

IMPACT OF BUSINESS-RELATED KNOWLEDGE ON THE PERFORMANCE OF MICRO AND SMALL TECHNICAL ENTERPRISES IN SOUTHWESTERN NIGERIA



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Abstract

This paper identifies the knowledge areas and knowledge level of micro and small technical enterprises in Southwestern Nigeria. It also examined the influence of operators' knowledge on the performance of micro and small technical enterprises (MSTEs) in Southwestern Nigeria. Primary data were collected for the study using a set of questionnaire and guided interview. Multi-stage sampling technique was used for the study. Three Local Governments Areas were selected randomly from each of the selected states. Twenty five micro and small technical enterprises were purposely selected in each of the selected Local Government Area, making a total of three hundred respondents. Two hundred and forty nine respondents participated in the study. The study found that majority of micro and small technical entrepreneurs in Southwestern Nigeria had Secondary School certificate as their highest educational qualifications with five to six business-related knowledge areas which is an average level of business-related knowledge areas. This needs to be improved on. Also, it was found that the relationship between comprehensiveness of business-related knowledge areas and the performance of MSTEs was statistically significant. Therefore, technical entrepreneurs should be encouraged to further their education so as to acquire higher numbers of business-related knowledge areas.

Keywords: *Business-Related Knowledge, Micro, Small technical, Enterprises*

Background to the Study

Knowledge has been defined differently by various authors. According to the Oxford Advanced Learner's Dictionary, Knowledge is: (a) the facts, information, understanding and skills that a person has acquired through experience and education. (b) an organized body of information shared by people in a particular field: specialist/ scientific knowledge. (c) the awareness of a fact or situation. In addition, to know means: to be aware of something; to be certain about it; to learn and remember something; to have understanding or grasp of the object of knowledge; to be able to recognize or identify something; ability to distinguish between things, to have enough experience and training; to be intimate with something (Chamber Encyclopedic Dictionary, 703). Campbell (2006) opined that knowledge happens between the ears. Campbell further notes that all knowledge is generated in the human head and shaped by the cultural and physical context of the time. Ogbimi (2013) asserts that knowledge is the act of being aware of the existence of a fact. Likewise Polanyi (1966) note that knowledge is justified personal belief. Therefore, knowledge is an understanding of information or skills acquired via formal or informal forms of knowledge acquisition.

There is much taxonomy that specifies various kinds of knowledge, the most fundamental distinction is between “tacit” and “explicit” knowledge. Tacit knowledge inhabits the minds of people and is either impossible, or difficult, to articulate (Polanyi, 1966). Most knowledge is initially tacit in nature; it is laboriously developed over a long period of time through trial and error and it is underutilized because “the organization does not know what it knows” because they are not explicit (O'Dell and Grayson, 1998). Some knowledge are embedded in business processes, activities, and relationships that have been created over time through the implementation of a continuing series of improvements (Polanyi, 1966). Explicit knowledge exists in the form of words, sentences, documents, organized data, and computer programs and in other explicit forms. If one accepts the useful concept of tacit knowledge, a fundamental problem of knowledge management (KM) is to explicate tacit knowledge and then to make it available for use by others (Polanyi, 1966).

Fatai (2011) posits that, small and medium scale enterprises in Nigeria performed at very abysmal/low level and this low performance has further worsen poverty, hunger, unemployment and low standard of living of citizen., this could be attributed to the comprehensiveness of business-related knowledge areas of the business owners. Hence, this study seeks to shed light to certain questions relating to the basic challenges attributed to the phenomenon under study. What are the knowledge areas and the knowledge level of micro and small technical enterprises' owners in Southwestern Nigeria? And how does the comprehensive business owners' knowledge influence the performance of micro and small technical enterprises in Southwestern Nigeria?

Literature Review

Knowledge and Knowledge Management

Authors view the taxonomy of knowledge differently. Polanyi (1966) assert that effort to classify knowledge is often motivated by the desire to align strategies and technologies with the sharing of different types of knowledge and/or the transformation of knowledge across different types such as; (1) factual or propositional knowledge, (2) knowledge of how to do things, and (3) knowledge by acquaintance. Hence, Ogbimi (2013) defined three types of knowledge; empirical, rational and mystical. Empirical knowledge is based on experience, observation or on experiment rather than theory; this knowledge is objective in nature. Meanwhile, rational knowledge is based on rational grounds like on sound reasoning, logic, mathematical procedures because mind of man is created with certain innate principles and truths which are independent of experience. Hence, mystical knowledge is not open to all and sundry this might be revelation knowledge and can be passed down from parents to their children as a means of heritage, some might be taught in esoteric cults and groups.

Asheim and Coenen (2005) asserts two types of knowledge based; analytical (science-based) and synthetic (engineering-based). An analytical knowledge base refers to industries where scientific knowledge is highly important, and where knowledge creation is often based on cognitive and abstract. The intellectual challenge is to understanding natural systems by discovery and application of natural laws where the knowledge often equals the product. Both basic and applied research is relevant activities in this type of knowledge based and its typical outputs are publications, licenses and patents. The examples of technological sectors that rely mainly on an analytical knowledge base include biotechnology, nanotechnology, information technology and genetics (Jonas *et al.*, 2006). A synthetic knowledge base refers to industries where innovation takes place mainly through the application of knowledge or through recombination of existing knowledge in new ways.

Furthermore, Mcinerney (2002) asserts two types of knowledge; tacit and explicit. Mcinerney further note that tacit knowledge sometimes known as implicit knowledge, unspoken and hidden knowledge. It is the type of expertise that individuals develop over the years which may never have been recorded, documented, and made explicit in an organization. Necessarily, this tacit knowledge is subjective and personal, but it can be shared to some extent while explicit knowledge have been made known via documentation, recording etc. Furthermore, Dalkir (2005) opined that tacit knowledge is difficult to articulate and also difficult to put into words, text, or drawings. Moreover, tacit knowledge tends to reside within the heads of knower, while explicit knowledge are reference form of knowledge. According to Collins (1993), tacit knowledge is highly personal and difficult if not impossible to reduce to writing. Tacit knowledge frequently takes the form of analogies, metaphors, stories, or personal strategies that reveal insight into why and how employee's approach to tasks or problems (Narasimha, 2000).

In some professional organizations, much of the most useful knowledge may be tacit in nature (Nonaka and Takeuchi, 1995). Although critical to organizational decisions, tacit knowledge is difficult to measure and has not been often studied (Brockmann and Anthony, 1998). Tacit knowledge resides only in the minds of people and its availability and use depends upon individual decisions and relationships (Cross and Baird, 2000; Lucas, 2005). There has always been a range of different types of knowledge, and their value depends on the context in which the knowledge is used (Castells, 2000). The willingness of organizational members to share and use tacit knowledge may depend on the extent that co-workers are trusted recipients and sources (Adler, 2002). For example, Lucas (2005) found that interpersonal trust between co-workers and reputation of co-workers had separate effects on employee experiences in transferring knowledge within an organization. In addition, Smedlund (2008) reaffirmed that tacit knowledge transfer (sharing and use) is facilitated by a social network within organizations characterized by ties based on both interpersonal relationships and long-standing working relationships where reciprocity among co-workers is the norm (Lewicki and Bunker, 1996). While explicit knowledge is the type of knowledge that have been codify, recorded, documented, and made known to an organization. Technology may facilitate the storage of explicit knowledge (Nonaka and Takeuchi, 1995).

In addition, explicit knowledge is the codified one, expressed in formal and linguistic ways, easily transmittable and storable, and expressible in words and algorithms, but it represents only the tip of the iceberg of the entire body of knowledge (Polanyi, 1966). Organizations need to put knowledge enablers in place that will stimulate the development of individual knowledge, group sharing of knowledge, and organizational retention of valuable knowledge-based content. Von Krogh *et al.* (2000) propose that knowledge enabling is better than knowledge management. Knowledge enabling refers to the overall set of organizational activities that positively affect knowledge creation.

There are levels of knowledge which could stem from either tacit or explicit form of knowledge. Polanyi (1966) asserts three levels of knowledge; know what, know-how and know why. Know what knowledge specifies what action to take when one is to react to any action. For instance, a salesperson that has been trained to know which product is best suited for various situations has a “know-what” level of knowledge. Know-how knowledge is to know how to decide on an appropriate response to any action. Such knowledge is required when a business man needs to monitor its business transactions, in that case, know-what knowledge is not sufficient. In addition, know how-type of knowledge permits a professional to determine which action is best, even in the presence of significant interference. Know-why knowledge is to have deep understanding of causal relationships, interactive effects and the uncertainty levels associated with observed action. This will usually involve an understanding of underlying theory and/or a range of experience that includes many instances of anomalies, interaction effects, and exceptions to the norms and conventional wisdom of an

area and this type of knowledge is the highest level. Meanwhile, there are three characteristics of knowledge; level of explicitness, context embeddedness, and practice embeddedness (Dalkir, 2005).

The significance of knowledge management is inevitable to an organization. William (2009) noted that knowledge management (KM) focus on how entrepreneurs carry their workers along in achieving their mission, in other word, KM deals with how to improve the organization's knowledge assets that will effectuate better knowledge practices, improved organizational behaviours, better decisions and improved organizational performance. William further note that knowledge management is a set of relatively new organizational activities aimed at improving knowledge, knowledge-related practices, organizational behaviours, decisions and organizational performance. KM focuses on knowledge processes: knowledge creation, acquisition, refinement, storage, transfer, sharing and utilization. These processes support organizational processes involving innovation, individual learning, collective learning and collaborative decision making (William, 2009). The outcomes of KM are improved organizational behaviours, decisions, products, services, processes and relationships that enable the organization to improve its overall performance.

Hence, Lohr (2002) note that effective management of knowledge is essential to the success of modern firms and many organizational leaders have reacted to this need by spending heavily annually in other to analyze, store, and retrieve knowledge. Choo (1998), note that investments in technology primarily affect an organization's ability to accumulate and recall knowledge that has been made explicit through codification or writing in the form of documents, reports, catalogues, presentations, patents, formulas, etc.

However, Nonaka and Takeuchi (1995), note that knowledge-related assets include knowledge in the form of printed documents such as patents and manuals, knowledge stored in electronic repositories (archive) such as best-practices database, employees' knowledge about the best way to do their jobs, knowledge that is held by teams who have been working on focused problems and knowledge that is embedded in the organization's products, processes and relationships. Nonaka and Takeuchi further note that knowledge management focuses on the content of the knowledge that an organization acquires, creates, processes and eventually uses. Hence, organizational memory includes knowledge stored in the minds of organizational participants and also held in electronic repositories (archive), which has been acquired and retained by groups or teams and has been embedded in the business' processes, products or services and its relationships with customers, partners and suppliers (Cross and Baird, 2000). According to Wiig (1993), there are four broad range of steps of learning from all types of sources: personal experience, formal education or training, peers, and intelligence from all sources. Wiig further notes that knowledge can be held in either within our heads or in tangible forms such as books or databases and knowledge can be pooled and used in a variety of different ways depending on the context and the purpose.

Schools of Thought and Sources of Knowledge

Fasuyi (2000) asserts that school of thoughts refers to different philosophical positions or systems of thought relating to Epistemology. These schools of thought (Idealism, Naturalism, Realism, Pragmatism and Existentialism) view knowledge differently. Idealism posits that knowledge is the result of the mind's creative activity and believes that reality is to be found in man's mind rather than on material nature and also sees knowledge as subjective. Naturalism school of thought believes that knowledge is subjective and follows the law of nature. Hence, realist believes in reality and existence and not in perception. In addition, Aristotle; a realist believes that a complete life combines the life of academic or intellectual studies with that of practical living.

Realist sees knowledge to be objective. Pragmatism believes that actions gets priority over thought. Dewey (1963); a pragmatist believes that “what a predominantly frontier-type society needs is not scholars so much, as practical men able to turn their hands to a variety of tasks; a young society like this is likely to place great store on enterprise, individuality, independence and to be impatient with claims to privilege not based on merit and ability”. Pragmatist believes that knowledge is empirical based and learning by doing is the best way of acquiring knowledge (Fasuyi, 2000). Existentialist view knowledge as something real, objective and empirical based as against both naturalism and Idealism schools of thought. Ogbimi (2013) opined 2 sources of knowledge; senses (Empiricism) and reason (rationalism). This means that knowledge comes from what we experience or what we reason out.

Empiricism is the philosophical school of thought that holds that knowledge comes from the senses; the senses of touch, sight, hearing, taste, and smell. These are the windows through which the mind receives information about the external world. Rationalism is the school of thought that holds that knowledge is derived through reasoning. It is otherwise known as ratiocinative process. Meanwhile, Immanuel Kant cited by Ogbimi (2013) consensus the two extreme theories; theory of empiricism and rationalism, Ogbimi notes that all knowledge comes from experience, but they do not all arise from experience; the sense supply the raw data, then the mind supplies the forms and synthesizes (unifies) our experience and this helps to get the fruit of knowledge as a product of the cooperative activities of the mind and the senses.

Importance of Business-Related Knowledge

Studies have identified advantages of an individual's business knowledge relative to entrepreneurial outcomes. Sullivan and Marvel (2011) note that during early stage of venture development, knowledge is especially critical. Sullivan and Marvel further note that business-related knowledge possessed by the entrepreneur may relate to desirable outcomes like employing workers during the early stages of venture development and also serves as competitive advantage. This is because early-stage ventures are plagued by resource deficiencies and liabilities of newness that increase the risk and uncertainty associated with the ventures (Wu et al. 2008). In addition, Grant (1996) asserts that knowledge is a necessary resource for new ventures. Knowledge is strategically important resource that can form the basis for a new venture's competitive

advantage. Likewise, Kogut and Zander (1992) assert that knowledge is a primary resource for achieving favorable entrepreneurial outcomes because privately held knowledge (tacit knowledge) is a basic source of advantage in competition. A superior ability in creating and transferring knowledge may provide an advantage across markets and accumulating knowledge can help propel entrepreneurs as they develop and grow their firms. This is because knowledge enhances an entrepreneur's ability to exploit opportunities in the market areas and the more knowledge individuals possess the better able they are to identify entrepreneurial opportunities, achieve higher level of efficiency when completing job related tasks, and develop solutions to challenges that are encountered (Yu, 2001). If people have knowledge across business functions the better able they are to optimize aspects of the business like minimizing costs or maximizing revenue. A person's stock of business related knowledge helps to frame newly acquired information, thus enhancing the individual's ability to interpret and act on it in useful ways (Shane, 2000; Yu, 2001). Knowledge can help entrepreneurs to be certain about its business environment (Chrisman *et al.*, 2005). In early venture development, knowledge is the first type of resource that any new start-up possesses and it is the foundation for a new venture's early survival and longer-term sustainability (West and Noel, 2009). The more knowledge an entrepreneur has of varying business areas like sales, finance, marketing, human resources etc, the more prepared they may be to overcome challenges with early-stage operations, which should enhance venture development and subsequent resource accumulation efforts. Entrepreneurs with more knowledge are associated with ventures that are more likely to survive and grow in a turbulent period.

Many new venture failures are attributed to a lack of qualified personnel (Brush *et al.*, 2001) and new ventures that lack adequate size in terms of employees face lower chances of survival. For new ventures, employing workers is about achieving viability in the marketplace (Gilbert *et al.*, 2006). Furthermore, employing workers is a key indicator of early venture survival because having employees indicates that founders are able to concentrate on the more complex operational tasks required of their developing firms and delegate less complex tasks to employees (Gilbert *et al.*, 2006). Apparently, two things are involved simultaneously: propensity to start an entrepreneurial venture and skills to run the venture successfully (Udaejah, 2006). Hence, operating entrepreneurship ventures successfully entails frugality; this is by keeping overhead cost low and productivity high, they ensure that costs are drastically reduced (Wood, 2005). This is due to entrepreneurial knowledge.

Performance Measurement

Studies had revealed various measurement of business performance. Simmons (2000) mention two types of performance measurements: objective and subjective. Subjective measurement is based on perception while objective measurement is monetary based. Financial or accounting measures like profits, returns on sales and returns on assets (ROA) are examples of objective measurement while customer satisfaction and quality of a product or service are examples of non-financial and subjective measurement. Gorgievski *et al.* (2011) posit ten performance measurement which are both objectives and subjective measures: (1) Profitability such as high yield, good profit margin, it start with

scaling the operation of the respondents, (2) Growth: growth in the number of employees, sales, market share and/ or distribution, (3) Innovation: Introduction of new products or production methods, (4) Firm survival/Continuity: enables generational transfer or can be sold with a profit (5) Contributing back to society: socially conscious, sustainable production methods (6) Personal satisfaction: through attaining important things in life, such as autonomy, challenge, security, power, creativity etc, (7) Satisfied stakeholders: satisfied and engaged employees, satisfied customers. (8) Good balance between work and private life: positive mutual influence (9) Public recognition: good reputation, prizewinner (10) Utility or usefulness: organization fulfils a need in society; it provides an important service or product.

Methodology

Lagos, Ekiti, Oyo and Ondo States in Southwestern Nigeria were selected for the study. Primary data were collected for the study using a set of questionnaire and supplemented with guided interview. Multi-stage sampling technique was used. Three Local Governments Areas were selected randomly from each of the selected states. Twenty five micro and small technical enterprises were purposely selected for questionnaire administration in each of the selected Local Government, making a total of three hundred respondents. The purposive selection was based on the fact that enterprise selected must be technical and had at least two years of firm age. Thirty questionnaires was pretested in Osun State. Two hundred and forty nine respondents participated in the study. The questionnaire identifies the knowledge areas and knowledge level of micro and small technical enterprises in Southwestern Nigeria. It also examined the influence of operators' knowledge on the performance (sales volume and staff strength) of micro and small technical enterprises (MSTEs) in Southwestern Nigeria. The data obtained was analyzed using descriptive; mean, standard deviation, frequency and percentages, and inferential statistics; Regression and Analysis of variance. Participant were told to rank the level of their staff strength (full time staff) with the present number of full time employees as compare to the two years ago of the firm operation using 4 points scale of 1 for no increase, 2 for fluctuation, 3 for decrease and 4 for increase. Likewise sales volume; 1 for very low, 2 for low, 3 for high and 4 for very high. An alpha level of 0.05 was chosen a priori as the level of significance which is 95% confidence interval.

Model Specification for Impact of Knowledge on the Performance of MSTEs

Performance = F (Comprehensiveness of business-related knowledge)

The regression model for this study is $Y=F(X) +E$ $Y= A + BX + E$

Where $Y_{1,2}$ = Performance

Performance = (staff strength, Sales volume)

X = Knowledge

A = Constant

B = Beta

E = Error term

Y_1 = Staff strength

Y_2 = Sales volume

Results and Discussion

Table 1 shows the highest educational qualifications of the respondents. The table revealed that majority (44.6%) of the respondents had Senior Secondary School Certificate as their highest educational qualification, followed by (20.1%) Primary School Leaving Certificate, 17.3% had B.Sc./HND, 8.8% had ND/NCE Certificate, 4.8% had Junior Secondary School Certificate and 0.8% had Post Graduate Degree as their highest educational qualification. This study shows that entrepreneur is a totally self-made man, with or without informal qualifications and also affirmed that entrepreneurs who are better educated are more successful than the less educated ones (Sullivan and Marvel, 2011). In the same vein, Chrisman *et al.* (2005) reported that entrepreneurs who spent time obtaining knowledge through Small Business Development Centre (SBDC) reported higher revenues and more employees five to nine years after venture launch than entrepreneurs who spent less time. Thus, the knowledge that the founder possesses is important for longer-term performance in order to accumulate resources like employees, supplies and infrastructure.

Table 1: Distribution of respondents by highest educational qualifications

Highest Educational Qualifications	Frequency	%
Primary School leaving Certificate	50	20.1
Junior Secondary School Certificate	12	4.8
Senior Secondary School Certificate	111	44.6
National Diploma/ National Certificate in Education	22	8.8
Bachelor of Science/ Higher National Diploma	43	17.3
Post Graduate Degree	2	0.8
No response	9	3.6
Total	249	100

Source: Field Survey, 2014

Table 2 shows that majority (83.5%) of the respondent did not attend technical school while only 15.3% attended. Not only has that but also showed that 73.5% had apprentice experience while 24.5% did not. The table further showed that 30.9% of the respondent attended technical entrepreneurship seminar/ workshop.

Table 2: Distribution of respondents by Technical School, Apprenticeship and technical workshop/seminar attended

Parameters	Frequency	%
Technical School Attended		
Yes	38	15.3
No	207	83.5
No response	4	1.6
Total	249	100
Apprenticeship experience		
Yes	183	73.5
No	62	24.9
No response	4	98.4
Total	249	100
Technical entrepreneurship workshop/seminar		
Yes	77	30.9
No	101	40.6
No response	71	28.5
Total	249	100

Source: Field Survey, 2014

Table 3 showed that majority (89.2%) of the respondent that attended technical school spent 3 years, while 8.1% and 2.7% are those that spent 2 years and 4 years respectively in technical school. Hence, the table also revealed that majority (61.6%) of the apprentice spent 3-5 years while 17.4%, 17.2%, and 3.9% are those that spent less than 3 years, 6-8 years and 9 years above respectively as an apprentice. In addition, the table further showed that majority (48.7%) of the respondents attended 3-4 technical entrepreneurship workshop/seminar (TEWS) followed by 34.6% of the respondents that attended between 1-2 TEWS which is less than 3. In addition, 12.8% and 3.8% of the respondents attended 6-8, and 9 and above number of technical entrepreneurship workshop/seminar respectively.

Table 3: Distribution of respondents by years spent in Technical School, years of Apprenticeship and number of technical workshop/conferences attended

Parameters	Frequency	%
Years spent in Technical School attended		
2 years	3	8.1
3 years	33	89.2
4 years	1	2.7
Total	37	100
Years of Apprenticeship experience		
Less than 3 years	31	17.4
3-5 years	111	61.6
6-8 years	31	17.2
9 years and above	7	3.9
Total	180	100
Number of technical entrepreneurship workshop/seminar attended		
Less than 3	27	34.6
3-5	38	48.7
6-8	10	12.8
9 and above	3	3.8
Total	78	100

Source: Field Survey, 2014

Table 4 shows the specialties of the respondents. The table shows that out of two hundred and forty nine technical entrepreneurs' respondents, 0.8% specialized in food and beverages (e.g. meat processing), 14.5% specialized in textiles, clothing, garment and leather (leather shoe making, tailoring and upholstery). Majority of the respondent; 20.9% specialized in wood and wood products (furniture, carpentry and carving), followed by 13.7% Metal and Aluminum fabrication. 0.8% specialized in Publishing and printing, 3.6% specialized in Construction (builders and bricklayers), and 5.6% specialized in electrical and electronic equipment- electric control maintenance and installation. 4.4% specialized in block fabrication, 4.8% specialized in Graphic (Art design, Painting, Photography and video Production), 8.4% specialized in Salon (Hairdressing and Barbing), 4.8% specialized in farming- poultry and fishery, 9.6% specialized in automobile (Mechanic, Panel beating, Vulcanizing) and 7.6% specialized in others (Popcorn, Catering, and Dry cleaning). All the aforementioned specialties were possible because individuals are thought to be specialist based on the knowledge they possess (Grant, 1996).

Table 4: Distribution of respondents by specialties

Specialties	Frequency	%
1. Food and beverages (eg meat processing)	2	0.8
2. Textiles, clothing, garment and leather 14.5		36
3. (Leather shoe making, upholstery and tailoring.)		
4. Wood and wood products (Furniture and carpentry, and carving)	52	20.9
5. Publishing and printing	2	0.8
6. Metal and Aluminum Fabrication	34	13.7
7. Construction (build and bricklaying)	9	3.6
8. Electrical and Electronic equipment	14	5.6
9. (Electric control maintenance and installation)		
10. Block fabrication	11	4.4
11. Graphic (Art Design, Painting, Photography and video Production)	12	4.8
12. Salon (Hairdressing and Barbing)	21	8.4
13. Farming (poultry and fishery)	12	4.8
14. Automobiles (Mechanic, Panel beating and vulcanizing etc)	24	9.6
15. Others (Popcorn, Catering and Dry cleaning)	19	7.6
16. No response	1	0.4
Total	249	100

Source: Field Survey, 2014

Table 5 showed that majority (60.6%) of the respondents conceived their businesses via personal interest and 25.3% of the respondents conceived their businesses with the aid of business counsellor while the parent of 10.8% the respondents had a related business and 0.4% of the respondent conceived their businesses with the aid of workshop/ seminar(s).

Table 5: Distribution of respondents by forms of business conception

Business conception	Frequency	%
My parent has a related business	27	10.8
Workshop/Seminar (s)	1	0.4
Business counsellor	63	25.3
Personal Interest	151	60.6
No response	7	2.8
Total	249	100

Source: Field Survey, 2014

Table 6 shows the distribution of respondents by the number of business-related knowledge which determines the comprehensiveness of their knowledge needed for successful business performance. The highest percentage (28.1%) had five knowledge areas out of eleven. The percentage (71.2%) that had 5 or less knowledge areas was greater than the percentage (28.9%) that had 6 or more knowledge areas. The mean (4.80) of the number of knowledge areas and its standard deviation (1.702) shows the amount

by which measurement in knowledge areas vary from the average. By implication, the distribution of numbers of business-related knowledge areas clustered around its mean.

Table 6: Distribution of respondents by number of business-related knowledge

Numbers of knowledge areas (out of 11)	Frequency	%	Mean	SD
1	1	0.4		
2	18	7.2		
3	41	16.5		
4	47	18.9	4.80	1.702
5	70	28.1		
6	26	10.4		
7	33	13.3		
8	7	2.8		
9	1	0.4		
10	4	1.6		
No response	1	0.4		
Total	249	100		

Source: Field Survey, 2014

Key

SD = Standard Deviation

Table 7 revealed that the comprehensiveness of business related- knowledge areas of the majority (35.3% and 38.6%) of the respondents are low (3-4 knowledge areas) and average (5-6 knowledge areas) respectively while comprehensiveness of business related knowledge areas of other respondents 7.6%, 16.1% and 2.0% were very low (1-2 knowledge areas), high (7-8 knowledge areas) and very high (9 – 11 knowledge areas) respectively. Yu (2001) affirms that a person's stock of business-related knowledge helps to frame newly acquired information, thus enhancing the individual's ability to interpret and act on it in useful ways. This is corroborated by Sullivan and Marvel (2011) that business-related knowledge possessed by the entrepreneur may relate to desirable outcomes like employing workers during the early stages of venture development and further note that if a person has knowledge across business functions, the better its able to optimize aspects of the business like minimizing cost or maximizing profit.

Table 7: Distribution of respondents by comprehensiveness of business related knowledge

Comprehensiveness of business-related knowledge (out of 11 knowledge areas)	Frequency	%
Very low (1-2 knowledge areas)	19	7.6
Low (3-4 knowledge areas)	88	35.3
Average (5-6 knowledge areas)	96	38.6
High (7-8 knowledge areas)	40	16.1
Very high (9 – 11 knowledge areas)	5	2.0
No response	1	0.4
Total	249	100

Source: Field Survey, 2014

Table 8 evaluates the influence of operators' knowledge on the performance of micro and small technical enterprises in Southwestern Nigeria. There is 47.2% ($R=0.472$) relationship between comprehensiveness of business-related knowledge areas and staff strength as shown in Table 8, which means that staff strength of micro and small technical enterprises was positively related to business knowledge areas. Moreover, the amount of variation in staff strength 22.3% ($R^2=0.223$) was only accounted for by change in the business knowledge areas of micro and small technical enterprises in Southwestern Nigeria while the remaining variation could be attributed to other factors not considered in the study. Hence, there is weak goodness of fit (21.9%). Furthermore, standard error of the estimate of about 56.3% shows that there is variation from the true population based on the variability of the factor variable. Hence, the relationship between comprehensiveness of business-related knowledge areas and staff strength was statistically significant at 5% (F-value=70.421, $P_{5\%}=0.000^*$)

Table 8 further shows that there is 23.4% ($R=0.234$) relationship between comprehensiveness of business-related knowledge areas and sales volume, which means that Sales volume of micro and small technical enterprises was positively related to business-related knowledge areas. Moreover, the amount of variation in sales volume 5.5% ($R^2=0.055$) was only accounted for by change in the comprehensiveness of business-related knowledge areas of micro and small technical enterprises in Southwestern Nigeria while the remaining variation could be attributed to other factors not considered. Hence, there is weak goodness of fit (5.1%). Furthermore, standard error of the estimate of about 139.5% shows that there is high level of variation from the true population based on the variability of the factor variable. Hence, the relationship between comprehensiveness of business-related knowledge areas and sales volume was statistically significant at 5% (F-value=12.958, $P_{5\%}=0.000^*$)

Table 8: Impact of Business-related knowledge on the performance of MSTEs

R.V	A ₀	B ₀	R	R ²	Adj. R ²	Std.E	F-values	P-values
S.S.	2.000	0.176	0.472	0.223	0.219	0.563	70.421	0.000*
S.V.	1.830	0.199	0.234	0.055	0.051	1.395	12.958	0.000*

Source: Field Survey, 2014

* Significant at 5%

Keys

R.V = Response Variables

S.S. = Staff Strength

S.V. = Sales volume

A₀= Constant

B₀= Regression coefficient for comprehensiveness of business-related knowledge areas

R= Regression/ level of relationship

R²= Coefficient of determination

Adj. R²= Goodness of fit

Std. D = Standard Deviation

F-V= F value

P_{5%}= Significant level (95% confidence interval)

Conclusion

The study conclude that majority of micro and small technical entrepreneurs in Southwestern Nigeria had Secondary School certificate as their highest educational qualification with five to six business-related knowledge areas which is average level of business-related and may needs to be improved on. Hence, the relationship between comprehensiveness of business-related knowledge areas and the performance of MSTEs was statistically significant. Therefore, technical entrepreneurs should be encouraged to further their educational qualifications and acquire higher numbers of business-related knowledge areas.

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