Does e-government contribute to a reduction of farmers' administrative burden in Switzerland

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Abstract: Since the shift to direct payments and the growing environmental regulations, the administrative costs for farmers and public administration have increased. The introduction of e-government changed the farmers' working conditions. For this study, we examined how variables such as the 'perceived organizational benefits', 'organizational characteristics', 'organizational usage characteristics' and 'perceived characteristics' influence the administrative burden of Swiss farmers when using e-government. A quantitative survey, as well as qualitative open statements and in-depth interviews were analyzed for this purpose. We found that due to the transition from paper to electronic forms, the administrative workload of about one third of the farmers decreased. Attitude and the skills of the farmers seem to influence the administrative burden the strongest.

Keywords: administration, workload, administrative burden, agriculture, e-government

1   Introduction

Since the shift in agricultural policy from price support to direct payments and the growing number of environmental regulations, both private administrative costs for farmers and public administration costs increased [Fa00; FS02; Mc05; Ro07; MVV09; Mc09]. In the last ten years, many European countries introduced e-government to handle administrative processes between public authorities and farmers such as contracting of agri-environmental programs, monitoring of cross-compliance standards and detection of non-complying farms as well as prosecution and enforcement of farms in an effective way.

The introduction of e-government changed the farmers' working environment with public authorities. It implies that they have to use solely electronic forms for the application of direct payments.

This study analyses (1) how e-government is designed for the application of direct payments in Switzerland, (2) whether the implementation of e-government contributed to a reduction of the farmers' administrative burden and (3) how e-government should be implemented and organized that it reduces the farmers' administrative burden.

Research in the field of e-government has increased significantly during the last years. Studies on the risks of e-government for the society have analyzed the so-called 'digital divide', indicating that older people and/or rural communities are prone to being left behind due to their lack of skills and motivation when introducing e-governmental services

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[Hh17]. [Ar04] investigated the effectiveness of e-government to reduce the administrative workload in commercial businesses. Their findings were ambiguous, though, stating that no clear positive nor negative answer could be given to their research question. The overall perception of the realized reduction of the administrative burden is less positive than expected, but the organizations' attitude and the ICT staff are shown to be dominant factors [Ar04]. So far, there seems to be a considerable gap of research investigating the use and the effects of e-government on the administrative workload in the agricultural sector.

2   Framework

Electronic government, or shortly 'e-government', can be defined as the employment of digital information technology allowing the implementation and support of processes for informing, communicating and transacting between governmental institutions and the state's citizens [Ar04]. For example, farmers have to implement their land parcels in a geographical information system (GIS) for becoming eligible for direct payments in Switzerland.
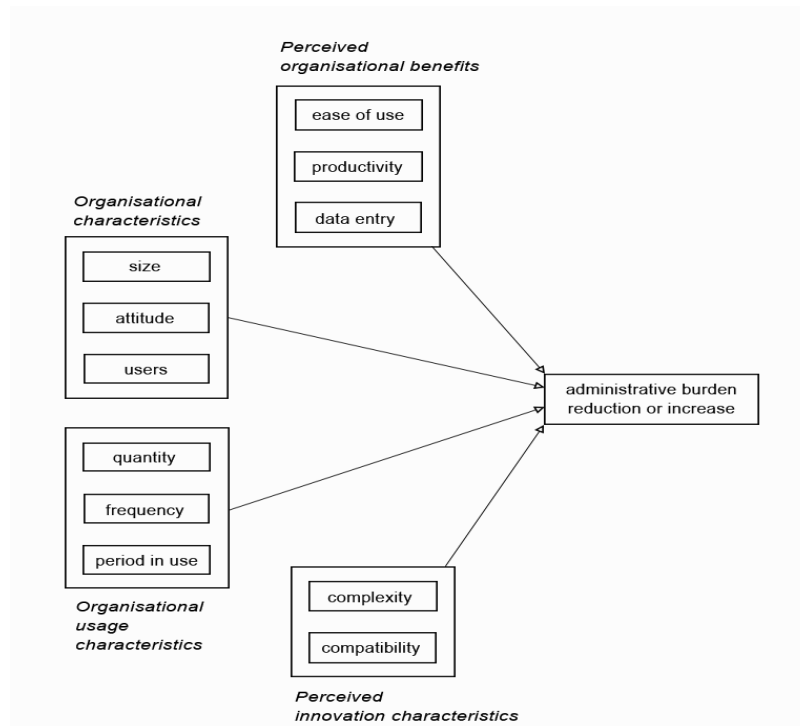

Fig. 1: Conceptual research model by [Ar04] adapted for examining the influence of e-government on the administrative burden of farmers in Switzerland

For analyzing factors in the context of E-government that might influence the farmers' administrative burden, we adopted the conceptual research model by [Ar04]. For this study we examine whether variables such as the 'perceived organizational benefits', 'organizational characteristics', 'organizational usage characteristics' and 'perceived innovation characteristics' influence the administrative burden of Swiss farmers when using e-government. Because the applied conceptual model was not developed for e-government applications in agriculture, we focused in our qualitative research on additional factors that might be relevant for farmers.

3   Material and methods

In the beginning of 2019, a survey on the farmers' perceived administrative workload was carried out in Switzerland [MSH19]. In total, 2000 randomly chosen farmers received a written questionnaire via postal mail. The survey included questions regarding the administrative workload due to the use of e-government. Additionally, participants had the possibility to make open statements on their administrative workload in general. The response rate was 40%. For answering our research questions, we analyzed not only this data but also carried out in-depth interviews with experts on e-government and farmers.

3.1   Quantitative analysis

This analysis intends to assess how the implementation of e-government affected the farmers' administrative workload. Therefore, farmers were asked to rate on a Likert scale the question "How did your administrative workload change due to the transition from paper to electronic application forms?". A seven-point Likert scale from -3: substantially reduced to 3: substantially increased was used. In total, 795 responses were analysed descriptively.

3.2   Open statements

Overall, 240 respondents made an open-ended statement. The written statements were coded using thematic analysis based on [BC06] and categorized into two groups: content resp. discontent with e-government. The 10 statements expressing satisfied feedback and the 22 statements with discontented feedback were evaluated.

3.3   Interviews

Ten interviews were conducted. They were transcribed and coded for identifying the underlying common themes.

Semi-structured expert interviews: five semi-structured interviews were conducted in order to get a better understanding how e-government is designed in Switzerland. Five agricultural researchers resp. advisors concerned with e-government were interviewed.

In-depth interviews with farmers who made an open statement: based on our framework, an interview guideline was developed. It comprised questions about the farm structure, the use of e-government, characteristics of e-government as well as its effect on the administrative workload of the farmers. Five in-depth interviews were conducted.

4   Results

4.1   Quantitative analysis

Due to the transition from written to electronic forms, the administrative workload of 40 % of the respondents increased (1 to 3 point on the Likert scale). 25 % of the participants did not recognize any change in the administrative workload (0 point on the Likert scale), whereas about one third of the respondents rated that their workload decreased (-1 to -3 point on the Likert scale). We find a Pearson correlation of 0.377 between the change in workload due to e-government and the overall perceived administrative burden.
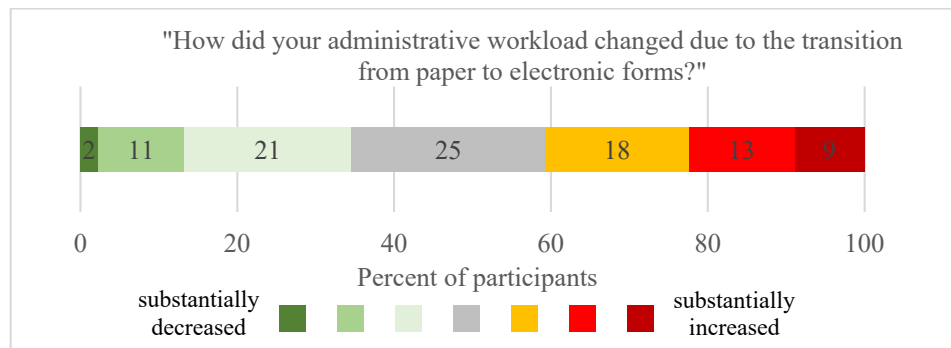

Fig. 2: Change of the administrative workload due to the transition from written to electronic forms

4.2   Open statements

We selected a few open statements made by the farmers in the context of e-government:

Content with e-government

- "The only administrative simplifications on our farm during the last 10 years were the electronic forms."

- "I record the cross-compliance data for more than 5 years electronically with the Agro-Plus program and this simplifies the calculation of the nutrient balance."

- "For me, the administrative workload is justifiable. Recordings serve to fair controls and if somebody intends on doing something for which one needs a recording, he or she will think twice if one really wants to do it or not."

Discontent with e-government

- "For reducing the administrative workload, it requires one app where you should be able to keep all the records and which everything is connected with. For instance, when I record the slurry with a trailing hose for a parcel of land in my field calendar then this should also be already recorded for the direct payment's report. There are 1000 other things which could be connected to each other in this way."

- "With a recording obligation I await from the same administrative body that a software or apps are available so that we can deal with the recordings rapidly and efficiently. I also dislike redundancies due to improper conjunctions. For example Barto, TVD, IP Suisse, tractors."

- "Yearly declarations for land and crops: Ever since it needs to be done with the computer, I need approx. three times the time I needed in the past."

Many statements show that a better linkage of the different software packages and electronic forms or the creation of a single application could reduce the administrative workload. Moreover, some respondents stated that their administrative workload increased due to e-government, some of them indicating that the digital administration is a mixed blessing: their administration works more fluently when done digitally, but at the same time increases in its overall amount, leading to an unchanged or sometimes even higher workload. Nevertheless, there were a number of positive statements regarding e-government, too, stating a relief on their administrative workload.

4.3   Interviews

At this point of our research, five semi-structured expert interviews as well as six in-depth interviews were conducted, but not yet coded nor analyzed in detail. Therefore, only preliminary conclusions can be made. However, first results show that some factors of the framework's model might have a greater impact than others. On the one hand, the 'perceived innovation' characteristics seem to be much more important than the 'perceived organizational benefits': farmers favor a clear and simple user interface for the web application ('complexity') and dislike duplications in their administration ('compatibility'). Meanwhile, e-government might not increase the 'ease of use', 'productivity' or even facilitating the 'data entry' process by just moving the administration to the digital format. On the other hand, it seems that 'organizational characteristics' and 'organizational usage characteristics' are both of moderate influence. Most prominent are the 'attitude' and the skills of the 'user' in determining in what way a

farmer is able to execute his or her administrative tasks. 'Frequency' also seems to be decisive for which tasks are handled with more or less ease: daily or weekly recordings have become habitual for most farmers, while the yearly application for the direct payments or other infrequent duties produce more problems and difficulties.

In summary, it can be said on the basis of our current evaluation status that e-governance reduces the administrative effort when both the attitudes and skills of farmers reach a certain threshold and, at the same time, e-government design reaches a certain threshold of comprehensibility and user-friendliness.

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