a Public Private Partnership. The CHED provides an efficient and cost-effective extension to cocoa farmers by assisting them to acquire knowledge and skills in good agricultural practices (COCOBOD, 2018).

Ghana has seven Cocoa Regions: Western South, Western North, Central, Volta, Eastern Ashanti and the Brong-Ahafo Regions. The Brong-Ahafo Region is amongst the leading cocoa producing areas in Ghana despite major harvests emanating from the Western Regions of Ghana. The Brong-Ahafo Region has benefited from major government interventions- Cocoa Hitech, Mass Spraying, and Farmer Business Schools and cocoa extension delivery services with an aim of boosting productivity and raising the incomes of cocoa farmers in the region. Despite these interventions the region still lags behind in cocoa productivity. Extension delivery as an important factor in farming improves the technical and management capabilities, increases competencies of farmers to adopt generated innovations, and contributes to yield and incomes increases, general improvements in standards of living and livelihoods of farmers (Anderson, 2008). Therefore the quality of extension delivery is a major determinant of cocoa productivity. This study therefore sought to examine extension delivery in the region particularly in the Nkrankwanta CHED District which covers DorInaaa East and the Goaso CHED District These two districts are among the major cocoa producing districts in the region.

Service quality is usually measured to determine users' perceptions and experiences of various dimensions of the service provided. Service is defined as a useful immaterial product, which is produced by human labour (activity) in the production process, by affecting the structure of a specific object (human or material object) in order to satisfy human needs (Daszkowska, 1998 cited in Ingaldi, 2015). Stoma (2012) cited in Ingaldi (2015) further indicates that evaluating levels of service quality depends on objective and subjective factors, levels of requirements set by the customer as well as the mood of the customer. Empirically, the Service Quality (SERVQUAL) and Service Performance (SERVPERF) approaches have been used extensively to measure service quality (Jain and Gupta, 2004; Ahuja *et al.*, 2011; Handrinis *et al.*, 2015; Theerthaana, 2015).

Parasuraman *et al.* (1985) indicated service quality as a difference between consumer expectations of 'what they want' and their perceptions (Experiences) of 'what they get, and hence proposed a service quality measurement scale called 'SERVQUAL' which has the Reliability, Responsiveness, Assurance, Tangibility and Empathy dimensions with 5, 4, 4, 4 and 5 items respectively and 44 items in total for both Expectation and Experience components (Adil *et al.*, 2013). On the other hand the SERVPERF (Service Performance) model proposed by Cronin and Taylor (1992) is an improvement on the SERVQUAL scale. The two authors indicated that the Expectation (E) component of SERVQUAL needs to be discarded and leaving the Performance (P) or the Experience component. Therefore, the SERV PERF scale being a variant of the SERVQUAL model has Performance only component

which comprises 22 items (questions). A higher perceived performance implies higher service quality. Methodologically, the SERVPERF model is able to explain greater variance in the overall service quality measured through the use of single-item scale (Adile *et al.*, 2013).

This study therefore sought to examine cocoa farmers' assessment of extension delivery in the Nkrankwanta and Goaso CHED districts in the Brong-Ahafo Region of Ghana. Particularly, the study sought to describe the socio-economic characteristics of cocoa farmers in the area; determine the frequency of training methods used in the training of cocoa farmers; determine the effectiveness of use of Training materials; and estimate the levels of association of selected farm- and farmer-specific backgrounds, frequency and effectiveness of extension delivery on the quality of extension delivery to cocoa farmers in the two districts.

Methodology

Population and sampling. The main population of the study was cocoa farmers who receive extension services from cocoa extension providers—public and/or public and private. A simple random technique was used to select two communities each in the Nkrankwanta and Goaso CHED districts. Sixty (60) farmers from each COCOBOD CHED District hence a total of 120 farmers were selected randomly for the study.

For data collection, a structured interview schedule was developed to collect information from farmers through face-to-face interviews. Data were collected from the Frempongkrom and Techimanfuokura communities in the Nkrankwanta CHED District, and Fawohoyeden and Ayumso communities in the Goaso CHED District.

Data analysis. The socio-economic characteristics, effectiveness of training materials and frequency of use of extension methods were analyzed descriptively. A six (6) extension delivery quality constructs was adapted from Wong *et al.* (2012) — Reliability (4 items), Responsiveness (4 items), Assurance (4 items), Tangibility (3 items), Communication (4 items) and Empathy (3 items). These were used to measure extension delivery quality in the selected Districts on a Likert Scale. Farmers indicated their level of experiences of the quality of extension delivery on six dimensions based on 22 questions using a five-point Likert-Type Scale (5 = Strongly Agree, 4 = Agree, 3 = Moderately Agree, 2 = Lowly Agree and 1 = Very Lowly Agree). The five scales are explained below:

1. Strongly Agree (SA): The experiences of cocoa farmers of the quality of extension delivery very highly met their expectations
2. Agree (A): The experiences of cocoa farmers of the quality of extension delivery highly met their expectations.
3. Moderately Agree (MA): The experiences of cocoa farmers of the quality of extension delivery somewhat met their expectations.
4. Lowly Agree (LA): The experiences of cocoa farmers of the quality of extension delivery fell below their expectations
5. Very Lowly agree (VLA): The experiences of cocoa farmers of the quality of extension delivery highly fell below their expectations

The Extension delivery quality (ExDeQUAL) was estimated as follows: First, the score for each of the 22 Experience statements (items) were obtained; second, the average score for each of the dimensions were estimated by summing the scores of the statements making up the dimensions (constructs) and

dividing by the number of stateirients making rip the questions; third; the mean of the scores were found per total number of respondents, and fourthly, the average score for the ExDeQU AL in step two were summed and divided by 6 (the six dimensions) to obtain the SERVPERF Score.

The mean of the six extension delivery quality constructs (Reliability, Responsiveness, Assurance, Tangibility, communication and empathy) were computed. The values indicate the levels of the quality of the cocoa extension delivery in the selected districts. That is, mean values ranging from 1 to 1.44 indicate the extension quality did not meet expectation; 1.45 to 2.54 indicate extension quality barely met the expectation; 2.55-3.54 indicate extension qti al i ty met expectation, 3.55-4.54 indicate extension quality fully met expectation; and 4.55-5.0 indicate strongly agree extension quality met more than their expectations.

Results and discussions

Socio-economic characteristics. The results show that a greater majority (78.3%) of cocoa farmers were males with the other 21.3 percent being females. The mean age of farmers was 52 years. Almost all the farmers (98.5%) were married. A majority of the farmers (53.3%) had attained formal education while 40.0% had not attained any form of formal education. The mean household size of the cocoa farmers was eight persons. The results further indicate that all farmers had access to mobile phones. However, only 4.1% used Android or interactive phones. The mean farming experience of farmers was 22 years whilst that of experience with cocoa farming was 20 years. A majority of farmers (7 1.7%) farmers had access to credits facilities for financing their cocoa fanning activities. The results indicated that farmers received extension services from both Public and private cocoa extension providers. All farmers received cocoa extension from the Cocoa Health and Extension Division, Licence Buying Companies and other farmers. Further, 98.3% of the farmers also received extension from the Ministry of Food and Agriculture and input dealers. A number of farmers (44.2%) received cocoa extension from Non-Governmental Organisations such as Modellez Cocoa Life, Care International, amongst others. These organisations share cocoa innovations on good agricultural practices (nursery, field and post-harvest), certification (Fairtrade), purchases and cocoa'farm enterprise management to improve their competencies and competitiveness.

Frequency of use of extension methods and effectiveness of extension training materials. A number of extension methods were used in sharing cocoa innovations and information to farmers in the two districts. Cocoa farmers indicated that they received information and advise through methods as: Home visits (Lowly frequent), farm visits (Somewhat frequent), Demonstrations (Frequent), field days (Very lowly frequent), Lectures (Very lowly frequent), Office calls (Lowly frequent), Phone calls (Lowly frequent), meetings (Somewhat frequent), Drama (Very Lowly frequent), rallies (Lowly frequent) and E-Extension Radio (Frequent). Also bolt print and non- print training materials are used in training cocoa farmers in the region. banners indicate the effectiveness of this extension training materials in improving their competencies for adoption as Books (Very lowly effective), training guides (lowly effective), folders (very lowly effective), Posters (Very lowly effective), Calendar (Lowly efi'ective), Radio (Very effective) and Newsletters (Very lowly effective). It is therefore imperative to iin prove the use of Non-print materials and employ ICTs in extension delivery (Siivedi and Ghiinire, 2011).

Extension delivery quality. The results of study show the mean scores for Reliability (4.1), Responsiveness (3.9) Assurance (4.2), Tangibility (3.6), Communication (4.1) and Empathy (4.0). The overall mean Cocoa Extension Delivery quality averaged a score of 4.0. This indicates that cocoa farmers agree that the quality of Extension del ivery by extension provides met their expectations. This is an indication that efforts have been put into extension delivery services to farmers.

Conclusions and recommendations

More males were engaged in cocoa farming in the two regions studied, and they had a mean age of 52 years. A majority also had access to credit to improve their farming business. Demonstrations and Radio were found to be the most frequent extension methods used in disseminating cocoa innovations to farmers. Also, farmers found Radio very effective in disseminating extension information. The overall perceived quality of extension delivery show cocoa extension delivery by CHED and other private extension providers like Mondellez cocoa life projects met the cocoa farmers expectation. Further, the frequency of extension methods used such as home and farm visits, demonstrations, field visits, and e-extension had a positive significant relationship with extension quality. The study recommends E-extension such as radio programmes for delivering cocoa extension to farmers.

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References

- Adil, M., Ghaswamy, O. F. M. Al. and Albkour, A. M. 2013. SERVQUAL and SERVPERF: A review of measures in service marketing research. *Global Journal of Management and Business Research Marketing* 13 (6): 64-76. <https://doi.org/10.1108/09604520610711909>
- Ahuja, M., Mahawat, S. and Masood, R. Z. 2011. Study of service quality management with SERVQUAL model: An empirical study of Govt/Ngo's Eye Hospitals in Haryana. *Indian Journal of Commerce & Management Studies* 2 (2): 310-318.
- Anclerson, J. R. 2008. Background paper for the World Development Report 2008. Agricultural Advisory Services. Washington, DC: World Bank.
- Christoplos, I. 2010. Mobilizing the potential of rural and agricultural extension. Food and Agricultural Organisation (FAO). 64 pp.
- COCOBOD. 2018. www.cocobod.gov.gh (Accessed, November 28th, 2018)
- Daszkowska, M. 1998. *Uslugi. Produkcja, rynek, marketing*, 1ed. Warszawa: Wydawnictwo Naukowe PWN
- Handrinos, M. C., Folinas, D. and Rotsios, K. 2015. Using the SERVQUAL model to evaluate the quality of services for a farro school store. *Journal of Marketing and Consumer Behaviour in Emerging markets* 1 (1): 62-74. <https://doi.org/10.7172/2449-6634.jrr1cbejii.2011.1.5>
- Ingaldi, M. and Ursova, S. 2013. Wykorzystanie metody Servqual do badania satysfakcji i klientów punktu obsługi indywidualnego klienta dystrybucji gazu. *Rynek Energii* 4: 43-47.
- Jain, S. K. and Gupta, G. 2004. Measuring Service Quality : SERVQUAL vs . SERVPERF Scales, (April). <https://doi.org/10.1177/0236090003000003>
- Jurgen, P.H. and Diaz, P. V. 2010. Growth and production of Cacao. *Soils, Plant Growth and Production* 3: 1-10.
- Stoia, M. 2012. *Modele i metody pomiaru jakości i usług*, 1 ed. Lublin: Q&R Polska Sp. z o.o.
- Theerthaana, P. 2015. Antecedents of customer satisfaction and retention : validating metrics of mobile phone services through SERV PERF. *The International Journal of Business and management* 3 (8): 283-290.
- Wong, K.-L., Ong, S.-F., Kueh, T.-Y., Tiinku, U. and Rahinan, A. 2012. Constructing a survey questionnaire to collect data on service quality of business academics. *European Journal of Social Sciences* 29 (2): 209-221. Retrieved from <http://www.europeanjournalofsocialsciences.com>