

INTELLECTUAL PROPERTY RIGHT PROTECTION AS DETERMINANT FOR INNOVATION CAPABILITY: A STUDY OF SMEs IN BAUCHI METROPOLITAN.

Hassan Nuruddeen Mohammed¹ and Yahuza Shehu²

¹ Department of Business Administration, Faculty of Management Sciences,
Federal University of Kashere, Gombe, Gombe State.
Email: hassannuruddeen958@gmail.com

²Department of Vocational and Technical Education, Faculty of Technology Education,
Abubakar Tafawa Balewa University Bauchi, Bauchi State.
Email: yahuzashehu4@gmail.com

ABSTRACT

Many studies conducted on what determines Small and Medium-Scale Enterprises (SMEs) innovation capability. However, several determinants considered such as funding innovation activities, university-industry collaborations, research and development, government procurement on advance technology, availability of scientist and engineers. Yet the exploration of Intellectual Property Right Protection (IPRP) (formal and informal) as determinant of innovation is newness in the area of the study. The research objective is to find out how IPRP determine innovation capability. Registered SMEs under National Agency for Small and Medium-Scale Enterprises (NASME). In the trade of metalwork and fabrication constitute the population of the study, the sample size of 227 obtained through Taro Yamani formula, simple and systematic random sampling techniques was used to draw study sample. Questionnaire was used as method of data collection using 5point likert scale on each item of the variables and administered to the SMEs owners /managers with (200) 88% response. The data was subject to inferential statistics of Multiple Linear Regression Analysis, to ascertain how the independent variables (image design, patent right, trademark and trade secret) determine innovation. The result shows that: trade secret and image design found to be statistically significant while patent right and trademark is non-statistically significant as determinant of innovation at five per cent alpha level. The research concluded that informal IPR protection determined innovation capability while the formal IPR protection has no effect in determining innovation among those in the trade of metalwork and fabrication in Bauchi metropolitan. It is therefore, recommended that: Government needs to encourage registration of formal IPRP (patent and trademark) and to ensure enforcement of IPRP laws against potentials imitators. Business owners/managers should try as much as possible to confine and preserve their peculiarities in which they have competitive edge over their rivals. And both the formal and informal IPRP laws be enforced to ensure compliance that will turn increase innovation in every business endeavour.

Keywords: intellectual property right protection, innovation, Innovation capability

INTRODUCTION

Innovation is crucial factor in gaining a competitive advantage, providing an edge over rivals in today's competitive business environment. Minna (2020) suggested that innovation capability is central to small businesses steering to defy larger businesses and more resource-holding competitors. Lee et al., (2019), stated that innovation is the introduction of new ideas, products, services, or processes that create value and improve organisational performance. The taxonomy of innovation are product, process, technology, social, open, disruptive, incremental, digital innovation etc. Small and Medium Scale Enterprises (SMEs) are known to drive innovations, economic growth, and job creation.

Several studies conducted on small businesses' innovations using new products and processes, with indicators that determine innovation such as funding innovation activities and university-industry collaborations research and development, government procurement on advance technology, availability of scientist and engineers (Alcides et al., 2020). However, other vital determinants such as intellectual property rights protections (Image design, patent right, Trademark and Trade secret protection) capable of determining innovations have not received enough scholarly attention especially at SMEs level in developing countries (Zhang & Shan, 2023). The ability to innovate new products which is one of the most important and desired meta-skills for individuals, firms, and economies is paramount (Galván et al., 2022).

This further explains that nurturing individual's innovation capability will improve the ability to deal with a rapidly changing future and to propose new products to the market. Innovation Capability (IC),

are fundamental strategic assets for SMEs in providing and sustaining their competitive advantage. Intellectual property right (IPR) is any form of knowledge or expression created with one's intellect. It includes: trademarks, literary, artistic, musical, or visual works, trade secrets, Patent and even know-how (Gaikwad & Dhokare, 2020). This suggest that, Intellectual Property Right Protection (IPRP), support innovation by providing novelists such as inventors and designers with the exclusive right to prevent others from stealing or taking credit for their innovation (Ponta et al., 2020).

This undoubtedly support the need to study how intellectual property right protection determines innovation capability of SMEs owners/managers. The study is domicile in Bauchi metropolitan, which has the highest population density of small-scale businesses, where SMEs owners in the businesses of metalwork and fabrications are choosing as the study unit of analysis. The rest of the article structured as follows: the extant literature on intellectual property right (image design, patent right trademark and trade secret) and innovation, followed by a description of research methodology used in the study, result of the inquiry discussed and finally conclusion and recommendation are offered.

The general objective of the research is to examine how intellectual property right determine and deliver innovation capability among local SMEs in Bauchi metropolitan. The following specific objectives are to: explore how image design determines innovation capability of SMEs owners/managers, in Bauchi metropolitan; examine how patent right determine innovation capability of SMEs owners/managers, in Bauchi metropolitan; determine how trademark influence innovation capability of SMEs owners/managers in Bauchi metropolitan;

and ascertain how trade secret determines innovation capability of SMEs owners/managers in Bauchi metropolitan.

Research hypotheses

Ho1: Image design would not determine innovation capability of SMEs owners/managers in Bauchi metropolitan

Ho2: Patent right, does not determine innovation capability of SMEs owners/managers in Bauchi metropolitan

Ho3: Trade mark, has no influence on determine innovation capability of SMEs owners/ managers in Bauchi metropolitan

Ho4: Trade secret does not determine innovation capability of SMEs owners/managers in Bauchi metropolitan

LITERATURE REVIEW

Innovation activities are recognised as the foundation and building block of SMEs competitive advantage especially in a dynamic business environment. Sandra et al., (2015), hold that, globalization of market and the prevailing businesses challenges subject SMEs to look and strive for survival through innovation. Taylor (2017) and Tohidi and Jabbar (2011), opined that, innovation is a creation of a new product or service or an improvement of an existing product or service. Innovation is defined as the process of bringing about new ideas, methods, products, services, or solutions that have a significant positive impact and value, (John et al., 2006). Hence, Innovations need not to be always a major breakthrough rather an improvement that attract and meet customers' need, while offering the business a

competitive advantage over their rivals (Boyles, 2022).

In the same vain the most common feature in defining innovation is altering or improvement of the process or product (Tohidi & Jabbar, 2011). Innovation can take various forms, and different types serve different purposes and bring different benefits. The major taxonomy of innovation are product, process, technology, social, open, disruptive, incremental digital innovation.(Gabriela et al., 2015) etc. A further classification of innovation is approach through continuous or discontinuous innovation (Jain, 2023). These types of innovations and the two approaches are not necessarily mutually exclusive, and organizations often engage in multiple types simultaneously to create comprehensive innovation strategy.

The choice of which type and approach to pursue depends on the organization's goals, industry dynamics, customers need, and the potential for value creation and differentiation (Jain, 2023) According to the Adler and Shenbar (1990) as cited in Rajapathirana, and Hui (2018), innovation capability is defined as (1) the ability of developing new products that satisfied market needs; (2) the capacity of applying appropriate technologies to produce new products; (3) the capacity of developing and adopting new products and processing technologies to satisfy future needs; (4) and the capacity to respond the accidental technology activities and unexpected opportunities created by competitors.

However, several factors influence innovation capability for most SMEs. Jibir and Abdu1 (2020), opined that human capital has significant influence to drives the chances of SMEs to innovate. In addition to that, collaboration, government support, employee skills, firm size and open

innovation are drivers of innovation, especially in developing countries (Mohammed & Shehu, 2022). The journey so far on factors to determine innovation does not end if adequate protection are not put in place, this may probably influence innovation capabilities and also protect innovation. Zhang and Shan (2023), affirmed that SMEs are constantly engaged in multiple innovative activities and could thereby rely on multiple types of intellectual property rights (IPRP) because innovation and commercialisation are becoming more complex and competitive.

Innovators need to know what type of protection can adequately protect their innovation, increase and sustain their innovation capabilities. Intellectual property rights are similar to property right, which allow innovators, hold patents, trademarks and copyright to derive investment benefit (Gaikwad. & Dhokare, 2020). Those may guarantee innovation and sustain it to a greater height. In support of this assertion, Gabriela et al. (2015), opined that SMEs must take legal action to safeguard intellectual property in addition to continuously developing novel items in order to thrive and stay in the market. IPRP regimes themselves adopted to capture new developments in the production of inventions and creative content for commercial use (OECD, 2004).

This further explains that, the existence of different innovations has different protection hinged on different property rights (image design, patent right, Trade mark Trade secret). Patent right protection is protections granted to innovators of new or improve products or services with the aim to allow return on investment and possible increase in innovation capability. Brouwer and Kleinknecht (1999), opined that, Patents are more likely to be used when the innovative product is a physical good rather than a service, this provides a ground that tangible

innovation are mostly protected with patent and are likely determinant of innovation capability.

In the same vein trade mark is any word, name, symbol, device or combination used in commerce to identify and distinguish the goods or services of one seller from those sold by others (Katherine, 2016), and it ensure continues innovation benefits. It is worth saying that patent right and trade mark are mostly regarded as formal IPRP while on the other measures of the IPRP which are within the control of the SMEs owners/managers are the image design and trade secret, are mostly regarded as informal IPRP (Andrea et al., 2018). Image design required consumers' personality, cognition and preferences towards a given product, and encompasses both tangible and intangible image design. By tangible is to meet the basic requirements of consumers for product functions and realize their basic consumption experience while intangible content that the product brand should further expand innovation mainly to make the brand more personalized and more competitive (Fanqi, 2020).

Katherine (2016), considered “trade secrets” as broad. It includes among others, confidential business information, such as a firm’s customer lists, price lists, or marketing strategies; know-how, manufacturing methods or processes for achieving certain results; and technical information, such as blueprints, and chemical formulae. Andrea et al. (2018) and Katherine (2016), hold that, trade secret is the most important appropriation instrument for competitive advantage than even formal intellectual property protection (patent, trademark) in determining small and large SMEs Innovation. This assertion has open up for academic discuss which will add knowledge to the body of existing literature in the study of relationship between IPRP and innovation.

Theoretical Framework

Resource base view theory, which was originally proposed and voiced by Penrose (1959), and later refined by Birgerlater (1984) and Barney (1991) and other scholars was adopted for the study. The resource base view has found considerable support in the business literature and the theory suggest that the unique resources and capabilities of organisation are critical determinant of its

performance. The resources most be valuable, rare, inimitable and non-substitutable (Dicksen, 1996), in the context of innovation capability, this theory suggest that organisation that possess the necessary resources and capabilities such as the ability to have intellectual property right protection as their resource base and used it strategically are more likely to enhance their innovation capabilities.

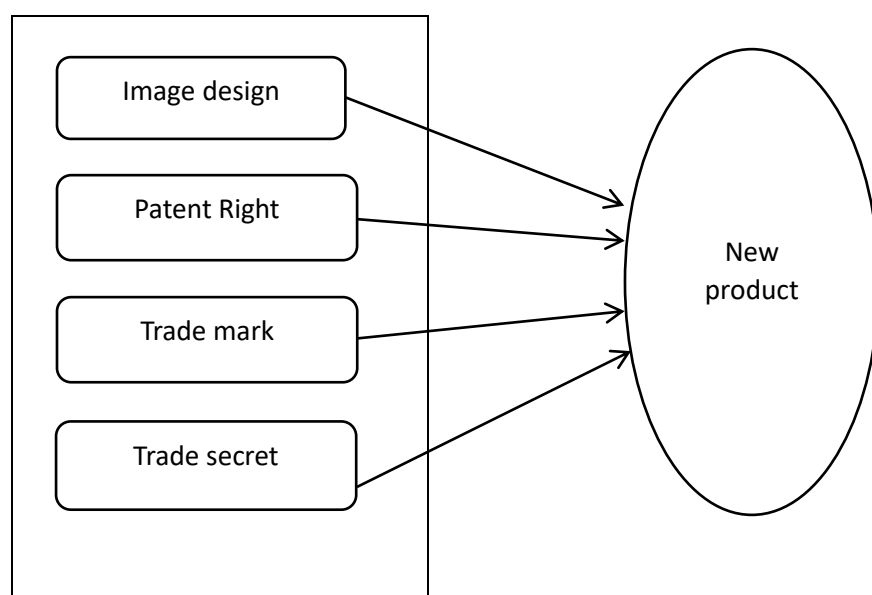


Figure 1: Conceptual Model
Source: Authors Design, 2024

Empirical review

Studies were conducted that aimed to relate intellectual property right and innovation using variables such as patent right, trade secret image design, trademark and many more, in the developed and developing countries, The result obtained revealed varying impact of IPRP on innovation. Among are:

Aurora and Teixeira (2019), conducted research to assess the direct and indirect

impact of IPR protection mechanisms on firm innovation, on 48 Portuguese companies, using logistic estimation found that formal IPRP is detrimental to the innovation competitiveness. Notwithstanding, when IPR protection mechanisms are discriminated by type, the results indicate that the use of informal protection mechanisms, such as lead time and trade secrets, fosters the companies' competitiveness, whereas the use of formal protection mechanisms, in particular, patents,

trademarks and geographical indications, negatively impacts on competitiveness.

Study conducted by Zhang and Shan (2023), titled, use of intellectual property right bundles and firm performance in China. Aimed to find how the joint use of different IPRs varies with firm characteristics, second, it analyses the association of such joint use with firm performance, based on a constructed large dataset that merges firm-level information from China's Annual Survey of Industrial Enterprises with data on IPR filings from the China National Intellectual Property Administration. Results indicated that, the joint use of different IPRs strongly correlated with the industrial sector and firm size. Firms that use IPR bundles also have much greater economic performance than those that rely only on single types, indicating the existing complementarity between these rights.

Sandra et al., (2015), in their research titled Relationship between Intellectual Property and Innovation, using a sample of 125 manufacturing SMEs in the Aguascalientes state, México, the results obtained show that registration of patents, trademarks and image investment, as well as intellectual property have a positive and significant influence on innovation.

Kamilia (2020) examined the relationship between intellectual property rights, human capital and technological innovation in the context of emerging and developing countries. Panel Threshold Regression applied to data of 46 developing countries for the period 1980-2009. The estimation results provide evidence for the existence of nonlinear relationship between intellectual property rights and innovation depending on human capital's initial level.

METHODOLOGY

This research is based on descriptive survey in which the population of the study are registered SMEs, under the domain of National Association of Small and Medium Scale Enterprises (NASME), in Bauchi metropolitan. The total population put together under the trade of welding and fabrication sum up to 526. The sample size of 227 was determined through Taro Yamani formula at Degree of Error Expected of 0.05. while the samples were drawn using systematic random sampling techniques and the first SMEs owner was selected randomly followed by a systematic selection of the next SMEs owners at an interval of every two (2) that is $1+2=3, 3+2=5$ etc. SMEs. Questionnaire was administered as instrument for collecting data adopted from Sandra et al., (2015), to measure the responses of SMEs owners/managers on I PRP and innovation instrument adopted from Innovation Radar created by Sawhney et al., (2006), later adapted by Bachmann and Destefani (2014), and was administered personally and with the help of two research assistants. And 200 (88%) questionnaires were duly completed and returned. Inferential statistical analysis of multiple linear regressions was used to predict the level of relationship between intellectual property right (image design, patent right, trademark and trade secret) and innovation (NPD). The null hypotheses were rejected when the p-value is found to be less than the alpha value (0.05) and uphold when it's greater than the alpha value of (0.05).

Model specification

$$Y=a+b_1x_1+b_2x_2+b_3x_3+b_4x_4+e$$

Where: Y= dependent variable (innovation); a= intercept; b1=coefficient of independent variable (image design); x1=independent variable (image design); b2=coefficient of

independent variable (patent right);
x2=independent variable (patent right);
b3=coefficient of independent variable (trade

mark); x3=independent variable (trade
mark); b4=coefficient of independent
variable (trade secret); e=error term.

RESULTS AND DISCUSSIONS

Table 1 Multiple Linear Regression Analysis of Intellectual Property Right (Image design, Patent Right, Trademark, Trade secret) and Innovation (New product)

Variables	Coeff.	t-value	P-value
Constant	12.325	3.859	.000
Image design	.389	5.252	.000
Patent Right	-2.010	-1.965	.051
Trade Mark	.050	.801	.424
Trade secret	.335	4.607	.000
Model Fitness			
R			.699
R^2			.489
F-test(46.096)			.000
Collinearity Statistics			
VIF			.511
Tolerance			1.96

Source Output from: IBM SSPS statistics 23

Table 1 shows that the R^2 value of the relationship between intellectual property right and innovation is .489 (49%). This signifies that, the independent variable (peroxide with Image design, Patent Right, trademark and trade secret) of the research study has clarified the variation in the innovation, to a degree of 49%. In addition, the remaining 51% is taken care by other variables not captured in the model. The F-test that is (.000) less than the alpha level of 5% (0.05), shows that at least one of the explanatory variables has significant linear relationship with response variable and the fitted linear model is valid. The collinearity statistics suggest that variance inflationary factor (VIF) has a figure of .511 which is less than <5.00 and Tolerance (T) value of 1.96, this indicates the absence of multicollinearity among the explanatory variables, therefore, we conclude that one

explanatory variable does not affect the values of other explanatory variables used in the study.

Image design and Innovation

Table 1 the influence of Image design on innovation has the coefficient value of .389 and a t-digit of 5.252, this is significant at five per cent (0.000). Shows that there is strong, positive and significant influence of image design on innovation, it further shows that an increase in image design at a given period may turn to 39% increase innovation while other variables were hold constant. Therefore, we reject Null hypothesis (H_{01}) and uphold the alternative hypothesis, this is in line with the expectation of the research study, that when SMEs owners invest in image design will bring additional demand by customers and in turn increase innovation capability. Hence, there is need for constantly improving image design by SMEs

owners/managers, this serves development of new products (innovation) and protection against imitators.

Patent Right and Innovation

Table 1, revealed that, the relationship between patent right and innovation shows that patent right has coefficient number of -2.010 and t-digit of -1.965. It also shows an insignificant weak negative relationship at 5% level of significance (0.051). Further examination explains that, for an increase in patent right registration in a given period may result in approximately decrease in new product by 20%. As such, we failed to reject the Null hypothesis; (H_{02}). This is in agreement with the finding of Corkburn et al. (2010). Patent right granted to SMEs owners do not influence sales of new product. Patenting is not the only mechanism enhancing the appropriation of innovation (Brouwer & Kleinknecht, 1999). This agreed with the finding of EIPO (2017). Innovating firms often used patents to protect their innovations but does not guarantee increase innovation, this may be attributed to lack of enforcement by authority in which holders of patent right can derive benefit to innovate.

Trademark and Innovation

Table 1, shows that Trade mark has .050 coefficient value and t-value of .801, this suggest that, there is strong positive relationship between Trade mark and Innovation and insignificant (.424) at 5% alpha level. As such, we uphold alternative hypothesis and reject the Null hypothesis (H_{03}). This indicates that every increase in Trademark registration will yield an approximately 50% increase in Innovation, but insignificant due to some factors, such as lack of adequate enforcement by authority to check mate imitation and inappropriate use of Trade mark and trade label. This is within the researcher's anticipation and it is in keeping with the finding of Aurora and Teixeira (2019), which observed that, the use of formal protection mechanisms, in particular,

patents, trademarks and geographical indications, negatively impacts on competitiveness.

Trade secret and Innovation

Table 1 submitted that Trade secret has a coefficient of .335 and t-figure of 4.607 this is an indication of strong positive and significant relationship between Trade secret and innovation at five per cent alpha level. Further examination of the analysis shows that Trade secret employed by SMEs owners at any given period increase innovation by 34%. therefore; we uphold the alternative hypothesis (H_{04}) and reject Null hypothesis. Trade secret is a means of improving innovation capability among SMEs owners by which various components involved in business activities remain within the knowledge of the business owners and as such imitation is blocked and competitiveness enhanced. This result is in line with the Penrose, (1959), Resource Based Theory. It is understand here that Trade secret involves skills, expertise, experience, combination of production materials and many other resources that remain secret to the organisation could help immensely to further innovation.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the study, it can be concluded that intellectual property right protection plays a significant role in determining innovation capability among SMEs owners. The result revealed that informal IPRP (trade secret and image design) are statistically significant as determinant of innovation while formal IPRP (patent right and trademark) are statistically non-significant among SMEs owners/managers in the trade of Metalwork and fabrication in Bauchi metropolitan. These results provide important insights into the types of IPR protection that SMEs owners in the trade of Metalwork and fabrication

should select to enhance their innovation. Further explanation of non-significant of formal IPRP may be due to lack of enforcement by the authority concern. On the other part, informal IPRP can determine innovation among SMEs owners/managers, in the trade of metalwork and fabrication. In light of these findings, it is therefore, recommended that:

- i. Government needs to encourage registration of formal IPRP (patent and trademark) and to ensure enforcement of IPRP laws against potentials imitators.
- ii. Business owners/managers should try as much as possible to confine and preserve their peculiarities (trade secret and image design) in which they have competitive edge over their rivals.
- iii. In addition, enforce both the formal and informal IPRP to ensure compliance that will turn to increase innovation in every business endeavour.

REFERENCES

- Alcides, B., Emerson, G.S., & Rogerio, S.M (2020) Determinant and priority factor of innovation for the development of nation, *Innovation and Management Review Open Access*, 15(1), 23-45
- Andrea C., David, H., Hsu, L., & Iwan, B. (2018) Trade Secrets and Innovation: Evidence from the “Inevitable Disclosure” *Doctrine Strategic Management Journal* 39, (11) DOI:10.1002/smj.2941
- Aurora, A.C., & Teixeira, C. F. (2019) Intellectual property rights and the competitiveness of academic spin-offs *Journal of Innovation & Knowledge* Vol. 4. Issue 3. 154-161
- Bachmann, D. L., & Destefani, J. H. (2014). *Methodology to estimate the degree of innovation in SME: culture of entrepreneurship and innovation*. Curitiba: Bachmann & Associados
- Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage *http://: Journals. Sage*, 17(1) Retrieved from <https://doi.org/10.1177/014920639101700108>
.volume 17, issue 1
- Birgerlater, W. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180 <https://doi.org/10.1002/smj.4250050207>
- Boyles, M. (2022). Innovation in business: What it is & why it's so important. *Harvard Business School Business Insights*. <https://online.hbs.edu/blog/post>
- Brouwer, A., & Kleinknecht, T. (1999). Innovative output, and a firm's propensity to patent. An exploration of CIS micro data. *Research Policy*, 28, 615–624.
- Cockburn, I. M., Megan J. M., & Elisabeth M. (2010) Patent Thickets, Licensing and Innovative. Retrieved from <ftp://ftp.zew.de/pub/zew-docs/dp/dp08101>.
- Dicksen, P. R. (1996). The static and dynamic mechanics of competitive theory, *Journal of Marketing*. 102–106.
- Fanqi, M. (2020). Research on brand image design innovation and practice under the New Retail Trend Based on computer technology. *Journal of Physics*
- Gabriela C, L., Gonzalo, M.G., & Sandra, Y. C. (2015). Barriers to innovation and performance: The Mexican SMEs Context. *Journal of Business and Economics*, 6(8), 1475-1486.

- [doi.org/10.15341/jbe\(21557950\)/08.06.2015/008](https://doi.org/10.15341/jbe(21557950)/08.06.2015/008)
- Gaikwad.A., & Dhokare.S.(2020). A study of intellectual property rights and its significance for business. *Journal of Information and Computational Science* 10(2), 1548-7741
- Galván, J-A.,Casman. E .,& Fisher, E. (2022). What skills predict an intern's ability to innovate new products? A quantitative study of innovation capability of Mexican college interns *International Journal on Interactive Design and Manufacturing*. <https://doi.org/10.1007/s12008-022-01005-w>
- Jain, N.(2023).What is Innovation? Definition, Types, Examples and Process. Retrieved from <https://ideascale.com/blog/what-is-innovation/> Academic Star Publishing Company,
- Jibir. A., & Abdul, A. (2020).Human Capital and Propensity to Protect Intellectual Properties as Innovation Output: the Case of Nigerian Manufacturing and Service Firms, *Journal of the Knowledge Economy* <https://doi.org/10.1007/s13132-020-00657-x>
- John. H., Gerard J. T. & Abbie. G. (,2006). Research on Innovation: A Review and Agenda for Marketing Science. *Marketing Science* 25(6), 687–717.
- Kamilia,L. (2020). Intellectual property rights, human capital and innovation in emerging and developing countries, *Journal of Social Economics Research*, 7,(1), 35-41.
- Katherine, L. (2016). The importance of trade secrets: New directions in international trade policy making and empirical research. *Journal of International Commerce and Economics* 25(3)
- Lee R., Lee J.H., & Garrett T.C. (2019). Synergy effects of innovation on firm performance. *Journal of Business Research*, 99, 507–515.
- Minna, S. (2020). Innovation capability in SMEs: A systematic review of the literature *Journal of Innovation & Knowledge*.5(4),
- Mohammed, H.N., & Shehu .Y. (2022). Assessment of Barriers to Entrepreneurial Innovation in some selected SMEs in Bauchi Metropolis of Bauchi State. *Fuw-International Journal of Management and Social Sciences*, 7(2)
- OECD (2004a). Venture capital: Trends and policy recommendations
- Penrose, E. T. (1959), *The Theory of the Growth of the Firm*. Oxford University Press
- Ponta, L., Puliga. G., Oneto, L,& Manzini, R. (2020). Innovation Capability of Firms: A Big Data Approach with Patents. In: Recent Advances in Big Data and Deep Learning. the International Networks Society, vol 1. Springer, https://doi.org/10.1007/978-3-030-16841-4_18
- Rajapathirana, R.J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation and Knowledge*, 3(1), 44-55. <https://doi.org/10.1016/j.jik.2017.06.02>
- Sandra, Y. P-C., Gonzalo M-G.,& Gabriela, C. L-T. (2015)The relationship between intellectual property and innovation: A Mexican SMEs Perspective *Journal of*

Business & Economic Policy.
doi.org/10.30845/jbep

Sawhney, M., Wolcott, R. C., & Arroniz, I. (2006) The 12 different ways for companies to innovate. *MIT Sloan Management Review, Cambridge*, 47(3), Retrieved from: <http://www.cheraghbargh.com/uploads/products/SMR>

Tohidi. H., & Jabbari, M. M. (2011). The important of Innovation and its Crucial Role in Growth, Survival and Success of Organizations *Procedia Technology* 1 (2011) 535 – 538

Zhang, L., & Shan. X, (2023) the use of intellectual property right bundles and firm performance in China. *Humanities and Social Sciences Communications*, 2(1), 18-34.