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Uneven Transformation of Traditional Agricultural Producers into Hybrid Peasant-Entrepreneurs Through Social Media

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Abstract

The role and importance of Information and Communication Technologies (ICT) in agricultural production and rural development have been gradually increasing. Internet usage has rapidly been becoming an important part of the farmers' daily lives globally and in Turkey. Even though the literature on ICT usage in rural areas and farmers has also been growing, certain influences have remained under-researched. To contribute to the literature that aims to fulfill this gap, this study aims at finding answers for three main questions. The first question examines the extent to which ICT in general and the internet in particular are used by the peasant farmers whose main economic activity is traditionally agricultural production. The second question explores the internet usage purposes of them, and the third question investigates in-depth the farmers' social media usage as e-commerce platforms by focusing on the market coverage, customer characteristics, and its influences on farmers' production, capital accumulation, and labor force relations. We conducted 297 open-ended questionnaires for the first question, 198 for the second, and 23 semi-structured interviews for the third with participants from randomly selected villages located in the Province of Kayseri in Turkey. Our study finds that social media provides farmers with opportunities of alternative markets. They paved themselves a new way of economic survival, which triggered an uneven emergence of hybrid peasant-entrepreneurs who are neither peasants nor entrepreneurs but rather seem to be stuck in between. They hold on to their lands and operate their family farms but tend to maintain their traditional production relations. Their production relies on unpaid family workers, and the traditional dominance of the family over production and accumulation relations still remains. We also find that this hybrid adaptation paves the way for uneven development in rural settlements that are located within the proximate areas of regional cities.

Keywords: social media; agricultural production; hybrid peasant-entrepreneurs; uneven rural development; Turkey

1.0 Introduction

Literature on information and communication technologies (ICT) usage in agriculture and agricultural production has rapidly been growing in the period after the 2000s. It is possible to distinguish between three main channels of study in the literature including (a) studies concerning the application areas of digital technologies in agricultural production, (b) developing technologies in digital agriculture, and (c) the usage levels and/or prevalence of these technologies among farmers.

Following the third channel, this research aims at finding answers for three main questions. The first one concerns the extent to which ICT in general and internet in particular are used by the peasant farmers whose main economic activity is traditionally agricultural production. The second question investigates the internet usage purposes of these farmers and aims to identify the relations between agricultural production and internet usage. The third question explores the farmers' social media usage as an e-commerce platform, which focuses on the reasons and ways of (a) social media usage; (b) market coverage; (c) customer characteristics; and (d) influences of social media usage on agricultural production, product patterns and farmers' capital accumulation and labor force relations.

Social media platforms have already become one of the significant components of businesses globally, both in terms of commercial activities, organizational recognition and reliability. Thus, the scientific interest of the literature in the influences of social media on businesses has been growing rapidly in the last decade. Nevertheless, there is an obvious lack of research investigating its influences while social media has been increasingly becoming more influential in agriculture, as Chowdhury and Hambly Odame (2013) identify. In order to contribute to the research efforts to fill this gap, this study focuses on the influences of social media usage of the farmers on their agricultural production both in terms of practical outcomes and structural consequences.

These questions are investigated in a long-running and in-depth case study from the Province of Kayseri which is located in the Central Anatolian Region of Turkey. This province represents one of the significant instances in Turkey wherein examples of professional agribusiness firms, individual agricultural entrepreneurs and traditional farmers and peasants live and exist together. In accordance with the findings, the concept of 'hybrid peasant-entrepreneurs' is suggested in this study. This concept is adopted from Hazel Tucker's (2010) influential study on how peasant farmers create hybrid entrepreneurial structures. According to her, peasant continuities create a contradiction and produce hybrid entanglement of traditional and modern structures (Tucker, 2010). The findings of this research reveal certain characteristics of this hybrid entanglement of traditional and modern structures when farmers unevenly began to use social media as e-commerce platforms.

2.0 ICT Usage in Agriculture, Influences of Internet Usage and the Impacts of Social Media

Literature on ICT usage in agriculture and agricultural production has continuously been growing in the last two decades. It is possible to distinguish between three main channels in the literature. Studies in this first channel underline on-farm application areas of ICT and create links between these applications and (a) sustainability (Cox,

2002); (b) food systems, food chains and food security (Wassman, Villanueva, Khounthavong, Okumu, & Sander, 2019); and (c) commercial activities and economic development (Cristobal-Fransi, Montegut-Salla, Ferrer-Rosell, & Daries, 2020; Zhang et al., 2018).

The second channel focuses on the developments of ICT that can be applicable to agricultural production processes. Bu and Wang (2019), for instance, mention the adoption of Internet of Things (IoT) for efficiency increases and focus on sensors and sensor technologies. Fraser (2018) draws attention to the importance of new data sources about soil and pests in precision agriculture while providing an insight about new technologies. Additionally, Channe, Kothari, and Kadam (2015) underline certain innovations including IoT, sensors and cloud-computing. Innovation and innovativeness related studies (Baumüller, 2016), seem to have an important place in this channel and many studies also create links between the development of ICT and sustainability (Armanda, Guinée, & Tukker, 2019; Long, Blok, & Coninx, 2019), food security (Armanda et al., 2019), and commercial activities and economic development (Baumüller, 2016; Chowdhury & Hambly Odame., 2013; Long et al., 2019).

Studies concerning the extent to which these technologies have been used by the farmers are intensified in the third channel. Channe et al. (2015) explored the levels of usage of ICT and smart farming applications of the local farmers in India, Barnes et al. (2019) investigated the adoption of precision agriculture technologies by European farmers, and Castle, Lubben, and Luck (2016) explored the same adoption tendencies in the United States. Janc, Czapiewski, and Wójcik (2019) investigated the usage level of ICT and mainly the internet as a source of knowledge among Polish farmers. Additionally, ICT usage among Turkish farmers was studied by Erdal and Çallı (2014), and Gültür, Yildiz, and Boyaci (2018).

In addition, reports prepared by the Food and Agriculture Organization of the United Nations (FAO) express the indispensable necessity to increase the total amount and the quality of food by using digital technologies, while they draw attention to the possible inequalities, which emanate mostly from infrastructure inadequacies between economies (Food and Agriculture Organization of the United Nations, 2017). The European Union's Common Agricultural Policy (EU-CAP) adopts similar tendencies to promote ICT usage and digitalization in agricultural production while stressing the importance of sustainable production and of preserving the farmers from loss of jobs (European Commission, n.d.; Schrijver, 2016). Schrijver also implies that new farming businesses need to establish many professional structures for increases in digitalization and ICT usage in agriculture. In tune with the national policy tendencies to adopt EU-CAP, national strategies to digitalize agricultural production and to increase ICT usage among farmers have been implemented in Turkey and are one of the primary targets of the national rural development.

2.1. Internet Usage in Particular and the Role of Social Media

Early studies generally focused on the availability of and necessity to invest in ICT infrastructure in rural areas and they underlined that there were significant gaps between urban and rural settlements (Grimes, 2003; Richardson, 1997). According to these studies, lack of ICT infrastructure is one of the main challenges that rural agribusinesses face (Bowen & Morris, 2019; Henderson, Dooley, & Akridge, 2004; Morris & James, 2017). However, especially in the developed world, the influences of infrastructure related problems seem to be overcome to a degree. For instance,

the internet provides farmers with access to (a) supra-local networks, (b) e-commerce possibilities, (c) improvements in online accessibility to agricultural production related information, (d) e-agribusinesses, and (e) increasing entrepreneurial capabilities (Bowen & Morris, 2019; FAO, 2017; Henderson et al., 2004; Morris & James, 2017; Munaifu, van de Kar, & van Rensburg, 2005).

Inadequacy of logistics systems seems to hinder further developments of e-commerce in many of the rural areas (Munaifu et al., 2005). In fact, development of adequate logistics services plays a key role, and many of the smallholder farmers seem to suffer from lack of logistics services in rural areas. On the other hand, social media seems to open a new channel of opportunity for the farmers to access alternative markets online. The positive influences of social media on commercial capabilities, sales, marketing, and structures of businesses began to attract academic attention very recently. But many of its influences and dimensions have not been deeply researched yet. Even so, it is possible to distinguish between two main tendencies of the studies concerning social media and its influences on businesses, production systems in relation to agriculture and food systems.

The first viewpoint focuses on the impacts on food and agriculture related issues. Kuttschreuter et al. (2014), for instance, identify social media as an alternative source of information about food related risks. Similarly, Rutsaert et al. (2014) questions if social media is a useful tool as a source of information and for communication in terms of food risk and benefit. Additionally, Hearn, Collie, Lyle, Choi, and Foth (2014) examined the influences of social media on the evolution of urban food systems, and Chowdhury and Hambly Odame (2013) investigated the role of social media in innovations in agri-food and rural development. Some other studies identify social media as a new field for the governance of agro-food sustainability (Stevens, Aarts, Termeer, & Dewulf, 2016) and focus on social media hypes about agro-food issues (Stevens, Aarts, Termeer, & Dewulf, 2018).

The second tendency investigates the impacts of the usage of social media by businesses and producers. Some studies investigated the influences of the usage of social media on entrepreneurship and marketing abilities, such as Grizane and Jurgelane (2017); Hofacker and Belanche (2016); Salo (2017); Samuel and Joe (2016); Shen, Luong, Ho, and Djailani (2020); Syuhada and Gambetta (2013); and Wardati and Er (2019) and consumer relations of businesses, such as Dahnil, Marzuki, Langgat, and Fabeil (2014); de Zubieli, Fryges, and Jones (2019); and Wardati and Er (2019).

Some studies investigated deeply the impacts of social media on agricultural production and farmers. Morris and James (2017), for instance, underline that social media creates new entrepreneurial opportunities for agricultural enterprises, and they also create links between social media usage and entrepreneurship. Additionally, Bowen and Morris (2019) express the new opportunities of entrepreneurship, market access, customer relations and digital connectedness between farmers and consumers through social media among Welsh farmers while drawing attention to certain failures of social media. They also underline a demographic fact which implies that the younger the farmer is, the more likely they use social media accounts professionally.

2.2. A Brief Insight into Internet Usage in Agriculture in Turkey

In the period after the 2000s, major agricultural reforms have gone through in Turkey. According to Ateş et al. (2017), the Agricultural Reform Implementation Project (ARIP), which was signed with the World Bank in 2001, has played a dominant role in radical changes in agricultural production structures. The last two decades witnessed various policy regulations in agriculture in Turkey including structural changes in agricultural production support systems. However, the transition of farmers from subsistence farming to professional agricultural production seems to be slower than anticipated, and agricultural production in Turkey still can mostly be characterized by subsistence farming even though certain professionalization examples have begun to be apparent. Increasing numbers of professional agricultural businesses created an environment in which traditional and professional farmers exist together.

As a consequence of the recent development policies and strategies, the last two decades also witnessed an intensive effort in Turkey to improve and develop ICT infrastructure nationwide. Approximately 67% of the national population has daily and regular internet usage, and the gap in terms of internet accessibility and usage between urban and rural areas has been narrowing continuously since the beginning of the present decade. The rural internet users have increased to 26.7% in 2012 from 7.6% in 2004 while the urban users increased to 47.4% from 18.8% in the same period (TURKSTAT 2012). According to the Information and Communication Technologies Authority of Turkey (BTK), by 2019, nationwide households with internet access increased to 88.3% including the rural settlements (BTK, 2019).

Rapid development of broadband infrastructure consequently provides almost every rural settlement with mobile internet access possibilities. Recent studies in Turkey considering internet usage in rural areas indicate that the internet has already become an important part of daily life in rural areas and the majority of the rural population has integrated to a multiplicity of internet usage purposes (Erdal & Calli, 2014; Gültür et al., 2018). Besides, official data shows that availability of mobile phones including smart phones increased to 98.7% in 2018 nationwide while it was 53.7% in 2004 (TURKSTAT, 2018), and it is underlined that 54% of the national population is classified as active mobile social media users (Gültür et al., 2018).

The national market data quarterly report recently published by the BTK shows that the total number of broadband subscribers in Turkey has increased to 77 million in the third quarter of 2019 while it was approximately 27.5 million in 2012 (BTK, 2019). The same report also shows that the monthly average usage of broadband internet users is 4.9 gigabytes (GB) nationwide, and 4.5G subscribers' monthly average usage is 6.6 GB in 2019 (BTK, 2019). According to the communication service statistics of the BTK, the monthly average usage of mobile broadband internet users was 0.33 GB in 2012 (BTK, 2013).

These statistics clearly indicate that mobile broadband access to internet is rapidly increasing in Turkey nationwide, which seems to be a consequence of the mobile service options offered by the major national service providers. It is necessary to underline that major internet providers and GSM operators in Turkey belong to three major business groups. They only offer packet services including voice, SMS and data transfer options all in one package. They also offer additional smart phone sales with considerable discounts. Consequently, they contributed to the rapid increase of mobile broadband users nationwide.

These improvements paved a wide path for the farmers to use various ICT in agriculture. While the technology side of the equation has been improving and developing rapidly, the farmer side of it seems to fall behind the expectations of national policies, and the anticipation of the studies. This study suggests that hybrid peasant-entrepreneurs seem to be a key factor in this problem.

3.0 Methods and Data Sources

This research adopted multi-methods to answer its research questions. The methods employed in the study include secondary data, a two-staged survey analysis, and semi-structured interviews conducted with key informants. Secondary data include general ICT usage trends in national scale from The Turkish Statistical Institute (TURKSTAT) and the Information and Communication Technologies Authority of Turkey (BTK), and geographic data of the case study area from the Greater Municipality of Kayseri. Secondary data was also used to construct the study context, whose details are presented in the following section. The details of the survey analysis and semi-structured interviews are presented in the methods section.

3.1 Study Context

The Province of Kayseri, which is located in the Central Anatolian Region of Turkey, was chosen to be the spatial context of this research. The province represents one of the significant instances in Turkey wherein examples of professional agribusiness firms, individual agricultural entrepreneurs, and traditional farmers and peasants live and exist together. The central settlement of the province is the City of Kayseri, which is classified as one of the leading new industrial districts of Turkey, with an urban population of approximately 1.2 million: while the population of the province is slightly above 1.4 million according to the 2019 Census. Figure 1 below shows the geographic position of the Province of Kayseri in the Central Anatolian Region and in Turkey.

Figure 1. Geographic position of the Province of Kayseri and the Central Anatolian Region in Turkey.



Source: Authors.

There are 81 provinces in Turkey which are classified as NUTS (from the French version Nomenclature des Unités Territoriales Statistiques) Level III Regions, and there are 922 Districts which are classified as NUTS Level IV Local Administrative

Units (LAUs). Turkey has a unitary structure in terms of administration and is subdivided into provinces, and these provinces are subdivided into districts, which are classified as NUTS Level IV Local Administrative Units. All the villages in Turkey are spatial components of these LAUs. The Province of Kayseri is one of the 81 provinces of Turkey and is subdivided into 16 LAUs. There are 483 villages located within these LAUs and the total number of villages varies from one LAU to another. The maximum number of villages located within a LAU in the province is 116, while the minimum is three. This is one consequence of urban growth of the City of Kayseri. The built-up area of the city covers areas from four different LAUs, and some of the villages in these LAUs urbanized as a consequence of rapid urban growth of the City of Kayseri. Therefore, the number of villages in these proximate four LAUs has declined.

There are no generalizable geographic rules determining the size and number of LAUs in Turkey. The territories of them are not geographic but administrative. Thus, there are also no generalizable geographic rules for the numbers, sizes, and distributions of villages in these LAUs. However, LAUs are the smallest regional classification of NUTS. Owing to this fact, we intended not to exclude any LAU from the analysis, and we decided to design the sampling of the research based on villages located within these LAUs. Using a village-based sampling has two main reasons. The first one is to represent every LAU of the Province in the analysis, and the second one is to collect data from peasant farmers. Since peasant farmers live in the villages, we intended to collect data from every peasant farmer who voluntarily consented to respond to our data collection tools.

While designing the village-based sampling, we intended to avoid two main bias sources. The number of villages located in LAUs greatly vary from one another. The average number of villages is 30.19, but nine of the LAUs have a smaller number of villages than this average. The least number of villages in a LAU is three, and if this LAU is represented by at least one village, and the sampling size rate is chosen to be this rate, then 33.33 % of sampling should be selected from other LAUs. However, choosing this sampling rate causes an over-representation of farther villages in the analysis. Studies of the literature underline that ICT infrastructure amenities in remote rural areas may be less than those villages located proximate to urban areas. Therefore, over-representation of farther villages may clearly cause a bias. On the other hand, lower sampling size rates either create over-representation of proximate villages or necessitate excluding LAUs with fewer number of villages. It is necessary to point out that a population-based sampling may also cause certain biases. First, the population of many of the proximate villages is greater than remote ones, therefore population-based sampling may again cause an over-representation of proximate villages. On the other hand, ICT infrastructure is areal, thus choosing a population-based sampling does not seem to be convenient for areal consideration in this context.

To avoid the exclusion of any LAUs or these over-representation biases, we decided to choose a 10% sampling size rate which corresponds to a total of 49 villages in the province. Those villages were selected using a random sampling method from each LAU and all of the LAUs were represented in the study with at least one village and at most 11. We collected data from all of the farmers, who voluntarily consented to respond, from these villages. Average proximity of the randomly selected rural settlements to the city center and the number of participants from these settlements are shown in Table 1.

Table 1. Average Proximity of the Case Settlements and the Distribution of the Number of Participants

Average Proximity to the city center (km)	Number of Rural Settlements	Number of Participants
15–44 km	18	103
45–59 km	6	35
60 and over km	25	159
Total	49	297

3.2. Methods

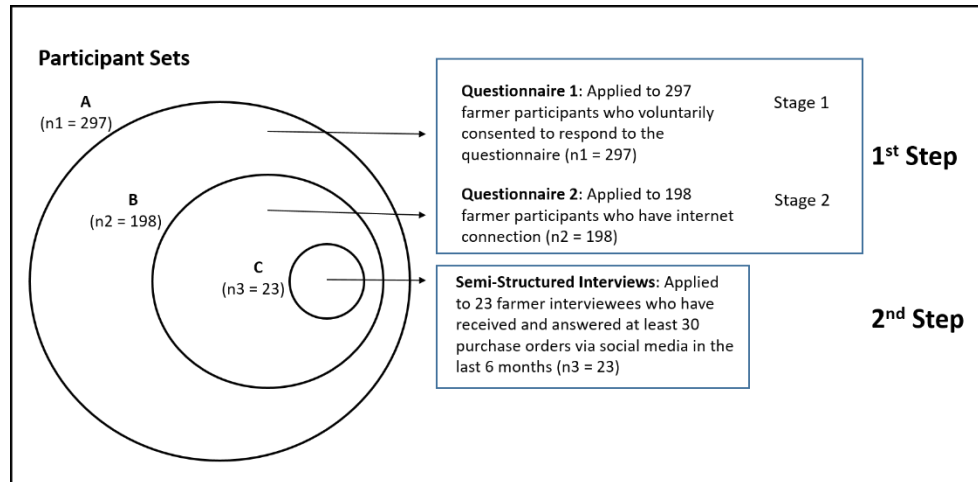
Data was collected in two steps. The first step was constituted of a two-stage survey analysis which included two complementary questionnaires. The first stage—Questionnaire 1—was conducted with 297 participants who voluntarily consented to participate in the research. This questionnaire aimed to obtain data about the extent to which ICT in general and the internet in particular were used by the farmer participants. In this first stage, 198 participants expressed that they have internet connection. The second stage—Questionnaire 2—aimed to obtain data about internet usage purposes and was conducted with these 198 participants. These two questionnaires were conducted directly by the authors and applied subsequently. After completing Questionnaire 1, Questionnaire 2 was conducted right afterwards with the participants who have internet connection. This two-staged first step was completed between July and September 2019.

The second step was constituted of a semi-structured interview conducted with 23 participants who use social media as e-commerce platforms. In the first step, results of Questionnaire 2 showed that there were 67 participants who use social media in e-commerce purposes. We used purposive sampling method and selected 23 participants. In purposive sampling, Schutt (2006) identifies that “the selection process involves identifying themes, concepts and indicators through observation and reflection” (p. 348). We selected 23 participants based on their average number of purchase orders that were received via social media and answered by the participants in the last 6 months. In Questionnaire 2 we asked participants who use social media for e-commerce purposes, at the least, how many monthly social media orders would be economically satisfactory for them. ‘At least five monthly orders’ was the most commonly expressed answer ($f = 20$).

Based and depending on this most commonly expressed answer, the identifying theme of the purposive sampling was determined as ‘at least 30 social media orders in the last 6 months’. Thus, we included 23 participants whose actual number of social media orders were above this level and excluded 44 participants whose orders were less. Moreover, we also detected that there was a wide gap in terms of actual number of orders received in the last 6 months between these two groups. While the minimum number of received orders of the included group was 77, the maximum number of received orders of the excluded group was only 18. By using purposive sampling, we aimed to exclude the effects of seemingly arbitrary usage of social media and to focus on the influences of purposive usage as e-commerce platforms.

In the second step, we conducted semi-structured interviews with these 23 participants between mid-September and October 2019. All the interviews were conducted by the authors and lasted approximately 1.5 to 2.5 hours. Figure 2 summarizes the participant sets, data collection steps and methods.

Figure 2. Participant sets, data collection steps and methods.



Source: Authors.

Semi-structured interview was constituted of five main components and aimed to obtain data about the reasons and ways of (a) social media usage, (b) market coverage, (c) customer characteristics and influences of social media usage on agricultural production, (d) product patterns, and (e) farmers' capital accumulation and labor force relations. The first two components focus on the reasons and ways of social media usage as an e-commerce platform, including the type of social media the participants use. While the third component investigates general market coverage, customer characteristics, possible contracting relations and agricultural product patterns, the fourth component seeks the advantages and disadvantages of social media usage, and the main challenges they face. The fifth component focuses on the future plans of the participants and explores their tendencies to establish more professional structures in agricultural production, and how social media influence their production and business relations.

4.0 Research Findings and Results

4.1 General Findings About ICT Usage Among Farmers

This section presents the findings of Questionnaire 1 which was conducted with 297 farmer participants, who voluntarily consented to respond to the questionnaire, from 49 villages. This questionnaire aimed to explore the extent to which ICT in general and internet in particular were used by the farmer participants. It is necessary to underline in the first place that none of the participants expressed any absence of ICT infrastructure. It is found that all of the villages, even the farthest ones were within the coverage of ICT infrastructure both in terms of fixed line and broadband access. We did not distinguish between conventional fixed line and optical fiber infrastructures in the study, but this finding indicates that ICT infrastructure related problems in rural settlements seem to have evolved from availability into quality-

based ones. In fact, the findings presented in Table 2 show that future studies also need to focus on quality of ICT infrastructure instead of availability.

Table 2. *Availability of Devices and Internet Access*

	Number of Participants	Ratio (%)
Has a fixed line telephone	134	45.12
Has a mobile telephone	280	94.28
Has a smart mobile telephone*	193	64.98
Has a computer (desktop, laptop or tablet)	164	55.22
Has an internet connection		
(Only fixed line = 5)	198	66.67
(Only broadband = 137)		
(Both = 56)		
Has a social media account	194	65.32
Total (n1)	297	100

*All the smart mobile telephone users have mobile broadband access.

Seventeen of the participants expressed that they have not needed to purchase mobile phones since they have fixed line phones instead. However, a majority of the participants expressed that they tend to cancel their fixed line telephone subscriptions when they purchase mobile phones. Rates of fixed line phone ownership seem to be declining but this tendency is not an infrastructure related problem. Findings reveal that ICT usage and age and education levels seem to be related closely. Table 3 shows the education levels of the participants based on age groups, Table 4 shows availability of smart phones and internet connection based on age groups and Table 5 shows the same availability based on education levels.

Table 3. *Education Levels Based on Age Groups*

Education	Age groups					Total
	20–29	30–39	40–49	50–59	60+	
Primary school			50	68	39	157
Secondary school		5	31	39	6	81
High school	6	25	14	5	1	51
Associate degree	2	2	2			6
Undergraduate	1	1				2
Total	9	33	97	112	46	297

Table 4. *Availability of Smart Phones and Internet Connection Based on Age Groups*

Availability of Smart Phones and Internet Connection	Age Groups					Total
	20–29	30–39	40–49	50–59	60+	
Total number of participants	9	33	97	112	46	297
Smart phone	9	32	85	59	8	193
Smart phone ownership rate (%)	100.00	96.97	87.63	52.68	17.39	64.98
Internet connection	9	32	85	62	10	198
Internet connection rate (%)	100.00	96.97	87.63	55.36	21.74	66.67

Findings presented in Table 4 and 5 indicate that usage of smart devices and availability of internet connection are related both with age groups and education levels. But aging seems to be much more influential. Findings show that the younger the farmer is, the more likely that they use smart devices and internet. Also, the higher the education level of the farmer is, the more likely they use smart devices and internet.

Table 5. *Availability of Smart Phones and Internet Connection Based on Education*

Education	Total number of participants	Smart Phone	Smart Phone Ownership Rate (%)	Internet Connection	Internet Connection Rate (%)
Primary school	157	67	42.68	68	43.31
Secondary school	81	68	83.95	71	87.65
High school	51	50	98.04	51	100.00
Associate degree	6	6	100.00	6	100.00
Undergraduate	2	2	100.00	2	100.00
Total	297	193	64.98	198	66.67

4.2. Internet Usage Among Farmers

This section presents the results of Questionnaire 2 which aimed to obtain data about internet usage purposes and was conducted with 198 participants who have internet connection. Table 6 shows classified usage purposes. Four significant characteristics of the table should be underlined. First, the variety of purposes indicates that internet seems to have become an important part of the farmers’ daily lives not only as an information source, but as an alternative option for certain urban services such as banking and shopping. Second, rural specific usage purposes became clearly

apparent. Third, especially social media has become a primary source for communication. Out migration has been one of the main characteristics of the rural population for more than half a century in Turkey. This migration was directed not only towards urban areas of Turkey but certain European countries as well such as Germany, Belgium, Denmark, Austria, the Netherlands, France, and the United Kingdom. It is found that internet connection and social media are alternative communication channels for the participants to keep in touch with their relatives who migrated out and live in urban areas or foreign countries. Finally, it is necessary to underline that internet seems to have begun to provide the farmers with various access options to alternative markets.

Table 6. *Internet Usage Purposes*

INFORMATION AND COMMUNICATION PURPOSES	<i>f</i>
General Information Purposes	
▪ News reading, watching videos & TV, listening to the radio etc.	198
▪ Health, education and culture	154
▪ Entertainment, shopping and games	131
▪ Banking	76
▪ Other (including non-specific purposes)	85
Farming and Agricultural Information Purposes	
▪ Weather forecast	198
▪ Agricultural production costs and product prices	198
▪ Agricultural machinery and spare parts information	41
▪ Irrigation systems and installation instructions etc.	18
▪ Other farming related information:	33
Agricultural insurance	6
Alternative bank credit options	5
Sharing information about agriculture	5
Agricultural supports	5
New harvesting technologies	4
Organic farming technologies	3
Alternative pest-combat methods such as biological control	2
New fertilizers, fertilizing technologies and methods	1
Profitable alternative plants	1
Search for new logistics options	1
Communication and Networking Purposes	194
INDIVIDUAL E-COMMERCE PURPOSES	
Web Page Based E-Commerce	4
Social Media Based E-Commerce	67

As a significant component of the second characteristic mentioned above, the ‘other farming related information’ title is explained in detail (see Table 7) since they give significant insight into increasing specialized usage of the internet in agricultural production by these farmers.

The response frequencies of these details are low, but it is a known fact in Turkey that useful information and implications spread rapidly in rural communities. According to the participants, agricultural insurance is a brand-new development for many of the farmers, and insurance will be much more prevalent among the farmers in the near future. Moreover, five of the participants declared that they regularly search for alternative bank credit options either to purchase new machinery or to improve production infrastructure. The third element is sharing information about agriculture. Participants’ responses indicate a rise of a new kind of relations solidarity between farmers. They especially share personal experiences about combining simple ICT with traditional agricultural production such as (a) automated drop irrigation timing, (b) automated fertilizer mix and spread determination, (c) farm observation by drones, and (d) certain other machinery equipment calibration techniques. It is found that this kind of information sharing happens only between relatives or farmers who have close face to face relations for now. Even so, it seems to be promising in terms of establishing ICT based social capital among the farmers.

4.3. Influences of Social Media Usage on Farmers and Agricultural Production Relations

This section presents the results of semi-structured interviews conducted with 23 participants who received and answered more than 30 social media orders in the last 6 months. Twenty-two of them live in settlements located 15–44 kilometers away from the center of the City of Kayseri.

Participants identified four main ways they started using social media as e-commerce platforms:

- Noticing social media-based e-commerce activities on social media—11 participants.
- Suggestion of a relative—eight participants.
- Suggestion of another social media user from their network—three participants.
- Already intended to use social media as an e-commerce platform before starting the agricultural business—one participant.

All participants expressed that they are active social media users. They use the same specific social media platform and identified four main reasons for that: (a) it is their main alternative communication tool with their relatives, (b) it is one of the first platforms and most of their network also uses this platform, (c) they got very familiar with how to use it, and (d) it allows them to easily share texts and images at the same time.

Eleven participants stated that they have noticed individual commercial pages on social media which gave them the idea to start marketing their products on social media. Deeper investigation revealed that this was not a coincidence but an ordinary consequence of their active social media usage. For instance, a 38-year-old participant expressed that he has been intentionally searching agricultural news and machinery videos on social media. His search, one day, showed him that there were farmers who were marketing their agricultural products through social media.

I ignored these accounts in the beginning because they were mostly selling packed and organic vegetables, but I mostly grew wheat in my field and I only grew small amounts of vegetables in my own garden for my family. One day, I shared a photo of a basket of apricots which I picked from my garden. Some of my relatives and friends from my network “liked” my post and one of their friends who live in Kayseri asked if this basket was for sale. After a short online bargain, I delivered him a basket in the following day. This was my first social media sale.

In the second group, there are participants who started using social media in commercial activities on the suggestion of their relatives. A 43-year-old participant, for instance, told that one of his relatives living in the Netherlands suggested to him that social media could be an alternative marketing opportunity. The third group also represents suggestions not from relatives but from their networks.

In the fourth group, there is only one participant, who is 28 years old. She is the youngest participant of the research and had just started her agribusiness in 2017 after graduating from agricultural engineering and using a small piece of her father’s land. She expressed that she had been planning to use social media to directly access customers. According to her, agricultural product prices and the profit of the producers would be higher and more reasonable if they can directly reach the customers, and an efficient way is social media. Her comments on why she prefers to use social media as an e-commerce platform shed light on the findings of the second component of interviews.

This second component seeks answers for why the participants use social media for e-commerce activities and three main reasons are identified. The youngest participant indicated that the platform she has been using allows her to create a separate brand page for her products as useful and accessible as web pages. Seven more participants indicate this efficiency of social media even though they do not have brand pages.

Ten participants did not give any specific reason except the user-friendly nature of social media platform they were using. According to them, since creating a social media account is free and much easier than designing web pages, they prefer social media accounts. They also expressed that they do not use web pages or social media brand pages but instead they use their own profiles for marketing. They sell their agricultural products in their own personal social media profiles. A 43-year-old participant explained the main reason:

I am a farmer. I do not own a commercial firm. I consulted about having either a web page or a brand page in social media and I was advised to establish a commercial firm for legal reasons. I have checked the procedure, and saw that I need an accountant to be paid monthly, need to pay for registration and complete taxation procedures etc. As I said, I am a farmer,

not a businessman. I sell my products to my customers through my own account and the income I get is enough so far, thank God.

Only the youngest participant had a brand page for her products, and all other participants had been using their personal profiles. Social media-based e-commercial activities seem to be their growing, but secondary, income source. Except the youngest participant, all others still continue to grow traditional agricultural products. Owing particularly to the increases in production costs and fluctuations in agricultural product prices, all the participants stated that agricultural production profit rates have been continuously shrinking. This is why secondary income sources are vital and social media gives them a valuable one.

Responses of the participants clearly indicate that their primary market for this secondary income source is the City of Kayseri. A 36-year-old participant explains certain reasons:

Proximity is important because we sell either fresh agricultural product, dairy or poultry products and especially the latter ones are mostly produced daily and need to be delivered, sold and consumed daily. My customers order online through my social media page, and I deliver products twice a week. Just for these deliveries, I purchased a small pick-up truck.

Main customers are locals from the City of Kayseri, and most of the products are delivered by the participants generally twice or three times a week. Social media connection, in this relation, is used for online ordering and for setting delivery schedule. Twenty-one of the participants have a routine of three deliveries a week, one of them has twice a week, and one has once a week delivery routines.

Three participants also had small contracting relations with their usual customers, and they produced semi-processed food for them such as tomato sauce, pickles, and jam. However, it is found that the main reason why other participants did not establish such relations was simply due to their lack of human resources. Except the youngest one, all other participants use unpaid family workers as labor. They use paid seasonal workers only for harvesting times. The youngest participant employs two permanent and four seasonal workers and produces all the agricultural products listed in Table 8 below.

Table 8. *Classification Based on Agricultural Production*

	<i>f</i>
Vegetables—mostly seasonal	23
Dairy products	14
Poultry products—including eggs	11
Traditional semi-processed food—including pickles, jam, and tomato sauce	3
Organic farming branded products—including leguminous and grain products	3

We found that labor force bottlenecks are basic determinants of product patterns of the participants and one of the main challenges they face. The second challenge commonly underlined by them is the lack of logistics coverage in rural areas. Since these coverage areas are mostly limited to the urban areas, accessing these services from rural settlements requires an additional transportation cost, which all the participants try to avoid. The third challenge is food packing. According to the participants, without proper packing, they do not have a chance to use logistics services. But more importantly, they are all aware of the opportunities that food packing creates. The youngest participant expressed that she bought two simple vacuum packing machines which allowed her to increase the market coverage on the one hand and satisfy her customers in terms of food security and health issues on the other. In addition, 13 other participants use simple cloth-made packing especially for grains and dried food, and simple jar packing for tomato sauce and jam. However, these packing options were hand-made and none of them was using machinery.

The fourth main challenge is the informal nature of their commercial activities. 22 of the participants clearly expressed their hesitations in establishing professional firms simply because they consider their commercial activities as secondary income sources and according to them, if certain unpleasant conditions—such as the problems of price fluctuations and increasing production costs—finally come to an end, they probably will not need any secondary income source. However, none of them were actually optimistic about improvements to their economic conditions.

The fifth challenge, pointed out by every participant as one of the biggest threats behind social media-based e-commerce, is the reliability problem. Even though they establish relations ‘online’, they mostly prefer to sell their products to the customers they meet face to face. The participants seem to be quite reluctant to accept new customers unless their reliability is approved by their social media network or their usual customers.

Even though they mostly enjoy certain advantages such as relatively higher profit rates by direct access to the customers, and somehow loyal customer structure that provides them with a relatively constant market, a great majority of them (20 participants) did not clearly consider developing their ‘secondary’ agricultural production. Social media gives them a new opportunity to create their own market, but their market coverage is mostly local mainly due to their product patterns and logistics service obstructions. Fourteen of the participants established simple contracting relations with their customers. However, with one exception, they do not have a tendency either to expand their market, to establish more professional structures or intensify their efforts to improve their social media based commercial activities. They clearly are not traditional peasants anymore, but they also do not have an intention to establish professional structures.

Their future plans, which were investigated under the last component of the interviews, also give certain clues about this tendency. Except the youngest one, all the participants consider themselves as ‘farmers’ not entrepreneurs. Moreover, they openly do not consider themselves as employers and labor relations are still traditional. Their workers are also their family members and they do not pay any wages since the main accumulation structure is the family itself. Even though they sometimes need workforce help especially in the harvesting seasons, their primary workforce choices are still directed toward their extended family members. Employment of low paid seasonal nomadic workers is their secondary workforce

choice, but except the youngest one, none of them employ permanent workers, and their labor and accumulation structures remain traditional.

More importantly, they all consider their social media based commercial activities as a secondary income source—except the youngest participant. They have no plan to establish professional farming structures and turn their secondary economic activity into a primary one as long as the combination of traditional agricultural production and social media based commercial activities remains economically satisfactory. Social media provides them with an alternative market, and certain alternative marketing opportunities that require a certain level of entrepreneurship; they fulfilled these requirements but still tend to maintain their traditional relations especially in labor and accumulation structures. As a last question, their expectations for their children was asked, and without exception, all of them expressed similar hopes and expectations for their children such as studying medicine, law, civil engineering, and architecture, and so forth. Thus, none of the participants—even the professional one—seem to expect their children to take over their businesses.

5.0 Conclusions

The agricultural policies that Turkey has implemented for more than two decades can be characterized by a number of primary targets, including the aims to (a) increase the total production efficiency in agriculture; (b) to provide the national, regional and rural development strategies with more efficient agricultural land use practices; (c) increase the total income levels of agricultural producers; and (d) to improve infrastructure in rural areas nationwide. Promoting technology usage and aiming to direct the agricultural producers toward establishing professional structures seem to be two of the common strategies that these targets adopted.

Recent developments in Turkey show that some farmers tend to establish professional agribusiness structures and their transition from subsistence farming to professional agricultural production becomes visible. This transition creates an economic environment in which traditional peasant farmers and professional agribusinesses exist together. Declining income levels of traditional farmers either forces them to quit farming and migrate to urban areas, or to establish professional structures with the help of recent support policies. However, some of these farmers found an unpredicted way of economic survival and began to use social media as e-commerce platforms which seem to pave the way for an uneven emergence of hybrid peasant–entrepreneurs who are neither peasants nor entrepreneurs but rather seem to be stuck in between. Increasing internet usage and social media based commercial activities among these farmers play a key role in establishment of these hybrid structures.

Social media usage among the farmers has not yet been considered in the agricultural policies and rural development strategies in Turkey, but social media itself seems to provide these farmers with opportunities for an alternative market. Yet, they still tend to maintain their traditional production and commercial relations and do not tend to establish professional structures as long as their total economic utility is reinforced by this secondary income source. Their agricultural production still relies on unpaid family workers in general and informal seasonal low-paid workers in particular. Agricultural firm establishment rates are low, and the family still remains, as O'Hara (2000) identifies, the main structure of accumulation as an institutional sphere. Hybrid peasant–entrepreneurs seem to have helped themselves to create alternative economic survival opportunities; thus, they hold on to their lands and

operate their family farms which Öztürk, Jongerden, and Hilton (2018) identify as one of the adaptive and creative agency characteristics of new peasantry in Turkey.

Our findings show that this hybrid adaptation paves the way for an uneven development especially in rural settlements that are located within the proximate areas of regional cities. However, it also paves the way for these farmers to maintain their traditional relations in agricultural production. It is possible to show that this tendency consequently contradicts with national and regional agricultural development policies and strategies and somehow empowers the traditional relations in agriculture in Turkey, even as it creates uneven development experiences in rural settlements. Social media-based e-commerce in agriculture in Turkey seems to trigger an uneven rural development on the one hand, but also to unexpectedly serves to create new bonds with traditional production structures.

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