IKR Publishers

IKR Journal of Economics, Business and Management (IKRJEBM)
Journal homepage: https://ikrpublishers.com/ikrjebm/
Volume-2, Issue-1 (January-February) 2026
OPEN ACCESS
ISSN: 3107-8052 (Online)

Determinants of the Intention of Rural Producers to Use Social Media

Sheila Farias Alves Garcia[1*], Fernando Escaroupa Panobianco[2], Hermes Moretti Ribeiro da Silva[3], André Torres Urdan[4] & Dirceu da Silva[5]

[1,2,3]Faculty of Agricultural and Veterinary Sciences (FCAV), São Paulo State University (UNESP), Jaboticabal, São Paulo, Brazil
[4]Universidade Nove de Julho (UNINOVE), São Paulo, Brazil
[5]University of Campinas (UNICAMP), Campinas, São Paulo, Brazil

DOI:*10.5281/zenodo.19073332*

ARTICLE INFO

Article history:
Received : 10-02-2026
Accepted : 19-02-2026
Available online : 26-02-2026

Citation: Garcia, S. F. A., Panobianco, F. E., Da Silva, H. M. R, Urdan, A. T. & Da Silva, D. (2026). Determinants of the Intention of Rural Producers to Use Social Media. *IKR Journal of Economics, Business and Management (IKRJEBM), 2*(1), 8-20.

ABSTRACT **Original Research Article**

Despite the growing popularization of social media among farmers and ranchers, a general understanding of the field and intentions to use remain very limited. This article aims to determine constructs influencing the intention of rural producers to use social media. A theoretical framework serving as an augmentation of the Technology Acceptance Model (TAM) was formulated. By employing data acquired through online means from 281 rural producers located in Brazil, structural equation modeling (utilizing Smart PLS 4.0) was employed to examine both direct and mediated relationships. The Conceptual Model was supported and has good explanatory power. All hypotheses were confirmed. The addition of the social influence and entertainment constructs to TAM reveals promising results. Perceived usefulness on social media is the main predictor of intention to use. The social influence and entertainment variables strongly influence the perceived usefulness and ease of use social media. To elevate the intention of rural producers to use social media, websites, app, and platform managers must design and implement enjoyable, easy-to-use, useful, interactive, and shareable media. These characteristics positively affect attitude and intention to use and reuse social media, leading toward the formation of habit.

Keywords: Digital Marketing, Social Media, Acceptance of Technology, Consumer Behavior, Agribusiness.

**Corresponding author: Sheila Farias Alves Garcia*
Faculty of Agricultural and Veterinary Sciences (FCAV), São Paulo State University (UNESP), Jaboticabal, São Paulo, Brazil

Introduction

The internet and the evolution of communication technologies have changed the way people approach their daily lives. In this context, social media has redefined the way people and organizations interact with each other. In 2020, around 60% of the world's population (4.66 billion people) used the internet and, among them, 90% actively used social media (4.22 billion people) (WE ARE SOCIAL, 2021).

Social media offers various types of platforms, each providing individuals, communities and organizations with resources to share information, opinion and create/co-create content (Kietzmann *et al.*, 2011). These types include collaborative encyclopedias (wikis), such as Wikipedia; blogs; relational networks and content communities, such as Facebook, YouTube, WhatsApp, Instagram, Twitter, TikTok, LinkedIn; and virtual games or worlds, such as Second Life and World of Warcraft.

The use of social media has increased the power of the consumer, who has thus pressurized companies into adopting and managing communication in this sphere (Sinclaire; Vogus, 2011). Appreciating the popularity of social media, organizations have increased their presence on the various online platforms (Michaelidou *et al.*, 2011).

Before the emergence of the internet, companies were able to control the information available to their target audience by relying on communication tools such as advertising and public relations. With the advancement of social media, organizations have increasingly taken on the role of observers, with no knowledge, chance or even the right to change comments generated and posted about them by consumers and citizens (KAPLAN; HAENLEIN, 2010).

The inclusion of entertaining and enjoyable resources on social media has further increased the perception of the benefits of their use. Enjoyment and entertainment are among the top reasons for using social media (WE ARE SOCIAL, 2021), although entertainment and enjoyment were also significant in the acceptance of the computer at work (DAVIS *et al.*, 1989). In line with other studies (RAUNIAR *et al.*, 2014; AYEH *et al.*, 2013; LEE *et al.*, 2012; SHEN, 2012), we consider that entertainment should be seen as an antecedent of social media acceptance.

In social media terms, user-generated information is shared through a user's social network. Sharing content with Friends, Contacts, Fans, and Followers represents one of the main motivations for social media use (WE ARE SOCIAL, 2021). Studies also suggest that social influence is paramount to understanding social media acceptance (NIKOU; BOUWMAN, 2014; VENKATESH; DAVIS, 2000; VENKATESH *et al.*, 2003). Thus, the effect of social influence on a user is assumed to impact an acceptance of social media (NIKOU; BOUWMAN, 2014). During the initiation stage for this research, no studies were identified which tested the target audience relationship we intended to address, which lead us to consider its investigation in the article presented here.

We chose to focus on the Brazilian agricultural sector in particular because Brazil is a world leader in the production of agricultural commodities. Despite the economic importance of the agricultural sector for the world's economy, however, parts of society still see rural producers as less digitally aware people. The literature regarding the adoption of social media by the world's population linked to urban space is robust (KWON; WEN, 2010; RAUNIAR *et al.*, 2014; AYEH *et al.*, 2013; MCGOWAN *et al.*, 2012; LEE *et al.*, 2012; SHEN, 2012; HANSEN *et al.*, 2018; AYEH, 2015; DUMPIT; FERNANDEZ, 2017; CHOI; CHUNG, 2013; PIETRO *et al.*, 2012; TAN *et al.*, 2012). Some studies (RILEY; ROBERTSON, 2021) even address the use of social media by farmers as a way of presenting their lifestyle, but research gaps still exist regarding the behavior of this public, linked to rural space. This article therefore contributes to the understanding of aspects of the behavior of rural producers in the light of social media.

In 2020, 75% of the population of Brazil (160 million people) used the internet, of which 70.3% were active users (150 million people) of social media, spending, on average, 3 hours 42 minutes per day connected to the internet (WE ARE SOCIAL, 2021). This social media phenomenon also affects Brazilian farmers and ranchers. A survey conducted between October 2020 and January 2021 (ABMRA, 2021) revealed that, around 90% of this group accessed the internet in a rural setting. *WhatsApp* was used by 76% of rural producers to conduct business. *Facebook* was still important as a social network and *YouTube* had tripled its use compared to the previous survey, conducted in 2017. Digital channels are increasingly used for farm management tasks: such as information searches and relationships with partners, suppliers and other businesses (MCKINSEY, 2020).

The importance of social media in the world justifies calls for studies on human behavior within the context of social media (DOLAN *et al.*, 2015). This also applies for rural producers in Brazil, who are increasingly connected to social media platforms (ABMRA, 2021; MCKINSEY, 2020).

The advancement of this research can serve and be complemented by future studies about social media in other contexts or even the adoption of other technologies. Clearly there are pragmatic implications of such research for digital marketing and communication professionals, designers and developers of websites and social media platforms.

Next, we present how the conceptual model was devised, based on the development of our respective hypotheses. Following this, there is a brief explanation of the methods used. The results are then presented, under three sections: characteristics of the sample together with descriptive analysis, analysis of the measurement model, and analysis of the structural model. Finally, discussion relating the results obtained to other research leads to the conclusion and the main findings of the paper.

Development of the Conceptual Model

The literature presents diverse theoretical frameworks elucidating the uptake of social media. The Technology Acceptance Model (TAM) has emerged as the most widely utilised framework, implemented globally in various technology acceptance research (AL-GHAITH, 2015). This importance is mostly attributable to its meta-theoretical attributes: simplicity (parsimonious), empirical support (verifiable), and applicability across other domains (generalisable). Most studies on how people adopt technology have used TAM (LEE et al., 2012). So, we used TAM as the starting point for building a more detailed model that would work well for social media and rural producers.

The original TAM revised by Davis (1989), with the removal of the attribute construct, remains a powerful tool to predict and explain user behavior using the three constructs: *perceived ease of use, perceived usefulness, and intention to use*. This simplification of the TAM for behavior relating to belief and intention is now common in research (DAVIS *et al.*, 1992; VENKATESH; DAVIS, 2000; VENKATESH *et al.*, 2003). Therefore, we adopted this simplified TAM as a

starting point, and extended it by adding variables which are external to the model but that potentially determine the use intention of our target audience (the rural producer).

As part of the process of searching for these variables in the context of the social media reality, we systematically reviewed the literature. A summary of the findings is given in Table 1, in which the 10 most cited works involving acceptance of technology and social media, using the *SciVerse Scopus* as a basis, are listed. Entertainment or enjoyment, excitement and pleasure are part of several relevant research projects (RAUNIAR *et al.*, 2014; AYEH *et al.*, 2013; LEE *at al.*, 2012). Likewise, social norms (i.e., social influence, social identity, critical mass) are recurrent (KWON; WEN, 2010; RAUNIAR *et al.*, 2014; GRUZD *et al.*, 2012). For the above, we include social influence and entertainment in the Conceptual Model.

Table 1: Literature Review

Author /	Publications	Citations	Relações Confirmadas no TAM
Kwon; Wen (2010)	*An empirical study of the factors affecting social network service use*	474	Altruism (+) and Telepresence (+) >> Perceived Ease of Use; Social Identity (+) and Perceived Encouragement (+) >> Perceived Usefulness; Ease of Use (+) and Usefulness (+) perceptions >> Current Use.
Rauniar *et al.* (2014)	*Technology acceptance model (TAM) and social media usage: An empirical study on Facebook*	447	Perceived Ease of Use (+), Critical Mass (+), Capacity (+) and Perceived Enjoyment (+) >> Perceived Usefulness; Perceived Usefulness (+) and Reliability (+) >> Intention to Use.
Amaro; Duarte (2015)	*An integrative model of consumers' intentions to purchase travel online*	297	The TAM served as a theoretical background, but original model relationships were not used in the study.
Ayeh *et al.* (2013)	*Predicting the intention to use consumer-generated media for travel planning*	282	Usefulness (+) >> Intention; Ease of Use (+) >> Usefulness and Intention; Pleasure (+) >> Ease of Use and Intention; Reliability (+) >> Usefulness; Similarity (+) >> Intention.
McGowan *et al.* (2012)	*Understanding the factors that influence the adoption and meaningful use of social media by physicians to share medical information*	240	Perceived Ease of Use and Usefulness were the main factors that influenced physicians to share knowledge on social media.
Bright *et al.* (2015)	*Too much Facebook? An exploratory examination of social media fatigue*	235	Examines the concept of social media fatigue and its proposed antecedents: effectiveness, kindness, trust, and privacy. Concerns about privacy and trust have the highest predictive value for social media fatigue.
Gruzd *et al.* (2012)	*Connected scholars: Examining the role of social media in research practices of a faculty using the UTAUT model*	231	Semi-structured interviews found that making new connections, as well as strengthening existing ones, staying current in your field, promoting your work online, and maintaining your professional image, are ways in which students perceive social media usefulness.
Lee *et al.* (2012)	*The effect of encouragement and value on the intention of Facebook users to go to a festival: Applying an extension of the technology acceptance model*	193	Value (+) >> Perceived Usefulness and Ease of Use; Perceived Ease of Use (+) >> Perceived Usefulness; Perceived Ease of Use (+) >> Perceived Entertainment.
Siamagka *et al.* (2015)	*Determinants of social media adoption by B2B organizations*	184	Demonstrability of Results, Image and Perceived Ease of Use (+) >> Perceived Usefulness; Perceived Barriers (-) >> Perceived Usefulness.
Hansen *et al.* (2018)	*Risk, trust, and the interaction of perceived ease of use and behavioral control in predicting consumer use of social media for transactions*	184	Perceived Risk and Trust (+) >> Perceived Ease of Use; Perceived Ease of Use and Usefulness, Risk Taken, Attitude and Behavioral Control (+) >> Intention to Use

Source: prepared by the authors.

Next, we explain the reasoning behind the development of the Conceptual Model, in terms of constructs and relationships.

Social Influence

Human and social variables frequently significantly influence technology adoption (MATHIESON, 1991). The particular utilisation of services and apps fluctuates in intensity and frequency, thus rendering it significantly contingent in the context of use, alongside peer influence (NIKOU; BOUWMAN, 2014). The original TAM does not consider the potential for other users to persuade an individual to embrace a specific technology. The context in which the model was created makes this reasonable. In the workplace, a firm often has a direct effect because its technology requires certain things that people can't choose. But on social media, where user freedom is of paramount importance, the situation is different. However, Psychology demonstrates that individual behavior is influenced by the behavior of other people around them. Such impact, due largely to the characteristics of social media, tends to be even more expressive (NIKOU; BOUWMAN, 2014) - further justification for including this variable in the technology acceptance model.

Since its inception, the TAM has undergone modification: extensions designed to adapt to the particular context of a given investigated technology. A good example of this is the inclusion of social influence as an antecedent for the use of new technology by users (VENKATESH; DAVIS, 2000). *Social influence* (also called social norms or subjective norm) (FISHBEIN; AJZEN, 1975) is one of four direct determinants of technology acceptance and the intention to use it (VENKATESH; MORRIS; DAVIS; DAVIS, 2003).

Using an online social network is a deliberate social action that is influenced by three processes: compliance, internalisation, and identification. Compliance affects a user's first choice to use technology that a group has already embraced (for example, a technology platform to support group activities) because the user hasn't used it before and doesn't have any experience with it, thus they are more likely to rely on norms to decide whether to use the new technology. Once a user has begun to embrace and interact with a group's technology, internalisation begins to influence the behaviour associated with ongoing usage. Internalisation is when someone makes a choice because they have similar ideals to other people in the group. So, group norms are the beliefs or purposes that users think they have in common. After a long time of using a group, a feeling of social identity may form, which will then affect how people continue to use the group. Identification denotes an individual's awareness of their involvement in a group, together with the emotional and evaluative significance of this involvement (CHEUNG; LEE, 2010).

The collective intention to utilise a social networking site is influenced by both subjective norms and social identity. The use of an online social network, as a social phenomena, depends a lot on how users engage with each other. It only makes sense to utilise it if a group is eager to use the technology together and keep using it. An instant messaging app, for example, will only work if other people are willing to use it. Experiences also set a standard that a user will follow while using a site often. So, social influence can help us understand why groups of people choose to use online social networks (CHEUNG; LEE, 2010).

Individual acts are not isolated, and the interaction between users who have adopted a given technology together should predict the acceptance of that technology (BAGOZZI, 2007). That is, collective behavior influences a user's decision to use online social media technologies (LISHA; GOH; YIFAN; RASLI, 2017). In this way, the decision to join social media depends on the decisions of peers, friends and others in a social community (SVENDSEN *et al.*, 2013). The mechanisms thus acting are typically a case of externalities of these applications. If a certain number of peers have joined a group, others will also follow, until a critical mass is reached and a virtuous cycle of reinforcement begins (NIKOU; BOUWMAN, 2014).

User behavior is influenced by social factors. In this case, the influence of friends and family can leada person to adopt unconscious behavior that might eventually become a habit. As the influence of others can impact user behavior, individuals often assume that using a certain application is useful and adds value to their daily activities (NIKOU; BOUWMAN, 2014).

Using social media means sharing information on many channels. So, the utility of social media could be said to be the way it connects users to other network users and to the information that those users create and share. This social impact is how much a person thinks that people who are significant to them think that a certain system should be used (HSU; LU, 2004). It is seen as an outside pressure to use it (or not use it at all).

Due to the arguments presented regarding the impact of *social influence* on the adoption of technology, systems, media and social networks, based on the literature, we have adopted this construct in the Conceptual Model proposed and articulated the following hypotheses.

H1a: *Social influence* positively influences *intention to use*.
H1b: *Social influence* positively influences *perceived usefulness*.
H1c: The impact of *social influence* on intention to use is mediated by *perceived usefulness*.

Entertainment

Although *perceived usefulness* was the main determinant of computer acceptance at work, pleasure and enjoyment also had significant effects (DAVIS *et al.*, 1989). *Entertainment* receives increasing attention in research into information systems in connection with TAM, for forecasting the uses of computers, the internet, instant messaging tools, e-learning and online shopping, among others (AYEH *et al.*, 2013). *Entertainment* has a strong effect on hedonic systems, such as games, systems for home and leisure use, and some other

contexts. A system is hedonic at the point when a user enjoys using it (HEIJDEN, 2004). We take *entertainment* as the extent to which social media activities are perceived as pleasurable and enjoyable.

Pleasure signifies the internal motivation or affective component that affects perceived ease of use and user acceptability (VENKATESH; BALA, 2008). If a system doesn't have joy built in, people will think it's hard to use and boring. The subjective enjoyment and objective usefulness of a system influence the perceived ease of use, subsequent to the individual's experiences with that system. Nonetheless, the impacts of happiness and anxiety generally diminish over time with computer usage (VENKATESH, 2000).

Current social media is associated with functionality that provides pleasure and entertainment, thereby configuring a hedonic system. Users who are entertained by a technology are more inclined to underestimate the difficulty of using it. We assume here that rural producers use social media in the long term for the gratification or pleasure they experience, which leads in turn to a perception of effort-free use. The role of *jouissance* is well-founded empirically (LIEN; CAO, 2014; LU; ZHOU; WANG, 2009, OLIVEIRA; HUERTAS; LIN, 2016, SHARMA; JOSHI; SHARMA, 2016). These rationalities lead to the following hypotheses:

H2a: *Entertainment* positively influences *intention to use*.
H2b: *Entertainment* positively influences *ease of use*.

Perceived Ease of Use

A lot of different kinds of people use social networks, which shows that it's easy to sign up and start using their services. Perceived ease of use is how easy it is to utilise a technology (like social media) or how easy it is to understand, learn, and/or operate a new idea (ROGERS, 1995). This construct predicts whether the user would be willing to put in the least amount of work needed to learn how to use a social media platform's features, share material, and engage with other users (RAUNIAR et al., 2014).

The social media vehicle must be intuitive and efficient at performing tasks in order to sustain the number and variety of users. In the original TAM model (DAVIS, 1986) and in most studies that involve it, *perceived ease of use* is directly linked to *perceived usefulness*. The following hypotheses are based in these terms:

H3a: *Perceived ease of use* positively influences *intention to use*.
H3b: *Perceived ease of use* positively influences *perceived usefulness*.

From the content presented in items 2.2 and 2.3, hypotheses were also constructed based on mediated relationships:

H2c: The impact of *entertainment* on *intention to use* is mediated by *perceived ease of use*.
H3c: The impact of *perceived ease of use* on *intention to use* is mediated by *perceived usefulness*.

Perceived Usefulness and Intention to Use

Perceived usefulness is how much a user thinks that utilising a certain social media site helps them reach their goals (RAUNIAR et al., 2014). Each social networking site has a few basic services that it delivers, as well as other sorts of tools that might make those services more useful for its users. Perceived usefulness denotes beneficial outcomes resulting from the characteristics of a specific technology under examination. The perceived usefulness is based on how useful people think this functional value of social media is.

The TAM assumes that beliefs or attitudes about *perceived usefulness* determine the *intention to use* technology and that it precedes the use itself (DAVIS, 1989; VENKAATESH; DAVIS, 2000). We take *intention to use* to mean the ongoing intent to perform social media activities.

The TAM was derived from the correlation between perceived usefulness and intention to use, as outlined in the Theory of Rational Action model (TRA) by Ajzen and Fishbein (1980). In the traditional hierarchy of the TRA (attitude-desire-behavior) model, a social media user's behaviour is dictated by their intention to engage in that behaviour, which is influenced by the perceived benefits of utilising the media.

Intention to use denotes a free choice made by an individual regarding the performance of a certain behaviour, achieved through a process of cognitive deliberation, conflict, and commitment, which may need significant time (DAVIS, 1986). This kind of intent shows that a person is ready to use a system. So, usage intent shows that a person's mental state about how they utilise social media is more steady.

Therefore, as users engage with social media, they experience its benefits and develop an *intention to use* it in the future. This intention elevates social media engagement in ways that are consistent with intentions formed from past experience. Such causality helps explain social media use. Thus, the next hypothesis is formulated.

H4: *Perceived usefulness* positively influences the *intention to use* social media.

In Figure 1, our conceptual model is presented based on the previously detailed hypotheses.

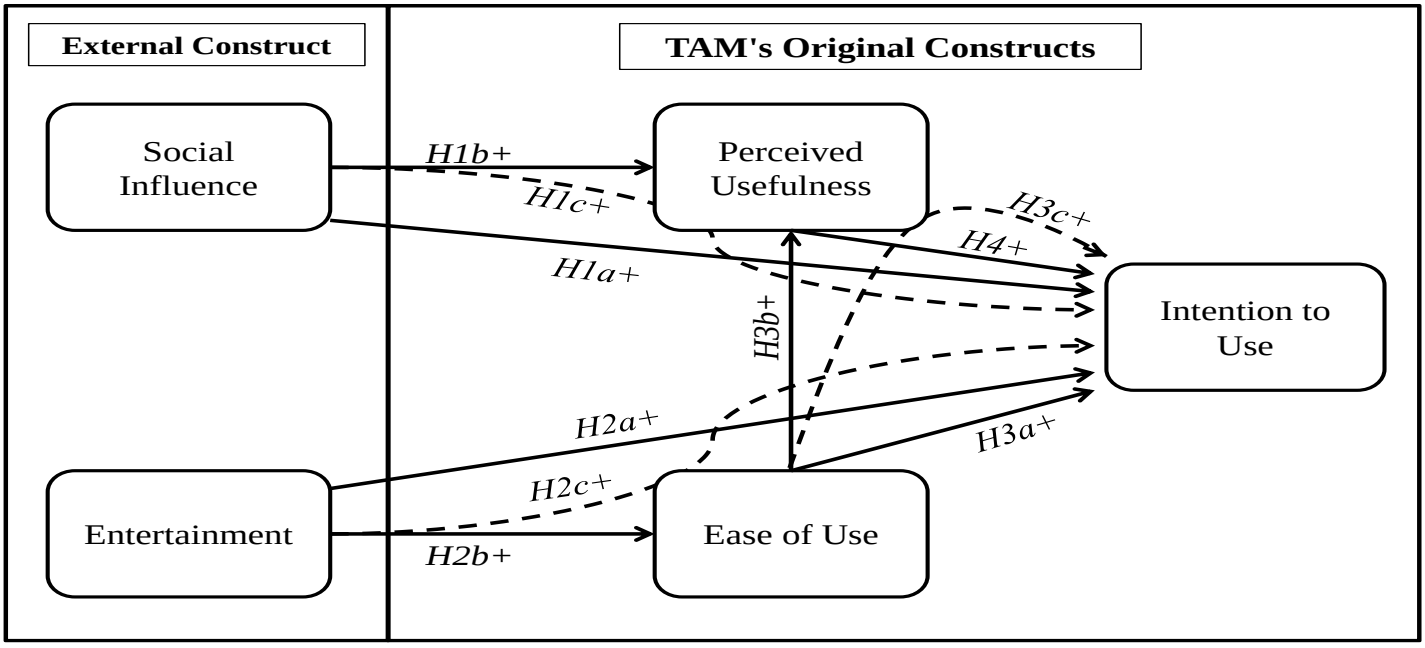

Figure 1. Conceptual Model
Source: prepared by the authors

Methods

In this step, the survey sample is presented, along with its descriptive analysis; this is followed by an analysis of the measurement model and, finally, an analysis of the structural model.

An online poll on Google Forms was used to collect data from April 19 to July 3, 2021. The target population consisted of rural producers—namely farmers and ranchers—functioning as people or legal entities, together with employed rural managers tasked with decision-making in agricultural operations. Because Brazil doesn't have a complete list of all the rural or livestock producers, it wasn't possible to utilise a probabilistic sample method. To make sure that the people who answered the questions were appropriate, the questionnaire included a screening item that asked if the people who chose to take part fit into one of the predetermined population categories and were willing to continue with the survey.

Using G*Power (version 3.1), we figured out that the minimum sample size needed for the study was 68 respondents. This was based on an average effect size of 0.15 and a statistical power of 0.80, which is in line with what is recommended for Structural Equation Modelling using the Partial Least Squares approach (PLS-SEM) (Ringle et al., 2014; Hair et al., 2014a). The principal researcher used messaging apps and email to send the questionnaire directly to more than 1,000 potential participants. This was a judgment-based sampling method. Respondents were also invited to share the survey link with coworkers and friends, which helped the snowball sampling method get more people to take part. The online questionnaire contained a concise overview of the research aims and contextual information regarding the researchers. Initially, 360 responses were collected; after initial screening and data verification, 310 questionnaires were deemed legitimate and preserved for further study.

The Harman single-factor test was used to look for Common Method Bias (CMB), which could come from the way the data was collected. This included performing an exploratory factor analysis without rotation and limiting the solution to a single component, ensuring that the explained variance remained below the 50% criterion (Hair et al., 2019, p. 744). Extra statistical tests were done to check if the dataset was normal and if it was good for structural equation modelling using the PLS method. Mardia's test, which was done with LISREL (version 8.8), was used to check for multivariate normality. The chi-square-based statistics for skewness and kurtosis yielded a p-value less than 0.0001, signifying that the dataset failed to meet the assumption of multivariate normality necessary for covariance-based SEM. Consequently, the PLS-SEM approach, which utilises correlation-based estimation and does not necessitate normal distribution assumptions, was employed (Hair et al., 2014b).

The study utilised measurement tools that were modified from previously validated scales established in prior research (Venkatesh & Davis, 2000; Venkatesh et al., 2003; Ko et al., 2005; Shen, 2012; Lee & Ma, 2012; Rauniar et al., 2014; Khan, 2017). A seven-point Likert scale, from "1 – total disagreement" to "7 – total agreement," was used to measure all of the constructs. The translation and validation of these scales into Portuguese adhered to a stringent multi-stage methodology (DeVellis, 2003; Hair et al., 2019). This process involved defining each construct conceptually, finding appropriate measurement scales in the literature, using reverse translation to make sure the language was correct, doing theoretical and face validation with three marketing experts to improve the wording of items and make sure they

fit together, doing semantic validation through a face-to-face pre-test with 40 people from the target population, and finally doing statistical validation through confirmatory composite analysis with PLS-SEM.

After that, structural equation modelling was done with SmartPLS (version 4.0) (Bido & Silva, 2019). The analytical method used a two-step process. First, the reliability and validity of the measurement models for each concept were checked. Second, the structural model was assessed to analyse the proposed links within the conceptual framework. The empirical results obtained from these analyses are delineated in the following section.

Results

This section considers the results relevant to the sample profile, the measurement models of the constructs, the structural model and, finally, a summary of the results of the hypotheses.

Sample Characteristics and Descriptive Analyzes

After sorting the data, with verification of cases of non-response, the sample was consolidated into 281 valid responses and the Mahalanobis test was performed. The results indicated 9.35% of extreme cases (outliers - 29 subjects), which were excluded. In addition, the CMB was evaluated. As a result, an explained variance value of 45.5% was obtained, indicating that the data can be considered without CMB. Thus, we considered it unlikely that the data collection method generated bias.

Most respondents are aged between 31 and 45 years (44.13%) and live in urban areas (67.62%). Almost the entire sample (more than 95%) has some form of internet access. The level of schooling in the sample is high: 70.82% have a higher level of education or postgraduate degree (ongoing or completed). More than 1/3 of agricultural properties (34.16%) are small (up to 78 hectares). About 2/3 (67.2%) of the sample use social media for both professional and leisure purposes.

The descriptive analysis considers each of the constructs used to prepare the proposed theoretical model: *social influence, entertainment, perceived usefulness, perceived ease of use, intention to use and frequency of use*. First, a simple tabulation of the survey results was compiled for the central tendency statistics analysis, as shown in Table 1.

It was noted that, for *social influence*, all observable variables averaged above 5, confirming that the public under investigation is sensitive to the influence of others regarding the use of social media. The variable INFSOC_3, which had the highest average (6.23), is highlighted.

From the perspective of the *entertainment* dimension, it is noteworthy that the ENT_1 and ENT_2 variables returned high and very similar averages, with values of 5.22 and 5.25 respectively, suggesting that social media is seen as an enjoyable pastime. This similarly occurred with the ENT_3 and ENT_4 variables, with the respective values of 4.99 and 4.93.

In *perceived usefulness*, the highest average was for the UTPER_1 variable (5.86), indicating that respondents value social media when it connects them to people they consider important. The averages of the UTPER_2 and UTPER_4 variables, respectively 5.48 and 5.74 are also high and show that respondents believe that social media is useful in their personal lives and at work.

For the *perceived ease of use* dimension, there was a high average for the three observable variables, with the highest being FACUSO_1 (6.01). This indicates that respondents find it easy to do what they want to through their use of social media.

The *intention to* use shows that INTUSO_1 and INTUSO_2 have higher averages (5.60), denoting that respondents intend to continue using social media to stay connected to contacts in their daily lives.

Table 1. Descriptive Statistics

VARIABLE		Weighted Average	Standard Deviation	Cronbach's Alpha
SOCIAL INFLUENCE				0.769
INFSOC_1	People important to me think I should use social media.	5.09	1.65	
INFSOC_2	People at my work who use social media become better known.	5.33	1.46	
INFSOC_3	Many of my friends have a presence on social media platforms.	6.23	0.97	
INFSOC_4	My coworkers have a presence on social media platforms.	5.93	1.24	
ENTERTAINMENT				0.849
ENT_1	I use social media to stay in touch with others.	5.22	1.51	
ENT_2	I use social media to meet people.	5.25	1.61	
ENT_3	I use social media to feel like I belong in a community.	4.99	1.77	
ENT_4	Social media helps me relax.	4.93	1.60	

PERCEIVED USEFULNESS				0.839
UTPER_1	Using social media allows me to (re)connect with people who are important to me.	5.86	1.27	
UTPER_2	Social media is useful in my personal life.	5.48	1.51	
UTPER_3	Using social media increases my productivity.	4.83	1.58	
UTPER_4	Social media is useful in my work.	5.74	1.40	
EASE OF USE				0.619
FACUSO_1	It's easy to do what I want when I use social media.	6.01	1.16	
FACUSO_2	Social media is easy to use.	5.53	1.37	
FACUSO_3	Interacting with social media doesn't require much effort.	5.01	1.56	
INTENTION TO USE				0.714
INTUSO_1	I will continue to use social media for my network.	5.60	1.38	
INTUSO_2	I intend to use social media in my daily life.	5.60	1.38	
INTUSO_3	I intend to use social media more often.	4.71	1.54	

Source: Research results

Analysis of the Measurement Model

Convergent validity was analyzed using Average Variance Extracted (AVE). In the first round of the PLS Algorithm, the analysis achieved the quality criteria of Fornell and Larcker (1981), with all AVEs > 0.50, guaranteeing convergent validity. The results obtained are shown in Table 1.

Table 1. Validity and reliability analysis

	Entertainment	*Ease of use*	*Influence*	*Usefulness*	*Intention*
Entertainment	0.829				
Ease of use	0.571	0.751			
Social influence	0.631	0.667	0.769		
Usefulness	0.595	0.615	0.752	0.821	
Intention to use	0.630	0.646	0.747	0.769	0.797
Cronbach's Alpha (CA)	0.85	0.62	0.77	0.84	0.71
Composite Reliability (CR)	0.90	0.79	0.85	0.89	0.84
Average Variance Extracted (AVE)	0.69	0.56	0.59	0.67	0.64

Source: prepared by the authors.

The CA test presumes that all variables possess comparable reliability, meaning they exhibit "equal factor loadings" for their respective constructs. But PLS-SEM ranks the indicators based on how reliable they are on their own. The CA is also sensitive to how many items are on a scale, and it usually underestimates reliability. So, it is better to utilise composite reliability, CR (Rho of Dillon-Goldstein), as a standard for internal consistency analysis because it is better for this kind of investigation (HAIR et al., 2014b).

The assessment of discriminant validity (DV) based on Chin's criterion (1998) demonstrated that the constructs are distinct, as all indicators exhibited greater factor loadings in their respective latent variables (LVs) compared to others.

Structural Model Analysis

The significance of the relationships (correlations and regressions) between the variables was performed through resampling (bootstrapping), with 1,000 subsamples. The reference value for analysis is $t \geq 1.96$ and the technique used is the Student's t test (HAIR *et al.*, 2014b). In all ratios values are greater than 1.96. Therefore, it can be stated that all relations and regression coefficients are significant.

The analysis revealed that the adjusted model has good structural quality and explanatory power (R^2, Table 2). For the area of social and behavioral sciences, Cohen (1988) suggests the following classification: R^2=2% small effect, R^2=13% medium effect and R^2=26% large effect (RINGLE *et al.*, 2014).

Predictive validity, an indicator of a model's goodness of fit, was assessed using the Stone-Geisser indicator (Q^2). As the values obtained are greater than zero (HAIR *et al.*, 2014b), the goodness of fit was proven (Table 2).

Effect size analysis using the Cohen Indicator (f^2) demonstrated that all constructs are useful for model adjustment and have a large effect, as the f^2 values are greater than 35% (Table 2); values of 0.02, 0.15, and 0.35 are considered small, medium, and large, respectively (HAIR *et al.*, 2014b).

Table 2. Model quality or power effect (R^2)

	R^2	Q^2	f^2
Entertainment		0.687	0.687
Ease of use	0.326	0.181	0.560
Social influence		0.592	0.592
Usefulness	0.588	0.384	0.673
Intention to use	0.685	0.428	0.647

Source: prepared by the authors.

Figure 2 shows the structural model, with the correlation values between the observable variables and the constructs, and the R^2 value and linear regression path coefficients between the LVs.

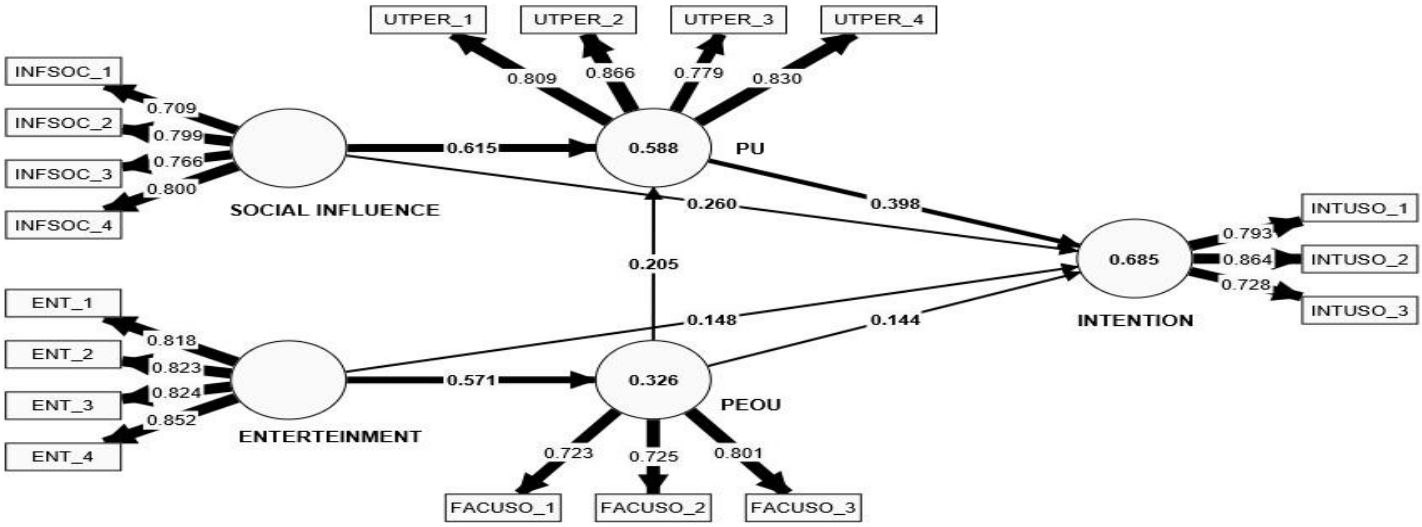

Figure 2. PLS Algorithm
Legend: PU: Utility Perceived; PEOU: Facility of Use Perceived
Source: model generated using the SmartPLS 4.0 software

The dependency ratios expressed in all hypotheses are significant (Table 3), thereby empirically supporting them (t value ≥ 1.96 for $p \leq 0.001$).

Table 3. Summary of the results– Hypotheses Tests

Hypotheses	Structural relationships – Direct effects	Structural coefficient (β)	t value	Conclusion
H1a	Social Influence → Intention to Use	.260	4.47	Confirmed
H1b	Social Influence → Perceived Usefulness	.615	11.57	Confirmed
H2a	Entertainment → Intention to Use	.148	2.83	Confirmed
H2b	Entertainment → Ease of Use	.571	12.56	Confirmed
H3a	Ease of Use → Intention to Use	.144	2.55	Confirmed
H3b	Ease of Use → Perceived Usefulness	.205	3.44	Confirmed
H4	Perceived Usefulness → Intention to Use	.398	6.60	Confirmed

Source: prepared by the authors.

The results of the constructs for the TAM model corroborate the original results (VENKATESH, 2000), since the relationships were all confirmed. Specifically, p*erceived usefulness* is the main direct determinant of *intention to use* (β=.398), while *perceived ease of use* has a much smaller effect (β=.144). The indirect effect of *ease of use* on *intention to use*, taking into account usefulness as a mediator, is also small (β=.082).

The two exogenous constructs included in the model showed a good result as antecedents of the original TAM constructs:

social influence - perceived usefulness (β=.615) and social influence - intention to use (β=.260). Social influence as an antecedent of perceived usefulness had a greater impact than one directly associated with intention to use. This means that when there is social influence, the perception of the usefulness of a given platform tends to increase. The results suggest that a rural producer takes into account the endorsement of a social group to recognize the usefulness of these means. Entertainment - perceived ease of use (β=.571) and entertainment - intention to use (β=.148), also had a positive influence. This suggests that the enjoyment factor of using social media means that rural producers underestimate the difficulty of using it.

Table 4. Analysis of the mediated relationships

Hypotheses	Structural relationships– Mediated	Structural coefficient (β)	t value	Conclusion
H1a	Social Influence → Intention to Use	.260	4.47	Confirmed
H1b	Social Influence → Perceived Usefulness	.615	11.57	Confirmed
H4	Perceived Usefulness → Intention to Use	.398	6.60	Confirmed
H1c	Social Influence → Usefulness → Intention to Use	.245	***5.76	Confirmed
	Total effect	.505		
H2a	Entertainment → Intention to Use	.148	2.83	Confirmed
H2b	Entertainment → Ease of Use	.571	12.56	Confirmed
H3a	Ease of Use → Intention to Use	.144	2.55	Confirmed
H2c	Entertainment → Usefulness → Intention to Use	.117	***3.52	Confirmed
	Total effect	.265		
H3a	Ease of Use → Intention to Use	.144	2.55	Confirmed
H3b	Ease of Use → Perceived Usefulness	.205	3.44	Confirmed
H4	Perceived Usefulness → Intention to Use	.398	6.60	Confirmed
H3c	Ease of Use → Usefulness → Intention to Use	.082	**3.16	Confirmed
	Total effect	.226		

*** $p \leq 0.000$; ** $p \leq 0.001$

Source: Prepared by the author.

In the case of mediated relationships (H1c, H2c and H3c), the hypotheses were confirmed and present the same type of mediation: partial and complementary (Table 4). Thus, in H1c, H2c and H3c, the indirect effect and the direct effect are significant and point in the same direction. In other words, the total effect on intention to use, caused by social influence, jointly considering the mediated relationship, is 50.5%. For H2c, with a lower intensity, entertainment generates a total effect of 26.5%, while for H3c, the total effect of perceived ease of use is 22.6%.

With the objective of verifying whether the extended model proposed by the present study was able to improve the explanatory power for the intention to use social media, an analysis of the explanatory power of the models was carried out: original TAM, TAM with exogenous variables (Entertainment and Social Influence) and TAM with the same exogenous variables, but with direct and mediated relationships (adjusted final model). The indicator analyzed was Pearson's coefficient (R^2) and the result is shown in Table 5. As can be seen, the model proposed had the best explanatory power among the three analyzed. This is the main contribution of the work.

Table 5. Comparison of model quality or effect power (R^2)

	TAM original	TAM with exogenous	TAM now adjusted
Intention to Use	0.624	0.639	0.685

Source: Prepared by the authors.

Overall, the Conceptual Model explains 68.5% of the intention to use, 58.8% of the perceived usefulness, and 32.6% of the ease of use.

Discussion

We added constructs and relationships to the TAM, to investigate the behavior of rural producers regarding the acceptance and use of social media. As hypothesized, there is empirical support for the TAM relationships, but the relationships with the suggested exogenous constructs are a highlight. Both sides positively impact on the dependent

variables. That is, rural producers demonstrate an intention to use social media if they perceive it to be useful and easy to use; and such intention also increases if it is enjoyable and their social group also uses it.

Corroborating the information systems literature, the adjusted model shows perceived usefulness as the main direct determinant of the intention to use social media (Venkatesh 2000). Ease of use is the weaker of the two traditional predictors of intention to use (DAVIS *et al.*, 1989; VENKATESH, 2000). Therefore, social media needs to be easy to use for a rural producer to create an account and start enjoying its services, but it is the perception of usefulness that will guarantee future behavior. Being intuitive, easy to understand, learn or operate makes the rural producer more willing to enjoy a platform.

The confirmation of social influence as a predictor of perceived usefulness and intention to use suggests that conformity, group norms and social identification processes, factors that form social influence, also influence acceptance of social media. According to Venkatesh et al. (2003), social influence in the adjusted model is one of the four determinants of intention to use. Going further, the model confirms the direct effects of the social influence and entertainment external variables on the intention to use. In line with Bagozzi (2007), the interaction between users of a social media program predicts their acceptance. And social influence ($\beta = .260$, $p < 0.001$) has a direct effect, stronger than ease of use ($\beta = .148$, $p < 0.001$), on the intention to use social media of rural producers in the sample.

Similar to the study by Nikou and Bouwman (2014), in which $\beta = .410$ ($p < 0.001$), in this article, social influence is a predictor of the perception of usefulness, with an even greater impact ($\beta = .615$, $p < 0.001$) and influences, indirectly, the intention to use. When mediated by perceived usefulness, the effect of social influence on intention to use has a weight similar to the direct impact ($\beta = .245$ against $\beta = .260$, $p < 0.001$, respectively), generating a strong total effect ($\beta = .505$, $p < 0.001$). The results, relating to the role of social influence for the adoption of social media by farmers and ranchers, justifies communicating its positive effect among its target audience. It would be interesting, in the context, to test this construct against other audiences, in order to establish whether it is possible to generalize the finding.

Furthermore, entertainment, which represents the hedonic value of using social media, influences intention to use ($\beta = .148$, $p < 0.001$). This aligns with previous works, which highlight the relevant effect of perceived pleasure in hedonic systems: $\beta = .250$, $p < 0.001$ (HEIJDEN, 2004); $\gamma = .258$, $p < 0.01$ (AYEH et al., 2013). Entertainment still has a strong impact ($\beta = .571$, $p < 0.001$) on the perception of ease of use, as in Ayeh et al. (2013) ($\gamma = 0.792$, $t = 33.453$, $p < 0.01$). This confirms that rural producers tend to adjust their perceptions as they gain practical experience of use.

The relationship between entertainment and ease of use proposed in this article is similar to Venkatesh & Bala (2008), but different from the model of Rauniar, et al. (2014), which – like other studies – establishes the relationship between entertainment and perceived usefulness. Here, the impact of entertainment is stronger on ease of use ($\beta = .571$, $p < 0.001$) than on perceived usefulness, as verified by other studies: $\beta = .180$, $p < 0.001$ (RAUNIAR *et al.*, 2014).

People think social networking is valuable to the same degree that they think it's easy to use. This TAM association indicates that simplicity and ease of interaction are significant factors influencing the perceived utility of a social media platform for the examined target audience. The numerous services, tools, and apps that social media platforms offer to make a user's life easier are advantages of the technology behind the media, such as how easy it is to use.

Conclusion

This article sought to examine the behavior of rural producers in the light of social media platforms. All hypothesized relationships were confirmed, corroborating existing theories and structures by presenting them in a new context. The adjusted model, which is an extension of the original TAM, was validated and returned a higher explanatory power value than the original model. Thus, we recommend it be adopted for future studies in the area of social media, in other contexts, or for the study of other technologies.

Perceived usefulness is the main dimension that directly impacts the intention to use social media. Furthermore, the additional constructs explored (social influence and entertainment) strongly impact on the significance of the model within the context proposed. Relationships with mediation were also confirmed as determinants of intention to use.

To get a lot of farmers to use their platforms, social media managers should focus on making them fun, easy to use, beneficial, and interactive. Once these benefits are experienced, they result in favourable attitudes and a commitment to reuse social media in the future, so cultivating a habit. In short, social media needs to make sure that a farmer feels more productive while they are using a platform.

Research findings imply social benefits. The use of social media as a tool for communicative educational activity has grown. As in the business environment, developing enjoyable, easy-to-use, useful and interactive platforms for educational purposes tends to increase user engagement, especially amongst rural producers. There is an opportunity to explore this finding by providing training and development for the target group, through social media platforms.

Limitations and Suggestions for Future Studies

The research limitations of this article must be recognized: firstly, as a result of the pandemic and a need for social

distancing, responses were exclusively collected electronically. Some producer profiles may have been missed from the sample as a result. In addition, no matter how comprehensive an attempt is made to send invitations nationally, due the limited circle of relationships of researchers, most respondents were from the state of São Paulo.

Even though the research used strict methods, non-probabilistic sampling by judgement doesn't let the results be generalised or conclusions be drawn about the whole population. However, because the goal of this research was to look at the possible interdependence between the variables evaluated, the convenience sampling method is appropriate (HAIR et al., 2019).

Future research could replicate the Conceptual Model in other contexts and with other samples, to address whether the findings could be generalized. In particular, it is important to know whether the constructs and relations added to the TAM, in its extended version, perform well in different populations (such as rural producers in other countries), whether in the domain of social media or in other emerging technologies.

In the model proposed, social influence plays an important role in the adoption of social media by farmers and ranchers. It would be advisable to test this construct among other audiences, in order to determine the possibility of generalizing this finding.

We believe that the findings of this empirical study, if confirmed in other studies, may be useful for future researchers and professionals in the field of social media. Entertainment and social influence, if confirmed, can be managed more competently, even in applications of an educational nature.

References

1. ABMRA. (2021). 8ª pesquisahábitos do produtor rural. *Associação Brasileirade Marketing Rural e Agro*.https://abmra.org.br/project/8-pesquisa-abmra/
2. Ayeh, J. K., Au, N., & Law, R. (2013). Predicting the intention to use consumer-generated media for travel planning. *Tourism Management*, 35, 132–143. https://doi.org/10.1016/j.tourman.2012.06.010
3. Bagozzi, R. P. (2007). The legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the Association for Information Systems*, 8(4), 244–254. https://doi.org/10.17705/1jais.00122
4. Bido, D. S., & Silva, D. (2019). SmartPLS 3: Especificação, estimação, avaliação e relato. *Administração: Ensino e Pesquisa*, 20(2), 1–31. https://doi.org/10.13058/raep.2019.v20n2.1545
5. Cheung, C. M. K., & Lee, M. K. O. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems*, 49(1), 24–30. https://doi.org/10.1016/j.dss.2009.12.006
6. Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), Modern Methods for Business Research (pp. 295–336). Lawrence Erlbaum Associates.
7. Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.
8. Davis, F. D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results (Doctoral dissertation, Massachusetts Institute of Technology).
9. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. https://doi.org/10.2307/249008
10. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982
11. DeVellis, R. F. (2003). Scale development: Theory and applications (2nd ed.). Sage Publications.
12. Dolan, R., Conduit, J., Fahy, J., & Goodman, S. (2016). Social media engagement behaviour: A uses and gratifications perspective. *Journal of Strategic Marketing*, 24(3–4), 261–277. https://doi.org/10.1080/0965254X.2015.1095222
13. Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(3), 382–388. https://doi.org/10.2307/3150980
14. Gan, C., & Li, H. (2018). Understanding the effects of gratifications on the continuance intention to use WeChat in China. *Computers in Human Behavior*, 78, 306–315. https://doi.org/10.1016/j.chb.2017.10.003
15. Geisser, S. (1974). A predictive approach to the random effect model. Biometrika, 61(1), 101–107. https://doi.org/10.1093/biomet/61.1.101
16. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.
17. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (9th ed.). Cengage Learning.
18. Heijden, H. van der. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, 28(4), 695–704. https://doi.org/10.2307/25148660
19. Hsu, C.-L., & Lu, H.-P. (2004). Why do people play online games? An extended TAM with social influences and flow experience. *Information & Management*, 41(7), 853–868. https://doi.org/10.1016/j.im.2003.08.014
20. Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of

social media. *Business Horizons*, 53(1), 59–68. https://doi.org/10.1016/j.bushor.2009.09.003

21. Khan, M. L. (2017). Social media engagement: What motivates user participation and consumption on YouTube? *Computers in Human Behavior*, 66, 236–247. https://doi.org/10.1016/j.chb.2016.09.024
22. Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241–251. https://doi.org/10.1016/j.bushor.2011.01.005
23. Ko, H., Cho, C.-H., & Roberts, M. S. (2005). Internet uses and gratifications: A structural equation model of interactive advertising. *Journal of Advertising*, 34(2), 57–70. https://doi.org/10.1080/00913367.2005.10639191
24. Lee, C. S., & Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior*, 28(2), 331–339. https://doi.org/10.1016/j.chb.2011.10.002
25. McKinsey & Company. (2020). A mente do agricultor brasileiro na era digital. http://www.aeaprcuritiba.com.br/admin/arquivos/A%20mente%20do%20Agricultor%20Brasileiro%20na%20Era%20Digital%20%5bAGCO%5d.pdf
26. Nikou, S., & Bouwman, H. (2014). Ubiquitous use of mobile social network services. *Telematics and Informatics*, 31(3), 422–433. https://doi.org/10.1016/j.tele.2013.11.002
27. Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: An empirical study on Facebook. *Journal of Enterprise Information Management*, 27(1), 6–30. https://doi.org/10.1108/JEIM-04-2012-0011
28. Riley, M., & Robertson, B. (2021). #farming365 – Exploring farmers' social media use and the (re)presentation of farming lives. *Journal of Rural Studies*, 87, 99–111. https://doi.org/10.1016/j.jrurstud.2021.08.028
29. Ringle, C. M., Silva, D. da, & Bido, D. S. (2014). Structural equation modeling with the SmartPLS. *Revista Brasileira de Marketing*, 13(2), 56–73. https://doi.org/10.5585/remark.v13i2.2717
30. Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). Free Press.
31. Shen, J. (2012). Social comparison, social presence, and enjoyment in the acceptance of social shopping websites. *Journal of Electronic Commerce Research*, 13(3), 198–212.
32. Venkatesh, V. (2000). Determinants of perceived ease of use. Information *Systems Research*, 11(4), 342–365. https://doi.org/10.1287/isre.11.4.342.11872
33. Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273–315. https://doi.org/10.1111/j.1540-5915.2008.00192.x
34. Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model. *Management Science*, 46(2), 186–204. https://doi.org/10.1287/mnsc.46.2.186.11926
35. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology. *MIS Quarterly*, 27(3), 425–478. https://doi.org/10.2307/30036540
36. We Are Social. (2021). Digital 2021: Brazil. https://datareportal.com/reports/digital-2021-brazil