



# **THE NEXUS BETWEEN FINANCIAL SKILLS AND FUNDING MODELS THAT LEAD TO OPTIMUM GOLD PRODUCTION FOR ARTISANAL AND SMALL-SCALE GOLD MINERS (ASSGM) IN ZIMBABWE**

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## **Abstract**

*The artisanal and small-scale gold mining sector is contributing enormously to the economy of Zimbabwe. Financial skills in people involve the knowledge on all the books of accounts that are needed for one to access funding. The study seeks to highlight the association between financial skills and access to funding from financial institutions. The research noted that most ASSGM are failing to access funding due to lack of financial literacy. The study used age of the miners, level of education and the availability of books of accounts to assess the relationship between financial skills and access to funding models. The findings from the study revealed that there is a strong association between financial skills and access to funding models for optimum production. However, the study also revealed that there is no association between availability of books of finance for valuation purposes and access to funding models for optimum gold production. It also concluded that there is need for education of ASSGM on financial skills to enhance their changes to access funding from banks.*

*Keywords: Access to Funding, Artisanal and Small-Scale Gold Miners, Financial Intermediaries, Financial Skills, Zimbabwe*

## INTRODUCTION

Most Artisanal and Small-Scale Gold Mines (ASSGM) are small to medium in size and they face challenges in accessing funding from financial intermediaries and other investors. This research analyses the relationship between financial skills and access to funding models that will lead to optimum gold production for Artisanal and Small-Scale Gold Miners in Zimbabwe. The financial skills are being measured by presence of books of accounts, level of education attained by miners and the information that is required by banks from ASSGM before they access funding. Tuyisenge *et al.* (2015) reveals that financial literacy involves the understanding of both basic financial concepts and the ability and discipline to use that information to make wise personal and financial decisions which include: when to spend, when to save, effectively managing a budget, choosing the right financial products and readiness to address other life events, such as financing our own. Financial skills in the ASSGM sector goes beyond easy access to funding from banks but also helps to formalise, modernise and professionalise the sector. Cole *et al.* (2008) focuses on the determinants of financial literacy in developing countries, India and Indonesia, the study concluded that the following variables are significant: age, gender, level of education, major of studies, occupation, region, area of residence, race and ethnical background and wealth. In analysing the relationship, the following variables were used: age, level of education, books of Finance and the association between financial skills and access to funding models.

### Background to the Study

The significant contributions that ASSGM have in Zimbabwe is of great importance. According to Pact and the Institute for sustainability Africa (2015), the ASSGM sector is contributing more than 60% of gold to Fidelity Printers and Refineries (which is the only legal buyer of gold), 28% to exports both large scale and small-scale gold mines, 1.2% to the Gross Domestic Product (GDP) of the country and 0.76% of government revenues royalties. ASSGM have helped the poor rural community, women and young children in accessing income for their survival, but their production is being affected by their lack of financial skills to acquire funding from financial intermediaries to achieve optimum production. Huissein *et al.* (2018) revealed that lack of financial literacy especially as to where to borrow and how to utilise financial services reduce entrepreneur's ability to borrow.

Atkinson and Messy (2012) defined financial literacy as more than just financial knowledge but a combination of awareness, knowledge, skills, attitudes and behaviors necessary to make sound financial decisions and ultimately achieve individual financial well-being. King and McGrath (2002) opined that financial training is one of the factors that impact

positively on growth of SMEs because entrepreneurs with adequate financial literacy are better placed to adapt their enterprises to constantly changing business environments. ASSGM with financial skills and books of finance that are well maintained have higher chances of accessing funding.

Ajzerle *et. al.* (2013) studied about the relationship between the financial capability and the effective use of debt among the 680 households of Australia and came to a conclusion that people with greater financial capability exhibits a better personal debt management behavior than others with lower financial capability. Beal and Delpachitra (2005) revealed that financial literacy skills enable individuals to navigate the financial world, make informed decisions about their money and minimise their chances of being misled on financial matters. However, Nguyen *et al.* (2015) found no relationship between access to funding and financial skills, they revealed that it is not only borrower financials skills that enhance his chances of accessing loans but they found out that networking with bank officials is beneficial to obtain funding. The findings from empirical studies reveals that there is an association between financial data for valuation purposes and access to funding models rather than financial skills. Pandula (2010), states that audited financial statements are very useful in accessing credit from financial institutions. According to research by Nanyondo (2014) it was revealed that quality of financial statements has a significant positive association with access to finance. Research by Leon (2015) from 69 developing countries finds that firms having audited financial statements are more transparent and it is easier for them to access loans from external lenders.

### **Statement of the Problem**

Small scale businesses are increasingly facing funding challenges even though there are other financial intermediaries that are offering funding to small and medium enterprises as a result of lack of financial management knowledge (Chimucheka, 2013). Other miners have never visited financial institutions to access funding due to lack of knowledge (World Bank Global Findex Study, 2017). Lack of Financial skills are common in the ASSGM sector of Zimbabwe. This is so because the sector has a lot of young children and young people with low education levels and other miners know little about financial institutions and books of accounts (International Labour Organisation, 1999). This has motivated the researcher to examine the relationship between financial skills and access to funding. Access to finance is an important factor to this sector leading to employment creation, contribution of gold to the official buyer of gold, Fidelity Printers and Refineries and contribution of Artisanal and Small-Scale Gold mines to GDP and Exports.

## Objectives

The main objective of this study is to examine the relationship between Financial Skills and access to Funding Models that will lead to optimum gold production for Artisanal and Small-Scale Gold Miners in Zimbabwe. The specific objectives are;

1. To determine financial information that influence the availability of funding from banks to ASSGM.
2. To determine the books of accounts that are used by Artisanal and Small-Scale Gold Miners in Zimbabwe.
3. To examine the association between financial skills and access to funding models for ASSGM in Zimbabwe.

## Research Questions

1. Which financial information influences the availability of Funding from banks to ASSGM?
2. What are the books of accounts that are used by Artisanal and Small-Scale Gold Miners in Zimbabwe?
3. What is the association between financial skills and access to funding models for ASSGM in Zimbabwe?

## LITERATURE REVIEW

According to Wanjohi (2009), financial institutions have encountered many difficulties in their quest to advance credit facilities to youths because of limited collaterals; inadequately compiled financial records and lack of technical and management skills of the youths. Jeiyol *et al.* (2013) looked at funding access by small scale rural farmers in Benue State Nigeria and analysed the access to the credit by gender. The study established that presence of aging farming population, low formal education among farmers, and importance of remittance to agricultural production as the key determinants of credit access. Musha (2014) also investigated the credit access by youth in Nairobi County and established that the credit access was determined by credit terms, business and entrepreneurial skills and level of awareness of the youths, account for the variability in the amount of credits. Le, Ngoe *et al.* (2015) revealed that bookkeeping and accounting share two basic goals; to keep track of income and expenses, this improves chances of making a profit, and to collect the financial information necessary for filing various tax returns. The financial records of a firm should accurately show the income and expenditure of an organisation. Most ASSGM do not have books of accounts and most of them lacks financial skills in borrowing money. World Bank Global Findex Study (2017) revealed that even when formal financial services are available, ASSGM enterprises might not be familiar with

how to access or use these formal mechanisms. Appropriate local service providers or third-party intermediaries, such as social enterprises, may be required to deliver finance and manage repayments. ASSGM enterprises may only be familiar with local lenders but have limited financial literacy and low investment needs and are unable to handle large loans. The importance of training on financial management skills was also noted in Uganda, World Bank wanted to give artisanal and small-scale miners a grant, Sheldon *et al.* (2013) found out that ASSGM to receive that grant, miners had to form a group and be further trained in financial management and procurement skills. Kariuki (2012) research focused on microfinance institutions' clients in Embu County and whether financial literacy by these clients influences their financial decisions making. The study looked at three areas of financial literacy, that is, knowledge on sources of Finance, financial investment literacy and financial technological literacy. The study's findings were that there was a positive relationship between the two variables. Planet Gold (2020) also said many ASSGM operators are unfamiliar with the formal finance structures and do not have the formal business and management training that would enable them to make their business case to financial entities. There is need for training of ASSGM on financial skills. Training of ASSGM in financial skills will help them to grow and expand and give them the ability to pay back the loan from lenders. Matsiwira *at al.* (2021) revealed that the ability of ASSGM to manage finance will enhance their chances of acquiring more funding from financial institutions. Mlambo (2016) noted that there is need of education on simple book-keeping and basic technical issues of mining and processing for artisanal and small-scale gold miners.

Zimbabwe Miners Federation (ZMF) (2020) revealed that most Artisanal and Small-Scale Miners operate without any financial track of their mine performance. ZMF (2020) further argued that non-existence or poor financial management is one of the internal business challenges that are faced by artisanal and small-scale mines in which they lack proper management of handling business finance to fulfil financial goals of the mine. ZMF (2020) recommended artisanal and small-scale mine owners to adopt short-term finance concerned with the net working capital, investment, financial reporting, and financial decisions that are in favour of the development and growth of the mine. Zvarivadza (2018) noted that registered ASSGM should be given necessary training and educative material for miners to acquire knowledge and to undertake their activities safely. Changweshe (2019) studied the relationship between financial literacy and access to finance in South Africa, the study established a positive relationship between financial literacy and financial access among SMEs in the municipality. Adomako and Danson (2015) examined the relationship between access to finance and firm growth with financial literacy as a moderator from 201 SMEs in Ghana. The findings of the study

suggested that financial literacy had a positive influence on the relationship between access to finance and the growth of the firm. Tadesse (2014) conducted a study in Debre Markos Town, Ethiopia, where the access to finance was assessed among small and micro-entrepreneurs. A total of 80 micro- and small enterprises (MSEs) were selected at random participated in the survey. The study found that the following are constraints in accessing funding: absence of competition among financial institutions, high transaction costs, high risks affiliated with MSE creditors and sub-standard bookkeeping practices, while some MSE did not prepare formal financial statements resulting in limited financial access

## **METHODOLOGY**

The study used a survey design. Survey research according to Sukamolson, (2007) encompasses the use of scientific sampling method with a designed questionnaire to measure a given population's characteristics through the utilization of statistical methods. Mixed methods employing both qualitative and quantitative approaches were used. The population for this research was drawn from artisanal and small-scale gold mines in Zimbabwe. The following areas were selected; Mashonaland West and Midlands provinces in the following districts: Chegutu, Mhondoro Ngezi, Zvimba, Sanyati, Makonde Kwekwe and gold hotspots (Bindura, Mazowe, Shurugwi and Shamva). In Zimbabwe it is estimated that there are 50 000 registered small-scale mines (Zimbabwe Chamber of Mines, 2020). ASSGM owners were selected because they are the ones who need funding. The study used interviews and questionnaires to gather information.

To estimate the sample size in this study, Krejcie and Morgan (1970) Model was used at 5% confidence level and 50 000 population, giving a sample size of three hundred and eighty-one (381). The study used random sampling in choosing the seven districts and gold hotspots areas. The study used semi - structured questionnaires with some measurement scales to examine the relationships between financial skills and access to funding models that will lead to optimum gold production in Zimbabwe. To enhance further probing, the research used semi structured questions during interviews. On validity, to ascertain the extent to which data collection instruments were working as proposed, a pilot study was done using questionnaires and interviews on 30 participants chosen from the sample of ASSGMs. Reliability was evaluated using Cronbach's Alpha. Cronbach's Alpha is 0.62827273, which is the indication of the reliability of the questionnaire. Statistical package for Social Sciences (SPSS) software was used to generate descriptive and inferential statistics, pie charts, bar graphs, and percentages and frequencies for variables and statistical tests.

## FINDINGS

A total of 381 questionnaires were distributed to different districts and online with 306 of them being successfully completed representing 80 % response rate. Out of three hundred and eighty-one (381), fifty-three (53) of the questionnaires were returned without being fully completed (Spoiled Responses) and 22 respondents never returned the questionnaires. Online questionnaires had 42 responses out of 45 distributed (Shurugwi, Shamva, Mazowe and Bindura), Kwekwe has 24 responses out of 40 distributed (Sherwood and Battlefields) Mashonaland West Province has 240 responses out of 296 distributed (Chegutu, Zvimba, Sanyati, Mhondoro Ngezi, Makonde). In Mashonaland West Province, Chegutu district has the highest response rate 75, because that's where most of the questionnaires were distributed, out of 381, 90 were distributed to Chegutu district. The targeted number of ASSGM to be interviewed per district was five (5). Six (6) districts were selected (Zvimba, Makonde, Chegutu, Sanyati, Mhondoro Ngezi and Kwekwe). The study also targeted Ministry of Mines representative per District (Zvimba, Makonde, Chegutu, Sanyati, and Mhondoro Ngezi and Kwekwe), Ministry of Mines Provincial Mash West and Midlands Province and one representative from Ministry of Mines National. The total number to be interviewed was 38 and a total of 31 people were interviewed representing 82% of the response rate. The interviews were done until saturation.

### Age of the Miners

Table 1: Age Group of ASSGM

Age Group	N	%
Below 25 years	86	28.1
26 to 35 years	155	50.7
36 to 45 years	51	16.7
46 to 55 years	12	3.9
Above 55 years	2	.7
Total	306	100.0

Most small scale and artisanal miners are within the range of 26 to 35 years which has 155 (50.7%) respondents. Another age group that has more miners is below the age of 25 which is indicated by 86(28.1%) respondents. The range of 55 years and above has less miners which is indicated by 2 (0.7%) miners. Another age group with less miners is the range of 46 to 55 years that has 12(3.9%) of respondents. There is a relatively big number of miners in the range of 36 to 45 years 51(16.7%) which is relatively bigger than miners who are over 46 years 14(4.6%) cumulatively. Age was analysed because young people are willing to have loans as compared to old age and this was supported by Vos *et al.* (2007) who noted that in terms of the



firm owner's age, younger owners are considered less risk averse so they are more willing to borrow externally.

### Level of Education of the Miners

Table 2: Educational Level for ASSGM

Educational Level	N	%
O Level	157	51.3
A Level	27	8.8
Diploma/Professional Mining Course	26	8.5
First/Undergraduate Degree	15	4.9
Post Graduate Degree	13	4.2
Other Specify	68	22.2
Total	306	100.0

The findings from the Table 2 shows that 157 (51.3%) of the ASSGM did not proceed beyond Advanced Level certificate. Those with 'A' level certificates constitute 27 (8.8%). The results also show that only 13 (4.2%) of the respondents has acquired post Graduate certificate. Out of 306, 26 (8.5%) of the respondents have reached Diploma/Professional Mining Course and 15 (4.9%) are First/Undergraduate Degree holders. Other specified that they are below 'O' level and others are foreigners which made it difficult for the researcher to ascertain their exact level of education. Education and experience have a great impact on the performance of the firm and the chances for growth and expansion. Wang and Nofsinger (2011) noted that firm owner's education and experience enhances firm credit access positively but the finding of Nguyen *et al.* (2015) reveals that the firm owner with a bachelor degree or higher had 12.8% lower chance of borrowing a loan than he/she would otherwise have with lower educational level.

### Books of Accounts that ASSGM have

Table 3: Books of finance that ASSGMs have

	Yes		No	
	N	%	N	%
Statement of Profit or loss and other Comprehensive Income	67	21.9	239	78.1
Balance Sheet (Statement of Financial Position)	67	21.9	239	78.1
Cash Flow Statement (Statement of Cash Flow)	61	19.9	245	80.1
Statement of Changes in Equity	31	10.1	275	89.9
Only Primary Records of Bookkeeping	271	88.6	35	11.4
None	7	2.3	299	97.7



The quantitative findings shows that 271 (88.6%) of the respondents use primary records of book keeping. A total of 275 (89.9%) of the respondents do not have statement of changes in equity. Only 67 (21.9%) of the respondents have statement of income (comprehensive income statement). Another information that was gathered is, other miners 7(2.3%) do not have any books of accounts. The high use of primary records of book keeping by miners may be as a result of lack of education. As was noted on the level of education, most miners 53.1% of the participants have attained only 'O' level qualifications. Leon (2015) studied sixty-nine (69) developing countries and found out that firms that have audited financial statements are more transparent and it is easier for them to access loans from external lenders. Rahman *et al.* (2017) noted that only 15% of SMEs firms in Poland have audited financial statements and maintains all their books of finance.

The findings from the quantitative results are similar with the findings from the interviews that were carried out. According to a Mhondoro Ngezi Miner, most miners use the Expense books to maintain their accounting information. The interviewed miner revealed that the books of accounting that are being mostly used by most ASSGM in maintaining their accounting information it's through use of primary books of accounting and they named this primary book of accounting the Expense Book. According to the miners that were interviewed, they mainly use this expense book to keep all the expenses they incurred during production, these expenses include (food; money to hire machinery like generator, compressors and jackhammers and acquisition of simple mining tools) and the income they got after milling their Ore. Other miners in Zvimba area reviewed that they maintain the following books of accounts: Statement of Cash Flows, Statement of Financial Position, Statement of Comprehensive Income and the Expense Book.

Some of the participants in Chegutu new found cooperate revealed that that they do not have any books of accounts. One of them cited lack of knowledge to complete these books of accounts, the participant further revealed that even if he may have them, he lacks capital to hire an expert to help him to maintain them. According to Ministry of Mines Mashonaland West Province Official who was interviewed, the expense books are common in the ASSGM sector because they are easy to maintain, miners normally do not have to hirer other personal to help them. The official further noted that most miners are not aware of the importance of the books of accounts so they are not interested in maintaining them. The study noted that there is need for outreach programmes by the ministry of mines to ASSGM areas to educate them on the need to have books of accounts and their importance. The findings from both qualitative and quantitative analysis are consistent. The interviews further probe for the availability and knowledge of paperwork that banks require from ASSGM.

### Knowledge and Availability of Paperwork Needed by Banks

Some of the participants who spoke to the researcher said they lacked knowledge on the paperwork that banks require. According to a Vinice miner, Geological Survey Reports are of importance in accessing funding from banks. One miner revealed that he now has all the books of accounts that banks require but he is failing to acquire funding because he does not have a Geological Survey Report. The participant revealed that most Geological Survey Reports are mainly done by private institutions and most miners do not have enough capital to hire a private person or institution for Geological Survey Report which is needed by banks when giving out loans because it's too expensive for them. Other participant acknowledged that they know the paper work and their importance but they do not know how to complete them. The participant further revealed that most miners tend to ignore them and operate without them because most of the miners cannot afford to hire expert to do all the paper work that is needed by the banks. According to a small-scale miner in Chegutu Berks Mine, banks are reluctant to offer funding to the artisanal and small-scale gold miners. The miner argued that he has all the paperwork, has the correct personal to maintain books of accounts but he had failed to access funding from two (2) banks he had applied for. Another participant in Mhondoro Ngezi revealed that he was asked to bring Title Deeds of the area he is operating in, this had affected him to access funding since he is operating in a cooperative at Tix Mine.

### People Doing Books of Finance for ASSGM

Table 4: People who do books of finance for ASSGMs

	Yes		No	
	N	%	N	%
Accountant	17	5.6	289	94.4
Accountant Clerks	2	.7	304	99.3
Mine Owner	241	78.8	65	21.2
None	9	2.9	297	97.1

Table 4 shows that most of the respondents, 241 (78.8%) indicated that mine owners are the ones who mainly do books of accounts. The results also show that a total of 289 (94.4%) respondents do not involve accountants in doing their books of accounts, while less than 9 (2.9%) of the respondents do not have anyone who do their books of accounts. Other specified people who do books of accounts for ASSGMs include family members, private accountants and private persons. The study noted that most of the books are being done by

mine owners and most of the mine owners have less knowledge and experience on financial information.

### Financial Information that influences availability of funding to ASSGM sector from banks

Table 5: Financial Information that Influences the Availability of Funding from Banks to ASSGM

	Strongly disagreed		Disagree		Neutral		Agree		Strongly agree	
	N	%	N	%	N	%	N	%	N	%
Adequate Education and Training on financial skills	25	8.2	25	8.2	52	17.0	96	31.4	108	35.3
Financial Data for Performance Evaluation Purposes	31	10.1	17	5.6	65	21.2	66	21.6	127	41.5
Availability of Books of Finance	20	6.5	30	9.8	43	14.1	64	20.9	149	48.7
Knowledge by other ASSGM owners on availability of loans from Banks	32	10.5	19	6.2	48	15.7	67	21.9	140	45.8
Adequate Entrepreneurial Skills	71	23.2	62	20.3	23	7.5	66	21.6	84	27.5

The general overview from Table 5 shows that all the factors have no greater influence on the availability of funding from the banks to ASSGMs which is highlighted by not having more than 50% of the respondents who strongly agree. Two factors which were indicated to have greater influence are availability of books of finance that have 149 (47.7%) respondents and knowledge by other ASSGMs owners on availability of loans from banks with 140 (45.8%) of the respondents. On the other hand, adequate entrepreneurial skills have the highest number of respondents 71 (23.2) who strongly disagree that it will influence the availability of funding from banks. Ferri and Murro (2015) find out that financial statements can minimise information asymmetry and influence easy access to finance from financial institutions. The importance of technical and financial skills as a factor that is affecting ASSGM to acquire funding from banks featured strongly in the literature review. Artisanal and small-scale gold mining is not a cheap adventure, it requires mining skills and experience in financial management in order for the one to be able to repay the loan. Findings from the interviews that were carried out reveals that though technical and financial skills are important, there are other factors that needs to be considered. Out of 31 participants, not every participant concluded that technical and financial skills are important. One of the participants argued that financial skills are important because they help miners on how to apply for funding, have knowledge on all the paperwork that is required by financial institutions and have an appreciation of merits and demerits of funding from the banks.

According to a miner from Artisanal and Small-Scale Gold Miners association in Chinhoyi, financial skill is of less important. The miner argued that in the event that he accessed funding from banks without financial skills he has, he now knows how to use it wisely in the mining side: buying equipment, investing in better mining methods which will result in increased output so the financial skills are of less importance in repaying back the loan and increase in the output, the miner noted that the emphasis should be on easy access of funding from banks for ASSGM and lower interest rates from banks. According to Kadoma Ministry of Mines Official, there is need for training on financial skills. The official emphasised the importance of financial training due to currency changes, interest rates movements which is affecting deposits in the bank accounts, instead of it accumulating interest, it is losing its value. The district mine official noted the significance of education on financial skills before ASSGM are being granted these loans so that they will not fail to pay back them.

One of the miners who is operating near Vinice Mine though acknowledged that training on financial and technical skills is important, the miner argued that it may not affect to the same level as collateral in accessing funding from banks. This was supported by other miners who were interviewed in Zvimba Pindi Park area who argued that most of them now has on the job experience and they are now able to produce enough Ore to repay their loans but they are still finding it difficult to access the funding due to collateral issues. One of the miners in Pindi Park area noted that financial institutions first look on your ability to pay back the loan and the assets to use as collateral in the event you have failed to pay back the loan and they mainly do not consider financial and technical skills. Another miner around an area called Matura in Zvimba argued that even though training on mining and financial skills remains important, this sector is still not yet full recognised by banks for funding, the banking sector still view the ASSGM as being too risky. One of the miners also in Matura revealed that it will be difficult to offer on the job training in the mining skills especially to artisanal miners because they migrate from one place to another especially during gold rush period.

The researcher agrees with the findings from questionnaires and interviews on the importance of technical and financial skills in accessing funding. The funding to the ASSGM sector is not mainly influenced by technical and financial skills. This is because most funding that ASSGM sector is receiving is not from formal financial institution. The investors are mainly interested in their returns, hence both qualitative and quantitative fundings shows that their importance is not more than 50%. Most investors are interested in amount of gold produced, the size of the mine also have an influence, if a mine is small, it is likely to produce less amount of gold, so this also have an influence.

## The Relationship Between Financial Skills and access to Funding Models that will Lead to Optimum Gold Production

This hypothesis was tested using two factors that is the association of financial skills and funding models and the association of financial data for valuation purposes and funding models for optimum gold production. Due to the nature of the data is not continuous, it has categories. Since our variables are categorical which does not follow the normal distribution, there was no testing of normality test. On factor analysis, we do not have unobservable variables, so there was no factor analysis testing. Therefore, the research used the Chi Squared Test which is a non-parametric test for data that is not normally distributed. The two hypotheses were tested using Chi Square Test. According to Statistics Solutions (2017), Chi-Square Goodness-of-Fit is a non-parametric test designed to determine how the observed value of a particular phenomenon is significantly different from the expected value.

### H<sub>1</sub> Association of financial skills and funding models

Table 6: The association between financial skills and funding models  
for optimum gold production

	Value	Df	Asymp. Sig. (2-sided) = p-value
Pearson Chi-Square	11.277 <sup>a</sup>	4	.024

Since the p-value (0.024) is less than 0.05, we reject the null and conclude that there is sufficient evidence to suggest that financial skills for artisanal and small-scale gold mines and Funding models for Optimum Gold Production are associated. The study's findings are similar to the empirical studies, the empirical findings reveal that financial skills have an association with access to funding models. Ajzerle *et. al.* (2013) studied about the relationship between the financial capability and the effective use of debt among the 680 households of Australia and came to a conclusion that people with greater financial capability exhibits a better personal debt management behavior than others with lower financial capability. Beal and Delpachitra (2005) revealed that financial literacy skills enable individuals to navigate the financial world, make informed decisions about their money and minimize their chances of being misled on financial matters. However, Nguyen *et al.* (2015) found no relationship between access to funding and financial skills, they revealed that it is not only borrower financials skills that enhance his chances of accessing loans but they found out that networking with bank officials is beneficial to obtain a loan.

## H<sub>2</sub> Association of financial data for valuation purposes and funding models

However, another test that was done to measure the association between financial skills and funding models using the financial data for valuation purposes and funding models for optimum gold production and the results obtained are presented below.

Table 7: The association between financial data for valuation purposes and funding models for Optimum gold production

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.648 <sup>a</sup>	4	.456

Since the p-value (0.456) is not less than 0.05, we do not reject the null and conclude that there is no sufficient evidence to suggest financial data for performance evaluation purposes and funding models for optimum gold production are associated. Any observed association is not statistically significant. The lack of association between financial data for performance valuation purposes and funding models for optimum gold production may be because most miners do not have books of finance. The findings from empirical studies reveal that there is an association between financial data for valuation purposes and access to funding models. Pandula (2010), states that audited financial statements are very useful in accessing credit from financial institutions. According to research by Nanyondo, (2014) it was revealed that quality of financial statements has a significant positive association with access to finance. Another study by Nanyondo, (2014) states that if no relationship is found between quality of a financial statement and access to finance, this may imply that SMEs owners/managers are ignorant of how the quality of their financial statements, perceived risk and information asymmetry affect their chances of accessing finance. Table 8 shows books of finance that ASSGM have.

Table 8: Books of finance that ASSGM use

	Responses		Percent of Respondents
	N	Percent	
Profit and Loss and Other Comprehensive Income	67	13.3%	21.9%
Balance Sheet	67	13.3%	21.9%
Cash Flow Statement	61	12.1%	19.9%
Statement of Changes in Equity	31	6.2%	10.1%
Only Preliminary Records of BK	271	53.8%	88.6%
None	7	1.4%	2.3%
Total	504	100.0%	

Table 8 is showing that most of the miner use only preliminary records of bookkeeping which is indicated by 271 (88.6%) of the participants and about 7(2.3%) of the participants do not have any books of finance at all. This might be the reason why there is no association between funding models for optimum gold production and financial data for valuation purposes. Only 67(21.9%) of the participants have Profit and Loss and Other Comprehensive Income and Balance Sheet.

## **RECOMMENDATIONS**

### **Education of ASSGGM on Knowledge of Finance**

One of the key issues affecting funding to the ASSGM from banks its lack of Knowledge. Most miners are not aware of the paperwork that is required by banks for them to be given loans. There is need for education on financial skills to the miners at least the basic level of finance so that the new miners come to the industry with financial knowledge. This approach will improve miners understanding of general principals of finance, the importance of financial knowledge on lending and debt.

### **Hiring experts to do books of finance for ASSGM**

The study noted that books of accounts are mainly done by mine owners 241 (78.8%). The study recommended for the need to hire experts to help miners in maintenance of the books of accounts. Books of accounts are of great importance in accessing funding from financial institutions as in was noted in the literature review.

### **Networking Between Miners and Bank Officials**

There is need for strong networking between miners and bank officials. This will help to enable better cooperation, coordination and interaction between miners and bank officials. Bank officials should link up, develop financial products that will allow miners to access them.

## **LIMITATIONS OF THE CURRENT STUDY**

The researcher has encountered some limitations which possibly affected the data collection, analysis of the findings and conclusions of the research. The limitations include the following: refusal of other miners to complete the questionnaires, arguing that their mines may be grabbed by the government. This proved to be a real challenge in some of the districts that the researcher had visited especially Kwekwe district which is also shown by lower percentage return of response rate.



The researcher also noted that most of the miners have literacy rate challenges, for the questionnaires to be successfully completed, there was need for the researcher to explain the whole questionnaire to most mine owners and at times the researcher has to complete together with the miners in areas like Tix and New found cooperatives were there was high number of artisanal miners operating closer to one another. The researcher also noted that some of the questionnaires that were given to foreign nationals were return without being fully completed, and others were not allowing the researcher to leave his questionnaire at their premises, the researcher perceived that the foreign nationals do not understand the importance of the research; therefore, they have failed to place the intended degree of seriousness on the study. The researcher also observed that some of the artisanal miners who did not return the questionnaires have followed gold rush in other areas. Covid 19 have caused the researcher to cancel his intended interview with the ministry of mines official at head office.

## SUGGESTIONS FOR FURTHER RESEARCH

The researcher suggests the need to carry out the same study using other sectors like small scale farming to observe if the findings are consistency. Further research should be done in the same industry ASSGM sector analysing the impact of financial skills on loan repayment since this study only covered the impact of financial skill on accessing funding from banks.

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