Eyaa, Sarah; Sridharan, Ramaswami; Ryan, Suzanne. Determinants of opportunism in Uganda's manufacturing sector: a comparison of two sectors. Published in the *Journal of Global Operations and Strategic Sourcing* Vol. 14, Issue 3, p. 414-437 (2021).

Available from: http://dx.doi.org/10.1108/JGOSS-01-2020-0009

Journal of Global Operations and Strategic So

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Journal:	*Journal of Global Operations and Strategic Sourcing*
Manuscript ID	JGOSS-01-2020-0009.R2
Manuscript Type:	Research Article
Keywords:	opportunism, opportunistic behaviour, power asymmetry, information sharing, environmental uncertainty
Data Type:	Quantitative

Determinants of Opportunism in Uganda's Manufacturing Sector: A Comparison of Two Sectors

Abstract

Purpose – The purpose of this paper is to propose a conceptual model investigating the impact of three constructs, environmental uncertainty, power asymmetry and information sharing on opportunism engagement in exchange relationships.

Design/methodology/approach – Data was collected from procurement or sales managers of 99 manufacturing firms in Kampala, Uganda's capital using a cross-sectional survey. Hypotheses were tested in both the agricultural and non-agricultural manufacturing sectors using multiple regression run in the SPSS software.

Findings – Environmental uncertainty increases opportunism in the agricultural sector while power asymmetry increases opportunism in the non-agricultural sector. Across both sectors, information sharing does not have a significant impact on opportunism.

Originality/value – This paper contributes to a deeper understanding of opportunism in a developing country context by highlighting the contextual factors within the agricultural and non-agricultural manufacturing sectors that influence opportunism engagement under conditions of environmental uncertainty, power asymmetry and information sharing. This paper presents implications for practice and policy to minimize opportunism with the goal of enhancing the participation of Ugandan manufacturing firms in global supply chains.

Key words – opportunism, opportunistic behaviour, environmental uncertainty, power asymmetry, information sharing

Paper type – Research Paper

1.0 Introduction

Opportunism is one of the practices inhibiting the participation of African firms in global supply chains (Ladu, 2014; Makhubele, 2014). Opportunism is "self-interest with guile" (Williamson, 1975, p. 47). Guile consists of "lying, stealing, cheating and calculated efforts to mislead, distort, disguise, obfuscate or otherwise confuse" (Williamson, 1985, p. 47). In contexts characterised by weak legal frameworks and corruption, opportunism is common and creates negative consequences at both the firm and macro-economic levels (Amankwah-Amoah, 2018; Luo, 2006; N.A. Morgan *et al.*, 2007; Ntayi *et al.,* 2011; Paswan, 2009). At the firm level, opportunism increases transaction costs resulting in poor firm performance (Wang and Yang, 2013). At the macro-economic level, the poorly performing firms integrate to create inefficient economies that are not globally competitive (Debalkie and Snyman, 2014; Jonck and Swanepoel, 2016; Luo, 2006).

In Uganda, a developing economy, opportunism is embedded in the business culture and has inhibited the participation of firms in international trade opportunities (Arsene, 2014; Ntayi *et al.,* 2011; Tushabomwe-Kazooba, 2006). The Minister of Trade in Uganda has indicated that one of the factors constraining the growth of Uganda's export potential is opportunism by some exporters who fail to deliver supplies after signing contracts and receiving deposit payments (Ladu, 2014). Given that opportunism is impeding the effective participation of Ugandan firms in global supply chains, understanding the causes of opportunism is critical for supporting the implementation of suitable strategies to minimise opportunism with the goal of enhancing global trade prospects for sustainable economic development (Glavee-Geo *et al.*, 2020; Lumineau and Oliveira, 2020).

Current studies have examined the impact of diverse antecedents on opportunism and found conflicting findings (Lumineau and Oliveira, 2020). For instance, Zeng *et al.,* (2015) and Ting *et al.,* (2007) found a positive relationship between environmental uncertainty and opportunism while Paswan (2009) found a negative one and Bhattacharya *et al.,* (2015), an insignificant one. Regarding information sharing, Ali and Larimo (2016) found a negative relationship while Yam and Chan (2015) found an insignificant one. Besides research methods considerations, the conflicting findings may be attributed to contextual factors within countries or industry sectors where existing studies have been undertaken (Lumineau and Oliveira, 2020). However, our knowledge of the impact of contextual factors on opportunism across different countries or industry sectors is limited due to the focus of existing research.

Existing studies have predominantly been undertaken in single industry sectors within more developed economies such as United States of America (USA) and China, with little attention paid to investigating opportunism in developing economies and comparing opportunism engagement across sectors. More developed economies are significantly different from developing economies in areas such as governance structures, market environment and technology (World Bank, 2016). Although these differences may account for variations in opportunism engagement, the paucity of empirical research on opportunism in developing economies has limited our understanding of the impact of the contextual factors (Lumineau and Oliveira, 2020). Though some studies (e.g. Ahimbisibwe *et al.,* 2015; Ahimbisibiwe *et al.,* 2015; Ecel *et al.,* 2013; Glavee-Geo *et al*., 2020; Makhubele, 2014; Ntayi *et al.,* 2010) provide useful insights on opportunism in the African context, more studies are required for a deeper understanding of context specific factors across industry sectors.

This paper addresses the identified limitations in opportunism literature by undertaking a study in the agricultural and non-agricultural manufacturing sectors in Uganda, a developing country. The manufacturing sector is Uganda's largest industrial sector and accounts for 7% - 9% of Uganda's Gross Domestic Product (GDP) (Ministry of Finance, Planning and Economic Development, 2018). Thus, understanding the causes of opportunism in this sector will support the design of appropriate strategies to improve international trade opportunities and economic development in the long run. Based on the Transaction Cost Economics Theory (TCE) and Relational Exchange Theory (RET), this paper suggests that environmental uncertainty and power asymmetry increase opportunism while information sharing reduces opportunism (Bhattacharya *et al.,* 2015; Macneil, 1980). This paper seeks to answer the research questions below:

RQ1: What is the impact of environmental uncertainty, power asymmetry and information sharing on opportunism engagement in the agricultural and non-agricultural manufacturing sectors in a developing economy?

RQ2: What contextual factors within the agricultural and non-agricultural sector manufacturing sector and the national context influence the impact of the identified antecedents on opportunism in a developing economy?

RQ3: What are the implications for managers and government policy?

This paper contributes to opportunism literature by extending the testing of the TCE and RET in a developing country context and highlighting the contextual factors that influence opportunism engagement across industry sectors in a developing economy. Additionally, the paper highlights company strategies, and national policies that can be implemented to reduce the impact of environmental uncertainty, abuse of power and improve information sharing to minimise the incidence of opportunism. The paper is organised as follows: theoretical framework, previous research on opportunism antecedents, hypotheses development, conceptual framework, and methods. The paper ends with a discussion of the theoretical contributions, managerial and policy implications, limitations, and future research considerations.

2.0 Theoretical Framework

The Transaction Cost Economics Theory (TCE) and Relational Exchange Theory (RET) are used in this study. TCE assumes that people will engage in opportunism provided there is an opportunity and identifies six determinants of opportunism (Grover and Malhotra, 2003). These are: uncertainty, small numbers trading, bounded rationality, asset specificity, governance structures and frequency of transactions. Environmental uncertainty exists when there are unpredictable variations in the market environment (Paswan, 2009). Under conditions of uncertainty, market players may engage in opportunistic tendencies at the expense of their business partners to realise gains in the immediate term instead of waiting for future gains that cannot be guaranteed (Paswan, 2009). For instance, if a future shortage is anticipated, firms may hoard products or charge higher prices to the detriment of customers. When there are few numbers trading, an imbalance of power arises (Handley and Benton, 2012). According to TCE, power imbalance increases the risk of opportunism because the few players in the market become powerful and can exploit business partners or customers (Aubert and Weber, 2001). For example, when suppliers are few, they may take advantage of buyers through price exploitation and when buyers are few, they may take advantage of suppliers by negotiating prices downwards to levels that are unfair for the suppliers.

Bounded rationality is the belief that human beings are limited in their ability to collect, process and share information perfectly, thus creating information asymmetry (imperfect information) which enhances the practice of exploiting business partners (Aubert and Weber, 2001; Williamson, 1985). When information is imperfect, it is easy to exploit exchange partners (Aubert and Weber, 2001). However, sharing quality information on time reduces the risk of opportunism because it minimises exploitative tendences, promotes trust and commitment (Heide and John, 1992; Macneil, 1974, 1980; R.M. Morgan and Hunt, 1994; Simatupang and Sridharan, 2005). Asset specificity is the degree to which resources supporting processes within a firm are customised (Geyskens *et al.,* 2006; Heide, 1994; Rindfleisch and Heide, 1997). High levels of asset specificity minimise opportunism to avoid losses on investments in customised assets (Skarmeas *et al*., 2002). Thus, firms with customised assets are more likely engage in relationship building practices such as information sharing, cooperation, and commitment to minimise opportunism engagement (Bhattacharya *et al*., 2015). Governance structures are formal systems in exchange relationships or organisations that are implemented to ensure compliance with acceptable practices (Grover and Malhotra, 2003). Effective governance structures minimise negative behaviour such as opportunism by specifying acceptable norms, monitoring and punishment mechanisms (Aubert and Weber, 2001). Frequency of transactions is the degree to which transactions between exchange partners are repeated (Crook *et al*., 2013; Williamson, 1985). Repeat transactions foster trust, information sharing, commitment, and loyalty to minimise opportunism (Gonzalez-Benito *et al.,* 2000).

The TCE is restricted by the fact that it focuses on formal governance/control mechanisms and does not take into consideration relational norms such as trust, commitment or information sharing which can substitute formal contracts in contexts where formal contracts may not always be applied in exchange relationships to minimise opportunism (Hill, 1990; Macneil, 1980; Nooteboom, 1993). This limitation necessitates the inclusion of the RET which proposes that relational norms can minimise opportunism engagement in exchange relationships (Macneil, 1980). Relational norms are behaviours that are acceptable in exchange relationships and promote common benefits over individual benefits thereby reducing the risk of negative behaviour such as opportunism to foster long-term relationships (Brown *et al.,* 2000; Lambe *et al.,* 2001; Rokkan *et al.,* 2003). Relational norms are diverse and may include practices such as information sharing, trust, conflict resolution, flexibility, mutual benefits (Macneil, 1980).

TCE is selected for this study because it is the most dominant theory applied in opportunism studies and clearly identifies the antecedents of opportunism (Lumineau and Oliveira, 2020). RET is also used in this study because it proposes that relational norms such as information sharing are an alternate governance structure for managing opportunism (Macneil, 1980). This is essential for developing economies like Uganda where oral or implied contracts and relational norms may be more popular than conventional contracts due to inefficient legal systems and strong social bonds (Ntayi *et al.,* 2011; Wagona, 2014).

3.0 Previous Research on Opportunism Antecedents

Four categories of opportunism antecedents can be identified from current research: market environment, relational norms, relationship characteristics and relationship structure.

Market environment antecedents include environmental uncertainty and culture. It is expected that when the market environment is uncertain due to unexpected changes, exchange partners will engage in opportunism to realise short-term gains because the future cannot be accurately predicted (Heide, 1994; Rindfleisch & Heide, 1997; Williamson, 1975). Some studies have found that environmental uncertainty increases opportunism (e.g. Joshi & Stump, 1999; Paswan, 2009; Schilling & Steensma, 2002; Skarmeas et al., 2002; Ting et al., 2007) while others have found a negative (e.g. Paswan, 2009) or insignificant relationship (e.g. Handley & Benton, 2012). Regarding culture, a lack of cultural awareness or sensitivity may escalate opportunism due to misinterpretation of verbal and non-verbal communication (Das & Rahman, 2010; Johnson *et al*., 1996). However, cultural awareness and sensitivity minimises misinterpretation, miscommunication and subsequently opportunism (Brouthers *et al.,* 1995). Studies show that some cultural dimensions reduce opportunism (e.g. Ali & Larimo, 2016; Gundlach et al., 1995; Skarmeas et al., 2002) while others increase opportunism (e.g. Lee, 1998; Joshi & Stump, 1999).

Relational norms are positive behaviours in exchange relationships such as information sharing, trust, commitment, conflict resolution or cooperation (Gundlach et al., 1995). Because relational norms promote mutual benefits and concern for exchange partners, they reduce opportunistic tendencies to promote relationship continuity. For instance, sharing the right information on time, promotes transparency, thereby eliminating opportunism (Ali & Larimo, 2016; Morris & Cadogan, 2001). While some have studies found that relational norms reduce opportunism (e.g. Ali & Larimo, 2016; Moon, 2012; Ting et al., 2007; Y. Zhou et al., 2015; Zhang *et al.,* 2020), others have found an insignificant relationship (e.g. F. Lai et al., 2012; Tangpong et al., 2010).

Relationship characteristics include power asymmetry, dependence, and frequency of exchange. Equal balance of power in exchange relationships promotes cooperative tendencies that minimise the risk of opportunism (Provan & Skinner, 1989). However, an unequal balance of power promotes opportunism because more powerful parties exploit the less powerful parties (Grover & Malhotra, 2003). While some studies have found a positive relationship between power and opportunism (e.g. Handley & Benton, 2012; John, 1984; N.A. Morgan et al., 2007), others have found an insignificant relationship (Dahlstrom & Boyle, 1994). Like power, when dependence in an exchange relationship is balanced, exchange partners avoid opportunism to ensure relationship continuity (Lusch & Brown, 1996). Unbalanced dependence on the other hand promotes opportunism because the less dependent party can exploit the more dependent party (Lusch & Brown, 1996). Some studies have found a positive relationship between dependence and opportunism (e.g. Moon, 2012; Mysen et al., 2011; Provan & Skinner, 1989) and others an insignificant relationship (e.g. Ali & Larimo, 2016; N.A Morgan et al., 2007). Furthermore, as transactions become more frequent between exchange partners, the likelihood of opportunism may decrease due to the desire to maintain the relationship in the long-term (Williamson, 1981). Bhattacharya et al. (2015) find that frequency of exchange increases opportunism while Deeds and Hill (1998) find a negative relationship.

Antecedents related to relationship structure include formalisation and asset specificity. Formalisation mechanisms such contracts or operating procedures minimise opportunism by providing checks and consequences for negative behaviour (Huo, Fu, et al., 2016; Williamson, 1975). While formalisation has been found to reduce opportunism (e.g. Gilliland & Manning, 2002; Huo, Fu, et al., 2016; N.A Morgan et al., 2007), it has also been found to increase opportunism (e.g. Joskow, 1987; Provan & Skinner, 1989; Sako & Helper, 1998; K. Z. Zhou & Xu, 2012) or have no impact on opportunism (e.g. E. Anderson, 1988; Cavusgil et al., 2004). Regarding asset specificity, parties that have invested in customised assets are less likely to engage in opportunism to guarantee relationship continuity (Bradach & Eccles, 1989). On the other hand, the party that has not invested in customised assets may take advantage of the party that has invested because of their inability to easily exit the business partnership. Similar to the other antecedents, findings on the impact of asset specific on opportunism are mixed, ranging from positive (e.g. E. Anderson, 1988; Huo, Wang, et al., 2016; Rokkan et al., 2003; Vázquez et al., 2007) to insignificant (e.g. Bhattacharya et al., 2015; Ting et al., 2007).

For this paper, the selected antecedents are environmental uncertainty, power asymmetry and information sharing on opportunism. Environmental uncertainty is selected because its economic impact is great given that Uganda is a landlocked developing economy that heavily depends on agriculture. Power asymmetry is chosen because it is one of the key sources of conflict in commercial court cases in Uganda (Ntayi *et al.,* 2011). Information sharing is selected because Information Technology (IT) remains one of the challenges in Uganda's business environment (Okello-Obura, 2012). The relationships between the selected antecedents and opportunism are discussed in the subsequent section to derive the hypotheses.

4.0 Hypotheses Development

Based on existing literature, hypotheses linking environmental uncertainty, power asymmetry and information sharing with opportunism are derived.

Environmental uncertainty

According to TCE, uncertainty in the market environment makes it difficult to accurately forecast market conditions and the behaviour of exchange partners (Grover and Malhotra, 2003; Ting *et al*., 2007; Williamson, 1975). For example, if future sales cannot be guaranteed due to reasons such as change in regulations, it is likely that companies will engage in opportunistic marketing tendencies like lying about product capabilities to sell off stock. Furthermore, environmental uncertainty makes the drafting of accurate contracts problematic (Heide, 1994; Rindfleisch and Heide, 1997; Williamson, 1975). Due to inaccurate contract designs, there will be loopholes that can be easily exploited through opportunism (Schilling and Steensma, 2002; Skarmeas *et al*., 2002). Since long-term relationships are not assured under conditions of environmental uncertainty, relationships characterised by lack of trust and commitment emerge, thereby encouraging opportunism (Ganesan, 1994; R.M. Morgan and Hunt, 1994; Ntayi *et al.,* 2010; Ntayi *et al.,* 2011).

There are conflicting findings on the impact of environmental uncertainty on opportunism across diverse countries or even within the same country. Uncertainty has been found to increase opportunism in China (Zeng *et al.,* 2015), Norway (Mysen *et al.,* 2011); USA (Anderson, 1988) and Taiwan (Ting *et al.,* 2007). Paswan (2009) however established that environmental uncertainty reduces opportunism in a study of USA firms. Furthermore, uncertainty has been found to have an insignificant impact on opportunism in Australia (Bhattacharya *et al.,* 2015) and USA (Handley and Benton, 2012). Consistent with TCE and previous studies (e.g. Joshi and Stump, 1999; Paswan, 2009; Schilling and Steensma, 2002; Skarmeas *et al*., 2002; Ting *et al*., 2007), the following hypothesis is derived:

H1: Environmental uncertainty increases opportunism

Power asymmetry

According to TCE, under conditions of power asymmetry, more powerful business partners may take advantage of less powerful partners through opportunistic practices such as information manipulation or deliberate breach of contract (Gulati and Sytch, 2007; Hingley, 2005; Muthusamy and White, 2006). Sustained opportunism by powerful exchange partners makes opportunism seem acceptable thus reducing the expectation of the less powerful exchange partners regarding the creation of long-term relationships (Benton and Maloni, 2005; Ireland and Webb, 2007; Lusch and Brown, 1996). This subsequently increases the risk of opportunism by less powerful partners as a way of getting back to the powerful partners and guaranteeing returns in the short term (Benton and Maloni, 2005). In addition, exploitation by more powerful business partners reduces the commitment and trust of the less powerful business partners, thus enhancing opportunism engagement. While power asymmetry has been found to increase opportunism in the United Kingdom (N.A. Morgan *et al.,* 2007) and USA (John, 1984), it has also been found to reduce opportunism in the USA (Dahlstrom and Boyle, 1994; Handley and Benton, 2012). Consistent with the TCE and previous research (e.g. N.A Morgan *et al.,* 2007; John 1984), the following hypothesis is derived:

H2: Power asymmetry increases opportunism

Information sharing

Information sharing exists in an exchange relationship when both formal and informal communication channels are used to make available comprehensive, relevant, and precise information to enable successful transactions (Anderson and Narus, 1990). According to TCE, the risk of opportunism increases when imperfect information is shared in exchange relationships (Williamson, 1975). For instance, if a supplier shares wrong information about market conditions such as misrepresented operating costs to buyers, it is more likely that the supplier will take advantage of buyers by charging higher prices. When complete and relevant information is shared on time, information asymmetry is reduced, thus minimising opportunism by enhancing collective decision making and goal alignment (Ali and Larimo, 2016; Morris and Cadogan, 2001; Kirmani and Rao, 2000; Wathne and Heide, 2000; Williamson, 1975).

According to RET, information sharing enhances commitment and trust to reduce opportunism in exchange relationships (R.M. Morgan and Hunt, 1994; Parkhe, 1993). While commitment ensures relationship continuity, trust minimises vulnerability thus minimising the risk of opportunism (Hunt and Nevin, 1974; Parkhe, 1998). Information sharing has been found to minimise opportunism in China (Huo *et al.,* 2016a), USA (Deeds and Hill, 1998; Kale *et al.,* 2000) and Nordic firms in Asia, Europe, and America (Ali and Larimo 2016). Two studies by Yam and Chan (2015) and Huo *et al.,* (2016b) in China found an insignificant impact of information sharing on opportunism. Consistent with TCE, RET and previous research (e.g. Deeds and Hill, 1998; Huo *et al.,* 2016a; Kale *et al.,* 2000), the following hypothesis is derived:

H3: Information sharing reduces opportunism

5.0 Conceptual Framework

Based on the hypotheses presented in Section 3.0, the conceptual framework illustrated in Figure 1 is derived. The framework has three independent variables (environmental uncertainty, power asymmetry, information sharing) and one dependent variable (opportunism). Firm size is included as a control variable in the conceptual framework given the possibility that variations in firm size influences response to environment uncertainty, balance of power, information sharing practices and opportunism engagement (Ali and Larimo, 2016; Brown et al., 2000; Chung, 2012). For instance, large firms have more resources and are therefore more susceptible to abuse of power in exchange relationships (Maloni and Benton, 2000).

Insert Figure 1 here

6.0 Methods

Research methods are discussed in this order: research paradigm and design, study population and sample selection, data collection, measurement of variables, reliability and validity tests, and data analysis.

6.1 Research paradigm and design

Since this study investigates the impact of three antecedents on opportunism by deriving and testing hypotheses, it fits within the functionalist paradigm which assumes that human behaviour is influenced by environmental factors and can be understood by deriving and testing hypotheses (Burrell and Morgan, 1979; Hassard, 1991). A quantitative cross-sectional survey design was used in this study for two reasons. First, the sensitive nature of opportunism implied that respondents would prefer an anonymous survey to face-to-face interviews (Brown *et al.,* 2000). Also, the sensitivity surrounding opportunism implied that firms would not permit a longitudinal study on their premises (Brown *et al.*, 2000). Second, the use of an anonymous survey allowed for independence between the researcher and respondents to enhance objectivity (Parkhe, 1993).

6.2 Study population and sample selection

The population for this study was manufacturing firms in Kampala, Uganda's capital. Kampala was selected because it is home to most manufacturing firms in Uganda, thus providing easy access to respondent firms within a short time. Most (32%) of the 10,255 manufacturing firms are in Kampala (UBOS Census of Business Establishments, 2010/11). Roscoe's (1975) sample determination criterion was used to determine the sample size. Following this criterion, the sample size should be ten times the number of variables in a study. A sample of 140 firms was considered appropriate given that this study had four variables. Firms were chosen using systematic simple random sampling from the register of manufacturing firms available at the Uganda Bureau of Statistics (UBOS) (Sekaran, 2006). From the list of 10,255 manufacturing firms, the first firm was randomly chosen and after that every 73rd firm was chosen until 140 firms were selected. The number of usable surveys returned was 99, yielding a response rate of 70.7%. The agricultural sector accounted for 52.5% (52 surveys) and the non-agricultural sector 47.5% (47 surveys).

Respondents were either procurement or sales managers because of their ability to provide information on relationships with suppliers and buyers respectively (Kim and Frazier, 1997; Skarmeas *et al.,* 2002). Respondents were requested to choose a specific exchange partner and respond to the survey questions with this partner in mind. Respondents were advised to select the partner for reasons such as: being the partner that the firm has dealt with for the longest period; the partner that brings in the largest percentage of sales revenue; most significant or strategic partner or being the partner that takes up the firm's highest spend in procurements or sales. However, due to ethical concerns arising from the sensitive nature of opportunism, it was not possible to identity the data collected from the procurement or sales managers to allow for a comparison of opportunism perspectives from the two respondent categories.

6.3 Data collection

Data was collected using a self-administered hard-copy survey to reach a wider audience at minimal cost while supporting confidentiality and respondent independence (Davis, 2000; Saunders *et al.,* 2009). Due to the inefficiencies of the Ugandan postal system and the limited usage or accessibility of IT resources in some firms, the survey had to be in hard copy. Firms were contacted by phone to explain the purpose of the study and seek permission for either the procurement or sales manager to participate in the study (Ting *et al.,* 2007). The phone call also helped to build credibility because firms may be suspicious of industrial espionage through unsolicited surveys (Sin *et al.,* 2006; Skarmeas et *al.,* 2002). For firms that accepted to participate in the study, the survey, and a Participant Information Statement (PIS) were delivered in an envelope. The PIS provided details about the study and emphasised the academic nature of the study, voluntary participation for respondents, confidentiality standards and anonymity of respondents (Bryman and Bell, 2011). On completing the survey, respondents were requested to return the survey to the reception which then contacted the researcher to collect the completed survey.

6.4 Measurement of variables

Opportunism was operationalised as the degree to which firms behaved in self-interest towards their exchange partners (John, 1984). Eight measurement items were adapted from John (1984) to capture opportunism perspectives. Environmental uncertainty was measured using three items adapted from Chung (2012) and operationalised as the degree of unexpected changes in the market environment (Chung, 2012; Chen and Paulraj, 2004; Skarmeas *et al.,* 2002). Power asymmetry was operationalised as the extent to which power is balanced in an exchange relationship (Vázquez *et al.,* 2007). Eight measurement items adapted from Nyaga *et al.,* (2013) were used to measure power asymmetry. Information sharing was measured using three items adapted from Simatupang and Sridharan (2005) and was operationalised as the degree to which partners in an exchange relationship share Information about business details (Simatupang, 2004; Simatupang and Sridharan, 2005). See Table I for measurement items. Responses for the measurement items were on a five-point Likert scale, ranging from strongly agree (5) to strongly disagree (1).

Insert Table I here

6.5 Reliability and validity tests

In the first round of the reliability analysis, 3 items from the opportunism scale and one item from the power asymmetry scale were dropped because the item-to-total correlation was less than 0.30 (Multon and Coleman, 2010) (See Table II). Measurement items for environmental asymmetry and information sharing met the item-to-total correlation criterion. In the second round, one more item was dropped from the power asymmetry scale and in the third round, one more item was dropped for not meeting item-to-total correlation criteria. All retained items, returned Cronbach Alpha's above 0.70, thereby meeting the reliability criteria (Nunnally, 1978).

Face validity was achieved by obtaining measurement items from existing literature (Cavana *et al.,* 2001; Sekaran, 2006). For content validity, the wording and structure of the measurement items were revised based on comments received from five management academics and ten doctoral students in the management field (Cavana *et al.,* 2001). Convergent validity was confirmed because the Average Variance Extracted (AVE) for all variables was greater than 0.50 for all variables, with values ranging from 0.502 to 0.755 (see Table IV). Discriminant validity was confirmed because the item loadings on the parent constructs are greater than the item loading on the other constructs (Fornell and Larcker, 1981; Hair *et al.,* 2006). See Table III.

Insert Table II here

Insert Table III here

6.6 Common Methods Variance and Multi-collinearity Tests

Data was tested for common methods variance using Harman's (1976) single factor test and multi-collinearity using Tolerance Statistics and Variance Inflation Factor (VIF). The first extracted item from the Principal Component Analysis (PCA) accounted for approximately 25% of the variance, thus eliminating the possibility of common methods variance (Podsakoff *et al.,* 2003). No multi-collinearity issues were identified because tolerance statistics were all greater than 0.10 and VIF were less than 10.0 (see Table IV).

Insert Table IV here

6.7 Data Analysis and Findings

Hypotheses were tested using regression analysis because the model for this study was a simple one that did not require complex analysis methods. For each respondent case, measurement items were aggregated using the mean score that was run via the transform and compute functions in SPSS. Firm size was included as a control variable during the regression analysis and its impact was found to be insignificant (see Table V). Regarding the overall fit statistics, the adjusted R^2 of the model is 0.231 for the agricultural sector implying that the linear regression accounts for 23.1% of the variance in the data from this sector. In the non-agricultural sector, the adjusted R^2 is 0.176 meaning that the linear regression explains 17.6% of the variance in the data from the non-agricultural sector.

Environmental uncertainty increases opportunism in the agricultural sector (β = 0.330; p = 0.031) but not in the non-agricultural sector (β = 0.142; p = 0.321). Thus, hypothesis H1 is supported in the agricultural sector but not the non-agricultural sector. While power asymmetry has no impact on opportunism in the agricultural sector (β = 0.216; p = 0.129), it increases opportunism in the non-agricultural sector (β = 0.343; p = 0.022). Hence, hypothesis H2 is supported in the non-agricultural sector but not the agricultural sector. Information sharing does not have a significant impact on opportunism in both the agricultural (β = -0.254; p = 0.069) and non-agricultural sectors (β = 0.097; p = 0.500). Therefore, hypothesis H3 is not supported across both sectors.

Insert Table V here

7.0 Conclusion

7.1 Theoretical contributions

By investigating the impact of environmental uncertainty, power asymmetry and information sharing on opportunism engagement in the agricultural and non-agricultural manufacturing sectors in Uganda, this paper contributes to theory, practice, and policy. Findings show that opportunism is increased by environmental uncertainty in the agricultural sector and power asymmetry in the non-agricultural sector. Environmental uncertainty and power asymmetry do not have a significant impact on opportunism within the non-agricultural and agricultural sectors, respectively. Across both sectors, information sharing does not have a significant impact on opportunism. By undertaking the study in Uganda and comparing opportunism engagement across sectors, this study improves our understanding of opportunism in the African context regarding the impact of contextual factors within industry sectors. Thus, this study responds to the call for more empirical studies on opportunism engagement across diverse contexts (Bhattacharya *et al.,* 2015; Lumineau and Oliveira, 2020). Understanding the causes of opportunism in the African context and more specifically industry sectors, enables the design of appropriately customised strategies to minimise opportunism and improve prospects for global supply chain participation (Glavee-Geo *et al*., 2020).

Two theoretical contributions are made in this study. First, the variation in the impact of the antecedents on opportunism across the two sectors shows that TCE and RET cannot be universally applied across diverse contexts to explain opportunism engagement (Bhattacharya *et al.,* 2015). While this paper provides an insight into the explanatory power of TCE and RET, a multi-theory perspective is suggested in future studies for a more comprehensive understanding of opportunism (Lumineau and Oliveira, 2020; Trada and Goyal, 2020). Second, the variations in the impact of the opportunism antecedents supports the proposition that opportunism is disproportionately present among parties (Bhattacharya *et al.,* 2015). This agrees the argument by John (1984) that not all parties will engage in opportunism whenever there is a chance to do so. This paper provides an insight into the contextual factors that influence opportunism engagement as explained in the subsequent sections.

Environmental uncertainty and opportunism

Environmental uncertainty increases opportunism in the agricultural sector but does not have a significant impact on opportunism in the non-agricultural sector. The finding in the agricultural sector is consistent with TCE while the finding in the non-agricultural sector contradicts TCE. Product perishability may be the key factor in explaining the variation in the impact of environmental uncertainty on opportunism across the two sectors. Within the agricultural sector, the perishable nature of the majority of products may imply that decisions on business practices are based on the need to maximise opportunities in the market as soon as possible to avoid product wastage (Meyer and Yu, 2013; Yanes-Estévez *et al*., 2010). Usually, players in the agricultural sector in Uganda will change prices based on anticipated weather, demand, or supply patterns. When an increase is demand or supply shortage is expected, prices will be hiked and reduced when demand reduction or supply shortage is predicted. When good weather is expected in the next planting season, prices will not be affected but will be increased when bad weather is predicted due to the possibility of shortage in supply. The opportunistic reactions in agricultural firms in Uganda due to product perishability is exacerbated by the limited use of technology in developing economies to improve shelf-life or preserve products and inefficient government support in the area of handling product perishability (Omotilewa *et al.,* 2019).

Unlike this study, previous studies have found that environmental uncertainty increases opportunism in non-agricultural sectors such as computer retailers in Taiwan (Ting *et al*., 2007); import-export sector in Australia and USA (Lee, 1998; Skarmeas *et al*., 2002); Japanese and USA automotive companies (Sako and Helper, 1998); and manufacturing firms in Canada (Joshi and Stump, 1999). Given that the products from these sectors are not perishable like those from the agricultural sector, the incidence of opportunism may be motivated by dynamic and unpredictable customer preferences which may motivate companies to engage in opportunistic acts to realise profits (Van der Burg *et al.,* 2019; Koenaite *et al.,* 2019). The ever-changing customer preferences due to higher levels of technology and exposure to diverse product options or updates, makes non- perishable products obsolete (Koenaite *et al.,* 2019). For instance, in the developed countries, whenever new models of mobile phones are released, the old models lose functionality because they are not compatible with new software upgrades. In this way, the old phone models become obsolete. The case is however different in Uganda, where non-perishable products are not always rendered obsolete due to a slower rate of change in customer tastes and preferences because of lower levels of technological development and limited exposure to product updates or new product releases (Koenaite *et al.,* 2019). Thus, firms manufacturing non-agricultural products in developing economies may not always be under pressure to engage in opportunistic tendencies to keep up with customer tastes and preferences.

Power asymmetry and opportunism

Power asymmetry increases opportunism in the non-agricultural sector but does not have a significant impact on opportunism in the agricultural sector. While the finding in the non-agricultural sector is consistent with TCE, the finding in the agricultural sector is inconsistent with TCE. It is possible that the difference in the impact of power asymmetry within the agricultural and non-agricultural manufacturing sectors maybe explained by variations in the level of collaboration. The Ministry of Agricultural, Animal Industry and Fisheries in Uganda implemented the National Agricultural Advisory Services (NAADS), a statutory body in 2001 to support the agricultural sector through services such as networking, training, benchmarking and collaboration initiatives thus minimising abuse of power and enhancing relationship quality to reduce opportunism (Benin *et al*., 2007). Over the years, this body has worked to foster integration among agricultural firms to promote collaboration and minimise negative competitive practices. Thus, powerful players in the agricultural sector offer support within the network by complimenting weaker players to enable easier access to markets or resources as opposed to taking advantage of them (Benton and Maloni, 2005; Mawejje and Terje-Holden, 2014).

Compared to the agricultural sector, the level of collaboration in Uganda's non-agricultural sector is lower due to stiffer competition which encourages abuse of power to achieve desired outcomes and ensure survival in the market (Ntayi *et al.,* 2011). Factors such as high inflation, exchange rates, interest rates and small disposable incomes within the middle class contribute to the tight competition (Musisi, 2017). A study on construction contracts in Uganda shows that smaller contractors are manipulated and taken advantage of power more powerful contractors through opportunistic tendencies (Ntayi *et al.,* 2010). The abuse of power in Uganda is aggravated by the weak legal system which makes it easy for the powerful parties to engage in opportunism and high legal costs which discourage weaker market players who are exploited from suing their powerful manipulators (Ntayi *et al.,* 2011). Previous studies that have found a positive relationship between power asymmetry and opportunism are in non-agricultural sectors such as oil dealership (John, 1094), outsourcing (Handley and Benton, 2012) and main frame computers (Dahlstrom and Boyle, 1994) which are characterised by high levels of competition. Thus, implying that lower levels of collaboration may account for the positive impact of power asymmetry on opportunism engagement in previous studies undertaken in the USA.

Information sharing and opportunism

Across both sectors, information sharing does not have a significant on opportunism. This finding is inconsistent with TCE, RET and previous studies (e.g. Ali and Larimo, 2016, Huo et al., 2016b). It is expected that information sharing will minimise opportunism in exchange relationships when the shared information is of good quality, relevant and timely (Ireland and Webb, 2007; Wiengarten *et al*., 2010). Within the Ugandan context, three factors may influence the quality, relevance and sharing of timely information. First, the usage and availability of IT in most Ugandan firms remains limited, thus inhibiting the collection, analysis and sharing of appropriate information on time to promote transparency and trust, which in turn minimise opportunism engagement (Uganda Bureau of Statistics, 2012). Furthermore, the National Information Technology Authority – Uganda (NITA-U), that oversees IT adoption across the country is underfunded and working below capacity, making it hard to promote the application of IT across the country (NITA-U, 2014). Related to the restricted use of IT, is the lack of skills required for the effective use of IT applications, especially in Small and Medium Enterprises (SMEs) which dominate the economy (Turyahikayo, 2015). While the large manufacturing firms can afford to implement IT based systems and hire people with IT skills to enable better information sharing, the positive effect is negated because their business partners, especially SMEs cannot afford IT based applications (Financial Sector Deepening Africa, 2015; Okello-Obura *et al*., 2008; Okello-Obura, 2012; Tumwine *et al*., 2015).

Second, the uncertainty in Uganda's business environment and absence of advanced technology, makes it hard for the Ministry of Finance, Planning and Economic Development to correctly identify and verify the required market information, thereby resulting in generation of mediocre information that is hard to trust (African Development Bank Report, 2014). Thus, organisations make decisions based on speculative information which in turn increases the risk of opportunism (Muhumuza and Nakaweesi, 2015). Lastly, the high levels of dishonesty in dealings between Ugandan firms leads to lack of trust, thereby affecting the quality of information shared (Ntayi *et al.,* 2011). This last point is reinforced by cultural perceptions in countries with a collectivist culture such as Uganda where social networks may erode trust and increase transaction costs instead of creating network benefits such as sharing of quality information on time (Titeca and Vervisch, 2008).

7.2 Managerial and policy implications

The findings of this study provide three key implications at firm and policy level for both sectors in relation to minimizing opportunism to improve international trade prospects. First, within the agricultural sector, the Government of Uganda through ministries in charge of finance and trade, should create a stable economy through effective regulation of inflation, exchange rates, competitive practices and providing regular updates on market conditions to the agro-business community. This will avoid speculation, thereby minimising the effects of environmental uncertainty. Where possible, firms in the agricultural sector that have the resources should be exposed to and supported by the government to acquire technology that can be used to monitor markets because this will help to minimise the speculation due to anticipated environmental uncertainty.

Second, within the non-agricultural sector, the Government of Uganda should focus on strengthening the legal frameworks that govern business transactions by eliminating corruption and ensuring that legal entities are well funded, resourced and staffed. Once business players know that frameworks such as the commercial court system will not let opportunism go unpunished, abuse of power arising from power imbalances will reduce leading to a decline in opportunistic tendencies. Additionally, firms that have been victims of opportunism will be encouraged to report to the legal authorities because they are confident the cases will be solved on time and the process will be corruption free. Additionally, in the non-agricultural sector where power asymmetry is higher due to stiff competition, firms should be trained and resourced to by the Ministry of Justice and Constitutional Affairs to understand basic legal requirements so that contracts are designed to deliver power balance in exchange relationships. These firms should also be supported to seek the advice of qualified legal personnel who will see to it that contract clauses make provisions for balance of power in the exchange relationship and ensure protection of parties in the contract in the event of unexpected occurrences.

Lastly, across both the agricultural and non-agricultural sectors, the Government of Uganda should invest in strengthening IT infrastructure and support firms to implement IT to enhance information sharing abilities. This can be done by providing more funding and staffing to the National Information Technology Authority – Uganda (NITA-U) that will promote IT adoption and training across the country. Furthermore, information sharing can also be improved by encouraging firms in the non-agricultural sector to make use of government initiatives that are in place to foster collaboration such as Private Sector Foundation of Uganda (PSFU) to promote networking that will lead to reduced abuse of power and better information sharing opportunities.

7.3 Limitations and future research directions

This study has six limitations. First, the conceptual framework is tested in the manufacturing sector in Kampala, Uganda's capital. Future studies can extend the study to other sectors, districts in Uganda and other countries. Second, this study has not investigated mediation and moderation effects even though they are fundamental for understanding behaviour. Forthcoming studies should investigate the role of mediating and moderating variables. Third, it was impractical to capture long-term perceptions of opportunism due to the cross-sectional approach applied in this study. Future studies can investigate opportunism over a period to ascertain whether there are any variations in opportunistic practices in the short and long-term time frames. Fourth, opportunism in this study is investigated from the perspective of individual firms as opposed to dyads. Forthcoming studies should consider investigating opportunism in dyadic relationships to capture both the "perpetrator" and "victim" perspectives of opportunism. Fifth, this study was unable to compare the opportunism perspectives of the procurement and sales managers who deal with suppliers and customers, respectively. Future studies can consider undertaking a comparison between the two perspectives to identify differences. Lastly, future research may consider investigating the impact of additional antecedents such as government regulations, collaboration, or company reputation on opportunism. In addition, inter-relationships between the antecedents should also be investigated.

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Table I: Measurement items

Variable	Measurement Items
Opportunism	1. Our firm adheres to the terms and conditions of contracts signed with this exchange partner 2. Our firm exploits loopholes in contracts signed with this exchange partner to our advantage 3. Our firm interprets contractual terms and conditions in contracts with the exchange partner to our benefit 4. Our firm withholds relevant information from this exchange partner 5. Our firm misrepresents, exaggerates, or distorts information in dealings with this exchange partner 6. Our firm misrepresents or exaggerates product performance and warranties to get business deals from this exchange partner 7. Our firm is dishonest in financial matters in dealings with this exchange partner 8. Our firm delays in making payments to creditors
Environmental uncertainty	1. Demand for our products can be predicted 2. The volume of trade in our market and industry is stable 3. It is easy to monitor trends in our market and industry
Power asymmetry	1. This exchange partner has business expertise that make them likely to suggest the proper thing to do 2. Our firm respects the judgement of this exchange partner 3. Our firm admires the way this exchange partner runs their business, so we try to follow his/her lead 4. Our firm often does what this exchange partner asks because we are proud to be affiliated with him/her 5. This exchange partner refers to sections of our contract to gain our firm's compliance with their demands 6. This exchange partner makes it clear that failing to comply to their requests will result in penalties 7. This exchange partner offers incentives when we are initially reluctant to cooperate with a new program 8. We feel that by going along with this exchange partner, we will be favoured on other occasions
Information sharing	1. We share inventory related information with this exchange partner 2. We share information on price changes with this exchange partner 3. We share information on order and delivery statuses with this exchange partner

Table II: Reliability and validity statistics

Variable	Item	Item-to-Total Correlation Round 1	Item-to-Total Correlation Round 2	Item-to-Total Correlation Round 3	Item-to-Total Correlation Round 4	Cronbach's Alpha	Average Variance Extracted (AVE)_
Opportunism	OPP1	-0.004	Dropped			0.817	0.582
	OPP2	0.116	Dropped				
	OPP3	0.061	Dropped				
	OPP4	0.395	0.441				
	OPP5	0.538	0.615				
	OPP6	0.643	0.646				
	OPP7	0.497	0.696				
	OPP8	0.438	0.657				
Environmental uncertainty	ENV1	0.695				0.862	0.765
	ENV2	0.879					
	ENV3	0.667					
Power asymmetry	POW1	0.153	Dropped	Dropped	Dropped	0.749	0.502
	POW2	0.326	0.217	Dropped	Dropped		
	POW3	0.505	0.493	0.207	Dropped		
	POW4	0.547	0.542	0.526	0.474		
	POW5	0.460	0.500	0.537	0.534		
	POW6	0.508	0.531	0.550	0.582		
	POW7	0.348	0.418	0.472	0.463		
	POW8	0.532	0.551	0.562	0.560		
Information sharing	INF1	0.729				0.861	0.775
	INF2	0.790					
	INF3	0.698					

Table III: Factor loadings

Variable	Item	Environmental Uncertainty	Information Sharing	Opportunism	Power Asymmetry
Information sharing	INF1	0.046	**(0.881)**	-0.151	-0.150
	INF2	0.108	**(0.893)**	-0.170	-0.100
	INF3	0.106	**(0.866)**	-0.096	-0.036
Environmental uncertainty	ENV1	**(0.774)**	0.209	0.138	-0.008
	ENV2	**(0.932)**	0.121	0.205	0.104
	ENV3	**(0.915)**	0.009	0.284	0.232
Opportunism	OPP4	0.144	-0.168	**(0.595)**	0.135
	OPP5	0.295	-0.029	**(0.756)**	0.288
	OPP6	0.267	-0.100	**(0.789)**	0.383
	OPP7	0.123	-0.231	**(0.845)**	0.356
	OPP8	0.174	-0.061	**(0.806)**	0.268
Power asymmetry	POW4	0.235	0.085	0.169	**(0.582)**
	POW5	0.124	-0.142	0.310	**(0.726)**
	POW6	0.316	-0.072	0.244	**(0.732)**
	POW7	-0.067	-0.055	0.261	**(0.696)**
	POW8	0.025	-0.136	0.341	**(0.791)**

Table IV: Multi-collinearity statistics

Variable	Collinearity Statistics	
	Tolerance	VIF
Opportunism	0.838	1.194
Environmental asymmetry	0.891	1.122
Power asymmetry	0.835	1.198
Information sharing	0.634	1.576

Table V: Regression analysis results

Industry Sector	Construct/Control Variable	Standardized Beta Coefficient	t	Sig.	Model Summary	ANOVA	Hypothesis supported?
Agricultural	Firm size	-0.089	-0.657	0.515	$R = 0.481$		
	Environmental uncertainty	0.330	2.223	0.031*	$R^2 = 0.231$ Adj. R^2 =0.164	F = 3.459 Sig = 0.015	Yes
	Power asymmetry	0.216	1.548	0.129	STE = 0.790		No
	Information sharing	-0.254	-1.859	0.069			No
Non-agricultural	Firm size	-0.117	-0.810	0.422	$R = 0.420$	F = 2.191	
	Environmental uncertainty	0.142	1.004	0.321	$R^2 = 0.176$ Adj. R^2 =0.096	Sig. = 0.087	No
	Power asymmetry	0.343	2.378	0.022*	STE = 0.859		Yes
	Information sharing	-0.097	-0.681	0.500			No

STE – Standard Error of the Estimate
Dependent Variable: opportunism
$p \leq 0.05$

Figure 1: Conceptual Model