





“Social media usage and competitive advantage of nascent agro-allied firms”

AUTHORS

Ikechukwu Eze 
Emmanuel Agbaeze 
Ejikeme Isichei 
Chinonso Eke 

ARTICLE INFO

Ikechukwu Eze, Emmanuel Agbaeze, Ejikeme Isichei and Chinonso Eke (2021). Social media usage and competitive advantage of nascent agro-allied firms. *Problems and Perspectives in Management*, 19(4), 395-407. doi:[10.21511/ppm.19\(4\).2021.32](https://doi.org/10.21511/ppm.19(4).2021.32)

DOI

[http://dx.doi.org/10.21511/ppm.19\(4\).2021.32](http://dx.doi.org/10.21511/ppm.19(4).2021.32)

RELEASED ON

Monday, 20 December 2021

RECEIVED ON

Monday, 18 October 2021

ACCEPTED ON

Wednesday, 01 December 2021

LICENSE



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

JOURNAL

"Problems and Perspectives in Management"

ISSN PRINT

1727-7051

ISSN ONLINE

1810-5467

PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

68



NUMBER OF FIGURES

1



NUMBER OF TABLES

3

© The author(s) 2021. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 18th of October, 2021
Accepted on: 1st of December, 2021
Published on: 20th of December, 2021

© Ikechukwu Eze, Emmanuel Agbaeze,
Ejikeme Isichei, Chinonso Eke, 2021

Ikechukwu Eze, Mr., Department of
Management, Federal University of
Technology Owerri, Nigeria.

Emmanuel Agbaeze, Ph.D., Senior
Lecturer, Department of Management,
Faculty of Business Administration,
University of Nigeria, Nigeria.

Ejikeme Isichei, Dr., Department
of Business Administration,
Federal University Wukari, Nigeria.
(Corresponding author)

Chinonso Eke, Mrs., Department of
Management, Federal University of
Technology Owerri, Nigeria.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution 4.0
International license](https://creativecommons.org/licenses/by/4.0/), which permits
unrestricted re-use, distribution, and
reproduction in any medium, provided
the original work is properly cited.



Conflict of interest statement:
Author(s) reported no conflict of interest

Ikechukwu Eze (Nigeria), Emmanuel Agbaeze (Nigeria), Ejikeme Isichei (Nigeria),
Chinonso Eke (Nigeria)

SOCIAL MEDIA USAGE AND COMPETITIVE ADVANTAGE OF NASCENT AGRO-ALLIED FIRMS

Abstract

The clear decreasing survival rate of nascent firms and their inability to compete favorably owing to increasing competition in their internal and external environment was the motivation for this study. Hence, the paper addressed fundamental issues on nascent firms' competitiveness through examining the direct and indirect influence of social media usage and technological infrastructure capability, respectively. Sample data of 265 nascent firm managers in the agro-allied sector were collected and analyzed with the aid of Hayes Regression Process Macro. The results showed that social media positively affects the competitive advantage of nascent firms. Further, the study found that technological infrastructure capability significantly affects the competitive advantage of nascent firms. The study found that technological infrastructure capability positively mediates the relationship between social media usage and nascent agro-allied firms' competitive advantage. The study advances the need for a change in the way nascent firms adopt social media and advocate that the use of social media can be supported through developing a gradual knowledge of technological innovation that is within the confines of the firms' resources.

Keywords

information, competitiveness, agribusiness, nascent firms, knowledge management

JEL Classification

M13, Q12

INTRODUCTION

The need to increase the competitiveness of nascent firms in the agro-allied sector in developing economies has attracted the attention of scholars in recent times. This is because of the poor survival rate of most nascent firms (Meso & Smith, 2000), most especially in the agro-allied sector. The constraint of access to new information and developing competencies that allow for converting new information to knowledge has remained a major drawback for nascent firms, most especially in developing economies (Filho et al., 2017). Hence, nascent firms must gain new knowledge and this can be gained through information gathering, and social media usage (SMU) has been found to provide businesses with relevant information (Balkrishna & Deshmukh, 2017).

The relationship between SMU and a firm's competitive advantage has attracted quite reasonable attention from Kwayu et al. (2018), Aswani et al. (2018), and Aimiuwu (2012). Despite the widespread agreement on the relevance of SMU in gaining competitive advantage, researchers have consistently failed to agree on the connection between the two variables, as Bulankulama et al. (2014) and Nord et al. (2014) found a positive link, while Ahmad et al. (2019), Al Bakri (2017) and Ainin et al. (2015) have shown a negative insignificant effect.

Two reasons could be advanced for this inconsistency, which are the limited perspectives on the different purposes of social media (SM) (Dodokh & Al-Maaitah, 2019; Schultz et al., 2012) and the existence of other factors that account for the relationship. This could explain the scholarly call for more research and the need to shift away from continually discussing principles of SM and redirect attention to identify the drivers and moderators that could account for SMU influence on the organizational outcome (Al Tawara & Gide, 2017; Tajvidi & Karami, 2017; Kim et al., 2015).

SMU provides information for firms (Tajvidi & Karami, 2017); but the information is valuable when the firm can convert the information into knowledge. However, converting the information to knowledge so that it can be stored, codified, and leveraged on to gain a competitive advantage demands the development of technological infrastructure capability (TIC) (Garcia-Morales et al., 2018). However, how this can be done given the resource constraints of nascent firms that have not been accounted for in literature, hence, justifying the current study.

In addition, another shortfall in previous studies is the lack of a consensus on how SMU and competitive advantage ought to be measured for nascent firms, as what makes a competitive advantage for nascent firms remains a critical point of debate among scholars (Gruber, 2007; Brush & Vanderwerf, 1992). In addition, there have been calls on unraveling the knowledge management systems adopted by start-ups and the relevance of knowledge management to nascent firms, which has remained unclear (Centobelli et al., 2017). In response to this call, this study explored the technological component of knowledge management, as it remains the most critical for start-ups (Centobelli et al., 2017).

The inconsistency on what stage a business could be categorized as a nascent firm could explain the limited studies on nascent firms and their SMU, most especially from an emerging economy perspective. Agribusiness literature seems to focus relatively on established firms with few studies covering nascent firms in developing economies. However, it is worthy to note that agribusiness is not homogenous, and what applies to large and small agribusinesses may not apply to nascent ones.

To address these shortcomings, the study examined the interplay between SMU and agro-allied firms' competitive advantage and the mediating effect of TIC, which is a novelty. Then, a novel way to measure social media, technological infrastructure, and competitive advantage for nascent firms in the agro-allied sector was introduced. Further, this paper argues that nascent firms in the agro-allied sector can gain competitive advantage using social media, and all other things being equal, the potential existence of TIC would positively account for SMU influence on nascent agro-allied firm's competitive advantage.

1. LITERATURE REVIEW AND HYPOTHESES

1.1. Theoretical basis

The lens through which this study was explored were the technology acceptance theory supported by the resource-based view theory (RBV). The technology acceptance theory has been credited to Davis (1989). The theory proposes that two key factors account for the use of technology: perceived ease of use and perceived usefulness. These factors affect the extent to which a user may desire to develop new skills, and developing new skills

depends on what motivates the user, which can be extrinsic and intrinsic (Zhu et al., 2012).

Following this line of argument, this study proposes a theoretical model on the indirect effect of TIC on SMU and competitive advantage. The application of the theory is hinged on the assumption that the use of SM technology is useful towards achieving unique outcomes such as gaining a competitive advantage, which is quite distinct from the activity itself. In addition, the study is based on the fact that when nascent businesses perceived ease of use is anchored on their knowledge capability, it will motivate the use of SM that will allow them to gain increased competitive advantage. The the-

ory has been criticized for failing to account for an organization's dynamics, social and human resources (Khan & Woosley, 2011). However, it is still useful in explaining the underlying factors that account for SMU and its probable outcome for the organization.

Given this drawback, the study adopted the RBV theory as a supporting theory, since it captures the resources and actions that organizations take to gain a competitive advantage. The theory has been linked to Barney (1991). The central argument of the RBV is that competitive advantage can be gained when the internal resources of an organization, which are non-substitutable, valuable, inimitable, and rare, are harnessed in this organization (Isichei et al., 2020). Internal knowledge of firms have been described as critical resources that can ensure increased competitiveness (Zack, 1999). When nascent firms can build their technological knowledge, it would lead to gaining competitive advantage, most especially when SM is adopted as a resource towards gaining market share, shaping opinions, news, updates and connecting with people, for getting regular feedbacks and constantly figuring out ways and means to appeal to consumers and create a niche in the segment.

1.2. Social media usage and nascent firms' competitive advantage

The SMU has changed the way businesses are managed globally (Jurado et al., 2019). The adoption of the traditional marketing approach of getting messages across to a consumer has seen a gradual decline in recent times, as the focus is rather on the adoption of modern technological means of communication. SM adoption for some businesses has been fast and for others, it has been gradual (Garcia-Morales et al., 2018). However, most businesses, if not all today, depend on SM to drive their communication needs, share information, and gather reliable data that could be as words, pictures, or videos (Dodokh & Al-Maaitah, 2019).

For this paper, SM comprises online sites and mobile applications that facilitate social networking, multimedia sharing, microblogging, social sharing of reviews, opinions, and questions, and answer forums, etc. In this paper, agro-allied firms are defined as firms that depend on agriculture

for their raw materials to operate efficiently in the production of finished goods that are useful to humans and other animals alike (Oraka et al., 2017). Social media usage ensures that there is information exchange between the firms and a broad range of actors in the sector, most especially, front-line extension agents that make up the direct link between the firms and other actors in the agricultural knowledge and information system (Suleiman et al., 2018).

Further, social media not only help them transform and foster relationships with diverse customer groups and other specialists in the agro-allied industry. It is also instantaneously available which makes it ideal for ongoing dialogue with the customers besides managing and educating them about the availability of a product, use of products, and storage, for example, chemicals and machinery among others.

The competitive nature of today's markets has placed greater demand on nascent businesses to re-evaluate their approach towards creating demands for their product and improving their overall performance. In this study, nascent firms are businesses that have operated for a maximum of one year in the industry. However, this excludes businesses that are for experimental purposes or undertaken by students as part of their learning process. This agrees with the definition of Reynolds (2007) who holds that nascent firms are businesses that are operating or have operated for a maximum of one year in a given business segment.

The most critical challenge faced by most nascent businesses is gaining a competitive advantage (Carsrud & Brännback, 2007). A business gains a competitive advantage when it surpasses competitors through delivering the same product to its market at a relatively lower cost or same product line but with varying desirable attributes (Wang et al., 2011). Competitive advantage for nascent businesses is reflective not basically in market share increase but also in their productive efficiency, expansion, and technological progressiveness. Customer satisfaction can also be a good basis for competitive advantage, as it ensures that customers would repeat purchases and market the firm through the word of mouth.

Reynolds and Curtin (2008) held that nascent businesses achieving a competitive advantage are often difficult given the challenge of limited capital to engage the best of human and technological resources and to be able to build a good reach for their business. Thus, there is a need for a flexible and relatively cheap medium to promote their business, increase customer base and awareness of their product. SM remains a unique and fast method through which firms can build their image and gain a reasonable customer base (Paniagua & Sapena, 2014).

SM is an avenue for the firm to inform their consumer about their products and services and in the process gain new ones. Pucci et al. (2019) found that SM leads to increased purchase intention and influences consumer buying behavior. Using SM for firms should not only be targeted towards improving an organization's sales volume but also to ensure market expansion, as expanding the business would gain them more sales, new information, and increased competitive advantage. Similarly, nascent businesses owners can use SM to gain a competitive advantage through the way their business communicates. There is a greater propensity for meeting market demands and gathering information on changing consumers' tastes through the two-way communication that SMU offers nascent businesses (Bhagat et al., 2009). Information extraction challenges encountered by nascent businesses can be further managed and resolved through the use of SM. Pucci et al. (2019) showed that SM provides an organization with greater reach and network.

Zhang (2015) indicated that the lack of capital affects new businesses, thus denying them the ability to gain quality and valuable information that will help the firm identify market demands, ways to satisfy its consumers, and pattern its operation towards accomplishing the same, leading to gaining competitive advantage. However, Liang and Yuan (2016) provided evidence that nascent businesses can raise capital through SM, thereby allowing them to gain a competitive advantage. In addition, Alexy et al. (2012) confirmed that overcoming capital challenges of nascent businesses could be attained through SMU.

Similarly, Wamba and Carter (2014) also showed that SM drives increased performance and accounted for new strategies development that firms undertake. However, Al Bakri (2017) found the link between SM and competitive advantage in SMEs to be insignificant. Bulankulama et al. (2014) confirmed that social has a significant effect on a business's competitive advantage.

1.3. Technological infrastructural capability and competitive advantage of nascent firms

Carter et al. (1996) opined that nascent firms could gain competitive advantage through developing requisite capabilities that will lead to business innovation; and knowledge management competence is critical for today's businesses, as it supports innovativeness through the development of critical capability required to improve performance. The relevance of knowledge management to organizational outcomes has been acknowledged by Kavalić et al. (2021) and Mohammedhussen and Abdulnasir (2020).

Gold et al. (2001) developed a framework of knowledge management that captures TIC as a dimension of knowledge management competence (KMC). TIC is the ability of an organization to develop and deploy information technology as an instrument to gain and convert knowledge towards learning and innovation (Mills & Smith, 2011). Ruggles (1998) observed that TIC can be useful towards the generation, codifying, and transfer of knowledge that would help improve organizational performance. TIC is the development of organizations' technological knowledge competencies that seek to allow organizations to use both internal and external technologies to gain new knowledge that would improve their performance (Gold et al., 2001)

Most organizations still invest heavily in the knowledge management infrastructure to collect, manage, and distribute knowledge within the organization more effectively and efficiently. Kavalić et al. (2021) opined that an organization manages and distributes knowledge that is useful for market performance through an increased technological learning process. The adoption of information technology allows a firm to easily gain increased

performance, thereby overcoming physical and time barriers. Wang et al. (2011) stated that TIC is a major source of competitive advantage, as the capability forms a resource that the firm can take advantage of for greater benefit. Meihami and Meihami (2013) and Torabi and El-Den (2017) found a direct effect between knowledge management capability and the firm's competitive advantage.

Capability building enhances an organization to gain a competitive advantage in any market it operates. Thus, the development of a strong enterprise-wide TIC would lead to increased competitive advantage. However, Seleim and Khalil (2007) and Mill and Smith (2011) found the link between TIC and organizational performance to be insignificant. However, Mill and Smith (2011) opined that TIC influence on performance is also likely to differ and to be unique among firms, thus leading to a greater avenue for competitive advantage.

1.4. The mediating role of TIC on the relationship between SMU and nascent firms' competitive advantage

SMU produces information for organizations (Zhang & Piramuthu, 2018). However, TIC as a dimension of knowledge management supports the creation of networks of relationships, which accounts for the process through which the information generated is codified, transferred, and made accessible to members of the organization, resulting in new knowledge that leads to increased performance (Gold et al., 2001; Ruggles, 1998).

SM helps interactions with customers and prospective ones through sharing of expectations that will help lessen the perception gaps, as people are the focus of SM, which is all about building relationships, information sharing, and bonding with diverse audiences (McCann & Barlow, 2015). Thus, when channeled through the deployment of a knowledge capability that supports sharing and learning new knowledge, it makes it easier to develop innovative ideas that would help the firm increase its market and gain increased competitiveness (García Sánchez et al., 2017; Majchrzak & Malhotra, 2016).

Nascent business owners' ability to combine SMU to a distinct TIC that involves knowledge and traditional resources would account for innovative resources that would give them a competitive advantage over their competitors. Morris and James (2017) opined that enhanced TIC helps farmers manage the environmental impact of their activities. The development of TIC would make ICT usage to be specific, coordinated, and directed towards the growth of an organization through solving complex problems.

Further, TIC supports the creation of new knowledge and mobilization of social capital (Gold et al., 2001), and SMU has been shown to contribute towards increased knowledge sharing (Khamali et al., 2018). Knowledge sharing is critical for ensuring that firms increase their competitive advantage. Morris and James (2017) opined that knowledge transfer is vital for agricultural enterprises, as it helps increase market performance. Gold et al. (2001) observed that the development of technological capabilities alone may not drive the desired level of performance; rather, it should be through the other business strategies in an organization. Thus, when nascent firms use SM as a business strategy and channel it through a developed TIC, it would be useful towards attaining increased competitiveness.

TIC strengthens continuous interaction among stakeholders, both internal and external (Khalifa & Liu, 2003), and the social responsibility demands of external stakeholders can be identified through SMU, which provides an organization with the avenue to satisfy them and improve the firm's competitive advantage. Garcia-Morales et al. (2018) found the indirect effect of technological infrastructural capability on SMU and organizational performance to be positive and significant.

Based on the above underlying theoretical arguments, it is evident that social media usage is useful for advancing the competitive advantage of nascent firms, and the development of technological infrastructure capability mediates the use of social media and the competitive advantage of the firms. Hence, the present study aims to examine the direct effect of social media usage on the competitive advantage of nascent firms and the indirect effect of technological infrastructural capa-

bility on the relationship between social media usage on the competitive advantage of nascent firms. Thus, the following hypotheses are formulated:

H1: SMU has a positive influence on nascent firms' competitive advantage.

H2: TIC positively influences nascent firms' competitive advantage.

H3: TIC positively mediates the relationship between SMU and nascent firms' competitive advantage.

2. METHODOLOGY

A survey design was adopted, and it was based on the large nature of the study population. The study sample was two hundred and seventy-nine (279) registered members from the six branches of the National Association of Nascent Agriculture business owners across the six zones in Nigeria. To select firms that actively qualified for the study, the emphasis was on firms operating maximally for the last six months of pre-registration with the association. Stratified random and purposive sampling was used in the identification of the samples that took part in the survey. The choice of the techniques was predicated on the need to select a representative sample covering a reasonable number of nascent firms in the country. Data were gathered through a questionnaire and the distribution and the retrieval of the instrument were carried out between November 2020 and January 2021. The technique used for analysis was Hayes Regression-based Process Macro.

Garcia-Morales et al. (2018) instrument was adapted to develop the measures of SMU. While their instrument was focused on determining the frequency of SMU, this study's research instrument was more on the frequency and knowledge of SM. The respondents were asked questions on selected SM platforms, such as Facebook, Snapchat, WhatsApp, Twitter, and Instagram. The choice of these platforms was because these are the most commonly used or known in Nigeria. The instrument was designed with a five-point Likert scale. Samples from the instrument "Our business uses and knows Facebook supports marketing ac-

tivities" are used. The instrument has five items. Before administering the instrument, it was subjected to content validity by two (2) experts in agricultural management and one (1) in measurement and evaluation. The comments and criticism formed a basis for the final instrument.

2.1. Technological infrastructure capability

The study adopted the measures of Gold et al. (2001) to measure the concept. The instrument was modified and adapted for this study. The scale was designed using a Likert format ranging from strongly agree to strongly disagree. Samples of the instrument "My business adopts technology that supports collaboration with other individuals outside the organization" and "My business adopts technology that supports us to retrieve and use knowledge about its markets and competitors" are used. The instrument has four items and was subjected to content validity before it was administered to the respondents.

2.2. Competitive advantage

The scale for competitive advantage was adapted from Chuang (2004) that relied on the scale that Byrd and Turner (2001) designed. The instrument was a five-point Likert scale that ranges from strongly agree to strongly disagree. The scale had five items and samples of the instrument "My business has offered an attractive price that would give us a strong market position", "My business offers innovative products based on my knowledge of the market", and "My business offers varying qualities that are not available in the market and our competitors are not offering". The instrument was subjected to content validity and the result from the reviews formed the basis of the final instrument administered to the respondents.

2.3. Control variables

Two key non-hypothesized control variables were tested, which are age and location of the business. This is premised on previous studies showing that these variables could influence SMU and the need to control for newness or inertia that are common with firm age and location likely to affect competitive advantage. Porter (1994) identified the influ-

ence of location on competitive advantage. With this, the location was measured and was formulated as a dummy variable by coding 1 as rural location and 0 as urban. The manager's years of experience with the industry were adopted as the age (Dodokh & Al-Maaitah, 2019; Cooper et al., 1994). The manager's previous knowledge of agri-business before establishing the firm was coded as 1 and no previous knowledge of the agri-business before starting was coded as 0 and considering the variables were time-invariant, an effort was made to collect them at the first contact.

3. RESULTS

The study retrieved two hundred and sixty-nine (269) answers. However, preliminary cleaning of the data led to the removal of four (4) answers due to issues related to incomplete filling. Hence, only two hundred and sixty-five answers were found suitable for the study analysis. The questionnaire was divided into sections and each section was separately served to the respondents. This was done to avoid prejudicial biases associated with the subjective instrument and to reduce the effect of common method variance since the same person was to answer questions related to both the independent and dependent variables. Further, Harman's single-factor test was conducted with the aid of SPSS and the output showed three un-rotated factors, and none of the factors explained more than 50% as Podsakoff et al. (2003) suggested. The covariance explained by a single factor was 36%, thus supporting the conclusion of the absence of CMB that could affect the study outcome.

Descriptive analysis was carried out to determine the demographic spread of the respondents. The result in Table 1 indicates that male participants were two hundred and forty-three (243) accounting for 92% of the respondents, while females were twenty-two (22) that is 8% of the respondents. The age distribution shows that a greater percentage of managers of nascent firms in the agro-allied sector are young adults 20-30 years old with one hundred and ninety-eight (198) accounting for (75%) of the total respondents. 31-40 age group had twenty-one (31) respondents, which is 12%. 41-50 – twenty-three (23) respondents, which is 9%. 50 years and above – thirteen (13) respondents, which

is 4% of the total respondents that took part in the survey. The descriptive analysis of the instruments shows that SMU was used mainly for advertising – 141 (53%), and sales – 69 (26%), followed by communication with suppliers – 45 (17%), and communication with employees – 10 (4%). The responses show a higher frequency of usage and knowledge of Facebook – 104 (39%), followed by Instagram – 66 (25%), WhatsApp Business – 52 (20%), Twitter – 38 (14%), and only 5 (2%) indicated Snapchat.

Table 1. Demographic characteristics

Source: Own results.

Variables	Frequency	Percentage (%)
Gender		
Male	243	92
Female	22	8
Age		
20-30 years old	198	75
31-40 years old	31	12
41-50 years old	23	9
50 and above	13	4
Social media usage		
Advertising	141	53
Sales	69	26
Communication with suppliers	45	17
Communication with employees	10	4
Frequency usage and knowledge		
Facebook	104	39
Instagram	66	25
WhatsApp Business	52	20
Twitter	38	14
Snapchat	5	2

Next, the data gathered were subjected to a normality test as the study adopted skewness-kurtosis approach to determine univariate normality for each variable. The result indicates that the data are normal, as the skewness and kurtosis coefficients for each variable were not above 3 and 8, respectively. Confirmatory factor analysis (CFA) was conducted to determine the validity of models. The measurement model was carried out first for individual construct (latent variable) before the overall measurement models that incorporate the latent constructs.

The study relied on the recommendation of Bagozzi and Yi (1998) and Tabachnick and Fidell, (2001) who suggested that comparative fit index

(CFI), Turker-Lewis index (TLI), and goodness-of-fit index (GIF) with a threshold of 0.90 and above indicates the model is fit. However, for the root-mean-square error of approximation (RMSEA) values within and below .60 are said to be fit. The SMU model had the chi-square = 123.865, $p > 0.001$, GFI = .929; NFI = .896; CFI = .906, TLI = .944, and RMSEA = .146 indicating the model is fit. In addition, all items loaded sufficiently and were retained for further analysis. TIC fit indices also reflected appropriately indicating a fit model from the confirmatory factor analysis result, chi-square = 617.132, $p > 0.001$, GFI = .980; NFI = .982; IFI = .986; TLI = .973; CFI = .986, and RMSEA = .093. Finally, the one factor model of competitive advantage showed a good fit from the CFA conducted as chi-square = 341.411, $p > 0.001$; GFI = .970; NFI = .980; TLI = .966; CFI = .983, and RMSEA = .118. Finally, the overall model was assessed and the result showed a more improved model fit as (χ^2) = 1537.701; GFI = .974; NFI = .920; CFI = .935; RMSEA = .150 indicating that the model is fit. All items loaded sufficiently above the threshold of .60 as Hair et al. (2010) recommended, as such, no item was dropped from the variables.

that the scale was reliable, as the coefficient value was above 0.70, as Creswell (2014) recommended. The study also used the average variance explained (AVE) towards determining the reliability of the result. Hair et al. (2016) recommended that, for scale reliability, AVE should be greater than 0.05. The result in Table 2 shows that the requirement has been fulfilled and satisfied. Further, convergent validity was assessed using Fornell and Larcker (1981) criterion that required that the squared AVE is greater than correlation. Table 2 depicts the result, and the squared AVE is placed diagonally. The results show that there is convergent validity established in the model. The result shows that $AVE > ASV$ and $AVE > MSV$ further support discriminant validity.

Cronbach's alpha was used to assess the internal consistency of the scales. The result revealed

The finding from the process macro result is presented in Table 3. The control variables were included in the model, though the result confirmed that they are not significant, as such showed no effect on the endogenous variable. At 95% confidence interval, the number of bootstrapping used was 5,000 to determine the significance of the paths.

The causal research hypothesis underlying the direct effect of SMU on a firm's competitive advan-

Source: Own results based on AMOSv23.

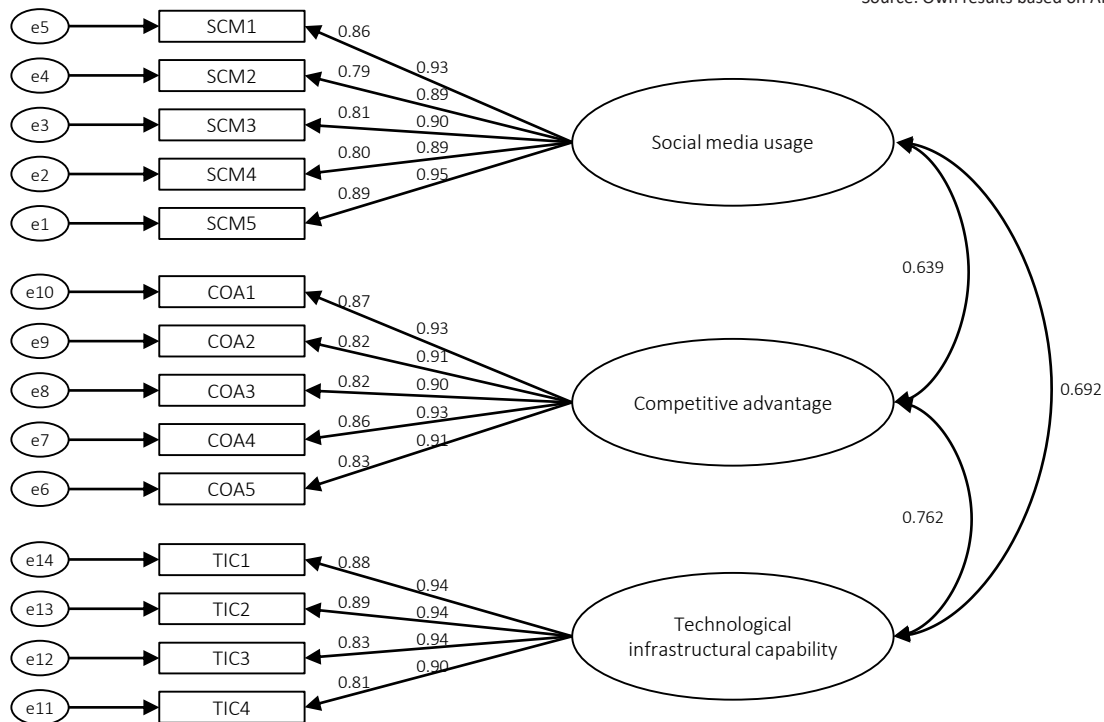


Figure 1. Confirmatory factor result

Table 2. Reliability and validity of constructs

Source: Own results.

Variables	CROA	AVE	MSV	ASV	Mean	SD	1	2	3	4	5
1 Social media usage	0.926	0.612	0.479	0.096	4.666	.427	0.782				
2 Technological infrastructural capability	0.884	0.596	0.408	0.082	4.702	.390	.692**	0.772			
3 Competitive advantage	0.928	0.627	0.581	0.145	4.701	.413	.639**	.762**	0.791		
4 Firm age (Control)	–	–	–	–	–	–	.064	–.002	–.031	–	–
5 Firm location (Control)	–	–	–	–	–	–	.038	.003	–.032	.012	–

Note: Squared rooted AVEs on diagonal. ** means correlation is significant at the 0.01 level (2-tailed). CROA = Cronbach's alpha, AVE = Average variance explained; MSV = Maximum shared variance and ASV = Average shared variance.

Table 3. Direct and indirect relationships between variables

Source: Own results.

Path relationships	(β)	SE	t	P-value	LLCI	ULCI	Decision
Competitive advantage \leftarrow Social media (<i>H1</i>)	.302	.058	5.055	.000	.180	.410	Accept
Competitive advantage \leftarrow Technological capability (<i>H2</i>)	.199	.061	3.310	.000	.081	.320	Accept
Competitive advantage \leftarrow Technological capability \leftarrow Social media (<i>H3</i>) (bootstrap indirect effect)	.064	.026	2.02	.000	0.022	0.122	Accept
Control variables							
Location \rightarrow Competitive advantage	–.169	.177	–.634	.947	–.568	.607	NS
Firm age \rightarrow Competitive advantage	.134	.295	.066	.526	–.468	.240	NS
$R^2 = .368$; $MSE = 1.492$; $F(13.599, p < 0.05)$							

Note: NS = Not significant and bootstrapping resamples.

tage was examined and the result in Table 3 indicates that the path representing this hypothesis produced a standardized beta coefficient ($\beta = .302$) and the bootstrapping result shows that the effect in this path is significant ($p < 0.05$). This implies that SMU has a significant positive effect on the nascent firm's competitive advantage; thus, *H1* was accepted. The study predicted TIC affects nascent firms' competitive advantage. Standardized beta ($\beta = .199$; $p < 0.05$) was obtained, thus, *H2* was accepted. Further, the mediating effect of TIC on SMU and nascent firms' competitive advantage was also confirmed using the indirect effect bootstrap standardized beta coefficient ($\beta = .064$; $p < 0.05$). Thus, given the Bootstrap CI_{95} does not fall less than zero (0.022 and 0.122). It confirms that the path is significant, hence, *H3* was accepted, though, it is not a full mediation. The result also shows that the mediator TIC accounted for approximately 17.9% of the total effect on competitive advantage of nascent firms. The control variables of firm age and location were found not to be significant as the p -value was greater than 0.01, as such, indicating that they had no significant influence on SMU and nascent firms' competitive advantage.

4. DISCUSSION

The study investigated the mediating role of TIC on SMU and nascent firms' competitive advantage. The study used a data sample frame of 265 respondents that was analyzed using a structural equation model. The result confirms that SMU has a direct effect on nascent firms' competitive advantage. The result is consistent with the findings of Bulankulama et al. (2014) who also found that SMU drives increased firms' competitive advantage. This result has closed the gap in limited empirical studies that have assessed SMU and the competitive advantage of nascent firms, most especially from an emerging economy context.

In addition, the result is consistent with Nord et al. (2014) who also found that SM is relevant towards gaining market advantage. The result differs from the outcome of Al Bakri (2017) who found that the path between SMU and competitive advantage is not significant. The difference in findings could be because Al Bakri (2017) concerned SMEs, while the current study researched nascent firms.

Further, the result indicates that TIC has a direct effect on a firm's competitive advantage. This finding is consistent with Garcia-Morales et al. (2018) who also found that TIC affects innovation performance. Meihami and Meihami (2013) also found a direct effect between TIC and competitive advantage. Torabi and El-Den (2017) also support the study findings. The outcome of the analysis provides a new perspective on the relevance of TIC as a nascent firms' source of competitive advantage. As such, they are expected to strengthen it towards building a consistent and enduring framework for the success of their SMU.

In addition, the result confirms that TIC mediates the relationships between SMU and nascent firms' competitive advantage. The mediation relationship is partial; however, it shows that to some extent it accounts for supporting SMU influence on nascent firms gaining competitive advantage. This finding is consistent with Garcia-Morales et al. (2018) who also found that TIC mediates the relationship between SMU and innovation performance. Thus, this implies that nascent firms channeling their SMU through a developed TIC would account for increased competitiveness.

CONCLUSION

The study researched the mediating effect of TIC on SMU and the competitive advantage of nascent firms. It was found that SMU affects the competitive advantage of nascent firms and TIC has a direct effect on nascent firms' competitive advantage.

Based on the findings, the study concludes that SMU affects agro-allied firms' ability to gain a competitive advantage. Managers of nascent firms in the agro-allied sector need to make an effort to ensure that they adopt SM as a medium of both sales and marketing, as it has shown to have a significant influence on gaining competitive advantage. The study concludes that TIC affects agro-allied firms' ability to gain a competitive advantage. It is evident that despite the apparent limited human and financial resource challenges of nascent firms, adopting a deliberate set of organizational strategic activities through a developed formal system would confer their sustainable competitive advantage. In addition, the study concludes that TIC partially mediates the relationship between SMU and the competitive advantage of nascent firms. Hence, nascent firms can take advantage of innovative knowledge management tools offered through technological opportunities in gaining competitive advantage.

AUTHOR CONTRIBUTIONS

Conceptualization: Ikechukwu Eze, Emmanuel Agbaeze.

Formal analysis: Ejikeme Isichei, Chinonso Eke.

Investigation: Ikechukwu Eze, Chinonso Eke.

Methodology: Emmanuel Agbaeze, Ejikeme Isichei.

Resources: Ikechukwu Eze.

Software: Emmanuel Agbaeze, Ejikeme Isichei.

Supervision: Ikechukwu Eze.

Validation: Emmanuel Agbaeze, Chinonso Eke.

Writing – original draft: Emmanuel Agbaeze, Ejikeme Isichei.

Writing – review & editing: Ikechukwu Eze, Emmanuel Agbaeze, Chinonso Eke.

REFERENCES

1. Ahmad, S. Z., Abu Bakar, A. R., & Ahmad, N. (2019). Social media adoption and its impact on firm performance: the case of the UAE. *International Journal of Entrepreneurial Behavior & Research*, 25(1), 84-111. <http://dx.doi.org/10.1108/IJE-BR-08-2017-0299>
2. Aimiwu, E. E. (2012). Building a competitive edge through social media. *Proceedings of the Conference on Information Systems Applied Research*. New Orleans Louisiana, USA. Retrieved from <http://proc.conisar.org/2012/pdf/2201.pdf>
3. Ainin, S., Parveen, F., Moghavvemi, S., Jaafar, N. I., & Mohd Shuib, N. L. (2015). Factors influencing the use of social media by SMEs and its performance outcomes. *Industrial Management & Data Systems*, 115(3), 570-588. <https://doi.org/10.1108/IMDS-07-2014-0205>
4. Al Bakri, A. A. (2017). The impact of social media adoption on competitiveness in the small and medium enterprises. *International Journal of Business Innovation and Research*, 13(2). <http://dx.doi.org/10.1504/IJBIR.2017.083542>
5. Al Tawara, A., & Gide, E. (2017). A comprehensive literature review on the adoption of social media marketing in some retailers in Jordan. *International Journal of Business and Management Studies*, 6(1), 221-256. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2960899
6. Alexy, O. T., Block, J. H., Sandner, P., & Ter Wal, A. L. (2012). Social capital of venture capitalists and start-up funding. *Small Business Economics*, 39(4), 835-851. Retrieved from <https://ideas.repec.org/a/kap/sbusec/v39y-2012i4p835-851.html>
7. Aswani, R., Kar, A. K., & Ilavarasan, P. V. (2018). Detection of spammers in twitter marketing: a hybrid approach using social media analytics and bio inspired computing. *Information Systems Frontiers*, 20(3), 515-530. <https://doi.org/10.1007/s10796-017-9805-8>
8. Bagozzi, R., & Yi, Y. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Sciences*, 16(1), 74-94. <https://doi.org/10.1007/BF02723327>
9. Balkrishna, B. B., & Deshmukh, A. A. (2017). A study on role of social media in agriculture marketing and its scope. *Global Journal of Management and Business Research*, 17(1), 33-35. Retrieved from https://globaljournals.org/GJMbr_Volume17/5-A-Study-on-Role-of-Social-Media.pdf
10. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://journals.sagepub.com/doi/10.1177/014920639101700108>
11. Bhagat, P., Klein, A., & Sharma, V. (2009). The impact of new media on internet-based group consumer behavior. *Journal of the Academy of Business & Economics*, 9(3), 83-94.
12. Brush, C. G., & Vanderwerf, P. A. (1992). A comparison of methods and sources for obtaining estimates of new venture performance. *Journal of Business Venturing*, 7(2), 157-170. [https://doi.org/10.1016/0883-9026\(92\)90010-O](https://doi.org/10.1016/0883-9026(92)90010-O)
13. Bulankulama, S. W. G. K., Khatibi, A., & Shokri, T. S. D. M. (2014). The effect of utilization of social media for competitiveness in Sri Lankan hotel industry. *International Journal for Innovation Education and Research*, 2(12), 127-132. <https://doi.org/10.31686/ijer.vol2.iss12.292>
14. Byrd, T. A., & Turner, D. E. (2001). An exploratory examination of the relationship between flexible IT infrastructure and competitiveness. *Information and Management*, 39(1), 41-52. [http://dx.doi.org/10.1016/S0378-7206\(01\)00078-7](http://dx.doi.org/10.1016/S0378-7206(01)00078-7)
15. Carsrud, A. L., & Brännback, M. (2007). *Entrepreneurship*. Westport, CT: Greenwood Press.
16. Carter, N. M., Gartner, W. B., & Reynolds, P. D. (1996). Exploring start-up event sequences. *Journal of Business Venturing*, 11(3), 151-166. [https://doi.org/10.1016/0883-9026\(95\)00129-8](https://doi.org/10.1016/0883-9026(95)00129-8)
17. Centobelli, P., Cerchione, R., & Esposito, E. (2017). Knowledge management in startups: Systematic literature review and future research agenda. *Sustainability*, 9(3), 361. <https://doi.org/10.3390/su9030361>
18. Chuang, S.-H. (2004). A resource-based perspective on knowledge management capability and competitiveness: an empirical investigation. *Expert Systems with Applications*, 27(3), 459-465. <https://doi.org/10.1016/j.eswa.2004.05.008>
19. Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9(5), 371-395. [https://doi.org/10.1016/0883-9026\(94\)90013-2](https://doi.org/10.1016/0883-9026(94)90013-2)
20. Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.
21. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technological. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
22. Dodokh, A., & Al-Maaitah, M. A. (2019). Impact of social media usage on organizational performance in the Jordanian Dead Sea cosmetic sector. *European Journal of Business and Management*, 11(2), 75-91. <http://dx.doi.org/10.7176/EJBM/11-2-09>
23. Filho, C. P. M., Caleman, S. M. Q., & Cunha, C. F. (2017). Governance in agribusiness organizations: Challenges in the management of rural family firms. *Revista de Administraco*, 52(1), 81-92. <https://doi.org/10.1016/j.rausp.2016.09.004>
24. Fornell, C., & Larcker, D. F. (1981). Structural Equation Models with Unobservable

- Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, 18(3), 382-388. <https://doi.org/10.1177/002224378101800313>
25. García Sánchez, E., García Morales, V. J., & Martín-Rojas, R. (2017). Do social networks and technological capabilities help knowledge management? *Journal of Technology Management & Innovation*, 12(4), 65-69. <https://doi.org/10.4067/S0718-27242017000400007>
 26. Garcia-Morales, V. J., Martín-Rojas, R., & Lardón-López, M. E. (2018). Influence of social media technologies on organizational performance through knowledge and innovation. *Baltic Journal of Management*, 13(3), 345-367. <https://doi.org/10.1108/BJM-04-2017-0123>
 27. Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214. <https://doi.org/10.1080/07421222.2001.11045669>
 28. Gruber, M. (2007). Undercovering the value of planning in new venture creation: A process and contingency perspective. *Journal of Business Venturing*, 22(6), 782-807. <https://doi.org/10.1016/j.jbusvent.2006.07.001>
 29. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). New York: Pearson.
 30. Hair, Jr. J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Thousand Oaks: Sage.
 31. Isichei, E. E., Agbaeze, K. E., & Odiba, M. O. (2020). Entrepreneurial orientation and performance in SMEs: The mediating role of structural infrastructure capability. *International Journal of Emerging Markets*, 15(6), 1219-1241. <http://dx.doi.org/10.1108/IJOEM-08-2019-0671>
 32. Jurado, E. B., Uclés, D. F., Moral, A. M., & Viruel, M. J. M. (2019). Agri-food companies in the social media: A comparison of organic and non-organic firms. *Economic Research-Ekonomska Istraživanja*, 32(1), 321-334. <https://doi.org/10.1080/1331677X.2018.1547203>
 33. Kavalić, M., Nikolić, M., Radosav, D., Stanisavljev, S., & Pečujlija, M. (2021). Influencing factors on knowledge management for organizational sustainability. *Sustainability*, 13(3), 1497.
 34. Khalifa, M., & Liu, V. (2003). Determinants of successful knowledge management programs. *Electronic Journal of Knowledge Management*, 1(2), 103-112. Retrieved from https://www.researchgate.net/publication/239604109_Determinants_of_Successful_Knowledge_Management_Programs
 35. Khamali, R., Thairu, & Wanja, R. (2018). Influence of social media on knowledge sharing practices in Kenyan universities: A case of Strathmore University. *Strategic Journal of Business and Change Management*, 5(4), 1816-1836. Retrieved from <https://strategic-journals.com/index.php/journal/article/view/994>
 36. Khan, A., & Woosley, J. M. (2011). Comparison of contemporary technological acceptance models and evaluation of the best fit for health industry organizations. *International Journal of Computer Science Engineering and Technological*, 1(11), 709-717.
 37. Kim, W. G., Lim, H., & Brymer, R. A. (2015). The effectiveness of managing social media on hotel performance. *International Journal of Hospitality Management*, 44, 165-171. <https://doi.org/10.1016/j.ijhm.2014.10.014>
 38. Kwayu, S., Lal, B., & Abubakre, M. (2018). Enhancing organisational competitiveness via social media: A strategy as practice perspective. *Information System Frontiers*, 20, 439-456. <http://dx.doi.org/10.1007/s10796-017-9816-5>
 39. Liang, Y. E., & Yuan, S. T. D. (2016). Predicting investor funding behavior using crunchbase social network features. *Internet Research*, 26(1), 74-100. <https://doi.org/10.1108/IntR-09-2014-0231>
 40. Majchrzak, A., & Malhotra, A. (2016). Effect of knowledge-sharing trajectories on innovative outcomes in temporary online crowds. *Information Systems Research*, 27(4), 685-703. <https://doi.org/10.1287/isre.2016.0669>
 41. Martín-Rojas, R., García-Morales, V. J., & Bolívar-Ramos, M. T. (2013). Influence of technological support, skills and competencies, and learning on corporate entrepreneurship in European technology firms. *Technovation*, 33(12), 417-430. <http://dx.doi.org/10.1016/j.technova-tion.2013.08.002>
 42. McCann, M., & Barlow, A. (2015). Use and measurement of social media for SMEs. *Journal of Small Business and Enterprise Development*, 22(2), 273-287. <https://doi.org/10.1108/JS-BED-08-2012-0096>
 43. Meihami, B., & Meihami, H. (2013). Knowledge management a way to gain a competitiveness in firms (evidence of manufacturing companies). *International Letters of Social and Humanistic Sciences*, 14(1), 80-91. <https://doi.org/10.18052/www.scipress.com/ILSHS.14.80>
 44. Meso, P., & Smith, R. (2000). A resource-based view of organizational knowledge management systems. *Journal of Knowledge Management*, 4(3), 224-234. <https://doi.org/10.1108/13673270010350020>
 45. Mills, A. M., & Smith, T. A. (2011). Knowledge management and organizational performance: A decomposed view. *Journal of Knowledge Management*, 15(1), 156-171. <https://doi.org/10.1108/13673271111108756>
 46. Mohammedhussen, M. I., & Abdulnasir, A. M. (2020). Social media, business capabilities and performance: A review of literature. *African Journal of Business Management*, 14(9), 271-277. Retrieved from <https://academicjournals.org/journal/AJBM/article-full-text-pdf/9BAE2CF64693>

47. Morris, W., & James, P. (2017). Social media, an entrepreneurial opportunity for agriculture-based enterprises. *Journal of Small Business and Enterprise Development*, 24(4), 1028-1045. <https://doi.org/10.1108/JSBED-01-2017-0018>
48. Nord, J. H., Paliszkievicz, J., & Koohang, A. (2014). Using social technologies for competitiveness: Impact on organizations and higher education. *Journal of Computer Information Systems*, 55(1), 92-104. <https://doi.org/10.1080/08874417.2014.11645744>
49. Oraka, E. O., Ocholi, A., & Ater, P. I. (2017). Social impact of agro-allied industries on the rural dwellers in Benue state, Nigeria. *Journal of Agribusiness and Rural Development*, 43(1), 157-162. <https://doi.org/10.17306/J.JARD.2017.00272>
50. Paniagua, J., & Sapena, J. (2014). Business performance and social media: Love or hate? *Business Horizons*, 57(6), 719-728. <https://doi.org/10.1016/j.bushor.2014.07.005>
51. Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
52. Porter, M. E. (1994). The Role of Location in Competition. *International Journal of the Economics of Business*, 1(1), 35-40. <https://doi.org/10.1080/758540496>
53. Pucci, T., Casprini, E., Nosi, C., & Zanni, L. (2019). Does social media usage affect online purchasing intention for wine? The moderating role of subjective and objective knowledge. *British Food Journal*, 121(2), 275-288. <https://doi.org/10.1108/BFJ-06-2018-0400>
54. Reynolds, P. D. (2007). New firm creation in the United States A PSED I overview. *Foundations and Trends in Entrepreneurship*, 3(1), 1-150. <http://dx.doi.org/10.1561/0300000010>
55. Reynolds, P. D., & Curtin, R. (2008). Business creation in the United States: Panel study of entrepreneurial dynamics II initial assessment. *Foundations and Trends in Entrepreneurship*, 4(1), 155-169. Retrieved from <https://www.nowpublishers.com/article/Details/ENT-022>
56. Ruggles, R. (1998). The state of the notion: knowledge management in practice. *California Management Review*, 40(3), 80-89. <https://journals.sagepub.com/doi/10.2307/41165944>
57. Schultz, R. J., Schwepker Jr, C. H., & Good, D. J. (2012). Social media usage: an investigation of B2B salespeople. *American Journal of Business*, 27(2), 174-194. <https://doi.org/10.1108/19355181211274460>
58. Seleim, A., & Khalil, O. (2007). Knowledge management and organizational performance in the Egyptian software firms. *International Journal of Knowledge Management*, 3(4), 37-66. <http://dx.doi.org/10.4018/IJKM.2007100103>
59. Suleiman, M. M., Ogakason, R. O., & Faruk, N. B. (2018). Influence of social media in promoting farmers' participation in agriculture. *Nigerian Journal of Agricultural Extension*, 19(1), 56-62. Retrieved from <https://orr.naerls.gov.ng/read/influence-of-social-media-in-promoting-farmers-participation-in-agriculture/file.pdf>
60. Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics* (4th ed.). Boston: Allyn and Bacon.
61. Tajvidi, R., & Karami, A. (2021). The effect of social media on firm performance. *Computers in Human Behavior*, 115, 105174. <https://doi.org/10.1016/j.chb.2017.09.026>
62. Torabi, F., & El-Den, J. (2017). The impact of knowledge management on organizational productivity: A case study on Koosar Bank of Iran. *Procedia Computer Science*, 124, 300-310. <https://doi.org/10.1016/j.procs.2017.12.159>
63. Wamba, S. F., & Carter, L. (2014). Social media tools adoption and use by SMEs: An empirical study. *Journal of Organizational and End User Computing*, 26(1), 1-16. Retrieved from https://www.academia.edu/29640353/Social_Media_Tools_Adoption_and_Use_by_SMES
64. Wang, W.-C., Lin, C.-H., & Chu, Y.-C. (2011). Types of Competitive Advantage and Analysis. *International Journal of Business and Management*, 6(5), 100-104. <http://dx.doi.org/10.5539/ijbm.v6n5p100>
65. Zack, M. H. (1999). Developing a knowledge strategy. *California Management Review*, 41(3), 125-145.
66. Zhang, J., & Piramuthu, S. (2018). Product recommendation with latent review topics. *Information Systems Frontiers*, 20(3), 617-625. <https://doi.org/10.1007/s10796-016-9697-z>
67. Zhang, Y. (2015). The contingent value of social resources: Entrepreneurs' use of debt financing sources in western china. *Journal of Business Venturing*, 30(3), 390-406. <https://doi.org/10.1016/j.jbusvent.2014.02.003>
68. Zhu, D., Lin, C. T., & Hsu, Y. (2012). Using the technological acceptance model to evaluate user attitude and intention of use for online games. *Total Quality Management & Business Excellence*, 23(7-8), 965-980. <https://doi.org/10.1080/14783363.2012.704269>