CORPORATE GOVERNANCE AND VALUATION OF VENTURE-FUNDED TECHNOLOGY STARTUPS IN AFRICA

BY

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DECLARATION AND APPROVAL

I, **Wilfred Mutua Mworia**, hereby declare that the research project titled "Corporate Governance and Valuation of Venture-Funded Technology Startups in Africa" is my original work and has not been presented to any university, college or institution, for the conferment of any degree, diploma or certificate.

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SUPERVISOR'S APPROVAL

The research project prepared by Wilfred Mutua Mworia titled "Corporate Governance and Valuation of Venture-Funded Technology Startups in Africa" has been handed in for assessment with my endorsement as the appointed University Supervisor.

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DEDICATION

To my parents, Mr. and Mrs. Mworia. Thank you for your constant encouragement and push to not give up.

To my wife, Susan Muthoni. Thank you for cheering me on.

To my children, Ron Kairos Mutethia Mutua, Noyah Nana Mutua and Zanella Makena Mutua. May you learn the values of hard work, perseverance and delayed gratification.

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ABBREVIATIONS

ANOVA	Analysis of Variance
CFI	Centre for Financial Inclusion
CG	Corporate Governance
CMA	Capital Markets Authority
DCF	Discounted Cashflow Valuation
RCGC	Recommended Corporate Governance Codes
VC	Venture Capital(ist)

OPERATIONAL DEFINITION OF TERMS

Corporate governance: Corporate governance refers to the processes, policies, customs, institutions, and practices by which a firm is directed and controlled, by which the firm's relationships with its shareholders and stakeholders are managed and by which the behavior and actions of the firm's executives as agents of its owners are controlled (Khan, 2011).

Valuation: Valuation refers to the estimation of the worth of a startup by an investor. A startup's valuation is a critical aspect, especially in equity funding where the investor will be seeking to invest an amount of money for a share of the business. Pegging a valuation to a startup for purposes of venture capital investment is typically referred to as "pricing" in industry parlance. A funding round based on an explicit valuation is known as a "priced round". A startup's valuation will usually appreciate at successive funding rounds. (Collins, 2020) suggests that startups aim to increase their value 2-3 times or more during each funding round.

ABSTRACT

The number of venture-funded technology startups in Africa and the amount of venture capital investment have been on a steady rise in the recent past. We are now at a point in the evolution of the various startup ecosystems around the continent where we have had startups going through multiple rounds of venture funding, some increasing their valuations to unicorn status (that is, being valued at over $1 billion). Others have gone through exit and liquidation events. That said, startups and the venture capital funding model are still a relatively new phenomenon on the continent and there is scant research on startups in Africa in general, less so on how African ventures scale and how they adapt their operations and management, including their governance structures, to adapt to growth. This has all the more been highlighted by recent corporate governance failings among African technology startups resulting in crises. The study therefore to investigate the corporate governance (CG) of African technology startups, and how this might influence their valuation at successive funding rounds. The study used a correlational research design to investigate the existence, direction and strength of the relationship between the level of corporate governance implementation and valuation along the venture capital lifecycle among technology startups in Africa. Primary data was collected using a structured survey delivered via the world wide web (online). The data collected included the startup's base country, category (tech, tech-enabled or non-tech) age, funding rounds to date and valuation through the various rounds, expressed as a multiple. Data relating to the independent variable, corporate governance implementation, included whether there was a board in place at the point of successive funding rounds, the board's composition in terms of the number of board members, member profile and presence of independent board members, and the existence of board committees. While inconclusive on the valuation multiple specifically, VC-funded startups were on average, better governed than non-VC-funded. This was borne out by the ANOVA test result that indicated that whether a startup has raised VC has a statistically significant bearing on their level of corporate governance (p-value: 0.006). The most positively correlated to the level of corporate governance at a funding round was found to be the amount of capital being raised in the round (0.62), followed by the level of revenue generation (0.50) at the point of funding, whether the round was priced or not (0.39), which round it was (0.31) and least of all the valuation multiple (0.13).

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Digital technologies are making their way into every facet of life in African societies (Ndemo and Weiss, 2017). With the diffusion of the internet and mobile technologies, new technology-based ventures have sprung up based on the Silicon Valley startup model (Startup Kosovo, 2020; Maas & Ester, 2016; First Round Review, n.d.), that is, businesses creating, primarily, software-based products and solutions that are delivered and consumed over the internet and those applying innovative technologies in other sectors such as finance (FinTech) or agriculture (Agri-Tech). These companies tune their business models for rapid growth fueled by venture capital. Indeed, the number of venture-funded technology startups in Africa and the amount of venture capital investment have been on a steady rise in the recent past (Cavalier, 2022). A report by the Tony Blair Institute for Global Change (2021), indicates that over $1.4 billion was invested in African startups in 2020. This figure more than tripled to $4.9 billion in 2021. Even with such large-sounding figures, Africa still only accounts for a paltry 0.2 per cent of global startup value (Startup Genome, 2021). However, we are now at a point in the evolution of the various startup ecosystems around the continent where we have had startups going through multiple rounds of venture funding (Ball, 2022), some increasing their valuations to unicorn status (that is, being valued at over $1 billion). Others have gone through exit and liquidation events.

That said, startups and the venture capital funding model are still a relatively new phenomenon on the continent (Weiss, 2017). As such, there is scant research on startups in Africa in general, and less so on how African ventures scale once they are founded (Weiss, 2017). According to Weiss (2017) scaling refers to how entrepreneurial ventures deal with the challenge of synchronizing internal organizing and growth, how these ventures replicate their business at scale and how they expand the scope of their activities as they grow. The study aims to fill this gap by investigating the specific dimension of the corporate governance (CG) of African technology startups as they go through successive funding stages, reflecting their increasing maturity, and how this might influence their valuation at successive funding stages.

The study is anchored on the Contingency Theory and supported by the Resource-Dependency Theory. The basic premise of contingency theory is that successful organizations design their

structures to match their situation (Mintzberg, 1989) and that the best form of organization for any given firm is largely dependent (that is, contingent) on various internal and external factors such as the size of the organization, availability, and access to resources and so on. The Resource-Dependency Theory looks at the role of an organization's board in the acquisition and control of critical organizational resources, both monetary and otherwise. (Afza & Nazir, 2014).

Over time, CG has emerged as a critical aspect of the management of large corporations driven by catastrophes such as Enron (Vinten, 2002) and the evident failure of CG to avoid such crises. It is now becoming more and more evident that startup ventures need to pay much closer attention to their governance structures as evidenced by governance lapses such as those at WeWork (Peregrine, 2019; Pisani, 2019) and Theranos (O'Brien, 2020) and Uber (Jones, 2017) where millions of dollars have been lost as a result. This is more so the case as technology startups increasingly attract stratospheric valuations and remain private considerably longer, thus avoiding the scrutiny that public corporations are exposed (Jones, 2017; O'Brien, 2020). Corporate governance failings have also emerged among African technology startups as shown by the case of Flutterwave, the (currently) most valuable African startup valued at over $3 billion. At the time of this writing, the Nigerian financial technology (FinTech) startup was facing allegations of fraud and workplace abuses (Ndege & Kiplagat, 2022; Onukwue, 2022). In 2019, African e-commerce giant, Jumia, similarly faced charges of internal fraud shortly after listing on the New York Stock Exchange. The company is reported to have reached an agreement to settle various lawsuits filed against it for $5 million without admitting liability or wrongdoing (Kazeem, 2019, 2020). These two cases may be symptomatic of wider lapses in the management and corporate governance of many African startups (Idris and Adegoke, 2022).

1.1.1 Concept of Corporate Governance

Corporate governance refers to the processes, policies, customs, institutions, and practices by which a firm is directed and controlled, by which the firm's relationships with its shareholders and stakeholders are managed and by which the behavior and actions of the firm's executives as agents of its owners are controlled (Khan, 2011). Davis (2005) relates CG to the allocation of power and resource control among participants in the organization. According to Osei (2015), an organization's CG structure describes the allocation of rights and responsibilities to key agents in

the corporation, as well as the rules and procedures of engagement in corporate affairs. This structure comprises aspects such as the board structure, composition and responsibilities, the management structure and so on (Mulili & Wong, 2011; Osei, 2015).

Within the context of this study, corporate governance is conceived in terms of the specific CG practices identified by the Centre for Financial Inclusion in their Governance Maturity Matrix for Startups (CFI, 2019) namely: the presence of a board, the board's composition in terms of number of members, their profile and presence of independent board members, and the formulation of board committees, specifically audit, nominating and compensation committees. The study measured the level of corporate governance by assigning a score to each aspect of governance as far as the aforementioned attributes. A total score, indicating, the relative level of CG was computed by summing the individual score.

1.1.2 Concept of Startup Valuation

Valuation refers to the estimation of the worth of a startup by an investor. A startup's valuation is a critical aspect, especially in equity funding where the investor will be seeking to invest an amount of money for a share of the business. Pegging a valuation to a startup for purposes of venture capital investment is typically referred to as "pricing" in industry parlance. As such, a funding round based on an explicit valuation is known as a "priced round". A startup's valuation will usually appreciate at successive funding rounds. (Collins, 2020) suggests that startups aim to increase their value 2-3 times or more during each funding round.

For purposes of this study, each participating startup will be given a base valuation of one (1) at the Pre-Seed Stage. Successive valuation will be based on a multiple of the previous round's valuation. For example, a startup may have a valuation of two times (2x) its Pre-Seed Stage valuation at the Seed Stage, and a valuation of one and a third times (1.3x) its Seed Stage valuation at Series A. The proposed approach will be sufficient for purpose of the study and will avoid having to obtain a specific valuation from the founders which might prove difficult or, worse, prevent the participation of startup founders in the study.

1.1.3 Venture-Funded Technology Startups in Africa

Venture-funded technology startups refer to entrepreneurial business ventures creating, primarily, software-based products and solutions that are delivered and consumed over the internet and that are tuned for rapid growth fueled by venture capital. This is the model characterized and popularized by the Silicon Valley startup ecosystem. Startups develop through a four-stage lifecycle (Passaro, Quinto, Rippa, and Thomas, 2016): ideation, whereby the founder(s) have a potential idea for a startup and go about discovering if there is a market opportunity for it, intention, whereby the founders express entrepreneurial intention and begin mobilizing required resources to start up the business, start-up, the new venture creation stage, and expansion – scaling up the venture. Startups raise various forms of capital as they progress through this lifecycle, usually in form of venture capital. The amount and type of capital sought will match the phase the startup is in, usually, the earlier the stage the riskier the startup is perceived and therefore the more expensive the capital as investors seek comparatively higher returns for taking the risk.

With the diffusion of the internet and mobile technologies, new technology-based ventures have sprung up in many parts of the world modelled after those in Silicon Valley (Startup Kosovo, 2020; Maas & Ester, 2016; First Round Review, n.d.). This is no different in Africa where digital technologies have become widespread (Ndemo and Weiss, 2017). While this form of business organization and the venture capital funding model are still relatively new on the continent (Weiss, 2017), venture capital has been on a steady rise in Africa. Total venture capital into the continent is estimated to have tripled from roughly $1.4 billion in 2020 to $4.9 billion in 2021. Even then, Africa received only 0.2 per cent of global startup value (Startup Genome, 2021). Rapid scaling is a defining characteristic of the venture-capital funded startup model. However, Weiss (2017) notes that there is little academic research addressing how African startups scale. The study sought to bridge this gap.

1.2 Research Problem

Corporate governance has been studied primarily in the context of mature, traditional corporations addressing the relationship between corporate governance and some aspect of organizational competitiveness, performance (Hutchinson & Gul, 2004; Ho, 2005; Nelson, 2005; Abdallah & Ismail, 2017) or value (Carter, Simkins, & Simpson, 2003; Balachandran & Faff, 2015; Eze, 2017).

Much less attention has been given to CG among startup organizations, creating a significant contextual gap. Venugopal and Yerramilli (2019) found that early-stage startups that appoint outside directors raise larger amounts in later stages and are more likely to attract VC funding. Ewens and Malenko (2020), studying the board composition of venture-backed startups in the US, based on a sample of 7,780 U.S. startups from 2002–2017 found that independent board members can improve ex-post efficiency of the startup by helping steer it towards taking those decisions and actions that most enhance the value of the startup. Kaplan (2021), undertaking a broad literature review to investigate the possible application of Recommended Corporate Governance Codes (RCGC) to startups, suggested there are positive aspects of corporate governance to startups but taken too far there can also be detrimental effects, for instance by burdening startups with onerous regulatory requirements. In addition, he found that the effect on the share price (value) of the startup is unclear. On the other hand, Li, Zhou, Zhou, and Chen (2021), using a firm performance indicator constructed through the factor analysis method to study 121 technology startups listed on the Growth Enterprise Market (GEM) in China, conclude that the larger a startup's board of directors, being indicative of its corporate governance structure, the wider the range of expertise and perspectives that benefit strategy formulation and consequently performance and, by extension, possibly, valuation. While these studies investigated the corporate governance of startup ventures, they focus on startups in more advanced, non-African markets, leaving a significant population gap, that is, African venture-funded tech startups.

Much of the research on corporate governance in Africa had focused on different sorts of organizations, primarily more mature, publicly listed firms. Kyereboah-Coleman (2007) studying mature firms in Kenya, Ghana and Nigeria found that larger board sizes were found to increase corporate performance and shareholder value maximization. Ntim (2011) studying listed companies on the Johannesburg Stock Exchange found a positive and statistically significant relationship between the presence of independent non-executive directors and valuation but no such relationship when considering the effect of the presence of non-executive directors (NEDs) on firm valuation. Munisi & Randøy (2013) investigated the corporate governance of mature, listed firms on various stock exchanges in Africa using an index measuring the level of CG among this firms. Their findings were that the corporate governance index used, and market valuation were found to be negatively associated. However, individual practices had varying effects on valuation. Finally, Outa and Waweru (2016) looking at listed companies on Kenya's stock exchange found

that compliance with a composite CG Index was significantly and positively related to firm performance and firm value.

Weiss (2017) asserts that there has been little academic research on how venture-backed African technology startups scale, that is, how these ventures replicate their business at scale, how they expand the scope of their activities as they grow and how they adapt they organizational design and structures in the process. The study thus sought to address these gaps by investigating the relationship between the level of CG implementation among such startups and how they are valued by venture capitalists at various funding rounds. The specific research question is thus: *Does the level of corporate governance practice among venture-funded technology startups in Africa influence how they are valued by venture capital investors at a funding stage (round)?*

1.3 Research Objective

The objective of the study is:

> To investigate the influence of corporate governance on the valuation of venture-funded technology startups in Africa at different funding stages (rounds).

1.4 Value of the Study

The study will add to the growing body of knowledge around technology startups specifically in Africa. Africa hosts (arguably) the youngest tech startup ecosystems globally. Centered around the major hubs in Kenya, Nigeria, South Africa and Egypt, these ecosystems are following the path already developed pre-eminently by Silicon Valley and other startup ecosystems around the rest of the world. The study will also contribute to the areas of organization development, venture funding and corporate governance. In the area of organizational development, the study will help enhance the understanding of how startups mature along the funding lifecycle, specifically as regards how they establish their CG practices. The study will further enhance the understanding of CG practice among venture-funded technology startups. With regards to venture funding, the study will contribute to the body of knowledge around the factors that affect startup valuation, by specifically investigating the influence of CG on startup valuation.

It is also expected that the outcome will have practical relevance to the growing venture capital ecosystem in Africa, VC investors actively investing in or considering investing in technology startups in Africa, as well as other supporting institutions such as business development services providers, and incubators and accelerators. The study may also have practical application to technology startups by informing how their implementation of CG practices impacts their valuation and ability to raise the next round of funding. This may encourage more startups to take CG seriously. This would have the additional benefit of enhancing consumer protection as many lapses in corporate governance, as demonstrated by many corporate scandals, have a direct impact on consumer protection. Finally, the study is poised to contribute to the broader subjects of entrepreneurship and management specifically in Africa which has had comparatively less attention in the research world relative to other parts of the world.

Finally, from a policy perspective, the study will contribute to discussions on how private startup ventures should be regulated, if at all.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical underpinning of the study and, thereafter, proceed to empirically survey existing literature.

2.2 Theoretical Foundation

The study is underpinned by the contingency theory, which addresses the manner by which organizations design their structures in response to their organizational reality, that is contingent to their internal and external environmental situation, and the Resource Dependency Theory, which highlights the role of the board of directors in enabling an organization access critical resources from the external environment.

2.2.1 Contingency Theory

The basic premise of contingency theory is that successful organizations design their structures to match their situation (Mintzberg, 1989) and that the best form of organization for any given firm is largely dependent (that is, contingent) on various internal and external factors (situational variables) such as the type and size of the organization, availability, and access to resources and so on as well as changing circumstances around and within the organization. Daft (2012) asserts that, organizations "are designed as deliberately structured and coordinated activity systems… linked to the external environment", indicating that organizations structure themselves, intentionally, to some extent, in response to their environmental circumstances.

Startups of the nature being investigated in this study require venture capital to scale their ventures significantly and rapidly. This forms part of the situational context of these types of organizations. As such, the managers of such startups will adapt their style of management and operations to increase the attractiveness of their ventures to venture capitalists and, furthermore, to maximize the value of their startups in the fundraising process. Corporate governance in this study is seen as one of the aspects that startups may structure contingent to this reality.

2.2.2 Resource-Dependency Theory (RDT)

The Resource-Dependency Theory (Pfeffer & Salancik, 1978) views CG from the perspective of the organization's ability to acquire and control the key resources necessary for the efficient running of the firm's operations. These resources exist in the environment of the organization. Among these resources are the financial resources or capital to finance the organization and its operations. Accordingly, one of the principal roles of the board is to help acquire those critical resources, including capital, information, skills, access to suppliers and customers and so on, by their linkage to the external environment. Consequently, the composition of the board is critical to ensuring the organization has directors that can help it secure those resources (Afza & Nazir, 2014).

Within the context of this study, RDT, applies to the role of startup boards in enabling them to attract venture capital at an attractive valuation. In this regard, the composition of a startup's board of directors is seen as having an influence on how well the startup is governed and possibly its performance and hence valuation. Furthermore, the profiles of the board members in terms of their areas of expertise and networks, for instance, may enhance the startups linkages to sources of venture capital, increasing the startup's chances of successfully obtaining VC funding.

2.3 Corporate Governance and Valuation of Venture-Funded Technology Startups

An effective CG regime must be taken in the context of where the firm is in its lifecycle (Ingley and McCaffrey, 2007; Filatotchev, Toms, and Wright, 2006). As such, a firm's corporate governance regime evolves as part of its structural evolution (contingency theory). CFI (2019) in their undertaking to develop CG guidelines for early-stage, innovative companies, noted that startups need to institute strong boards, especially ahead of critical points of growth, and that, while the role the board plays changes over the life cycle of the startup, a well-functioning board adds value at every stage. CFI (2019) further notes that prospective investors may evaluate a startup with regards to its governance processes and procedures. As such, governance structure needs to be aligned to investor expectations at each stage of the company's growth. According to Osei (2015), an organization's CG structure indicates how it goes about allocating rights and responsibilities to key agents in the corporation and monitoring those agents' behavior. This

structure comprises aspects such as the board structure, composition and responsibilities, the management structure and so on (Mulili & Wong, 2011; Osei, 2015).

Startups develop through a four-stage lifecycle (Passaro, Quinto, Rippa, and Thomas, 2016): ideation, whereby the founder(s) have a potential idea for a startup and go about discovering if there is a market opportunity for it, intention, whereby the founders express entrepreneurial intention and begin mobilizing required resources to start up the business, start-up, the new venture creation stage, and expansion – scaling up the venture. Startups raise various forms of capital as they progress through this lifecycle, usually in form of venture capital. The amount and type of capital sought will match the phase the startup is in, usually, the earlier the stage the riskier the startup is perceived and therefore the more expensive the capital as investors seek comparatively higher returns for taking the risk.

Consequently, venture capital practice has developed specific nomenclature for the successive stages (rounds) of funding. Each funding stage (round) is normally marked by an increasing amount of capital raised and an appreciation in the valuation of the startup (Feld & Mendelson, 2019). The "Pre-seed" round funds the startup at the ideation and conceptualization stages, thereafter, "Seed" funding is raised as the company's product matures, the startup goes to market seeking to establish product-market fit and starts to earn revenue. "Series-A" funding is then sought to fund the long-term strategy as the startup seeks to expand, having established product-market fit. Series-B capital usually comes in at the point the startup demonstrates consistent revenues, growing demand. By this point the startup is quite mature and has strong financial performance. Capital raised at Series-C and beyond typically goes towards expanding to new markets, exploring new products and business lines, and possibly engaging in acquisitions). Based on U.S. startup funding data compiled by Fundz (2022) the average Series A round at the end of 2021 was about $22 million from a total of 880 Series A deal in the year while the average Series B Round was $33 million. By comparison, Cuvellier (2021) found that the median deal size at the pre-seed stage for African startups in 2021 was $200,000; $1.2 million at the seed stage, $8.3 million at Series A and $30 million at Series B.

Venture capitalists, by virtue of how they typically invest, that is, for the relatively long term, seeking to invest in attractively valued ventures, and where possible below market value, and profiting from changes in value, can be characterized as value investors. Indeed, each VC funding

stage requires some sort of assessment of the startup's worth in monetary terms (valuation) which forms the basis of the VC's investment decision. The concept of value investing was originally proposed by Benjamin Graham in 1949 (Graham, Zweig, & Buffett, 2006). The principle behind value investing is that there is a difference between the market value of a security and its intrinsic (true or actual) value. Value investors, therefore, seek to exploit this difference by finding and investing in assets or securities that are underpriced by the market relative to their true/intrinsic value, in the hope that eventually the market will reflect the true value and they can thereby profit from the difference. In effect, value investing has the implicit assumption that markets are not truly rational and efficient (Petrova, 2015).

Value investing relies on fundamental analysis of the asset to arrive at the intrinsic value. Fundamental analysis looks involves quantitative analysis (e.g., using financial ratios) as well as qualitative analysis of various factors that affect the company. The qualitative factors are typically assessed in a top-down format, that is, the economic, sector, industry-level, and company-level factors. Among the company-level factors that fundamental analysis considers are the company's business model, its management and corporate governance (Segal, 2022). This study takes the perspective that venture capitalists, being active, long-term investors, are value investors and as such fundamental analysis is a part of the evaluation undertaken by venture capitalists when assessing startups to invest in. The study thereby seeks to establish what relation there might be between the corporate governance of the startup (as one of its "fundamentals") and the valuation investors place on it.

Venture capital specifically targets creative and fast-moving, though financially constrained, "Schumpeterian" entrepreneurs (Cumming, 2012) that can raise their company's value significantly through rapid expansion with the expectation that, as a result, they will reap above normal returns upon exiting the investment (Zider, 1998). As with any rational buyer or investor, venture capitalists, look for bargains – the lower the valuation at the point of investment and the higher it is at the point they exit the investment, the higher the risk-adjusted returns (profitability) of the VC fund. Valuation is also critical to the entrepreneur as a gauge of how much value they hold in the company and therefore has some bearing on their motivation and hence their commitment to building up the company, which involves successive fundraising rounds, and

maximizing its valuation progressively (Heughebaert & Manigart, 2012; Miloud, Aspelund, & Cabrol, 2012).

The valuation of startups is considered more of an art than a science, especially at the formative stages since the company has little operating history or tangible assets on which to base an objective valuation. Investors use quantitative and qualitative factors to estimate the worth of a startup. Quantitative valuation can take several approaches. For instance, the cost approach values a company based on the current value of its assets and liabilities, the Discounted Cashflow (DCF) approach instead considers the present value of future cashflows, whereas the market approach benchmarks the company against the value of comparable firms in the market (Trichkova & Kanaryan, 2015; Montani, Gervasio, & Pulcini, 2020). Qualitatively, Miloud, Aspelund, & Cabrol (2012) find that startup valuations are significantly and positively influenced by among other factors, the quality of the founder and top management teams and the nature of external relationships the venture has established. More specifically, Calanca (2021) emphasizes the importance investors place on qualitative factors in evaluating a startup, especially in new emerging sectors and where there is a lot of uncertainty. According to Calanca (2021), good corporate governance practice is linked to organizational efficiency and is indicative of firm quality. Consequently, we can conceive that a startup's CG may influence its valuation.

Collins (2020) suggests that startups aim to increase their value 2-3 times or more during each funding round. Exceptional startups appreciate their valuations significantly more (Investopedia, 2022; Lee, 2013; Iwayemi (2022). Therefore, startups are keen to take decisions and actions in their management and operations that will maximize their valuation at each successive funding stage. This might conceivably include, how they structure and implement their corporate governance structures. According to Li, Zhou, Zhou, and Chen (2021), the larger the board, the wider the range of expertise and perspectives that benefit strategy formulation in startups. In addition, younger boards, boards that meet more frequently and those where board members hold a larger proportion of shares in the startup tended to be positively related to higher startup performance and possibly, therefore, higher valuation. In other words, the level of corporate governance implementation in a startup likely influences its valuation. On the other hand, Kaplan (2021) concedes that the impact of CG on a startup's share price, that is its valuation, is unclear. It

is this dynamic of the influence of corporate governance on valuation that this study sought to explore, specifically within the context of technology startups in Africa.

2.4 Review of Related Studies and Research Gaps

An investigation by, Ewens and Malenko (2020), on the board composition of venture-backed startups in the US, based on a sample of 7,780 U.S. startups from 2002–2017 revealed that at the point of the first VC round, the average (median) board had 3.6 members with entrepreneurs/executives. Independent directors were incorporated into the board after the second round of funding. At this point, control over the board is shared and the independent director holds a "tie-breaking vote". This function of independent directors was found to increase the efficiency of the startup by driving the startup to taking decisions that maximize its value as opposed to those that are biased in the favor of either entrepreneur of VC members. Furthermore, Ewens and Melenko (2020) found that the average board size over the lifetime of a startup was 4.5 members, with about 2 board seats held by VCs, 1.7 by executives and 0.8 by independent directors. In addition, the study revealed that board control shifts progressively from the founders to VCs as the startup grows and raises more venture capital.

A subsequent study by Li, Zhou, Zhou, and Chen (2021) looked at whether board characteristics matter in the context of rapidly growing enterprises. Their study was based on a sample of 121 information technology startups listed on China's Growth Enterprise Market using a firm performance indicator constructed through factor analysis. The study established strong correlations between firm performance and board size, age, structure, meeting frequency, and ownership of shares by board members. It was further found that, the larger the board was, the wider the range of expertise and perspectives that benefit strategy formulation in startups. In addition, younger boards, boards that meet more frequently and those where board members held a larger proportion of shares in the startup tended to be positively related to better startup performance and possibly, therefore, higher valuation. In other words, the level of corporate governance in a startup likely influences its valuation.

Kaplan (2021) undertook a broad literature review to investigate the possible application of Recommended Corporate Governance Codes (RCGC) startups. Part of the review examined the influence of RCGCs on a startup's cost of raising capital and its value. Kaplan (2021) observed

that startups had unique characteristics such as rapid changes in ownership and board composition through the venture financing cycle and resulting conflicts of interest that classic corporate laws are not tailored to. Furthermore, appropriate implementation of CG in startups can reduce investor risk, consequently reducing transaction costs and improving corporate management while retaining the flexibility that startups required to implement disruptive innovation. On the other hand, despite the benefits, burdening startups with such regulations might have the detrimental effects of increasing their direct costs by, for instance, forcing them to retain expensive advisors and consultants, incurring indirect costs such as monitoring costs, and eroding competitive advantage by making certain critical information publicly available to competitors. As far as valuation, Kaplan (2021) conceded that the impact of CG on a startup's share price, that is its value, was unclear.

Using a sample of 44,815 startups at the Series A stage compiled from secondary sources, Venugopal and Yerramilli (2019), used regression analysis techniques to investigate the introduction and impact of outside (independent) directors on startup boards at different funding stages. They considered the presence of outside directors in startup companies, why and when such directors were brought in and what sorts of skills startups sough in outside directors. Their findings were that, overall, startups appeared to rely on external directors to complement them where they lacked specific expertise. In addition, startups prioritized entrepreneurial experience and board experience in outside directors at all stages of the startup lifecycle while at the later stages C-suite experience took priority. Critically, Venugopal and Yerramilli (2019), concluded that early-stage startups that appointed outside directors raised larger amounts in later stages and were more likely to attract VC funding compared to otherwise similar early-stage startups that did not appoint outside directors.

An extensive search of various sources revealed a lack of academic research specifically on the corporate governance of startups and their valuation in African contexts. Those studies that have tackled this topic have addressed more mature, typically public companies. For instance, an early study by Kyereboah-Coleman (2007) on more mature firms in Ghana, Kenya and Nigeria, using regression analysis, concluded that large board sizes were associated with increased corporate performance and shareholder value maximization. Ntim (2011), studying a sample of 169 firms listed on the Johannesburg Stock Exchange (JSE) in SA from 2002 to 2007, found a positive and

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statistically significant relationship between the presence of independent non-executive directors and valuation but no such relationship when considering the effect of the presence of non-executive directors (NEDs) on firm valuation. Munisi & Randøy (2013) applied a corporate governance index comprising shareholders' rights, board of directors, disclosure and transparency, and audit and remuneration committees to investigate the effect of corporate governance on the market value of publicly traded companies on several African stock exchanges between 2007 and 2009 with firm size as a control variable. Overall, their study found a negative association between governance and market valuation. However, the individual governance practices were not all equally associated with valuation. Outa and Waweru (2016) tested the hypothesis that compliance with CG guidelines issued in 2002 by the Capital Markets Authority (CMA) improved the financial performance and value of regulated Kenyan firms. Based on panel data spanning 520-firm year observations between 2005 and 2014, they found that compliance with a composite CG Index is significantly and positively related to firm performance and firm value.

Table 2.1: Summary of Empirical Studies and Research Gaps

Study	Methodology	Key Results/Findings	Research Gaps	Focus of Current Study
Board dynamics over the startup life cycle Ewens and Malenko (2020)	Regression analysis	The dynamics of board composition evolve as a startup develops and goes through various funding stages revealing the shift of control over the life cycle	**Population gap**: The study investigated U.S. startups of which have been studied more extensively than those in African countries.	The study looked at the board composition and development of African startups. However, the study did not delve into aspects of board control or influence of independent board members.

Do board characteristics matter for growth firms? Evidence from China Li, Zhou, Zhou, and Chen (2021)	Regression analysis	Larger and younger boards have a positive influence on startup performance and therefore possibly value.	**Contextual gap**: The study investigated more mature, listed Chinese startups	The study investigated the board characteristics African technology startups in relation to their valuation, performance is not considered in this study.
Good corporate governance policies and disclosure mechanisms in startup companies Kaplan (2021)	Literature review	There are positive aspects of corporate governance to startups but taken too far there can be detrimental effects. The impact of RCGCs on share price (valuation) is unclear.	**Contextual gap**: The study looked at the U.S. legal CG context **Methodological gap**: The study was qualitative.	The study constrained itself to the governance criteria highlighted in the CFI (2019) Governance Maturity Matrix and quantitatively investigate these with respect to startups in the African context.
Outside directors at early-stage startups	Regression analysis	Early-stage startups that appoint outside directors raise larger amounts in	The study focused specifically on one aspect of	This study took the presence of outside directors as one among

Venugopal and Yerramilli (2019)		later stages and are more likely to attract VC funding.	board formation that is, the presence of outside directors	several other aspects of startup board characteristics
Corporate governance and shareholder value maximization: An African perspective Kyereboah-Coleman (2007)	Regression analysis	Larger board sizes were found to increase corporate performance and shareholder value maximization	**Contextual:** The study investigated more mature firms in Kenya, Ghana and Nigeria	This study focused on the corporate governance of younger, entrepreneurial ventures
The king reports, independent non-executive directors and firm valuation on the Johannesburg stock exchange Ntim (2011)	Correlation and regression analysis	Found a positive and statistically significant relationship between the presence of independent non-executive directors and valuation but no such relationship when considering the effect of the presence of non-executive directors (NEDs) on firm valuation.	**Contextual**: The researcher investigated firms listed on the Johannesburg Stock Exchange	This study focused on the corporate governance of younger, entrepreneurial ventures
Corporate governance and company	Regression analysis	The corporate governance index used and market	**Contextual:** The study investigated	This study focused on the corporate

performance across Sub-Saharan African countries Munisi & Randøy (2013)		valuation were found to be negatively associated. However, individual practices had varying effects on valuation.	mature, listed firms on various stock exchanges in Africa	governance of younger, entrepreneurial ventures
Corporate governance guidelines compliance and firm financial performance: Kenya-listed companies Outa and Waweru (2016)	Regression analysis	Compliance with a composite CG Index is significantly and positively related to firm performance and firm value.	The **context** was mature, listed, Kenyan firms	This study focused on the corporate governance of younger, entrepreneurial ventures.

Source: Researcher (2022)

2.5 Chapter Summary

This chapter set the theoretical foundation for the study. The anchor theories were identified, namely the Contingency Theory and the Resource-Dependency Theory. The Contingency Theory, within the context of this study, asserts that organizations develop their structure to match their reality and that the effectiveness of management is dependent on the external and internal environment. The availability of venture capital is in the external environment of the startup and therefore influences how the startup is managed so as to position it to attract venture capital at an attractive valuation. The Resource-Dependency Theory views corporate governance from the perspective of the acquisition of critical organizational resources, including capital. The organization's board is therefore a critical link to the external environment wherein lies the sources of venture capital. The chapter went on to explore the relation between corporate governance and valuation of venture-funded technology startups. Venture capitalists were framed as value investors who invest for the long-term and seek attractively valued startups that can scale rapidly and multiply their valuation significantly in the process. The higher the exit valuation relative to the entry valuation the higher the profit the VC will earn. Valuation considers quantitative and qualitative factors. Among the qualitative factors is how the company is managed and governed. This is the relation the study investigated. Finally, an empirical review was presented. It was demonstrated that the corporate governance of venture-funded technology startups is an under-explored area of academic enquiry. There remain significant research gaps especially as far as population and context.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design, specify the population, sample and sampling technique to be followed in the study and how the data will be collected and analyzed.

3.2 Research Design

The study used a correlational research design to investigate the existence, direction and strength of the relationship between the level of corporate governance implementation and valuation along the venture capital lifecycle among technology startups in Africa. The variables are only observed without manipulation, and it is understood that there may be other factors that may affect startup valuation that are uncontrolled for in the study. It is anticipated that there is an association between the variables but not necessarily a causal one. Therefore, the correlational research design is deemed most appropriate.

3.4 Population

The population for this study was all the technology startups in Africa that have raised VC funding in their history. As per Maher, Laabi, Ivers, and Ngambeket (2021), 359 tech startups secured funding in Africa in 2020. Statista (2022) estimates that there were 446 venture-funded technology startups in Africa in 2021. ABD (2022) records over 450 startups raised by African startups in 2022

3.5 Sample

A random sampling technique was employed targeting all startup founders in Africa, or as many of them as could be reached via an online survey. The survey was developed and deployed using QuestionPro, an industry leading, commercial online surveying tool. The survey link was distributed via the LinkedIn professional social network where many, if not most or all, startup founders are likely to engage. Venture capitalists often use LinkedIn to look up prospective founders or to vet them as part of their due diligence on startups under consideration for funding. This medium was therefore thought to be a suitable avenue by which to distribute the survey. In

addition, given the ambitious scope of the project, it was impossible for the researcher to get direct access to founders in order to administer a questionnaire or interview directly. To maximize the reach of the social media campaign, paid advertising was employed, enabling the researcher to send the link via direct message on LinkedIn to a targeted audience based on their title, e.g., startup founder, location, interests and so on.

3.6 Data Collection

Primary data was collected using a structured survey delivered via the world wide web (online). The data collected included the startup's base country, category (tech, tech-enabled or non-tech) age, funding rounds to date and valuation through the various rounds, expressed as a multiple. Data relating to the independent variable, corporate governance implementation, included whether there was a board in place at the point of successive funding rounds, the board's composition in terms of the number of board members, member profile and presence of independent board members, and the existence of board committees. The survey ran between November 1 and November 29, 2022.

3.7 Reliability of the Research Instrument

Reliability refers to the consistency of measurement and the extent to which the results of measurement can be reproduced under the same conditions, that is how dependable and how consistent the results are if the stud is repeated under similar or identical circumstances (Neuman, 2013). Perfect reliability and validity impossible, but researchers should strive towards this goal Neuman (2013). Consequently, the study sought, at a minimum, to establish the following three forms of reliability identified by Neuman (2013): First, measurement reliability which has to do with the consistency of the measure of a variable. Within the context of this study, the survey is standardized and uses closed ended questions only, ensuring the instrument allows for measurement reliability. Secondly, stability reliability, which means that results from the measurement should be consistent over time. The survey in this study collects factual and historical information, as such, stability reliability is implicit. This can be tested using the test-retest method. Finally, representative reliability, that is, a measure yields consistent results for various social groups. Again, as designed, the instrument should be replicable to different samples or populations

that meet the study objective. Cronbach's alpha was used to measure the internal consistency of the research instrument and the result (0.902159) indicated a very high degree of consistency in this regard.

3.8 Validity of the Research Instrument

Validity refers to the accuracy of the measurement, that is whether the results measure what they are intended to measure and hence how truthful it is, and how well it reflects reality (Neuman, 2013). Byrman and Cramer (2011) and Neuman (2013) identify several types of validity. The present study sought to, at a minimum, establish the following forms of validity. Face validity, by validating the instrument with experienced academicians particularly through the research proposal writing, review and evaluation process, as well as with industry practitioners. Content validity, the instrument was designed to measure each aspect of the variables being investigated within the context of the study. For instance, it is acknowledged that there are many other aspects to corporate governance than those measured by the instrument. However, this study has limited itself to only investigating those aspects that have been proposed by the CFI (2019) Governance Maturity Matrix as a standard for startup corporate governance. The instrument is therefore designed, specifically, to measure as comprehensively as possible, the CG aspects in this matrix.

3.9 Operationalization of Study Variables

For purposes of analysis, the variables were treated as follows:

Table 3.1: Operationalization of the variables

Variable	Operational indicators	Measurement	Measurement scale	Data collection tool
Level of corporate governance Independent variable	Governance score	• Board size (no. of members) • Member types (founder, investor, non-investor, independent)	Ratio	Questionnaire

		• Member profile/skills) (startup management skills, specialists, corporate management skills) • Board committees • Advisory board presence		
Startup valuation Dependent variable	Valuation multiple	Continuous values • Computation of how much more a startup is in successive funding rounds	Ratio	Questionnaire

Source: Researcher (2022)

3.9.1 Governance score

Startups were given a governance score based on the criteria in Table 3 below (the Governance Index). The governance score for each startup was computed as the sum of the points received against each of the governance criteria. The criteria are based on the CFI (2019) Startup Governance Maturity Matrix. The maximum total score was 13.

Table 3.2: Governance Index

Governance (board) aspect	**Criteria**	**Points allocated**	
Board size (no. of people)	0 (no board)	0	No board = 0 points,
	Less than 3 pax	1	
	3-5 pax	2	Respective number of points based on the size of the board
	5-7 px	3	

	7+ pax	4	
Member type	Founders	1	One point for each member type represented on the board
	Investors	1	
	Others (non-investors)	1	
	Independent	1	
Member profile/skills	Startup knowledge / experience	1	One point for each type of profile represented on the board
	Expert/subject-matter knowledge / experience	1	
	Corporate management and governance knowledge / experience	1	
Board committees	No	0	Zero points for no committees,
	Yes	1	One point for each type of committee
Advisory board	Yes	1	One point for having an advisory board, 0 for not
	No	0	

Source: Researcher (2022)

3.9.2 Valuation multiple

Each startup will have a base valuation of one (1) at the **first round**.

If the startup raised a **second round and the first round was un-priced (i.e., no valuation was done such as if it was a convertible note)**, the valuation will remain **1**.

If the startup raised **a subsequent, priced (valuation done) round to a previous, priced round,** the valuation multiple will be calculated by taking the current round valuation divided by the previous round valuation e.g., if the previous round the startup was valued at $1,000,000 and the valuation at the current round was $1,500,000, the valuation multiple is $1,500,000 / $1,000,000 = **1.5.**

If the startup raised a **subsequent, priced round to a previous, unpriced round, but the startup had been valued/priced at an earlier round,** the valuation multiple will be calculated based on the valuation at the last priced round, e.g., if the first round valued the startup at $1,000,000, then the startup raised a second un-priced round, after which the current round was valued at $2,300,000, the valuation multiple is $2.300,000/$1,000,000 = 2.5.

3.10 Data Analysis

Correlation analysis was undertaken to evaluate the strength and direction of the relationship between the variables. Thereafter, regression analysis will be undertaken, subject to testing the linear regression assumptions of multicollinearity, autocorrelation, normality, homoscedasticity, and linearity. The regression equation is as follows:

$Y = a_1 + b_1X_1 + e$

Where:

      Y: Valuation multiple

      a: y-intercept of the regression equation

      b: regression coefficient

      X_1: Governance Index score

      e: Error term

Further regression may be undertaken against each of the sub-indices to evaluate the significance of each aspect of the Governance Index on the valuation:

$Y = a_2 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$

Where:

      Y: Valuation multiple

      a_2: y-intercept of the regression equation

      b_2, b_3, b_4, b_5: regression coefficients

X_2: Board size sub-index score

X_3: Member type sub-index score

X_4: Member profile sub-index score

X_5: Board committees sub-index score

e: Error term

In addition, Analysis of Variance (ANOVA) was undertaken to investigate the relationship between the level of corporate governance (independent variable) and valuation multiple (dependent variable) at different funding rounds (Erhardt, Arnholt, & Dierker, 2019; Statology, 2021).

CHAPTER FOUR: DATA ANALYSIS RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the statistical analysis undertaken as described in the research methodology section above. The analysis was done using the built-in analytical functions in the QuestionPro online surveying software and supplemented by analysis in Microsoft Excel's (Office 365) Data Analytics Tools. The chapter begins by presenting the descriptive statistics from the data set and then proceeds to present the results from the correlation and regression analysis.

4.2 Response rate

The online survey was viewed a total of 397 times over the period of the survey. 67 responses were received. Out of these, 36 (53%) completed the survey fully (that is, answered all the questions presented) and 31 dropped out of the survey at some point before completion giving partial information.

Table 4.1: Survey response rate

	Count	%
Completed	36	53.73%
Incompletes	31	46.27%
Total Responses	67	100.00%
Viewed	397	

4.3 Demographic Information

The first section of the survey sought general information about the respondents' startups, specifically, the nature of the startup (technology startup, technology-enabled or non-technology startup), which African country their startup was based or what the base country of operation was, the age of the startup and whether or not their startup had ever raised venture capital.

4.3.1 Startup characteristics

Of the 67 total attempts, 50 responded to the question categorizing startups as either technology startups, technology enabled startups or non-tech startups. Of these 50, 44 (88%) characterized themselves as technology or technology enabled startups.

Figure 4.1: Categorization of startups – VC and non-VC
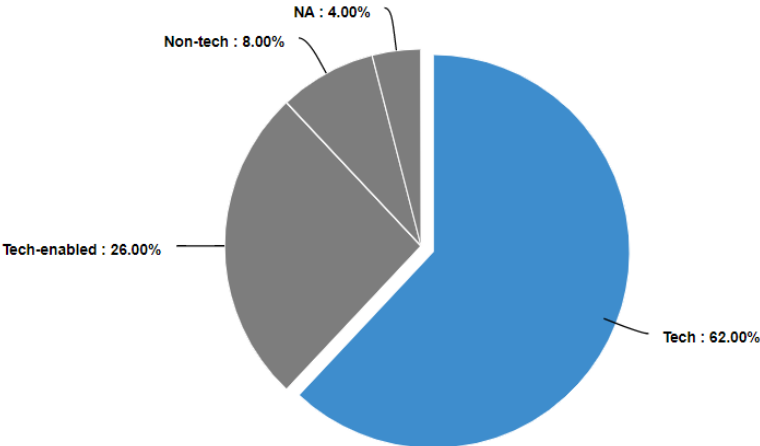
Source: Researcher (2022)

Forty-five of the respondents attempted the question on the geographical location of their startups. The majority (51%) indicated that their startups are based in Kenya. The remaining responses were highly dispersed.

Figure 4.2: Startup country location – VC and non-VC
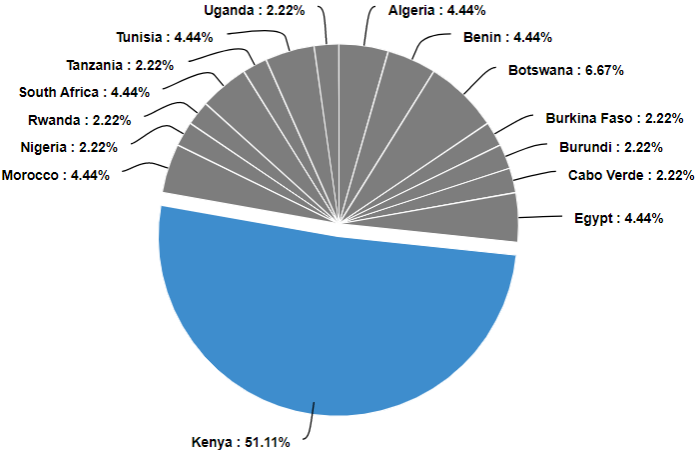
Source: Researcher (2022)

Majority (roughly 49%) of the forty-five respondents that responded to the question on the age of their startup indicated their startups were between 3-8 years old. About 38% were less than three years in existence, while mature startups, over 8 years in existence accounted for about 13%.

Figure 4.3: Age of startups – VC and non-VC
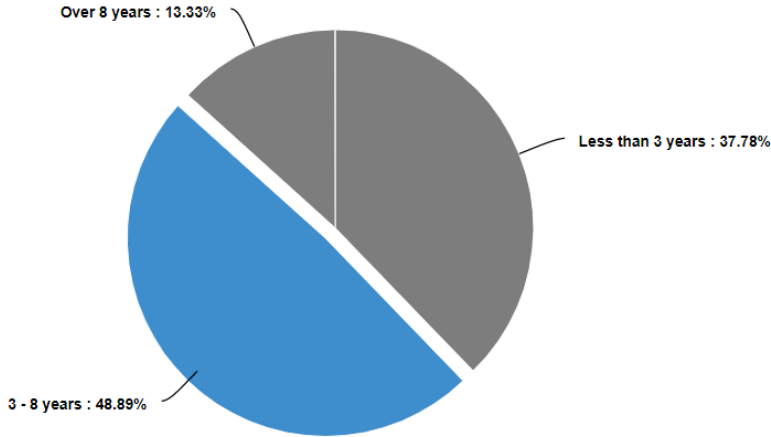
Source: Researcher (2022)

Finally, majority, that is 24 respondents or 53% of the forty-five respondents that answered the question as to whether they had raised venture capital in their history indicated that they had indeed raised VC, while 21 of them (about 47%) had not.

Figure 4.4: Proportion that had raised VC
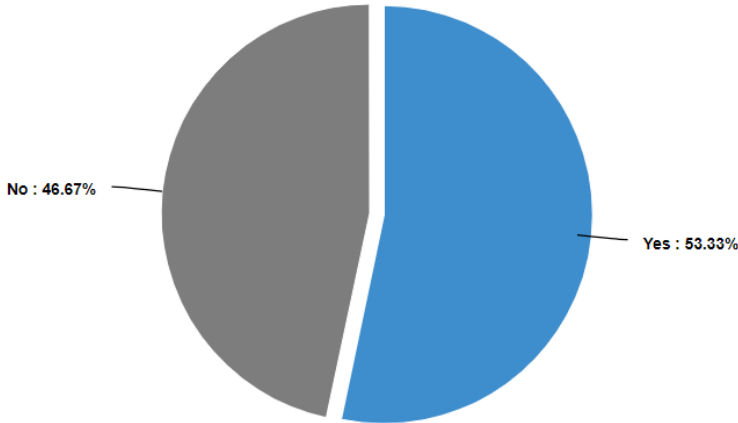
Source: Researcher (2022)

The next section of the survey sought information on the respondent's corporate governance at different stages (rounds) of venture capital funding. Respondents could give data on up to five VC

rounds. For each funding round, the survey sought whether the round was priced (that is, based on a formal valuation of the startup), the amount raised (ticket size), and the stage of revenue generation of the startup. Thereafter, respondents could answer questions concerning the existence, size, constitution and organization of their boards. These aspects of governance were later scored to give each respondent a governance score as described in the data analysis section above.

The next few sections of this report will first characterize the nature of the startups at the various funding rounds and then proceed to summarize what was reported by these startups concerning their corporate governance at the different rounds.

4.3.1.1 Startups characteristics among non-VC startups

Twenty-one (21) respondents indicated having never raised venture capital in their history. Of these, ten (about 48%) categorized themselves as technology startups, a further eight (38%) indicated they were tech-enabled startups and three (about 14%) were neither. Sixteen of the 21 (76%) were based in Kenya, two (9%) were based in Egypt, Nigeria, Tanzania and Tunisia each had one respondent. In terms of age, 10 of the 21 (48%) that had not raised VC were aged, 3-8 years, six (about 26%%) had been in existence less than three years and five (about 24%%) were over eight years in existence.

Figure 4.5: Categorization of startups without VC
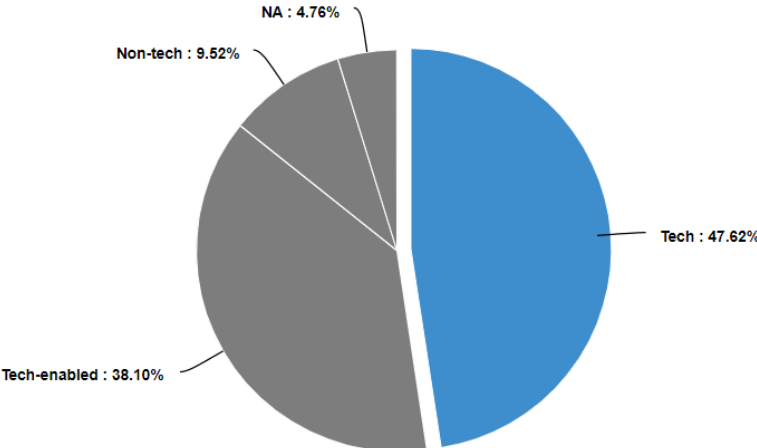
Source: Researcher (2022)

Figure 4.6: Country of startups without VC
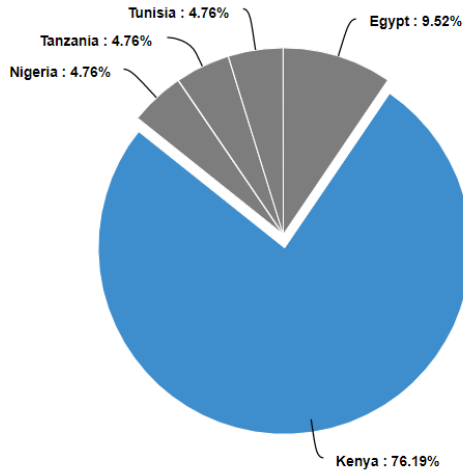
Source: Researcher (2022)

Figure 4.7: Age of startups without VC
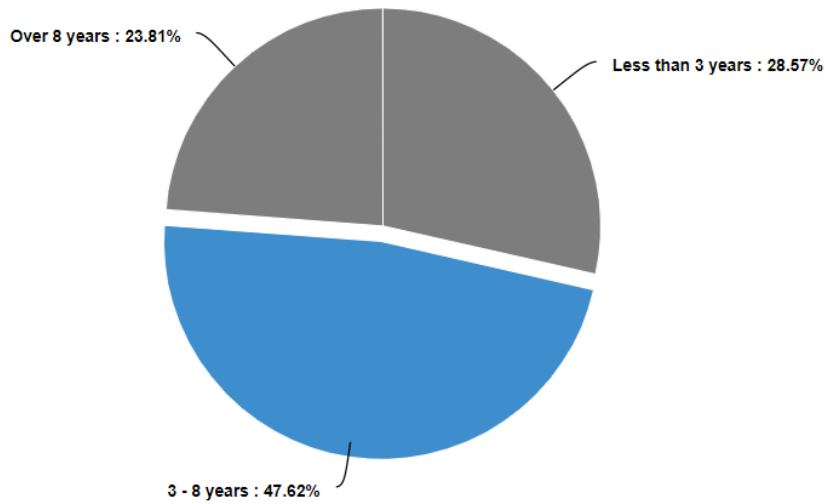
Source: Researcher (2022)

4.3.1.2 Startups characteristics among VC-backed startups

Twenty-four (24) respondents indicated having raised at least one venture capital round in their history, that is 24 venture funding instances were recorded. This is a fairly small number compared to the total number of reported VC funding instances in reality (see section 3.4 and 3.5). Therefore the study could not go on to make conclusions of the entire population based on the relatively small sample that was obtained. Of these, the vast majority (19 respondents or 79%) categorized

themselves as technology startups and a further three (12%) indicated they were tech-enabled startups. Seven of the 24 (29%) were based in Kenya, 12% in Botswana, about 8% each in Algeria, Benin, Botswana, Morocco and South Africa, and about 4% each in Burkina Faso, Burundi, Cabo Verde, Rwanda, Tunisia and Uganda. Finally, 12 of the 24 (50%) that had raised VC were aged, 3-8 years, 11 (49%) had been in existence less than three years and one (1%) was over eight years in existence.

Figure 4.8: Categorization of startups that raised VC
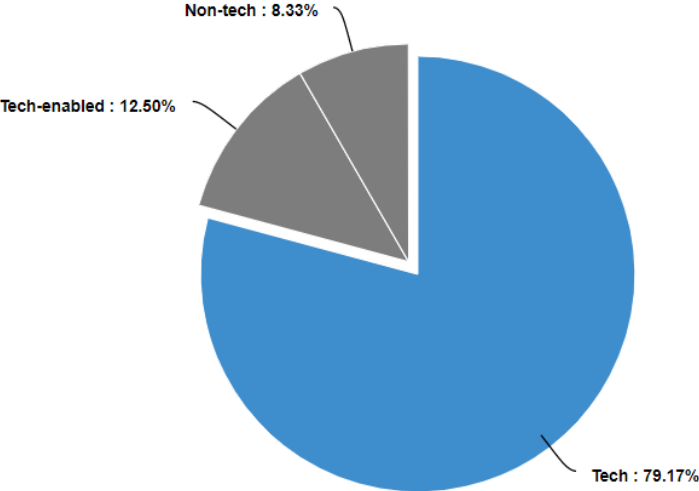
Source: Researcher (2022)

Figure 4.9: Country of startups that had raised VC
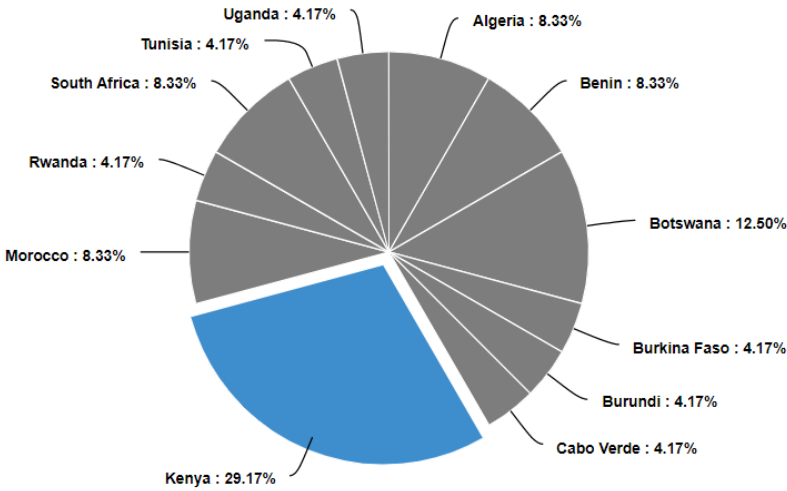
Source: Researcher (2022)

Figure 4.10: Age of startups that raised VC
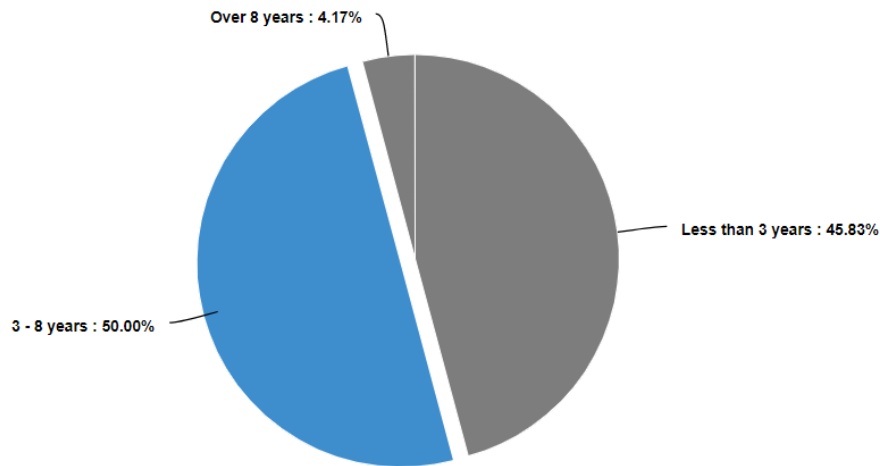
Source: Researcher (2022)

4.3.1.3 Startups that raised a first VC round

Of the 24 that indicated they had raised venture capital, 22 indicated they'd raised a first round of funding. Majority of these (16 out of 22, or about 73%) were priced rounds, that is were based on a formal valuation of the startup, and the remaining 6 were unpriced.

Figure 4.11: Proportion of valued rounds at Round 1
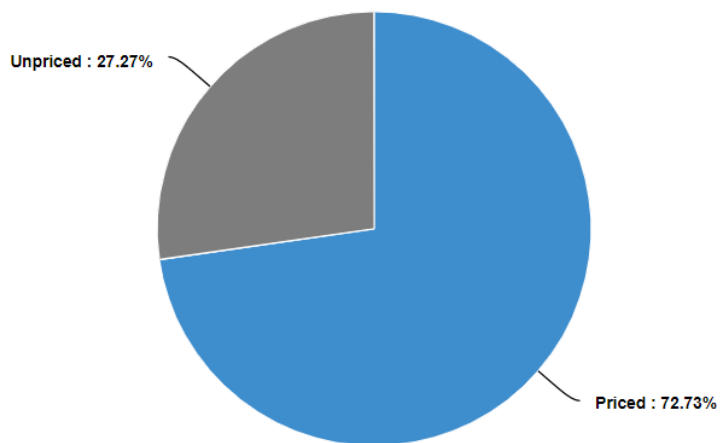
Source: Researcher (2022)

The next question sought the amount of capital raised in the round. 21 respondents gave an answer to this question. Seven of them (33%) indicated they raised less than half a million USD in round one, 11 of them (52%) raised between half a million and five million USD, three of them raised between five and fifteen million USD, and there were none that reported having raised more than fifteen million USD in the first round.

Figure 4.12: Amount raised at Round 1
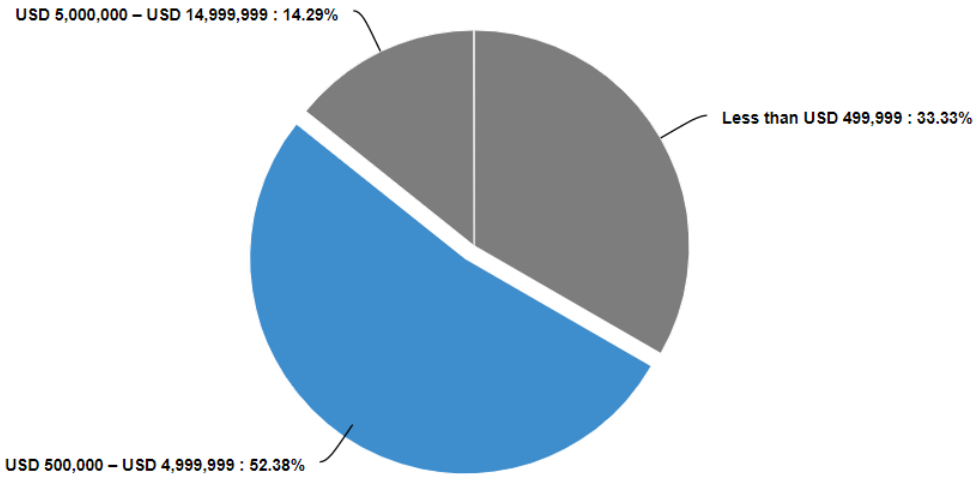
Source: Researcher (2022)

Looking at the stage in revenue generation at the point of raising their first round, six (about 29%) out of 21 respondents indicated their startups were pre-revenue, five (about 24%) were at the early revenue stage, five (about 24%) had modest but growing revenue and five (about 24%) were beyond breakeven.

Figure 4.13: Revenue stage at Round 1
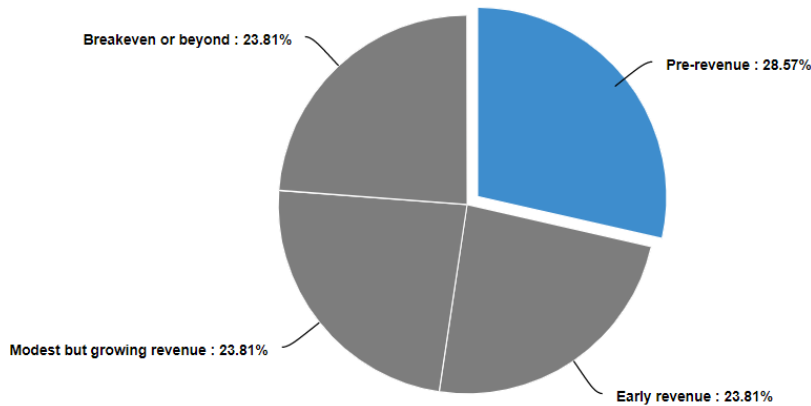
Source: Researcher (2022)

4.3.1.4 Startups that raised a second VC round

Twelve respondents went on to raise a second round of funding Majority of these (9 out of 12, or about 75%) were priced rounds while the remaining three were unpriced.

Figure 4.14: Proportion of valued rounds at Round 2
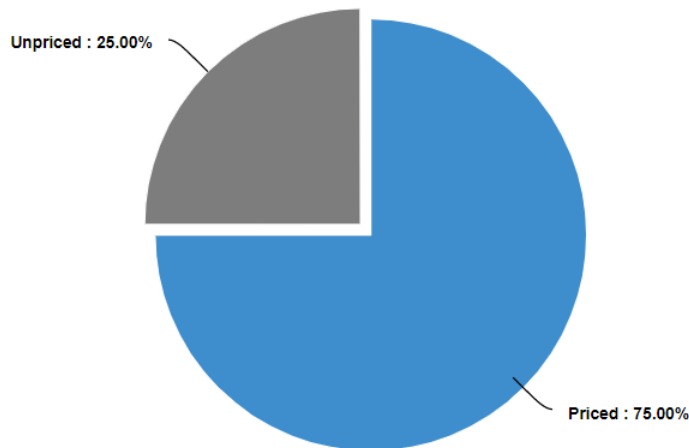
Source: Researcher (2022)

Eleven out of the 12 startups that had raised a second round gave a response when asked the amount of capital raised at the second round. One of them (9%) indicated they raised less than half a million USD in round two, five of them (45%) raised between half a million and five million USD, four

of them (36%) raised between five and fifteen million USD, and one (9%) reported having raised more than fifteen million USD at this round.

Figure 4.15: Amount raised at Round 2
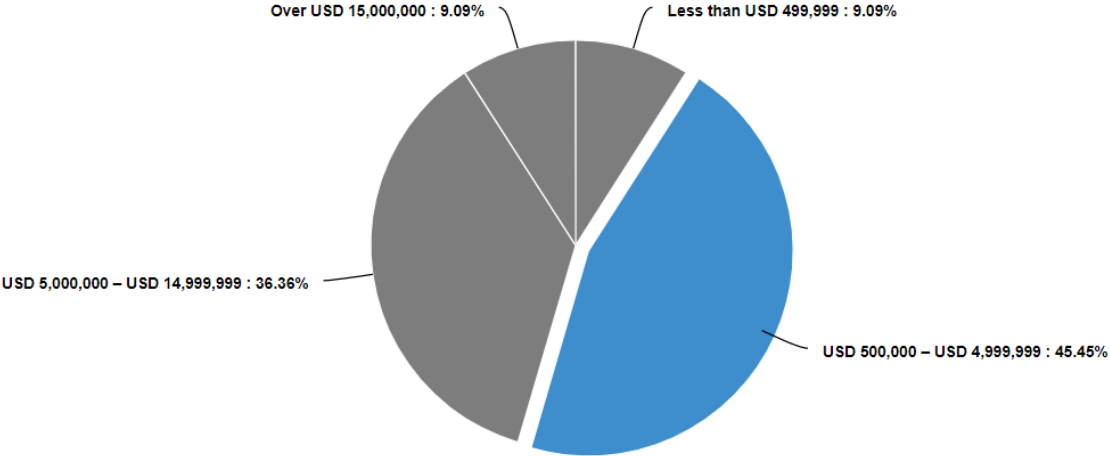
Source: Researcher (2022)

As regards the stage in revenue generation at the point of raising their second round, none of the eleven respondents that had raised a second round were at the pre-revenue stage, four (about 36%) were at the early revenue stage, six (about 25%) had modest but growing revenue and one (9%) was beyond breakeven.

Figure 4.16: Revenue stage at Round 2
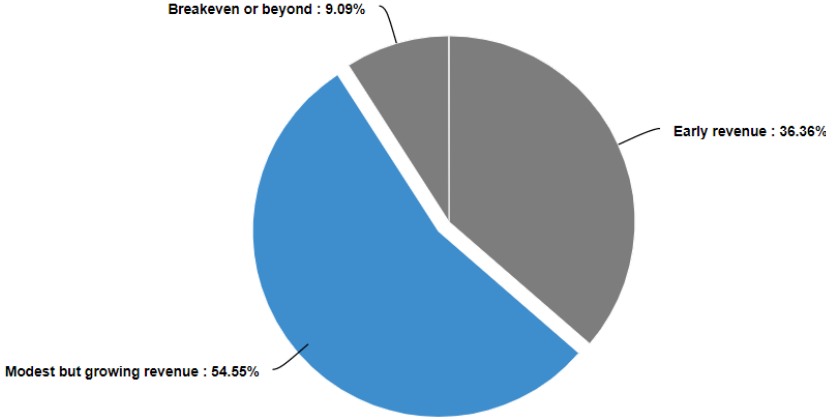
Source: Researcher (2022)

Eight respondents gave an answer when asked about their valuation multiple based on the current round valuation and the previous round valuation. Seven of these indicated a multiple of 1 which could imply that this was the first valued round in the startup's history. However, one of the startups indicated their valuation had gone up three times between the first and second rounds.

4.3.1.5 Startups that raised a third VC round

Only two (18%) out of the eleven that raised a second round proceeded to raise a third round of funding, both of which were priced rounds. One of these raised less than five million USD and the other raised more than five million but less than fifteen million USD. Both respondents indicated they were experiencing modest but growing revenue at the time they raised the third round of funding. In terms of valuation, one of the respondents indicated a multiple of 1 indicating this could have been the first priced round. The other respondent indicated that their valuation had gone up eight times between the second and third rounds. None of the respondents that raised a third round of VC indicated that they went on to raise a fourth round.

Table 4.2: Summary of funding rounds and valuation

Round	Number of respondents	Pricing (Valued)			
		Priced	Priced (%)	Unpriced	Unpriced (%)
1	22	16	73%	6	27%
2	12	9	75%	3	25%
3	2	2	100%	0	0%
Total respondents	**36**	**27**	**75%**	**9**	**25%**

Source: Researcher (2022)

Table 4.3: Summary of funding rounds and amount

Round	Number of respondents	Amount raised							
		< USD0.5 M	%	< USD5 M	%	<USD 15M	%	>USD1 5M	%
1	21	7	33%	11	52%	3	14%	0	0%
2	11	1	9%	5	45%	4	36%	1	9%
3	2	0	0%	1	50%	1	50%	0	0%
Total respondents	**34**	**8**	24%	**17**	50%	**8**	24%	**1**	3%

Table 4.4: Summary of funding rounds and revenue stage

Round	Number of respondents	Revenue stage							
		Pre-revenue	%	Early revenue	%	Modest and growing	%	Break-even	%
1	21	6	29%	5	24%	5	24%	5	24%
2	11	0	0%	4	36%	6	55%	1	9%
3	2	0	0%	0	0%	2	100%	0	0%
Total respondents	**34**	**6**	**18%**	**9**	**26%**	**13**	**38%**	**6**	**18%**

Source: Researcher (2022)

4.3.2 Board characteristics

4.3.2.1 Board characteristics among non-VC and VC backed startups

At the first round of funding, 13 out of 20 respondents (65%) indicated they had a formal board of governors in place. At the second round, all but one of the eleven respondents had a board in place while both respondents at the third round had boards in place. Of the twenty respondents that had not raised VC only six (30%) had formed a board. On the other hand, looking at informal advisory boards, out of 19 respondents that indicated they had raised a first round of VC, 12 (63%) had a board of advisors in place while seven (37%) did not. At the second round of funding, all seven of the respondents that gave an answer indicated they had advisory boards in place. Only one of the two respondents that indicated they had raised a third round of funding gave a response to the question on the existence of an advisory and positively so.

Table 4.5: Summary board of directors

Round	Number of respondents	Did you have a board of governors in place?			
		Yes	%	No	%
1	20	13	65%	7	35%
2	11	10	91%	1	9%
3	2	2	100%	0	0%
No VC	20	6	30%	14	70%
Total respondents	**53**	**31**	58%	**22**	42%

Source: Researcher (2022)

Table 4.6: Summary advisory board

Round	Number of respondents	Did you have an advisory board in place?			
		Yes	%	No	%
1	19	12	63%	7	37%
2	7	7	100%	0	0%
3	1	1	100%	0	0%
No VC	20	10	50%	10	50%
Total respondents	**47**	**30**	64%	**17**	36%

Source: Researcher (2022)

4.2.2.2 Board characteristics among non-VC backed respondents

Out of twenty respondents that indicated they had not raised venture capital only size had boards in place. these, two (33%) indicated they had a board of less than three members, two (33%) had more than three but less than five members and two (33%) had more than five but less than seven members.

Figure 4.17: Board size among non-VC startups
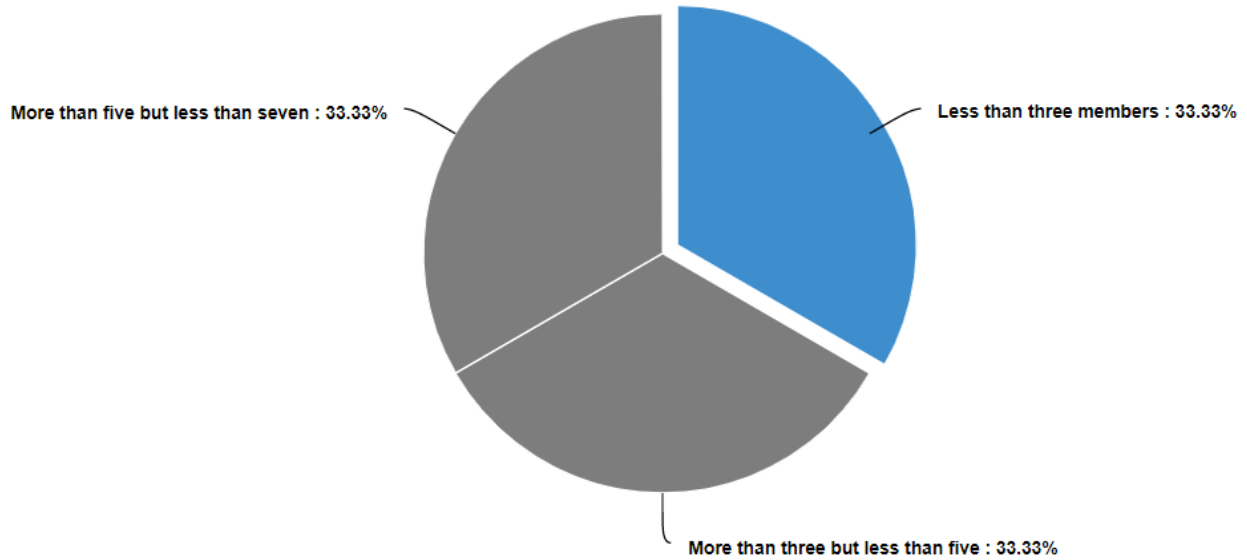
Source: Researcher (2022)

In terms of board composition, four out of the six respondents (66%) that had boards indicated they had independent board members in place. Two of the six (33%) indicated their board comprised founders only, one of them (16%) had founders and non-investors as members, one (16%) had founders and investors on the board, and two (33%) had non-investors in addition to founders and investors on the board.

Figure 4.18: Board composition among non-VC startups

Interestingly, all the respondents that had not raised venture capital and had boards had corporate management skills on their boards, half (three out of six) had startup management skills and half had specialized skills on their board

Figure 4.19: Board skills among non-VC startups
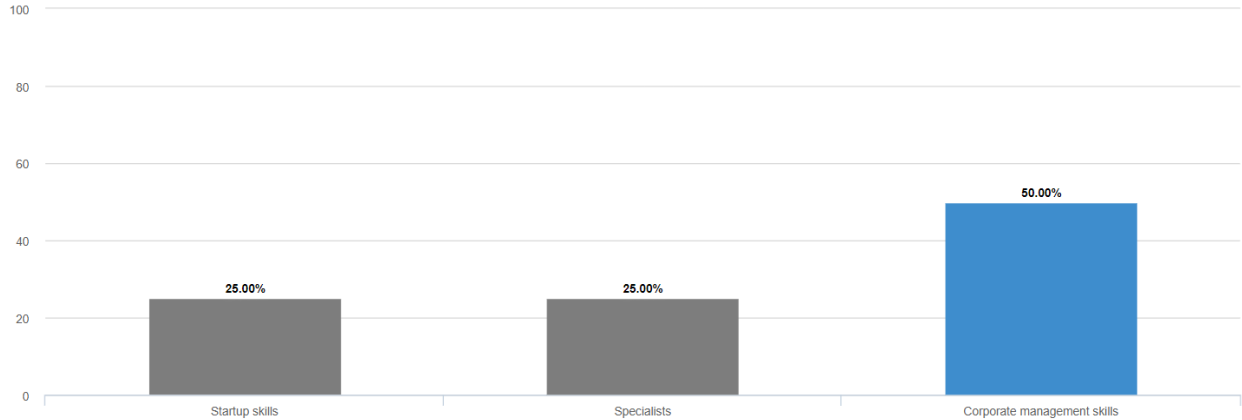
In terms of the formation of board committees, only one of the six respondents (16%) had organized their board into committees.

Figure 4.20: Board committees among non-VC startups
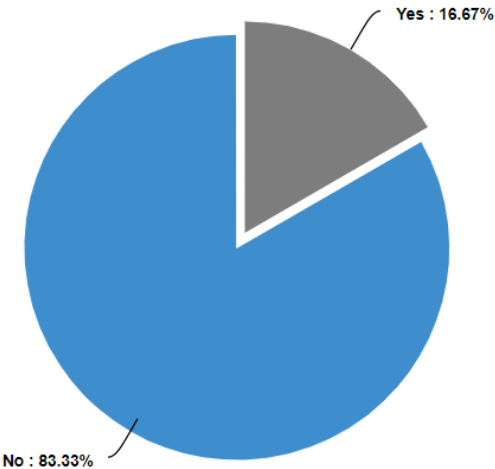
4.3.2.3 Board characteristics among VC backed respondents

Out of twenty respondents that indicated they had not raised venture capital only size had boards in place. these, two (33%) indicated they had a board of less than three members, two (33%) had more than three but less than five members and two (33%) had more than five but less than seven members.

Figure 4.21: Board size among non-VC startups
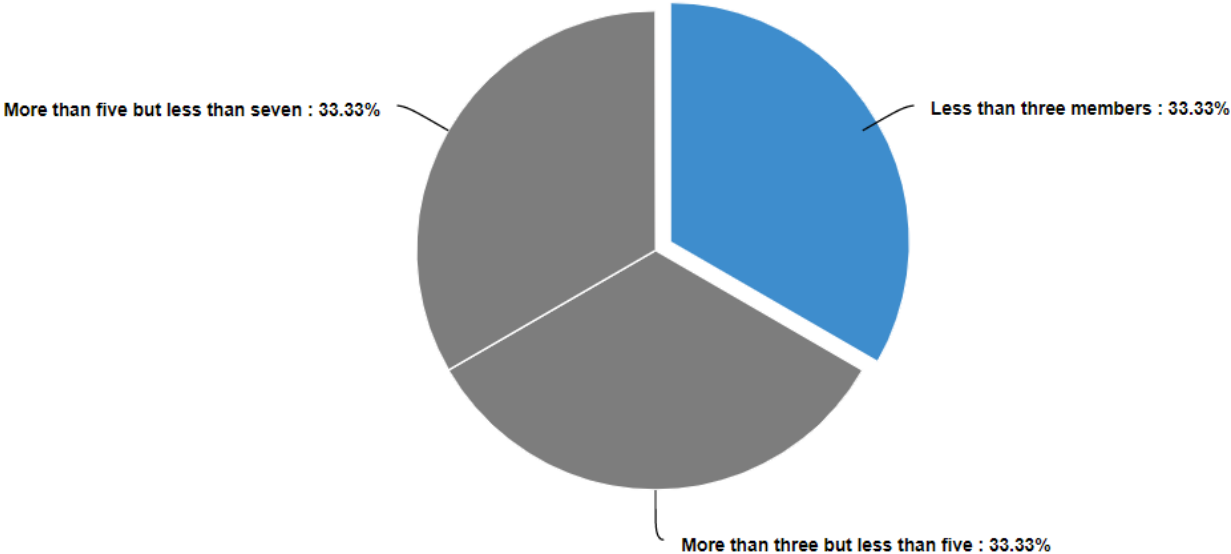
Source: Researcher (2022)

In terms of board composition, four out of the six respondents (66%) that had boards indicated they had independent board members in place. Two of the six (33%) indicated their board comprised founders only, one of them (16%) had founders and non-investors as members, one (16%) had founders and investors on the board, and two (33%) had non-investors in addition to founders and investors on the board.

Figure 4.22: Board composition among non-VC startups
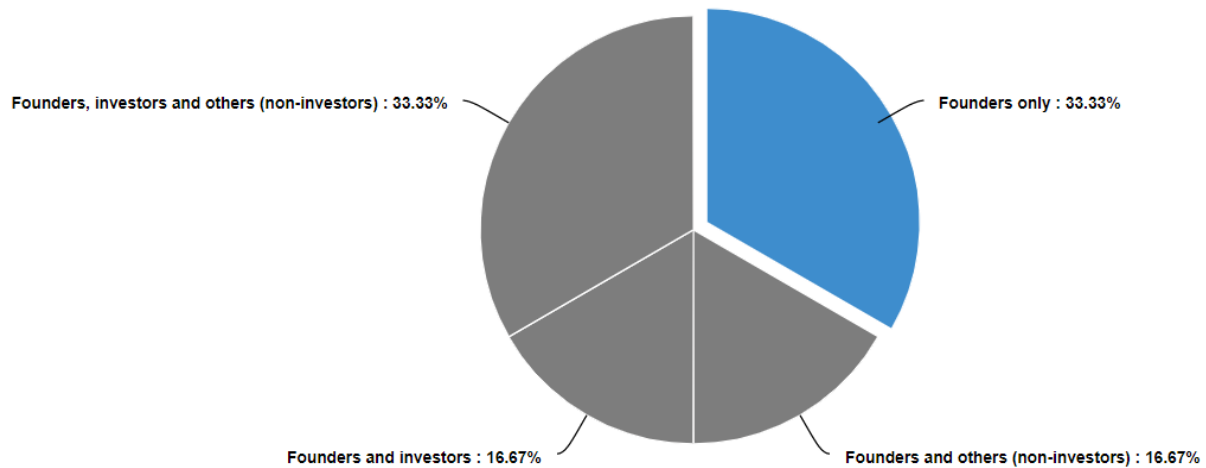
Source: Researcher (2022)

Interestingly, all the respondents that had not raised venture capital and had boards had corporate management skills on their boards, half (three out of six) had startup management skills and half had specialized skills on their board

Figure 4.23: Board skills among non-VC startups
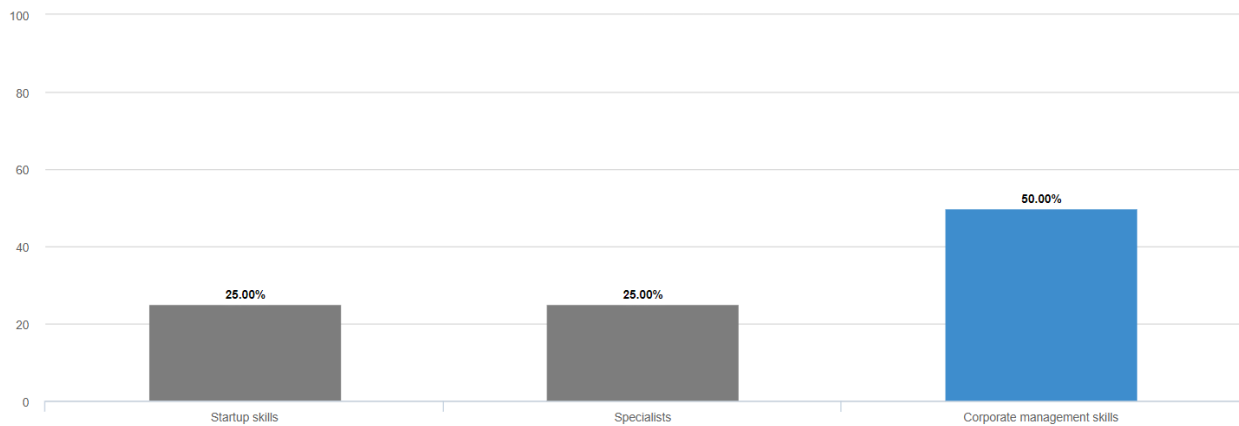
Source: Researcher (2022)

In terms of the formation of board committees, only one of the six respondents (16%) had organized their board into committees.

Figure 4.24: Board committees among non-VC startups
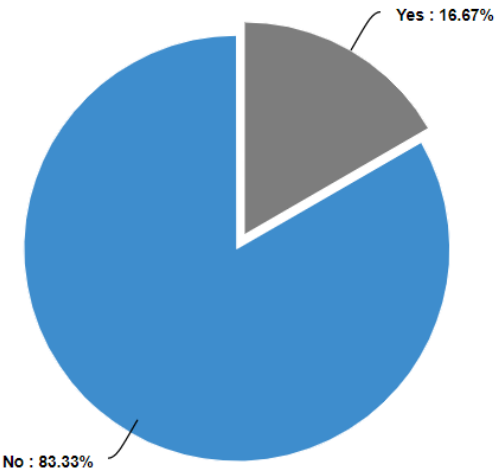
Source: Researcher (2022)

4.3.2.4 Board characteristics at Round 1

Of the thirteen respondents that had a board in place at the first round of funding, the majority (10 of them or 76%) indicated they had a board of five or less, while only three startups had five or more board members.

Figure 4.25: Board size at Round 1
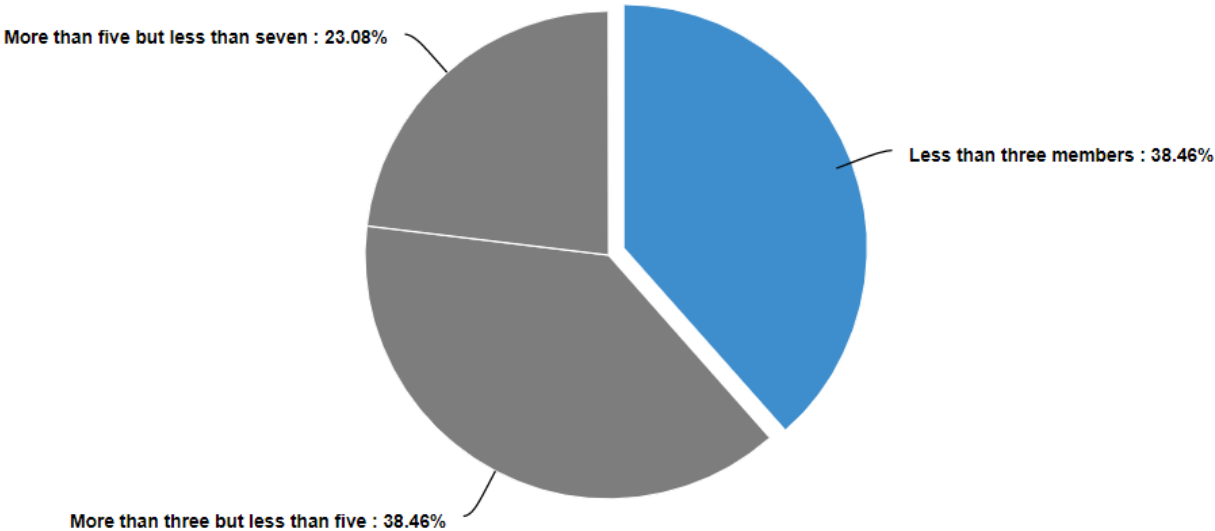
Source: Researcher (2022)

In terms of board composition, twelve of the thirteen (92%) indicated they had independent board members in place. Three (23%) of the thirteen startups that had a board indicated their board comprised founders only, five of them (38%) had founders and non-investors as members, three of them (23%) had founders and investors on the board, and two (15%) had founders, investors and non-investors on their board.

Figure 4.26: Board composition at Round 1

Founders, investors and others (non-investors) : 15.38%

Founders only : 23.08%

Founders and investors : 23.08%

Founders and others (non-investors) : 38.46%
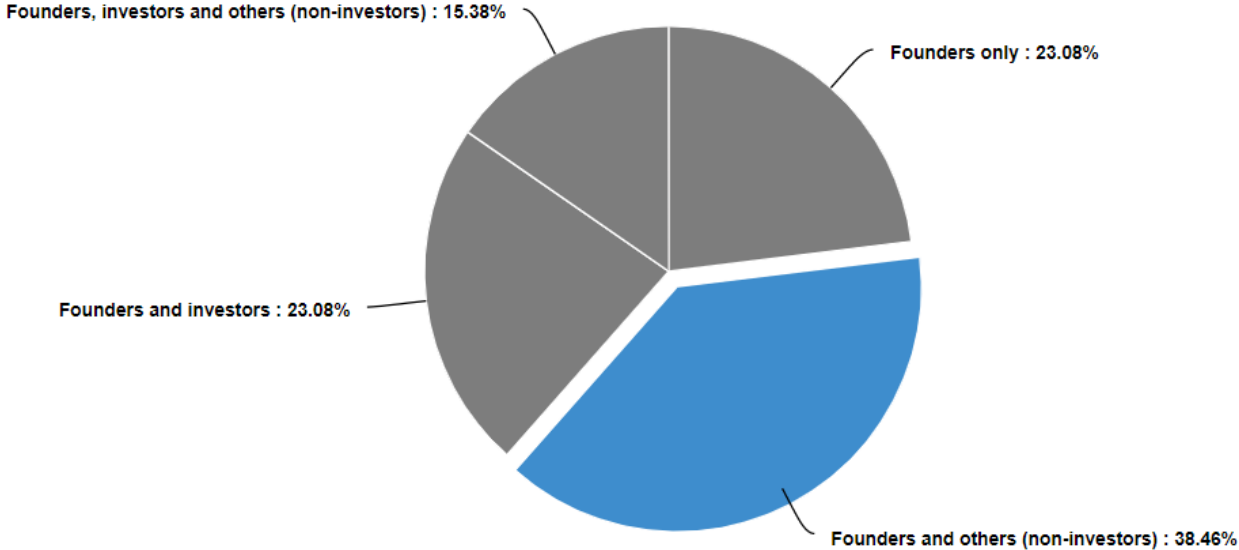
Source: Researcher (2022)

In terms of the skills available on the board, eleven of the 13 respondents had board members with skills related to running a startup, ten of the 13 had members with specialized skills or subject-matter expertise and six of the 13 had corporate management skills on the board at this round.

Figure 4.27: Board skills at Round 1
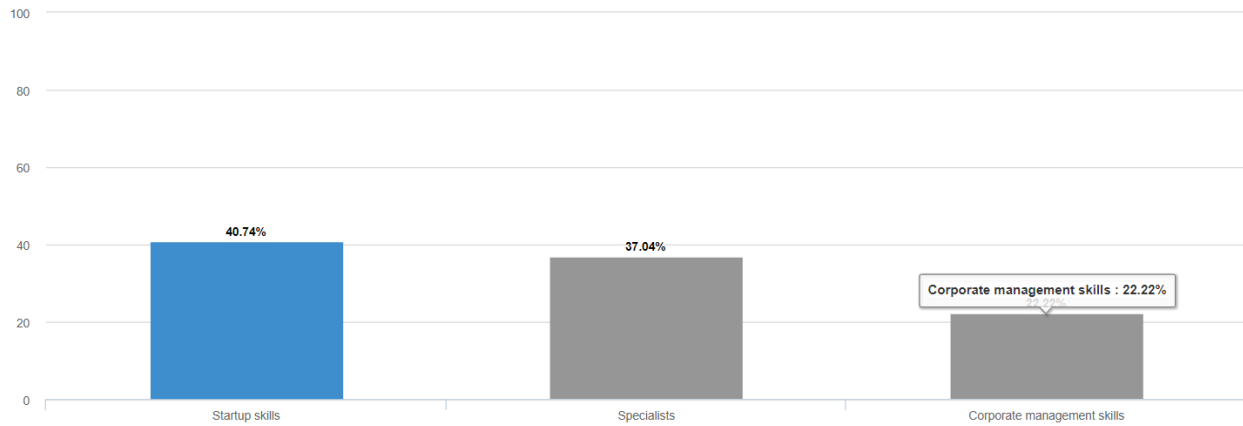
In terms of the formation of board committees, nine of the thirteen respondents (69%) that raised a first round of venture capital had formed committees of any sort within their board.

Figure 4.28: Board committees at Round 1
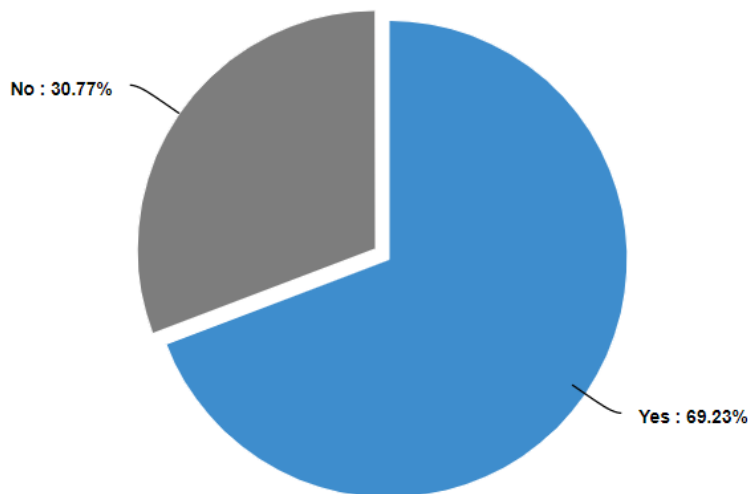
4.3.2.5 Board characteristics at Round 2

Of the respondents that had a board in place at the second round of funding, three out of eleven respondents (27%) indicated they had a board of less than three members at this round and eight (72%) had more than three but less than five.

Figure 4.29: Board size at Round 2
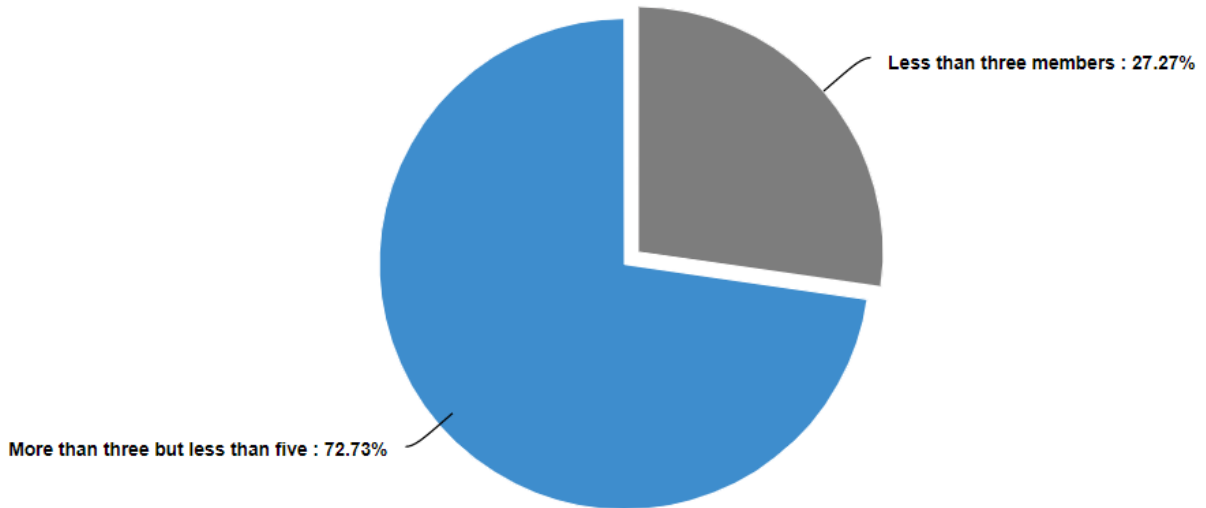
Source: Researcher (2022)

In terms of board composition, seven out of eleven respondents (64%) indicated they had independent board members in place. One of the eleven (9%) indicated their board comprised founders only, four of them (36%) had founders and non-investors as members, six of them (23%) had founders and investors on the board, and none non-investors in addition to founders and investors on the board.

Figure 4.30: Board composition at Round 2
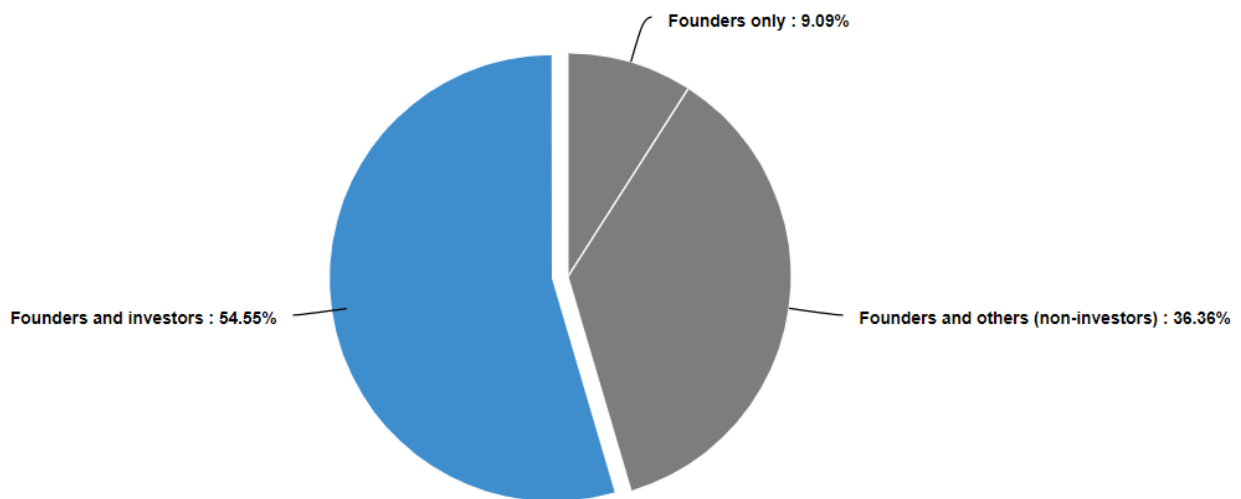
In terms of the skills available on the board, seven of the 11 respondents had board members with skills related to running a startup, four of them had members with specialized skills or subject-matter expertise and five had corporate management skills on the board at this round.

Figure 4.31: Board skills at Round 2
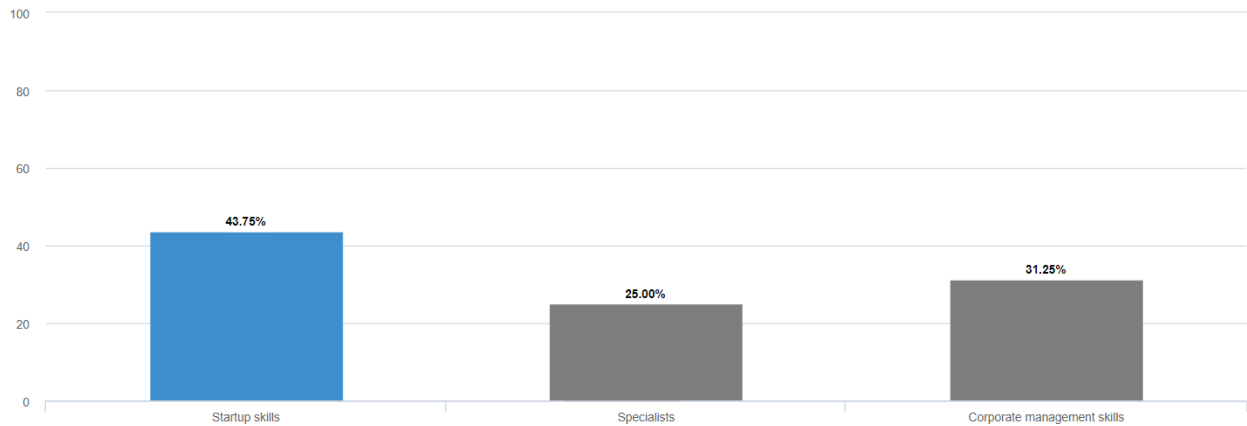
In terms of the formation of board committees, seven out of eleven respondents (63%) that raised a second round of venture capital had formed committees of any sort within their board.

Figure 4.32: Board committees at Round 2
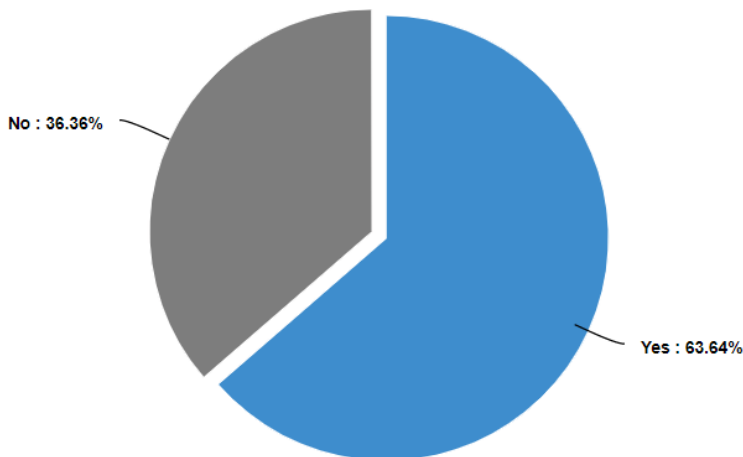
4.3.2.6 Board characteristics at Round 3

All the respondents that had raised a third round of venture capital (two of them) had a board of directors in place. One of these had a board of less than five members while the other had more than five but less than seven board members in their board. Both respondents had boards with founders and investors only as members. That is, both did not include non-investors in their boards at this stage. Only one of the two respondents indicated they had independent board members in place. In terms of skills, both respondents indicated they had startup management skills and corporate management skills in their board but only one had specialized or subject-matter expertise on their board. Finally, in terms of formation of board committees, only one of the two respondents indicated they had committees of any sort at this funding round.

Table 4.7: Number of board members by funding round

Round	Number of respondents	Number of board members								
		< 3	%	3 - 5	%	5 - 7	%	> 7	%	Total
1	13	5	38%	5	38%	3	23%	0	0%	13
2	11	3	27%	8	73%	0	0%	0	0%	11
3	2	0	0%	1	50%	1	50%	0	0%	2
No VC	6	2	33%	2	33%	2	33%	0	0%	6
Total respondents	**32**	**10**	**31%**	**16**	**50%**	**6**	**19%**	**0**	**0%**	**32**

Source: Researcher (2022)

Table 4.8: Board composition by funding round

Round	Number of respondents	Board composition								
		Founders only	%	Founders and others (non-investors)	%	Founders and investors	%	Founders, investors and others (non-investors)	%	Total
1	13	3	23%	5	38%	3	23%	2	15%	13
2	11	1	9%	4	36%	6	55%	0	0%	11
3	2	0	0%	0	0%	2	100%	0	0%	2
No VC	6	2	33%	1	17%	1	17%	2	33%	6

Total respondents	32	6	19%	10	31%	12	38%	4	13%	32

Source: Researcher (2022)

Table 4.9: Independent board members by funding round

Round	Number of respondents	Independent members				
		Yes	%	No	%	Total
1	13	12	92%	1	8%	13
2	11	7	64%	4	36%	11
3	2	1	50%	1	50%	2
No VC	6	4	67%	2	33%	6
Total respondents	**32**	**24**	75%	**8**	25%	**32**

Source: Researcher (2022)

Table 4.10: Board skills by funding round

Round	Number of respondents	Board skills					
		Startup management	%	Subject-matter expertise	%	Corporate management	%
1	13	11	85%	10	77%	6	46%
2	11	7	64%	4	36%	5	45%
3	2	2	100%	1	50%	2	100%
No VC	6	3	50%	3	50%	6	100%

Source: Researcher (2022)

Table 4.11: Board committees by funding round

Round	Number of respondents	Board committees				
		Yes	%	No	%	Total
1	13	9	69%	4	31%	13
2	11	7	64%	4	36%	11
3	2	1	50%	1	50%	2
No VC	6	1	17%	5	83%	6
Total respondents	**32**	**18**	56%	**14**	44%	**32**

Source: Researcher (2022)

4.3 Descriptive Statistics

The study investigated two concepts: the level of corporate governance as indicated by a governance score, computed from the assigned scores on several aspects of the startup's board (see section 3.9.1) and the valuation of the startup expressed as a multiple (see section 3.9.2). The following sections provide the descriptive statistics with regard to these concepts.

4.3.1 Governance scores

Each response was scored on the level of corporate governance as described in the data analysis section above. The tables below summarize the descriptive statistics of the data set including the median, mean, variance, standard deviation, skewness and kurtosis. The statistics are given regarding all the responses, those from non-VC-funded respondents, and those from VC-funded respondents. In total, 59 respondents gave information concerning their board characteristics, 21 of which were non-VC funded and 38 of which were VC-funded and gave their board characteristics at their respective funding rounds.

Key:

- **BOD Score:** existence of a board
- **BOD Size Score:** Number of board members
- **BOD Composition Score:** types of members on the board – founders, investors, non-investors
- **Independents Score:** existence of an independent board member
- **BOD Skills Score:** Variety of skills on the board – startup management, specialist skills, corporate management skills.
- **Advisory Board Score:** whether the startup had an advisory board in addition to the BOD
- **Total Score:** Summation of the individual scores above

Table 4.12: Governance score descriptive statistics – VC and non-VC

	BOD Score	BOD Size Score	BOD Composition Score	Independents Score	BOD Skills Score	Advisory Board Score	Total Score
N	**59**	**59**	**59**	**59**	**59**	**59**	**59**
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Median	1.00	1.00	1.00	0.00	1.00	1.00	6.00
Max.	1.00	3.00	3.00	1.00	3.00	1.00	11.00
Mean	0.53	1.02	1.05	0.41	1.02	0.51	4.83
Variance	0.25	1.15	1.12	0.25	1.26	0.25	19.80
St. Dev	0.50	1.07	1.06	0.50	1.12	0.50	4.45
Skewness	-0.10	0.48	0.26	0.39	0.65	-0.03	0.07
Kurtosis	-2.06	-1.20	-1.50	-1.91	-1.02	-2.07	-1.81

Source: Researcher (2022)

Table 4.13: Governance score descriptive statistics – non-VC

	BOD Score	BOD Size Score	BO Composition Score	Independents Score	BOD Skills Score	Advisory Board Score	Total Score
N	**21**	**21**	**21**	**21**	**21**	**21**	**21**
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Median	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Max.	1.00	3.00	3.00	1.00	3.00	1.00	11.00
Mean	0.29	0.57	0.57	0.19	0.57	0.48	2.71
Variance	0.21	1.06	1.06	0.16	1.06	0.26	16.61
St. Dev.	0.46	1.03	1.03	0.40	1.03	0.51	4.08
Skewness	1.02	1.62	1.62	1.70	1.62	0.10	1.24
Kurtosis	-1.06	1.30	1.30	0.98	1.30	-2.21	-0.26

Source: Researcher (2022)

Table 4.14: Governance score descriptive statistics – VC

	BOD Score	BOD Size Score	BOD Composition Score	Independents Score	BOD Skills Score	Advisory Board Score	Total Score
N	**38**	**38**	**38**	**38**	**38**	**38**	**38**
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Median	1.00	1.00	2.00	1.00	1.00	1.00	8.00
Max.	1.00	3.00	3.00	1.00	3.00	1.00	11.00
Mean	0.66	1.26	1.32	0.53	1.26	0.53	6.00
Variance	0.23	1.06	0.98	0.26	1.23	0.26	18.11
St. Dev	0.48	1.03	0.99	0.51	1.11	0.51	4.26
Skewness	-0.69	0.06	-0.34	-0.11	0.33	-0.11	-0.46

Kurtosis	-1.61	-1.26	-1.38	-2.10	-1.22	-2.10	-1.50

Source: Researcher (2022)

Table: 4.15: Mean governance score

	BOD Score	BOD Size Score	BOD Composition Score	Independents Score	BOD Skills Score	Advisory Board Score	Total Score
All	0.53	1.02	1.05	0.41	1.02	0.51	4.83
Non-VC	0.29	0.57	0.57	0.19	0.57	0.48	2.71
VC	0.66	1.26	1.32	0.53	1.26	0.53	6.00
VC/Non-VC	2.30	2.21	2.30	2.76	2.21	1.11	2.21

Table: 4.16: Governance score – standard deviations

	BOD Score	BOD Size Score	BOD Composition Score	Independents Score	BOD Skills Score	Advisory Board Score	Total Score
All	0.50	1.07	1.06	0.50	1.12	0.50	4.45
Non-VC	0.46	1.03	1.03	0.40	1.03	0.51	4.08
VC	0.48	1.03	0.99	0.51	1.11	0.51	4.26
VC/Non-VC	1.04	1.00	0.96	1.26	1.08	0.99	1.04

As seen from table 4.15 above, VC-funded respondents had a higher mean governance score (6.0) implying that VC-backed startups were better governed on average, which had an average governance score of (2.71). The mean governance score among all startups, that is VC and non-VC-funded, was 4.83. This implies that, given that the maximum possible total governance score was 13, VC-funded startups were averagely well governed while the level of governance in non-VC-funded startups was well below average and, taken together, their governance was below average. VC funded startups scored higher on all the individual scores and were roughly twice as likely to have a board, twice as likely to have a larger board size, twice as likely have a more diverse board in terms of the types of members on the board (founder, investors and non-investors), almost three times as likely to have independent board members, twice as likely to have a more diverse board in terms of available skills and just as likely to have an advisory board as their non-VC-funded counterparts. The variance in all the scores was roughly the same.

4.3.2 Valuation multiples

The main aim of the study was to investigate the relationship between corporate governance and valuation of technology startups in Africa. However, from the 37 respondents that indicated they had raised venture capital in their history and that went on to provide information regarding their funding rounds, only two gave a valuation multiple of more than one (1) at a successive funding round, indicating an appreciation in the value of the startup between the two rounds. Of these, one indicated their valuation went up three times between the first and second round and the other indicated a valuation increase of eight times between the second and third round.

Table 4.17: Valuation multiples

| Response_ID | Round 1 | | Round 2 | | Round 3 | |
	Valued	Base Val. Multiple	Valued	Val. Multiple	Valued	Val. Multiple
99709461	Yes	1	No	NA	NA	NA
99713500	No	1	NA	NA	NA	NA
99772243	Yes	1	NA	NA	NA	NA
100009597	No	1	NA	NA	NA	NA
100016497	No	1	No	NA	NA	NA
100020049	NA	1	NA	NA	NA	NA
100037848	No	1	NA	NA	NA	NA
100081858	Yes	1	NA	NA	NA	NA
100082187	Yes	1	NA	NA	NA	NA
100082205	Yes	1	NA	NA	NA	NA
100082227	Yes	1	Yes	1	NA	NA
100082347	Yes	1	Yes	1	NA	NA
100082350	Yes	1	Yes	1	NA	NA
100082352	Yes	1	Yes	1	NA	NA
100082355	Yes	1	Yes	1	NA	NA
100082356	Yes	1	Yes	1	NA	NA
100082512	No	1	No	NA	NA	NA
100084180	No	1	Yes	NA	NA	NA
100085838	Yes	1	Yes	3	Yes	8
100086042	Yes	1	Yes	1	Yes	1
100087782	NA	1	NA	NA	NA	NA
100089586	Yes	1	NA	NA	NA	NA

100098832	Yes	1		NA	NA	NA	NA

Source: Researcher (2022)

One possibility is that, as is widely held in the industry and as indicated in the introductory and literature review sections, most startup founders would be hesitant to divulge valuation information. On the other hand, respondents may have been more willing to divulge information on their governance as far as board structure and so on. Consequently, respondents may have simply entered the easiest entry for the valuation multiple, that is 1, in order to move on with the survey. Future research could consider how to best go around this, for instance by administering the survey in person, or framing the question on valuation differently such as by having the respondent select from a set of categorized ranges of valuation multiple, that is say between 1 – 1.2X, 1.3 – 1.5X and so on. This approach may be backed up by the fact that respondents were willing to answer the question on their revenue stage at the point of raising a round of capital. Revenue information is another aspect that most founders would be unwilling to divulge but, in this case, it may be that the presentation of the revenue as a category of ranges as opposed to a specific dollar revenue amount more acceptable. Another possibility could be that the framing of the question on valuation was too complicated for most of the respondents. This was the most complex question in the survey as it required the founders to calculate the valuation multiple based on historical information and enter it. This may also have turned off respondents.

4.3 Correlation analysis

To undertake correlation analysis, the data set was first split into three sets: one comprising the full data set of non-VC-funded and VC-backed startups, the second comprising the non-VC-funded startups and the third comprising those that had raised at least one round of VC. For each data set, as relevant, one set of correlation analysis was undertaken considering the startup category, age, whether they had raised capital (in the case of the full dataset) and their total governance score. Next, the governance score was correlated to the funding round, whether it was a priced round, the amount raised at the round, and the stage of revenue growth the startup was in at the round. The results are as follows.

Considering the combined data set and testing the correlation between the category, age, if VC funded and the governance score, it was found that there was, more or less, no correlation between

the startup category and the governance score as well as between the age the score. On the other hand there appeared to be a weak positive correlation between the funding status (whether the startup had raised VC in its history) and its level of corporate governance.

Table 4.18: Full data set - Correlation of category, age, funding status and governance score

	Category	Age	Raised VC	Score
Category	1.00			
Age	0.08	1.00		
Raised VC	-0.17	-0.27	1.00	
Score	-0.03	0.07	0.26	1.00

Source: Researcher (2022)

The same analysis undertaken on the dataset comprising the non-VC backed startups resulted in the following: the category was found to be non-correlated to the governance score, on the other hand the startup age was found to have a moderately positive correlation with the level of governance.

Table 4.19: Non-VC - Correlation of category, age, funding status and governance score

	Category	Age	Score
Category	1.00		
Age	-0.17	1.00	
Score	0.03	0.58	1.00

Source: Researcher (2022)

Considering the VC-funded data set, there was again no correlation between the startup category and governance. On the other hand, there was a slightly negative correlation between the startup's age and the governance score.

Table 4.20: VC-funded - Correlation of category, age, funding status and governance score

	Category	Age	Score
Category	1.00		
Age	0.39	1.00	
Score	0.00	-0.24	1.00

Source: Researcher (2022)

Looking at the correlation between the governance score and funding round, whether there was a valuation in that round (pricing) the valuation multiple at that round, the amount of capital raised

and the level of revenue generation of the startup at that round it was found that all these attributes were positively related to the level of governance to different extents. The most positively correlated is the amount of capital being raised in the round, followed by the level of revenue generation, whether the round was priced or not, the round itself (first, second or third round) and least of all the valuation multiple. As previously noted however, the dataset is deemed to have not well captured the valuation multiple for the various reasons described (see section 4.2.4 above). Therefore, it is likely that the weakly positive correlation here is misrepresentative.

Table 4.21: Correlation by funding round and related attributes

	Round	**Round Priced**	**Valuation Multiple**	**Amount**	**Revenue**	**Total Score**
Round	1.00					
Round Priced	0.11	1.00				
Valuation Multiple	0.53	0.11	1.00			
Amount	0.39	0.31	0.24	1.00		
Revenue	0.18	0.34	0.10	0.63	1.00	
Total Score	**0.31**	**0.39**	**0.13**	**0.62**	**0.50**	1.00

Source: Researcher (2022)

4.4 Analysis of Variance (ANOVA)

While the research design proposed ANOVA as a possible way to analyze the level of startup governance at different funding rounds/stages, the data set from this study was insufficient for this purpose. However, a one-way ANOVA based on whether the startup had raised VC or not was attempted. The results were as follows:

Table 4.22: One-way ANOVA VC vs. non-VC startups

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
NoVC	21	57	2.71	16.61
VC	38	228	6	18.11

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	146.0194	1	146.019	**8.304**	**0.006**	4.010
Within Groups	1002.286	57	17.584			
Total	1148.305	58				

We can conclude from the above that whether a startup has raised VC has a strong bearing on their level of corporate governance (F = 8.3, p-value = 0.006 is statistically significant at the 95% confidence level).

4.5 Regression analysis

Based on the available dataset, as indicated in section 4.2.4, it was not practical in this study to undertake regression analysis as originally intended and laid out in the data analysis section.

4.6 Discussion of the Results

The following section places the findings of the study within the theoretical and empirical context, that is how the findings relate to the theories underpinning the study and how they relate to the findings from previous studies.

4.6.1 Linkage to Theory

It was evident from the results that the contingency theory (Mintzberg, 1989) holds with regards to the corporate governance of startups in Africa. The startups were found to have varying degrees of governance, at least as far as the existence of a board and its characteristics, depending on their age, whether they had raised VC in their history and the amount of capital raised, the level of revenue generation and depending on whether it was a priced round or not. From the ANOVA, it emerged that whether a startup has raised VC has a strong bearing on their level of corporate governance (p-value: 0.006). VC-funded startups were averagely well governed while the level of

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governance in non-VC-funded startups was well below average and, taken together, startup governance was below average.

It was found that the level of corporate governance was not correlated with the startup's category. Furthermore, moderately positive correlation (correlation coefficient: 0.58) between age and level of governance among non-VC funded startups while there was a weak, negative correlation (coefficient of -0.24) between the two variables among the VC-backed startups. The most positively correlated is the amount of capital being raised in the round (0.62), followed by the level of revenue generation (0.50), whether the round was priced or not (0.39), the round itself, that is first, second or third round, (0.31) and least of all the valuation multiple (0.13).

Since the data set was not sufficient to undertake meaningful regression analysis to establish the association between the variables, the study could not establish quantitatively whether the Resource Dependency Theory (Pfeffer & Salancik, 1978) holds with regards to startup boards influence on the ability of startups to raise VC. What the study could however establish is that VC-funded startups were better governed, the direction of the relationship between these two aspects is an area of further research.

4.6.2 Linkage to Empirical Studies

The study sought to establish the linkage between corporate governance and valuation among venture capital funded technology startups in Africa. The review of previous literature indicated that this is an area that has received relatively little academic interest globally. Much of the work on startups in general has concentrated on the western startup ecosystems, most notably, in the United States and, in recent times, to some extent in the European context and to a lesser extent the Asian context. The African context is the least researched. This study therefore sought to break ground in Africa in this topic.

The outcome of the study confirms that there is a linkage between VC funding and corporate governance of technology startups with VC-funded startups being better governed. This generally corresponds with the findings of Venugopal and Yerramilli (2019) and Li, Zhou, Zhou, and Chen (2021). Furthermore, study confirmed that board dynamics evolve as startups mature, increase their revenue, and raise venture capital in increasing amounts. This is in keeping with Ewens and Malenko (2020).

As regards valuation, the study was limited by the data and therefore could not conclusively determine the relationship between governance and valuation, as did Kaplan (2021). However, given that Li, Zhou, Zhou, and Chen (2021) found that larger boards have a positive influence on startup performance and therefore possibly on firm value, and that this study found that VC-funded startups were found to have on average, larger and more diverse boards, it is likely that the same may apply in the context of this study. This needs further research to determine conclusively. Similarly, Venugopal and Yerramilli's (2019) finding that early-stage startups that appoint outside directors raise larger amounts in later stages and are more likely to attract VC funding may also find some application in this study since it was found that VC-funded startups were almost thrice as likely to have independent board members. Similarly, there is a likelihood that the findings by Ntim (2011), Munisi & Randøy (2013) and Outa and Waweru (2016), although looking at more mature firms may be applicable to the kinds of firms under investigation in this study. This again requires further research to establish fully.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings, noting the key outcomes from the data analysis undertaken as per the previous chapter. Based on this, a number of conclusions will be drawn in relation to the research question and study objectives, and consequently recommendations will be provided with regards to possible implications on policy and industry practice. The chapter also recognizes the limitations of the study and provides suggestions for further research.

5.2 Summary of the Study

The research question behind this study was stated thus: Does the level of corporate governance practice among venture-funded technology startups in Africa influence how they are valued by venture capital investors? Consequently, the research objective was to investigate the influence of corporate governance on the valuation of venture-funded technology startups in Africa. The study sought to use a correlational research design to answer this question and meet the stated objective. Data was collected via an online survey which received a total of 67 attempted responses, 36 of which were completed fully and 31 partially.

VC-funded respondents had a higher mean governance score implying that VC-backed startups were better governed on average. They also on scored higher on individual mean scores. That said, VC-funded startups were averagely well governed while the level of governance in non-VC-funded startups was well below average and, taken together, startup governance was below average. The data also insight as far as how the level of startup governance relates to different types or categories of startups, the age of the startup, their ability to raise venture capital, the level of governance at different funding rounds, the amount of funding provided and the stage of revenue generation at the time of the funding round. From the ANOVA, it emerged that whether a startup has raised VC has a strong bearing on their level of corporate governance (p-value: 0.006). However, whereas there was found to be a weak positive correlation between CG and valuation multiple (correlation coefficient of 0.13), the data did not provide sufficient basis to meet the main objective of the study, that is, specifically, in relation to startup valuation. As recognized from the

outset, it was expected that this was going to be a challenging aspect to obtain data on or to measure. The study used an indirect approach in a bid to increase the chances of startup participation in the survey in this regard. This was done by having the respondents enter a valuation multiple instead of the actual valuation. Based, on the resulting dataset, however, it was found that this may have still been too onerous on respondents and may have dis-incentivized some from completing the survey (refer to section 4.2.4).

That said, the correlation analysis undertaken provided insight into the governance of startups in Africa in relation to the other aspects mentioned above. Based on this data set, it was found that the level of corporate governance was not correlated with the startup's category. In other words, the level of corporate governance among startups in Africa does not vary based on the nature of the startup as a pure technology startup, a technology-enabled startup or a non-tech startup. Looking at startup age, it was interesting to find moderately positive correlation (correlation coefficient: 0.58) between age and level of governance among non-VC funded startups while there was a weak, negative correlation (coefficient of -0.24) between the two variables among the VC-backed startups.

Looking at the correlation of the level of governance as indicated by the governance score at various funding rounds, it was found that all these attributes were positively related to the level of governance to different extents. The most positively correlated is the amount of capital being raised in the round (0.62), followed by the level of revenue generation (0.50), whether the round was priced or not (0.39), the round itself, that is first, second or third round, (0.31) and least of all the valuation multiple (0.13).

5.3 Conclusion of the Study

Based on the preceding, we can conclude that VC-funded technology startups tend to be better governed in most respects than non-VC-funded ones. We can also conclude that startups in Africa have varying degrees of corporate governance as they mature. The finding that there is a positive correlation between age and the level of governance among non-VC funded startups, that is that they increased their corporate governance as the matured, while the reverse was found to be true among startups that had raised venture capital in their history. This is at odds with the fact that there was a positive correlation between the governance score and the rounds of funding a startup

had - the more the rounds, the higher the level of governance – given that startups raise additional rounds as they age. The seeming contradiction may be a result of the limited data set in terms of startups that had gone through multiple rounds of funding. Majority had raised a single round, a few went on to a second round and only two had a third round. This requires further investigation

The fact that the amount of capital being raised in a funding round emerged as the most positively correlated to the level of governance indicates that there may be a higher requirement for good governance by investors on startups the higher the amount they raise. This could be attributed to a need for greater oversight with more financial resources coming into the company. This may also indicate the possibility that despite the data showing weakly negative correlation between the age of VC-backed startups and governance level, the reality may be the inverse, as was the case among the non-VC funded startups, since startups generally raise more rounds at later stages. On the other hand, it is likely that the startups in this dataset that raised multiple levels of funding did so within a short span of time between funding rounds. Since the age was categorized as below three years, three to eight years and over eight years, it is very possible that startups raised multiple rounds within the span of time in one category. A more granular categorization in future studies may help to clear this up.

The fact that higher stages of revenue generation correlated positively with the level of corporate governance may also be attributed to the need for stronger controls with more financial income, which could also be on the insistence of the startup board. Finally, while the data on the valuation multiple was not sufficient to draw a confident conclusion on the relationship between the valuation and the level of corporate governance, the fact that there was a moderately strong correlation between the pricing (undertaking of valuation) of startups in a round indicates that there could indeed be a link between the actual valuation and the level of CG, in other words, VCs may require more governance from startups in priced rounds versus unpriced ones.

5.4 Implications of the Study

Several implications arise out of the findings of the study with regards to venture capital theory and practice as far as the corporate governance of venture-funded technology startups as well as possible policy implications.

5.4.1 Implications to Theory

From an academic perspective, this study presents a starting point for further investigation specifically into the corporate governance of technology startups in Africa, and contributes to the existing, limited, body of knowledge on the management of startups in relation to how they scale. The study managed to establish the existence of a relationship between whether a startup was VC-funded and the level of governance. VC-funded startups were found to be, on average, better governed than their non-VC founded counterparts. However, the VC-funded startups were only averagely well governed. However, the study was inconclusive specifically as regards governance and valuation, this is in keeping with the findings of Kaplan (2021) who addressed the governance of organizations of a similar nature. That said, the study also resulted in a proposed way to better measure the aspect of valuation in future studies.

5.4.2 Implications to Practice and Industry

The study findings that VC-funded startups were on average better governed than their non-VC-funded counterparts implies that venture capitalists have some sway on the corporate governance of startups in Africa. It is however notable, that the level of influence is only moderately strong, primarily indicated by the relatively weak to moderate correlation between the level of CG and the pricing (valuation undertaken) and amount of funding. There is therefore room for VCs to impress more on startups to strengthen their governance practices. Startups can also note that growth, at least in terms of revenue growth, comes with a need for better governance. They can therefore prepare for this by instituting appropriate governance measures earlier on in their lifecycle as this might enhance their growth prospects or make them more capable to handle growth.

5.4.3 Implications to Policy

The study, as designed, and the results have minimal direct implications on policy formulation. However, it perhaps can be ventured that, given the positive correlation between the revenue stage of startups and their governance, regulators may consider emphasizing better governance among startups as they mature. This may forestall the potential of crises related to governance lapses, particularly regarding finances, among larger startups that may result is mass layoffs or other negative consequences at an industrial or economic scale.

5.5 Limitations of the Study

One of the main limitations of this study was the scope that was attempted. The study targeted startups across all of Africa. The survey got responses primarily from Kenya, the country the researcher is based in, and few responses from the other major startup hubs in Africa, that is Nigeria, South Africa and Egypt, which, together with Kenya attract the lions-share of venture capital into the continent. In concert with the limitation on time and the incapacity of the researcher to survey the respondents in person (due to scope), the study ended up only scratching the surface in terms of the number of responses obtained. However, there is potential to continue the study hereafter to update the findings. The same study can also be replicated in more limited scope to investigate localized experiences of startups with regard to their funding and corporate governance. Alternatively, a team of researchers from different countries in Africa collaborating on a study such as this could bear more fruit as there might be more chances of success with locally based researchers surveying their country startup ecosystems, leveraging their networks to reach startups. It may also be that respondents will be more trusting of a locally based researcher that is known to them or to the ecosystem. This might indeed be the case because trust-worthy relationships are highly prized in startup ecosystems and indeed VCs heavily rely on direct referrals to find investment prospects and are more likely to invest through referral. This is commonly referred to as "social capital" in startup circles (Bandera & Thomas, 2019).

The design of the specific question regarding the valuation multiple also emerged as a major limitation of the study. As earlier indicated, it may be that the calculation of the multiple was too onerous on respondents and they chose to forego it, or they were shy to provide the information despite it not being a requirement to provide a specific valuation. In future studies, this can be mitigated by having respondents select for a range of valuation multiples or actual valuations as opposed to having them calculate or enter an actual figure. This is backed-up by the fact that respondents in this study seemed more likely to answer questions presented as categories or ranges, such as with the questions on the amount of capital raised and revenue stage.

5.6 Areas Suggested for Further Research

The limitations on this study discussed in the preceding section resulted in a limited data set and the inability to undertake the anticipated depth of analysis that could provide insight into the nature

of the corporate governance of startups in Africa with a high degree of certainty. Therefore, a first step could be to attempt the study, taking into consideration the observations highlighted in the preceding section, namely, limiting the scope to individual country/startup ecosystems, taking a collaborative approach among researchers based in several ecosystems, adjusting the research instrument particularly the presentation of the question on valuation, and providing for more time to collect the data.

In addition, while the specific objective of this study was to do with valuation specifically, it was evident that other aspects of startups such as their age, and other aspects regarding their funding such as the amount of funding and the stage of revenue of the startup at a given round of funding were significantly correlated to the level of CG among startups. Further studies could also look more keenly into these specific aspects and how they influence CG.

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APPENDICES

Appendix I: Data Collection Letter of Introduction

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Our Ref: **D66/77565/2015**   December 5, 2022

National Commission for Science, Technology and Innovation
NACOSTI Headquarters
Upper Kabete, Off Waiyaki Way
P. O. Box 30623- 00100
NAIROBI

RE: INTRODUCTION LETTER: WILFRED MUTUA MWORIA

The above named is a registered Master of Science in Entrepreneurship and Innovation Management Student at the Faculty of Business and Management Sciences, University of Nairobi. He is conducting research on **Corporate Governance and valuation OF Venture-Funded Technology Start-ups in Africa".**

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the Project.

The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.

Philip Mukola (Mr.)
For: Associate Dean, GBS & R
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PM/fmi

Appendix II: Survey Questionnaire

1. What country is your startup based/base country of operations? (optional)

2. How old is your startup? Select one option:

- Less than 3 years
- 3 – 8 years
- Over 8 years

2. Have you raised any venture capital round(s) so far? Yes/No

3. How many rounds of venture capital have you raised so far? (Number)

For each venture capital funding round:

4. Which year did you raise the round?

5. How much did you raise in the round? Select one option:

- Less than USD 499,999
- USD 500,000 – USD 4,999,999
- USD 5,000,000 – USD 14,999,999
- Over USD 15,000,000

6. Was this a priced round (i.e., was a valuation done)? Yes/No

7. At what level of revenue generation were you at the point you raised this round? Select one option:

- Pre-revenue
- Early revenue
- Modest but growing revenue
- Breakeven or beyond

8. How many times had your valuation increased between the previous round and this one?

*If this was your **first round**, enter **1**.*

*If this was **a subsequent, priced round to a previous, unpriced round, and the startup has not been valued/priced at an earlier round**, enter **1**. ([Priced vs unpriced rounds](#)).*

*If this was **a subsequent, priced round to a previous, unpriced round, and the startup had been valued/priced at an earlier round, use the valuation at the last priced round to calculate the valuation multiple, e.g.,** if the first round valued the startup at $1,000,000, then you raised a subsequent un-priced round, after which this round was raised at a valuation of $2,300,000, the valuation multiple is $2,300,000/$1,000,000 = 2.5.*

*If this was **a subsequent, priced round to a previous, priced round, enter the current round valuation divided by the previous round valuation e.g.,** if the previous round the startup was valued at $1,000,000 and the valuation at this round was $1,500,000, the valuation multiple is $1,500,000 / $1,000,000 = 1.5.*

Use valuations in the same currency.

9. Did you have an advisory board at the point of this funding round? Yes/No

10. Did you have a formal board of directors at the point of this funding round? Yes/No

If Yes:

11. What was the size of your board at the time of this funding round? Select one option:

- Less than 3 members
- More than 3 but less than 5
- More than 5 but less than 7
- More than 7 members

12. What was the composition of your board at the time of this funding round? Select one option:

- Founders only
- Founders and others (non-investors)
- Founders and investors

- Founders, investors and others (non-investors)

13. Did you have an independent director(s) on your board at the time of this funding round? Yes/No

14. What sort of skills did you have on your board at the time of this funding round? Select all that apply:

- Running a startup, agile and lean design and development and similar skills
- Specialist/subject-matter expertise e.g. AI, blockchain
- Corporate management, governance, risk management

15. Had you organized your board into committees at the time of this funding round? Yes/No

If Yes:

16. Did you have an audit committee in place? Yes/No

17. Did you have a compensation committee in place? Yes/No

18. Did you have a nominating committee in place? Yes/No

Appendix III: Work Plan

Step	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Research Proposal	�	▒	▒	▒		
Data Collection					▒	
Data Analysis					▒	▒
Report Writing						▒

Appendix IV: Financial Budget

Item	Amount
QuestionPro online survey software subscription	KES 50,000
Survey distribution (LinkedIn paid advertising)	KES 20,000
Typing, editing and printing	KES 10,000
Other costs	KES 10,000
Total	**KES 90,000**

Appendix V: Turnitin Report