Dynamics in rural entrepreneurship – the role of knowledge acquisition, entrepreneurial orientation, and emotional intelligence in network reliance and performance relationship

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Abstract

Purpose – Social network and being a part of an established business network helps in the acquisition of resources. The purpose of this study specifically looked at the mechanisms through which network reliance (NR) influences the entrepreneurial performance (PERF) among rural farmer entrepreneurs in China.

Design/methodology/approach – The paper looks at the economic sociology perspective of social networks. A total of 450 rural farmer entrepreneurs were interviewed for the study. The study introduces emotional intelligence (EI) and entrepreneurial orientation (EO) into the relationship between NR, knowledge acquisition (KA) and entrepreneurial PERF.

Findings – The result shows that KA partially and positively mediates the relationship between NR and entrepreneurial PERF. EO is shown to moderate the relationship between KA and entrepreneurial PERF apart from its direct effect on entrepreneurial PERF. The EI of rural farmer entrepreneurs has a direct and significant effect on KA but does not moderate the relationship between NR and KA.

Originality/value – This study provides a new direction for extension education to rural farmer entrepreneurs. Knowledge building capacity programmes for rural farmer entrepreneurs should be an area of priority for extension education. Building the social capital and entrepreneurial capacities of rural farmer should be a new area of focus for policymakers. These measures will go a long to improving the capabilities of rural farmer entrepreneurs, which will, in turn, impact positively on their PERF.

Keywords Emotional intelligence, Knowledge acquisition, Entrepreneurial orientation, Entrepreneurial performance, Network reliance

Paper type Research paper

Introduction

This study through the concept of network theory explores the intervening mechanisms through, which network reliance (NR) influences entrepreneurial performance (PERF). Entrepreneurial orientation (EO), emotional intelligence (EI) and knowledge acquisition (KA) are postulated to be important intervening mechanisms through which entrepreneurs' networks reliance influence entrepreneurial PERF.

Being part of a common platform affords rural farmer- entrepreneurs the opportunity to continuously improve upon their innovative skills (Ferreira *et al.*, 2017). Rural farmer-entrepreneurs are at a great disadvantage when it comes to access to resources and domestic/regional markets (Niu *et al.*, 2008). Strong entrepreneurial social networks help in compensating for the resources limitations and discovering of markets (Farinha *et al.*, 2016). In the rural setting, NR will play a complementary role in information dissemination and knowledge sharing (Gretzinger *et al.*, 2016). It is not also the trust that is built through the social network but frequent exchanges of information and knowledge create opportunities for individuals to grow their respective enterprises (Matiaske, 2013).

In this article, we looked at the relationship that exists between rural farmer-entrepreneurs' NR and entrepreneurial PERF.

Rural farmer- entrepreneurs access to tangible resources such as property, equipment and capital are challenging (Thornhill and Amit, 2003), they, however, resort to intangible resources, which are valuable, rare, and inimitable in the quest to improve upon their PERF (Newbert, 2007). Thus, NR, in conjunction with an intangible (strategic) resource advantage, should facilitate stronger growth among rural farmer- entrepreneurs.

The purpose of the study is to examine the mechanisms through which NR by rural farmer entrepreneurs influences entrepreneurial PERF.

It is proposed that entrepreneurs who depend highly on their networks are more likely to acquire knowledge, which helps them improve upon their PERF. The study also extends the existing literature by looking at the mediation and moderation factors that interacts with NR, and KA to influence PERF. This study is an extension of the Song *et al.* (2017), which recommended for future researchers to consider the moderation effect of the economic situation, culture and emotions on the relationship between NR and opportunity recognition.

Theoretical background and hypothesis development

Being embedded in a social network is understood as an aggregate of the actual or potential resources and capabilities. As a result, the possession of durable business networks, are assumed preconditions for aspiring entrepreneurs (Gnyawali and Madhavan, 2001). In the process of building a social network, learning takes place and resources are combined for the benefit of actors (Rasmussen *et al.*, 2015). In the absence of financial resources, the possession of adequate knowledge will enable an entrepreneur to attract partners.

Generation of new creative and innovative ideas are viewed as having a constant interaction with the external environment (Axelsson and Easton, 2016). Being imbedded in a social network is an opportunity to tap into resources and capabilities that are closely linked to the network in which one is imbedded (Gnyawali and Madhavan, 2001).

The model is based on the premise that entrepreneurs in their quest to achieve higher PERF, rely heavily on the knowledge and the key to the KA is through a social network (NR) (Kazumi and Kawai, 2017).

The study puts forward a novel model of entrepreneurship, which analyses KA as mediators between NR and entrepreneurial PERF. As an extension of previous studies, the moderation effect of EO and EI were also captured in the model. The study hypothesizes

that EO moderates the relationship between KA and PERF whilst EI moderates the relationship between NR and KA.

The growing interest on (EI) as a key index of emotional self-efficacy motivated us to examine EI in the context of its moderation role in the relationship between NR and KA.

EO is a strategic posture of an entrepreneur through which he/she proactively engages in the environment scanning and resource/opportunity seeking actions from organizations and institutions with which they have or wish to build relationships (Li *et al.*, 2011). These entrepreneurs can be characterized as appreciating an open system mindset that seeks to proactively pursue entrepreneurial initiatives within established and emerging networks (Jiang *et al.*, 2018; Kreiser, 2011). It is, therefore, argued that the relationship between entrepreneurs' KA and PERF is strengthened through high EO.

Mediation of knowledge acquisition between network reliance and entrepreneurial performance

KA is proposed to play a mediation role between NR and entrepreneurial PERF. It is argued that through NR entrepreneurs are able to improve upon their PERF. NR by an entrepreneur, increases KA, which positively influence critical entrepreneurial activities, thus PERF. To back this assertion, stimulus-organism-reaction model is relied upon MacKinnon (2012). According to this model, an organism's psychological transition process mediates the relationship between environmental stimuli and reactions, thus the influence of NR (external stimuli) of an entrepreneur's reaction may be mediated by the KA (internal mechanisms).

The study by Udimal *et al.* (2017) asserted that accumulated human capital in the form of knowledge plays a critical role in the agribusiness PERF. However, the nature of knowledge relationship with agribusiness PERF is the question left unanswered.

The moderation effect of emotional intelligence on the relationship network reliance and entrepreneurial performance

Personality traits of an individual has a role to play on entrepreneurial activities (Frank *et al.*, 2007). EI reflects the level to which an individual attends to, processes, and act upon information of emotional nature at intra-personally and inter-personally. Petrides and Furnham (2001) brought two main distinctions into the classification EI, thus cognitive-emotional ability and emotional self-efficacy. The ability approach has to do with the ability to recognize the process and use emotion-laden information.

It is argued that entrepreneurship is an emotional process (Cardon *et al.*, 2012). According to Druskat and Wolff (2001), EI leaders are able to build group social identities among their employees, which leads to social cohesion and develops into productive emotional states (Ashkanasy and Humphrey, 2011). High EI leads to the building of collective identities to foster group loyalty, cohesion, interdependence, learning and relatedness.

Little has been done to assess whether trait EI has a specific role to play in the entrepreneurial process. As a result, the study brings in a new dimension by looking at the moderation role of EI in the relationship between NR and KA in the pursuit of entrepreneurial activities. Extant literature has been silent on this relationship.

The moderation effect of entrepreneurial orientation on the relationship between knowledge acquisition and entrepreneurial performance

According to Wales *et al.* (2013) in respect of motivation argument, high EO entrepreneurs often conceive and identify more opportunities. Therefore, they know the urgent need for

resources, which they work to acquire to pursue these opportunities (Teng, 2007). Identification of the resources will motivate the entrepreneur to act in a proactive and risk-taking manner to acquire the resources (Wilson and Appiah-Kubi, 2002).

Entrepreneurs high in EO are more likely to be granted opportunity by other network operators to access their resources because they are perceived as people of better quality and to have higher potential than low EO (Burt, 2009). Thus, entrepreneurs with higher EO may have access to golden opportunities to access resources within the network (Li *et al.*, 2011).

To respond to the demand for innovativeness, entrepreneurs are more likely to exploit shared perceptions and communication with network actors to acquire needed resources. The risky nature of external resources acquisition call for substantial expenditures and effort (Wiklund and Shepherd, 2003). The risk-taking is likely to play a role in NR because of the entrepreneur's willingness to collaborate in an uncertain environment. The proactive entrepreneur acts quicker rather than waiting and contemplating. This leads to the proactive entrepreneurs being known for "step-ahead0" tactics (Morgan and Strong, 2003) and taking first-mover advantages (Lumpkin and Dess, 1996), helping the firm to be among the first to leverage surrounding resource acquisition opportunities. It is, therefore, hypothesized that EO will moderate the relationship between KA and PERF.

Methodology
Measurement of variables
Knowledge acquisition. According to Storper (1997), learning within an economy is an ensemble of competitive odds, impetuous in nature and is caused by capitalism new mental capacity. This form of learning requires a blend of cosmopolitan and non-cosmopolitan knowledge in other to strive within a competitive business environment. The most important features of cosmopolitan knowledge are accessibility, reproducibility, and standardization as a result entrepreneurs do not have to participate in daily activities in other to acquire it.

Sullivan and Marvel (2011) rationale for measurement of entrepreneur's KA, was adopted for the study. Farmers were asked to rate the quality of knowledge they gained. The following are some of the questions that were asked: "i gained new knowledge of different technologies important for my business", "i gained new hands-on experiences with a technology that is important for my business" and "i gained new knowledge about how the market would function in business". Five-point Likert scale was used ranging from "1-strongly disagree" to "5-strongly agree".

Emotional intelligence. The personality traits of an entrepreneur are essential in entrepreneurial activities (Frank *et al.*, 2007). EI shows the level at which an individual attends to, processes, and act upon information of emotional nature at intra-personally and inter-personally. According to Petrides and Furnham (2001), there are two main distinctions into the classification of EI, thus cognitive-emotional ability and emotional self-efficacy. The ability of an individual to recognize the process and make use of emotion-laden information is associated with cognitive-emotional ability.

Wong and Law (2002) scale for the measurement of EI was adapted for the study. The scale is in line with the definition of EI by Mayer *et al.* (1999). EI is further grouped into; self-emotional appraisal, others' emotional appraisal, regulation of emotions and utilization of emotions. Some of the observed items included in the model for analysis are; "i have a sense of why I have certain feelings most of the time, i am sensitive to the feelings and emotions of others, i am a self-motivated person". The responses were based on a five-point Likert scale with "1-strongly disagree" and "5-strongly agree".

Entrepreneurial orientation. According to Wales *et al.* (2013) innovativeness, proactiveness and risk-taking are the main dimensions of EO. Entrepreneurial incentives help to create and sustain the entrepreneurs' EO and nurtures entrepreneurial culture in the organization (Mishra, 2017). Proactiveness is taking of initiatives in an attempt to influence ones environment to take advantage of opportunities (Lumpkin and Dess, 1996). Risk-taking is the degree to which an entrepreneur is willing to commit him/her resources to an activity that has a chance of reasonably costly failure (Miller and Friesen, 1978). Innovativeness is the tendency of an entrepreneur to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services or technological processes (Lumpkin and Dess, 1996).

According to Wales *et al.* (2013) in respect of motivation argument, high EO entrepreneurs often conceive and identify more opportunities. Identification of the resources will motivate the entrepreneur to act in proactive and risk-taking manner to acquire the resources (Wilson and Appiah-Kubi, 2002). Entrepreneurs high in EO are more likely to be granted opportunity by other network operator to access their resources because they are perceived as people of better quality and to have higher potential than low EO entrepreneurs (Burt, 2009).

The ability of an entrepreneur is essential in the acquisition of resources as it is a risky venture and requires complementary skills (Winborg and Landström, 2001). In this regard, an entrepreneur high in EO is likely to act more proactively and eagerly contact potential network partners to make them aware of cooperation benefits and design an attractive cooperation plan.

The risk-taking is likely to play a role in NR because of the entrepreneurs' willingness to collaborate in an uncertain environment.

Performance. PERF as a construct in marketing is multidimensional (Olson *et al.*, 2005). PERF encompasses both financial and non-financial goals that are crucial to the entrepreneur (Ittner *et al.*, 1997). Different researchers have used varied financial and non-financial goals of a firm to measure PERF. Extant literature has shown that there is a positive correlation between objective and subjective measure of PERF (Morgan *et al.*, 2004). This study has, therefore, resorted to the subjective measure of PERF because of the nature of activities of entrepreneur especially rural farmer- entrepreneurs, which will be extremely difficult to quantify if not impossible. Some of the observed indicators for entrepreneurial PERF are:

> Compared to our competitors, our company's market share is very high, Compared to your competitors, the growth of our company is very high, A number of new products have been developed by our company over the past three years.

The responses were based on a five-point Likert scale with "1-strongly disagree" and "5-strongly agree".

Network reliance. NR is an essential element in the promotion of strong ties. Information asymmetry is the major challenge that many entrepreneurs are confronted within their daily operations (Song *et al.*, 2017). The challenge of information asymmetry can be carefully dealt with if entrepreneurs and their resource suppliers are well connected, as people are more likely to volunteer information with those they trust (Tsai and Ghoshal, 1998). Behaving in a trustworthy manner towards investors will enable entrepreneurs to obtain capital from angel investors (Maxwell and Lévesque, 2014). Time is effectively managed through NR, as an entrepreneur will not invest much time in bargaining and cross-checking because of the trust that is already established through NR (Dyer and Singh, 1998).

This study adapts Ganesan (1994) definition of NR, thus the preparedness of an entrepreneur to rely on and trust other partners' expertise, purpose and motives. There is an emerging new paradigm in agriculture that is completely different in economic, ethical and social foundations. The old paradigm dealt so much on the concept of rivalry between firms (Porter, 2000) but the new paradigm has its foundation on the strategic alliance, on the ability of firms to network and maintain stable relationships that create a relational advantage. Rural development will largely depend on how the players in the various agricultural sectors will be able to interact. The new era of agricultural paradigm means a new agricultural governance that revolves around dialogue, agreement, inclusion, participation, involvement, cooperation, networking, coordination, multi-sector and responsibility (Gurrieri et al., 2013). Through this agriculture becomes a "system", which is able to strive in the midst of disagreements and reinforces its stand in the supply chain. Despite partisan disagreements, is able to prevail and to reinforce its status in the supply chain.

Despite the enormous benefits on NR to entrepreneurs, research on mechanisms through which it influences entrepreneurial PERF has not received the needed attention especially at the level of rural economy. This, therefore, calls for more academic deliberation on the effect of NR by rural farmer-entrepreneur on PERF.

Choi et al. (2013) and Ganesan (1994) rationale for measurement of entrepreneur's NR was adapted for the study. Rural farmer entrepreneurs were asked to rate how much they relied on their business networks on the five-point Likert scale of "1-strongly disagree" to "5-strongly agree". The questions included "if our relationship was discontinued with these business networks, there would be difficulties, which would impact future growth", "we are dependent on knowledge gained from our business networks", and "our business network is trustworthy".

Study sample

The study sample includes rural farmer entrepreneurs in four provinces in China. The provinces were purposively selected because of their rural entrepreneurial activities. They include Jiangsu, Zhejiang, Guangxi and Anhui provinces. The study concentrated mainly on rural farmer- entrepreneurs who have to be in entrepreneurial activities for five years or more. This is because it takes time for one to develop a social network for him/her business. Hence, the inclusion of entrepreneurs who are beginners would have defeated the essence of the study, which is mainly on social networks.

Rural farmer entrepreneurs were purposively selected, as they are the study participants. Simple random technique was used to select the required study participants. In total, 120 rural farmer entrepreneurs were randomly selected for the study using the simple random technique. The z-score value of 1.96 for a 95 per cent confidence interval and ± 0.045 margin of error were used in calculating the sample size. There was no prior judgment for the p-value; as a convention, we used a p-value of 0.5. In addition, 480 rural farmer entrepreneurs took part in the survey. Questionnaires were administered from face to face interaction. In total, 30 questionnaires were not completed and were not used in the analysis. In total, 450 questionnaires were used for the analysis.

Empirical model

Structural equation model was adopted for the study. This is because the study is based on the measurement of the relationship between variables. All the variables were measured in construct form. PLS-SEM model was adopted for the analysis. The model has found great acceptance among management scholars in operations management, information system

management, marketing management and organizational behaviour and human resource management (Hair *et al.*, 2012). PLS-SEM has been adopted for the following reasons; it is more appropriate for theory building, ability to handle complex relationships, and it poses little restriction to sample distribution and sample size (Lowry and Gaskin, 2014). SmartPLS 2.0 M3 software was used for the analysis.

Measurement model result

Table I below presents the result on the reliability and validity of the constructs used for the study. The internal reliability indicates test tells how strong the measuring items are holding together in measuring the respective construct. All the constructs met the minimum required criteria for their inclusion. For the Cronbach's alpha, a minimum value of 0.70 is required but for our constructs, they all met the criteria. The composite reliability for constructs is supposed to be > 0.6 to justify their inclusion. In this study, composite reliability for all the constructs are > 0.6 meaning all the measurement items are holding strongly together for their respective constructs. It is required that AVE of a construct should meet a standard of > 0.5 before its measurement items can be described as holding together. According to Bagozzi *et al.* (1991) AVE value of 0.5 or more is generally the acceptable but some researchers have suggested a minimum AVE value of 0.4 (Diamantopoulos *et al.*, 2000). As shown in Table I above all the AVE values are above 0.5 and are within the acceptable region by Bagozzi *et al.* (1991). The composite reliability for the constructs was also determined. It ranges from 0.767 to 0.879 exceeding the minimum criteria of 0.6 recommended by Bagozzi and Yi (1988). This requirement was satisfied by all the constructs presented in Table IV below. The VIF values were all > 3 satisfying the condition of no collinearity problem (Diamantopoulos and Siguaw, 2006). The factor loadings are presented in Appendix 1.

Table II below presents the result on discriminant validity indicates the measurement model of a construct is free from redundant items. The redundant items need to be identified and deleted re-run the measurement model. The redundant pairs could be constraint-free parameter estimate. There are no issues of redundancy. The square root values of AVE for all constructs are also greater than their respective correlation values.

Result of R^2 and Q^2

Table III below presents the result on R^2 measuring the structural model. The value for R^2 range from 0 to 1 with a higher value indicating a higher level of predictive accuracy (Joe F

Constructs	Cronbach's alpha	rho_A	CR	AVE
EI	0.769	0.813	0.741	0.573
EIRE	0.807	0.925	0.878	0.707
EIU	0.814	0.816	0.878	0.643
EO	0.846	0.791	0.770	0.793
EOI	0.832	0.834	0.888	0.666
EOP	0.738	0.786	0.848	0.651
KA	0.766	0.767	0.865	0.681
NR	0.807	0.823	0.872	0.630
PERF	0.839	0.847	0.885	0.608

Notes: EI = emotional intelligence; EIRE = emotional intelligence regulation, EO = entrepreneurial orientation, EOI = entrepreneurial orientation innovativeness, EOP = entrepreneurial orientation proactiveness, KA = knowledge acquisition, NR = network reliance and PERF = performance

Table I.
Construct reliability
and validity

Hair *et al.*, 2011). The values range from 075, 0.50 and 0.25, which can be described as substantial, moderate and weak, respectively. It measures the predictive accuracy of the model. The R^2 tells the combined effect of the endogenous latent variables and the proportion of variance in the endogenous latent variable explained by the exogenous variables linked to it (Hair *et al.*, 2013).

The blindfolding was to cross-validate the model's relevance for individual endogenous constructs. In this study, Q^2 values range from 0.012 to 0.619 and indication of small, medium and large effect sizes. All the Q^2 values are > 0 establishing that PLS structural model has a predictive relevance Hair *et al.* (2013).

Result on f^2

The effect size for each path model was determined by calculating Cohen's f^2. The f^2 effect size tells the changes that occurs in R^2 when a specified exogenous variables are omitted from the model (Joseph F Hair *et al.*, 2013). The study shows that the effect size of exogenous constructs on endogenous constructs ranges from small to large (Table IV).

Structural model result

The model quality was determined using various quality criteria. Figure 2 below presents the result on the relationship between NR and rural farmers' entrepreneurial PERF. Before various hypotheses were tested reliability and validity, tests were conducted. This was achieved using SmartPLS 2.0 M3 software. The result shows that the hypothesized model comprising of NR, entrepreneurial PERF, KA, EI and EO has a good fit of the data set.

Constructs	EI	EIRE	EIU	EO	EOI	EOP	KA	NR	PERF
EI	0.757								
EIRE	0.160	0.841							
EIU	0.244	0.055	0.802						
EO	0.363	0.669	0.273	0.891					
EOI	0.133	0.292	0.038	0.670	0.816				
EOP	0.360	0.045	0.564	0.277	0.033	0.807			
KA	0.471	0.062	0.371	0.285	0.055	0.948	0.825		
NR	0.378	0.082	0.371	0.179	0.092	0.369	0.394	0.794	
PERF	0.240	0.118	0.228	0.192	0.137	0.244	0.245	0.231	0.780

Source: Author's calculation

Table II.
Latent variable correlations

Constructs	R^2	R^2 adjusted	Q^2	Effect size
EIRE	0.026	0.023	0.012	Small
EIU	0.989	0.988	0.585	Large
EOI	0.940	0.940	0.619	Large
EOP	0.077	0.075	0.054	Small
KA	0.944	0.944	0.582	Large
PERF	0.095	0.089	0.055	Small

Source: Author's calculation: small: $0.0 < Q^2$ effect size < 0.15; medium: $0.15 < Q^2$ effect size < 0.35; large: Q^2 effect size > 0.35

Table III.
Result of R^2 and Q^2

The result shows that reliable NR has a positive effect on entrepreneurial PERF ($t = 2.035$, $p < 0.05$) and KA ($t = 4.167$, $p < 0.05$), respectively. The result on the effect of KA on entrepreneurial PERF shows a positive significant relationship ($t = 2.232$, $p < 0.05$). The results show that there exist a significant positive relationship between NR and entrepreneurial PERF on the one hand and KA and entrepreneurial PERF on the other hand. This supports the hypothesis that there exist a positive significant relationship among the

	EI	EIRE	EIU	EO	EOI	EOP	KA	NR	PERF
EI		0.026	86.007				14.056		
EIRE									
EIU									
EO					15.682	0.083			0.015
EOI									
EOP									
KA									0.020
NR							0.015		0.021
PERF									

Notes: Small: $0.0 < f^2$ effect size < 0.15; medium: $0.15 < f^2$ effect size < 0.35; and large: f^2 effect size > 0.35.
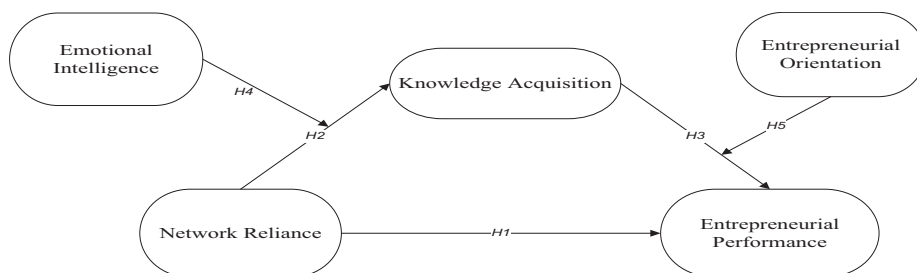
Table IV.
Result on f^2
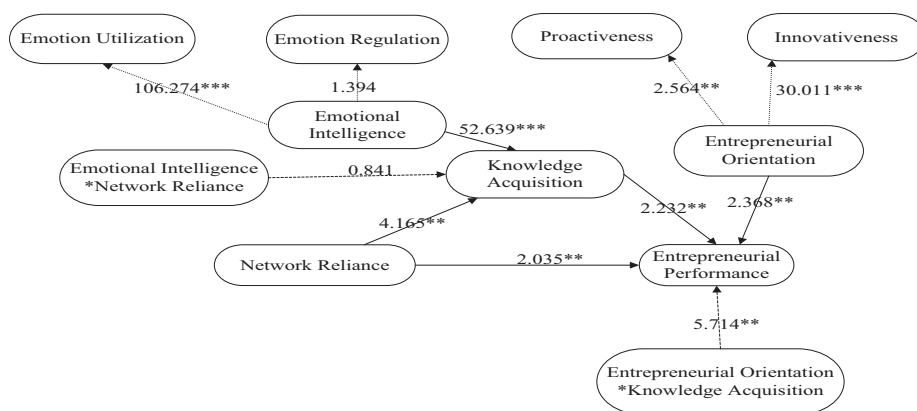

Figure 1.
Hypothesized model

Figure 2.
Structural model

above constructs. To account for the how much of the direct path is absorbed, variation accounted for (VAF) was calculated. KA has a VAF value of 0.82, which satisfies the condition for full mediation (if $0.20 < VAF < 0.80$) (Hair *et al.*, 2013). This implies that about 82 per cent of the total effect of NR on entrepreneurial PERF is explained by an indirect effect (KA). The result shows that KA fully mediates the relationship between NR and entrepreneurial PERF ($t = 9.301 < 0.001$). The result on indirect effect and mediation effect are shown in Tables AIII and AIV on Appendixes 3 and 4, respectively. The path analysis is shown in Appendix 2.

It is also hypothesized that the effect of KA on entrepreneurial PERF would be positive for entrepreneurs with high EO. The interactions between KA and EO have a positive and significant effect on entrepreneurial PERF ($t = 5.714, p < 0.05$).

The study hypothesized that the effect of NR on KA would be positive for entrepreneurs with high emotional. The result is, however, not significant. The moderation of EI between NR and KA is, however, not significant.

Discussion

The essence of the study is to verify the direct effect of NR and mediation effect of KA between the entrepreneurs' NR and entrepreneurial PERF and the moderation effect of EI in the relationship between NR and KA. The moderation effect of EO in the relationship between KA and entrepreneurial PERF is also considered.

The result shows that NR has both a direct and indirect effect on PERF. This finding corroborates research by Gretzinger *et al.* (2018), which indicates a positive relationship between a social network and entrepreneurial creativity in the process of deducing new marketable solutions. The mediation effect of KA suggests that KA is a sensor to explaining how NR influences entrepreneurial PERF.

Concretely, the entrepreneur's perception of the knowledge obtained through social networks is shown to be very essential in that it mediates the relationship between NR and entrepreneurial PERF. It is, therefore, suggested that agribusiness entrepreneur's perception of KA turns out to be an important element in the entrepreneurial PERF.

The result on the moderations shows that EO moderates the relationship between the relationship between KA and entrepreneurial PERF. The interaction between KA and EO influences positively on PERF. Knowledge facilitates innovative activities and entrepreneurs approach to issues.

It implies that those with high EO easily rely on knowledge when taking decisions. Rural farmer- entrepreneurs with high EO stick much to values in lieu to knowledge. It is asserts that in uncertain environment entrepreneurs decisions are based on biases rather than rationality (Busenitz and Barney, 1997). As a result, knowledge plays an essential role in the case of entrepreneurs with high EO.

This finding goes to confirming the assertion that human capital is very crucial in the new paradigm of agriculture, it determines the survival and growth of farms, their investment decisions (Huffman, 1980) and their productivity.

The relevance of human capital in agriculture has increasingly become prominent because of the essential role played in the knowledge-intensive activity. Human capital is an essential component of the job, it determines the level of local entrepreneurship and has the potential to generate and absorb innovations. It has a multiplier effect on economic activity, and hence, promotes the growth of rural economy.

Activities such as training, education, and consulting services contribute to the enhancement of human capital, which promotes competitiveness to pursue the objective of competitiveness. The study confirms the assertion that knowledge has the greatest ability of

all other resources (Al Mamun, 2019). Knowledge enables enterprise owners to predict market potentials in the environment and react tactically and strategically in accessing them (Zahra and George, 2002). Knowledge and EO play a complementary role in the PERF of agribusiness. The role played by knowledge in the relationship between NR and entrepreneurial PERF corroborates the findings by De Carolis *et al*. (2009), which indicates that social network alone is not enough in venture creation and growth and that the knowledge level of personality involved matters.

Conclusion

This study contributes both practically and theoretically to the entrepreneurship literature. NR though critical in the acquisition of strategic resources its application in extant literature has been limited to mega firms to the neglect of small firms especially at the rural farmer level. The study presents a novel model where EI of rural farmer entrepreneur though does not mediate the relationship between NR and KA but directly influences KA. The study brings to light the importance of EO in the relationship between KA and PERF.

The study contributes to the literature in the area of PERF by dealing with it from an interactive perspective. This study attributes PERF to a social process by trumpeting NR as a key to rural entrepreneurial PERF. The findings reveal that NR has an immediate effect on KA and indirect and direct effects on entrepreneurial PERF. PERF is better achieved by acquiring knowledge, which mostly facilitated through ones social network.

PERF is the key indicator of an enterprise survival. The study provides guidelines for policymakers in their quest to boost entrepreneurship in the rural setting. Irrespective of where it is acquired, knowledge is a key factor in the PERF.

For public policymakers, it is very important to encourage social network activities to promote co-creating of knowledge, know-how and valuable resources.

Rural areas and less privilege regions oftentimes lacking an entrepreneurial milieu and with little customer base are threat to the growth of rural enterprises. To support rural entrepreneurs, public intermediaries should bridge rural areas by strengthening regional and rural innovation networks.

Extension education should be broadened to cater for social network building and building entrepreneurial capabilities of rural farmers. The knowledge base of rural farmer entrepreneurs should be a priority for policy. By so doing rural farmer- entrepreneurs would be able to improve upon their PERF, which is not only depended on the conventional inputs but also strategic inputs (non-economic resources).

Professional approaches on how to use social networks to the full benefit should be a priority for policy.

The setting up of rural entrepreneurial incubation centres to cater for the needs of rural farmer entrepreneurs in the areas of KA and building entrepreneurial capabilities should be of priority for policy.

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	EI	EIRE	EIU	EO	EOI	EOP	KA	NR	PERF
EIRE1		0.915							
EIRE1	0.740								
EIRE2		0.761							
EIRE2	0.783								
EIRE3		0.839							
EIRE3	0.861								
EIU1			0.792						
EIU1	0.796								
EIU2			0.767						
EIU2	0.764								
EIU3			0.802						
EIU3	0.783								
EIU4			0.845						
EIU4	0.843								
EOI1					0.821				
EOI1				0.802					
EOI2					0.836				
EOI2				0.817					
EOI3					0.836				
EOI3				0.800					
EOI4					0.770				
EOI4				0.743					
EOP1						0.870			
EOP1				0.780					
EOP2						0.795			
EOP2				0.720					
EOP3						0.751			
EOP3				0.760					
KA1							0.836		
KA2							0.801		
KA3							0.838		
NR1								0.831	
NR2								0.787	
NR3								0.772	
NR4								0.785	
PERF1									0.828
PERF2									0.727
PERF3									0.787
PERF4									0.814
PERF5									0.736

Source: Author's calculation: EI: emotional intelligence; EO: entrepreneurial orientation are second-order constructs

Table AI.
Factor loadings

Appendix 2. Path analysis

Path analysis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	t-statistics (|O/STDEV|)	p-values
EI → EIRE	0.160	0.179	0.115	1.394	0.164
EI → EIU	0.994	0.990	0.009	106.274	0.000
EI → KA	0.953	0.946	0.018	52.639	0.000
EI_X_NR → KA	−0.013	−0.015	0.015	0.841	0.401
EO → EOI	0.970	0.959	0.032	30.011	0.000
EO → EOP	0.277	0.286	0.108	2.564	0.011
EO → PERF	0.122	0.124	0.052	2.368	0.020
EO_X_KA → PERF	0.008	−0.034	0.001	5.714	0.002
KA → PERF	0.163	0.108	0.073	2.232	0.021
NR → KA	0.025	0.028	0.006	4.167	0.031
NR → PERF	0.150	0.154	0.074	2.035	0.037

Table AII.
Mean, STDEV,
t-values and p-values

Appendix 3. Indirect effect

Indirect effect	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	t-statistics (|O/STDEV|)	p-values
EI → KA → PERF	0.156	0.102	0.001	117.490	0.000
EI_X_NR → KA → PERF	0.002	0.001	0.001	1.877	0.071
NR → KA → PERF	0.004	0.003	0.0004	9.301	0.000

Table AIII.
Mean, STDEV,
t-values and p-values

Appendix 4

Exogenous variable	Direct effect	Indirect effect	Total effect	VAF	Mediation
NR	2.035	9.301	11.336	0.82	Full

Note: Mediation Variable: KA, Endogenous variable PERF

Table AIV.
Mediation analysis:
KA as mediator

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