

**CEO MACHIAVELLIANISM AND FIRM PERFORMANCE: THE  
MODERATING ROLE OF MANAGERIAL DISCRETION**

by © Klevi Sula

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## **Abstract**

This study builds on the upper echelons theory to investigate the effect of CEO Machiavellianism on firm performance. I hypothesize a negative relationship between CEO Machiavellianism and firm performance. Furthermore, I hypothesize that managerial discretion will moderate this relationship such that the negative effect of CEO Machiavellianism on firm performance will be more substantial when managerial discretion is high. I found support for these hypotheses using a sample of 97 CEOs from Standard and Poor's 500 companies and utilizing a video-based measurement technique for CEO Machiavellianism. Finally, I discuss the implications and limitations of the study.

*Keywords:* CEO Machiavellianism, upper echelons, managerial discretion, firm performance

## **General Summary**

This study aims to investigate how CEOs who are manipulative, cynical, autocratic and status-hungry affect the performance of their firms. Based on previous studies on related topics, I predict that these CEOs will negatively impact the performance of their firms. Furthermore, I predict that this negative effect depends on how much choice and say CEOs have in their firms; the higher the former, the more negative their impact on firm performance. I find support for these predictions using a sample of CEOs managing the top 500 largest firms in the US.

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## **1. Introduction**

The chief executive officer (CEO) is the highest-ranked individual in a company and commonly its public face, responsible for making major corporate decisions, setting short and long term organizational goals and developing strategies to attain them and acting as the bridge between the board of directors, responsible for protecting the interests of shareholders, and company operations. In 1984, Hambrick and Mason (1984) wrote a foundational paper in what is now called the Upper Echelons area of management, proposing that CEOs' characteristics play an essential role in determining what decisions will be made in the organization and consequentially, they also impact the performance of the organization. Since then, a plethora of researchers has studied how these characteristics affect firm outcomes. To mention a few, Serfling (2014) found out that older CEOs invest less in research and development, manage firms with more diversified operations, make more diversifying acquisitions, and maintain lower operating leverage. Ng and Feldman (2009) found that education is positively related to task performance, creativity, and citizenship behaviours. Simsek (2007) found that CEO tenure is positively related to top managerial team risk-taking and consequently entrepreneurial initiatives and firm performance.

Besides demographics, one specific individual-level factor that has received growing attention is the role of personality traits—relatively stable characteristics that predict a person's behaviour (Cattell et al., 1970). For example, Judge et al. (2002) found that extraversion is positively related to leadership effectiveness and that it is the most important trait measured by the Big Five model for leaders to have. Judge et al. (2002) found out that neuroticism is negatively related to performance, and Waldman et al. (2004) concluded that leaders high in charisma positively influence organizational performance.

However, very little attention is paid to one of the most prominent qualities seen in some CEOs: Machiavellianism (Nsehe, 2011). Machiavellianism as a personality trait was first introduced in the psychology literature by Christie and Geis (1970). They explained that this trait is not a clinical disorder, but rather it is present in every individual to a certain degree since every individual is capable of manipulation under certain circumstances. Those who rank high in this trait display characteristics such as a willingness to use manipulation, opportunism, distrust, indifference and a lack of concern for others. Since these are all considered negative social characteristics, it is not surprising that researchers have empirically linked Machiavellianism to motivation to commit fraud (Harrison et al., 2018), selfishness (Gunnthorsdottir et al., 2002), negative citizenship behaviour towards the organization and other individuals working in it (Becker & Dan O'Hair, 2007) and unethical decision making in organizations (Kish-Gephart et al., 2010). On the other hand, positive relationships between Machiavellianism and desirable outcomes have also been found. For example, Simonton (1986) found that presidents high in Machiavellianism tended to serve the most years in national elective offices and were also positively associated with the total number of legislative victories. Other researchers have found that Machiavellians are more likely to be chosen as leaders in task-oriented groups (Okane & Stinson, 1974), excel at forming political alliances and cultivating a charismatic image (Deluga, 2001) and adapt more flexibly to changing situations (Grams & Rogers, 1990).

However, the results are inconclusive when it comes to the relationship between Machiavellianism and job performance. Researchers have identified positive effects (Gable et al., 1992; Aziz et al., 2002), negative effects (Forsyth et al., 2012) and no effects (Hollon, 1983; Dahling et al., 2009). In a meta-analysis of 186 articles containing 245 separate samples, Forsyth et al. (2012) found a small but negative relationship between Machiavellianism and job

performance. However, the effect size of this relationship was very small, and the 80% credibility interval included zero, suggesting that this negative relationship is not consistent across subpopulations (specific groups of individuals within the population sharing common characteristics) and that moderators should be included in analyses to get a better understanding.

The abovementioned studies offer limited generalizability as they were concerned with the performance of employees and supervisors responsible only for a small part of companies' operations and who mainly use their technical abilities to perform their jobs. On the other hand, CEOs differ from the regular employees as they have a totally different role in their firms. They are responsible for looking at the big picture, using strategic and leadership skills, developing and supervising their companies' strategies and creating and maintaining relationships with powerful individuals. Directly studying CEO Machiavellianism contributes to the literature by developing a greater understanding on how Machiavellianism impacts this important but so far neglected subpopulation.

Moreover, the abovementioned studies are concerned with the performance of Machiavellian individuals, while this study analyzes the performance of the firms. Firm performance is very important to shareholders, who have used their savings to buy fractions of companies with the goal of making profits. Firm performance is also important for other entities such as the government that collects tax revenue, banks that give loans and risk default if payments are not made, pension funds that invest employee contributions in the stock market to ensure enough money to cover their pensions after retirement in the future and so on. Finally, employees and job seekers are concerned as bad firm performance creates job shortages and they may end up working reduced hours or permanently laid off.

To my knowledge, there has been no research directly studying CEO Machiavellianism's impact on firm performance. This paper aims to address this gap in the literature by studying how CEO Machiavellianism impacts firm performance.

Furthermore, this paper predicts that managerial discretion, defined as the extent to which CEOs can alter organizational decisions and resulting organizational outcomes (Hambrick and Finkelstein 1987), will moderate the relationship between CEO Machiavellianism and firm performance. Adding managerial discretion as a moderating factor advances the literature by answering the call of Forsyth et al. (2012) for including moderators when analyzing the relationship between Machiavellianism and performance to improve explanatory power and better understand how these two constructs are related.

The remainder of this paper is structured as follows: In Section 2, I discuss the literature and develop the hypotheses. In section 3, I describe how the sample and all the variables used in the models were obtained and calculated. In section 4, I describe the estimation method, while in section 5, I present the results of the models. Finally, I discuss in section 6 the study's findings, implications, and limitations.

## **2. Literature Review and Hypothesis Development**

The CEO is the highest-ranked individual in a company, responsible for a variety of high-level duties, including creating, planning and implementing new and long-term business strategies, managing the company's assets and liabilities, serving as the public face of the company and providing strategic input and leadership on decision-making issues affecting the organization, especially when it comes to high-level projects such as mergers and acquisitions. Despite these numerous essential duties, previous organizational theories based on economic efficiency and optimization once neglected the impact CEOs have on outcomes such as firm performance, focusing instead on internal and external events and how they force organizations to respond.

In 1984, Hambrick and Mason (1984) challenged this view by reasoning that CEOs are the ones making the big strategic decisions, and this decision-making process is largely impacted by behavioural factors which limit the degree to which decisions are made rationally in response to events to achieve the best economic outcome (Cyert & March, 1963). Rather than being overloaded with practically unlimited information coming from the never-ending events, the authors suggest that CEOs use their cognitive bases and values to help them filter and interpret these events in a quicker and less mentally straining way. Thus, Hambrick and Mason (1984) proposed that both CEOs' characteristics and internal and external events play an essential role in determining what decisions will be made in the organization. Their theory has attracted much interest and served as a starting point and a foundation for examining how CEOs' characteristics and psychological factors shape their perceptions, choices, and actions and thereby, organizational outcomes (Neely Jr et al., 2020).

## **2.1. CEO characteristics and firm outcomes**

Since the theory's inception, plenty of studies have shown how various easily observable characteristics affect firm outcomes. Most of them examine the impact of CEO tenure and other variables such as age and education on firm outcomes, including performance, profitability, growth, divestiture, and strategic change, usually mediated or moderated by industry and firm factors and occasionally by CEO or top management team (TMT) factors such as commitment to status quo (Bromiley & Rau, 2016). For example, in their paper to review and synthesize the literature on CEO tenure, Darouichi et al. (2021) conclude that longer-tenured CEOs have greater power in the companies they run, and their power increases the longer they stay in office. This growing power allows CEOs to better control their firms' resources, better enforce decisions that are favourable to them, and exert influence over governance bodies. Tenure also helps CEOs build social capital, enabling them to influence their relationships with internal and external stakeholders, including other executives, employees, directors, and investors. Darouichi et al. (2021) also suggest that the increasing social capital of CEOs over their tenures allows them to influence the succession process and its outcomes.

Besides tenure, other studies have focused on other demographics and their impact on various firm processes and outcomes. To mention a few, Serfling (2014) found that older CEOs invest less in research and development, manage firms with more diversified operations, make more diversifying acquisitions, and maintain lower operating leverage. Lin et al. (2011) found that CEO education is positively associated with firms' R&D intensity. They argued that the more educated CEOs may have greater cognitive complexity, allowing them to better acquire and process complex information and make quicker decisions. Strohmeier et al. (2017) found that firms led by women exhibit less innovation breadth and depth overall than those led by men;

however, these differentials are non-existent within certain domains (specifically marketing or organizational innovations) and within certain types of industries (specifically for innovation depth within less-innovative contexts).

## **2.2. Personality traits**

Despite the importance of demographics in explaining how CEOs impact various firm outcomes, researchers have progressed to studying other, less obvious factors that still influence the way CEOs perceive situations, strategize about and decide over the actions their company will take. These factors are grouped under the umbrella of personality, a term used as an aggregate for a vast number of relatively stable characteristics that predict a person's behaviour (Cattell et al., 1970) and are commonly referred to as personality traits. Personality traits were not included in the initial upper echelons model partly due to the fact that research on them in the management and related fields was rare at the time and partly due to the difficulty of measuring and studying them. They cannot be observed the same way demographics such as age, gender and tenure can, and for this reason, they require other tools which at the time did not exist, existed but were not reliable or were ignored due to their recondite status. With the development and improvement of scales aimed at measuring personality traits, researchers started studying the impact these "hidden" factors have on a variety of firm outcomes.

In general, studies on CEO personality can be categorized as either focusing on major dimensions of personality such as the big five model of personality or focusing on more specific dimensions such as charisma. Regarding the former group, the big five model of personality is the most commonly used measure to assess different aspects of an individual's personality. The five factors captured by the model are extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness. To mention a few studies, Nadkarni and Herrmann (2010)

found that extraversion, emotional stability (the opposite of neuroticism), and openness to experiences improve firm performance by promoting strategic flexibility, whereas CEO conscientiousness undermines firm performance by hindering flexibility. Medium levels of agreeableness also maximize strategic flexibility and, by extension, firm performance. Regarding the latter group, studies indicate that charismatic CEOs are positively related to firm performance (Waldman et al., 2004; Boehm et al., 2015), narcissistic CEOs are positively related to the post-crisis performance of organizations but negatively related to the performance of organizations at crisis onset (Patel and Cooper, 2014) and overconfident CEOs have greater return volatility, invest more in innovation, obtain more patents and citations, and have innovative success for given R&D expenditures (Hirshleifer et al., 2012).

### **2.3. Machiavellianism**

However, very little attention is paid to one of the most prominent qualities seen in some CEOs: Machiavellianism (Nsehe, 2011). A big reason for this limitation in the current literature, as previously mentioned, stems from the fact that only recently personality traits started to be considered as potential avenues for further research into the impact of CEOs on their companies. This is made worse by the difficulties of measuring Machiavellianism as a trait and its correlation with other personality traits such as psychopathy and narcissism (Maples et al., 2014). Since these three traits have similar characteristics, such as egocentrism, maliciousness and the tendency to manipulate others for self-benefit, they were regarded as representing the same trait (Wilson et al., 1996). While admitting that there are differences between these three traits, other researchers argued that due to the high correlation between them, a composite of these three traits would be a better variable to study (Paulhus & Williams 2002).



Despite these obstacles, Machiavellianism remains a conceptually distinct construct from the other two dark traits (Birkás et al., 2016; Szabó & Bereczkei, 2017). To mention a few differences, Machiavellians differ in the strategy they use to cope with psychological distress, psychopathy and Machiavellianism are positively related to the propensity to lie while narcissism is not (Baughman et al., 2014), and Machiavellians are usually calm and collected while psychopaths are very impulsive and risk seekers (Jones & Paulhus, 2011). Aided by the development of psychometric validated instruments for measuring Machiavellianism such as the Mach IV developed by Christie and Geis (1970) and the MPS developed by Dahling et al. (2009), the effect that trait Machiavellianism on its own has on a variety of individual, team and organizational outcomes can confidently be studied.

The word “Machiavellianism” comes from the Italian Renaissance diplomat, philosopher and writer Niccolò Machiavelli, who dedicated his work named *The Prince* to Lorenzo de Medici, an Italian statesman whom Machiavelli supported. In his writings, he advises the leader to not only use peaceful and legitimate means of ruling but also to consider using force and manipulation when needed for the greater good. According to him, people are inherently not good, prone to betraying, lying, and seeking their own interests above that of others. For these reasons, a ruler who wants to gain and maintain his power should be practical and use force, lying, and deception when a situation requires. It must be noted that Machiavelli was not against virtues such as grace, loyalty, and sincerity. In fact, he encouraged the leader to show these virtues and act on them when suitable. However, acting only on virtues and in good faith has many pitfalls which can cause great harm to both the leader and the state; thus, the leader must know how to use other non-ethical tools to avoid these pitfalls and advance his position and that of the state.

### **2.3.1 Machiavellianism as a personality trait**

Christie and Geis (1970) were the first to talk about Machiavellianism as a personality trait in psychology literature. They explained that this trait is not a clinical disorder but rather a behaviour present in every individual to a certain degree since every individual is capable of deception under certain circumstances. According to them, Machiavellian individuals display the following qualities. First, they are manipulative and employ a range of tactics, from flattery to lying to threats, in order to deceive, mislead and profit from others (Sutton & Keogh, 2000). However, they are also careful in their actions, for they use their manipulative tactics only when they believe there is something important to gain from doing so, combined with a high probability of not getting caught in the process (Christie & Geis, 2013). Second, Machiavellian individuals are cynics. They do not trust others, assume they are lying in almost every situation and are driven by inner “evil” motives due to their self-interest and self-centeredness. They believe that this negative view of people is their real nature, and due to this, what people say or do cannot be taken at face value. This partly explains the deception that Machiavellian individuals engage in; they deceive others before others can deceive them (McIlwain, 2003). Third, they are characterized by a lack of empathy, making Machiavellian individuals less able to feel others’ pain or joy. This again strengthens their tendency to use and manipulate others; they cannot feel or understand the pain their manipulative activities are causing, so they do not feel any sort of negative emotions such as pity or regret that will prevent them from doing so, allowing Machiavellians to engage in these activities with even more intensity and ruthlessness.

### **2.3.2 Outcomes of Machiavellianism**

Individuals ranking high in Machiavellianism display characteristics such as willingness to use others as means to achieve their goals, disregard for social norms, opportunism, cynicism, low levels of empathy, lack of openness to others and egocentrism. All these characteristics are considered undesirable social characteristics, so it is not surprising that Machiavellianism is empirically linked to a plethora of negative actions and behaviours. For example, Nathanson (2008) found that Machiavellian individuals are more likely to seek revenge; however, the author notes that the perceived self-benefit resulting from revenge will better explain this relationship. In organizations, Harrell and Hartnagel (1976) found out that individuals high in Machiavellianism were more likely to steal than those lower in Machiavellianism. Furthermore, only those high in Machiavellianism would steal from supervisors that expressed trust in them. Machiavellians are more willing to violate the privacy of coworkers by reading their private communications as well as believe it is more acceptable to ignore the intellectual property and privacy rights of others (Winter et al., 2004). They are more willing to cheat (Greenbaum et al., 2017; Wirtz & Kum, 2004), sabotage (Giacalone & Knouse, 2019; McLeod & Genereux, 2008), abuse (Kiazad et al., 2010) and engage in unethical and counter-productive behaviours at work (Forsyth et al., 2012). They are also less satisfied at work and think more often about quitting their job (Jonason et al., 2015). All these studies measure different outcomes, but they all serve to show that Machiavellianism indeed has negative consequences for the people surrounding those high in Machiavellianism, for their workplace and for the Machiavellian individuals themselves.

On the other hand, positive relationships between Machiavellianism and desirable outcomes have also been found. For example, according to Simonton (1986), presidents with a high degree

of Machiavellianism tended to serve in national political positions for the longest time and were also positively related to the total number of legislative victories. They are also good at building political alliances and portraying a charismatic image (Deluga, 2001). Group members selected people ranking high in Machiavellianism significantly more often as informal group leaders when groups were newly created (Okane & Stinson, 1974), accepted their requests more often and generally showed greater support to Machiavellian managers (Anand et al., 2004). Machiavellians also tend to be more cognitively sharp in social situations, better at networking (Dahling et al., 2009), and generally more willing to participate in pro-organizational behaviours to obtain others' favour (Castille et al., 2018).

However, the results are far from clear when it comes to the relationship between Machiavellianism and job performance. On the one hand, Gable et al. (1992) found that Machiavellians perform more efficiently when their superior institutes a loose work environment for a job that allows for improvisation. Similar positive associations were also found by Aziz (2005), who found that sales performance was positively correlated to Machiavellianism and Fernández-del-Río et al. (2020). On the other hand, Hollon (1983) found no correlation between Machiavellianism and job performance on a sample of middle and lower managerial personnel. Dahling et al. (2009) found no relationship between Machiavellianism and contextual performance, even after performing additional exploratory analyses with their two more specific dimensions of contextual performance. To shed more light on this issue, (Forsyth et al., 2012) conducted a meta-analysis of Machiavellianism and job performance, including 186 articles containing 245 separate samples. Contrary to the findings from other researchers, they found a small but negative relationship between Machiavellianism and job performance. However, the effect size of this relationship was very small, and the 80% credibility interval included zero,

suggesting that this negative relationship is not consistent across subpopulations and that there may be other variables that affect this relationship.

## **2.4. Hypothesis development**

To make matters worse, these studies offer limited generalizability as they were concerned with the performance of employees and supervisors who are responsible only for a small part of companies' operations and use mostly their technical abilities to perform their jobs. On the other hand, CEOs are focused more on seeing the bigger picture in the organizations they manage and less on the companies' day-to-day operations. Their duties are far more strategic than operational, usually related to developing the companies' vision, strategic direction, setting long-term organizational objectives and planning the optimal way to achieve them. Their responsibilities also include building and maintaining relationships with other powerful individuals, maximizing their companies' stock price, maximizing the wealth of the shareholders and acting as the public face of their companies, duties that are outside the scope of regular employees, supervisors and other managers.

However, the current literature suggests that Machiavellian CEOs may face difficulties effectively performing the abovementioned duties. While Machiavellians may appear more charismatic and a better fit for leadership positions in the eyes of the general public or employees, this does not necessarily mean that the Machiavellian leader will actually make the best choices for the company, its employees, shareholders and stakeholders. The positive effect of their charm is also short-lived; people eventually realize the antisocial tendencies of Machiavellians and sever their relationships with them. For example, Okanes and Stinson (1974) showed that while high Machiavellians were indeed chosen as leaders of their groups at the beginning of a simulation study, they were not chosen at the end of it, suggesting that once group

members familiarize themselves with a Machiavellian, they become better at reading the true intentions that Machiavellians hide behind their charm. They are so obsessed with achieving their own goals and pushing their interests that they will use every method possible to achieve these outcomes, even if this means that their company has to suffer in the process. Past research supports this assumption; individuals high in Machiavellianism show higher career commitment but less organizational commitment than those low in Machiavellianism (Zettler et al., 2011). Instead of building a positive and cooperative work environment that has been shown to improve firm performance (Krekel et al., 2019), Machiavellian CEOs likely will give relatively little importance to teamwork and organizational harmony (McHoskey, 1999); instead, they will undermine their coworkers (Greenbaum et al., 2017), abuse them (Kiazad et al., 2010), manipulate them (Austin et al., 2007), hide knowledge from them (Liu, 2008) or selectively share it with members of their ingroup (Kiazad et al., 2010), bully (Pilch & Turska, 2015), cheat and lie to them (Jones & Paulhus, 2011). Their tendency to view their workplace not as a collaborative environment where everyone helps but as a political arena where they are always fighting others to win (Cohen, 2018) will turn the work environment into a toxic one, hurting job satisfaction, collaboration, idea sharing, employee well-being and employee productivity.

With regards to the external organizational environment, CEOs perform duties such as presenting new ideas, communicating updates and reporting performance to the stakeholders as well as negotiating with other companies for resources, partnerships, mergers, acquisitions and the like. In these situations, Machiavellian CEOs will tend to be less cooperative with others (Bereczkei & Czibor 2014), lie, and likely use deception to make themselves appear better than others (Hogue et al., 2013) in the hope of gaining higher profits. Doing so makes them susceptible, if they get caught, to ruin their relationships with other firms and key players, which

will refuse to trust them in the future or even abandon them (Wilson et al. 1998; Gunnthorsdottir et al. 2002). For example, while Machiavellian CEOs seek out more strategic alliances, their manipulative tendencies result in alliances that are less sustainable (Chandler et al., 2021). Moreover, while they do lie on a more frequent basis, Machiavellians find it harder to understand the other's feelings and emotions (Austin et al., 2007) and may be less careful in navigating social interactions due to them being so focused on self-promotion (Smith et al., 2018), all factors that hurt their chances of being convincing liars. Based on all these "flaws" that characterize Machiavellian CEOs and the harmful elements that they introduce to their companies, I predict that:

**H1: CEO Machiavellianism will be negatively related to firm performance.**

## **2.5. Managerial discretion**

Nevertheless, CEOs cannot do as they please in their companies; they are constrained by multiple factors that can be individual, organizational or environmental, such as the political acumen that each individual possesses, the scrutiny that the board of directors pays to CEOs' decisions and governmental regulations that constrain the firms. All these factors are included under the umbrella of managerial discretion, which refers to the extent to which CEOs can alter organizational decisions and resulting organizational outcomes (Hambrick and Finkelstein 1987). High managerial discretion occurs when fewer restrictions are placed on the CEOs and gives them more power to execute their decisions; conversely, low managerial discretion restricts the CEOs' latitude of action and therefore, their impact on their companies is smaller (Hambrick, 2007). The limited array of actions available to CEOs in low discretion firms will restrict the opportunities for engaging in self-serving behaviours; conversely, high discretion firms will

provide Machiavellian CEOs with numerous opportunities and resources to promote their interests. For these reasons, I predict that:

**H2: Managerial discretion moderates the relationship between CEO Machiavellianism and firm performance, such that the negative impact of Machiavellian CEOs on firm performance is stronger when managerial discretion is high.**



### **3. Research Methodology**

#### **3.1. Sample and data sources**

I collected all the financial and corporate data from the Bloomberg database and used a videometric technique to collect CEO Machiavellianism data that used third-party observers' ratings of CEOs from publicly accessible videos (Petrenko et al., 2016; Chandler et al., 2021). The starting sample included all Standard and Poor (S&P) firms for 2019 and 2020 besides those with no financial data in the Bloomberg database and then excluded those who did not meet the following criteria. First, all firms with an interim CEO were excluded since their effect on firms is different from that of permanent CEOs (Ballinger & Marcel, 2010). Second, all CEOs who have been with their respective firms for only one year or less were excluded, as this period is too short to assess their impact on firm outcomes (Petrenko et al., 2016; Quigley & Hambrick, 2012). Third, all firms operating in highly regulated industries such as financial, insurance and utilities were excluded because their results are not comparable with those of other industries (McGahan & Porter, 1997). Fourth, firms that have their origins in spin-offs, mergers and carve-outs were also excluded because their performance is not comparable to that of other companies (Nelson, 2003; Chandler et al., 2021). Finally, all firms without publicly available adequate videos of their CEOs were removed from the final sample. In the end, 97 companies fulfilled all the conditions and thus were included in the final sample. To verify the representativeness of the sample used in this study, I conducted the Kolmogorov-Smirnov two-sample test as proposed by Petrenko et al. (2016), and I found no significant differences between the variables used in the final sample compared to those in the broader S&P 500 population.

### **3.2. Independent variable**

Machiavellianism is a stable personality characteristic that does not change through time (ten Brinke et al., 2015; Furnham et al., 2013). To measure it on CEOs, I followed the videometric method suggested by Petrenko et al. (2016) for measuring personality characteristics that are hard to assess using conventional methods such as observations and surveys. CEOs are busy individuals and are unlikely to have the time or willingness to complete surveys that may reveal information about them (Chandler et al., 2021), so using third-party ratings, which provide a better measurement of personality traits when compared to self-reports (Oh et al., 2011) and remove some sources of response bias (Cycyota & Harrison, 2006) is probably the best way to obtain data about CEO Machiavellianism. Furthermore, the videometric technique provides access to a larger sample of CEOs (Gupta & Misangyi, 2018) due to the large number of publicly available videos about CEOs online and has shown consistency with alternative measurement approaches (Hill et al., 2019). Following recommendations from Petrenko et al. (2016), I collected video interviews of CEOs from Youtube and removed all identifying information to reduce coders' biases. The criteria for selecting the videos are as follows. The videos must be at least 5 minutes long so that they would have enough footage of the CEO for further processing. The CEO must be the focal point of the video and discuss business, personal convictions or ideology, topics relevant for assessing personalities (Gupta & Misangyi, 2018; Hill et al., 2019). The content of the videos needs to be unscripted, so Q&A sessions and interview videos were deemed appropriate while public announcements were not. Finally, the Q&A session or interview must have been created when the CEO was employed with the company. If a video did not meet one or more of these criteria, it was discarded, and another video of the CEO was chosen. If all criteria were met, the video was cut so that it ranged from 2.5 to 3 minutes long,

contained clips from the middle of the session and had the CEO as the focal point of the conversation (Gupta & Misangyi, 2018; Hill et al., 2019).

I recruited two business undergraduate students from Memorial University of Newfoundland as raters and trained them to correctly assess and rate CEO Machiavellianism using a third-person adaption of the Machiavellian Personality Scale (MPS) (Petrenko et al., 2016; Petrenko et al., 2019). This scale is composed of four different dimensions. The distrust of others dimension captures the cynical outlook Machiavellians have on the motivations and intentions of others with a concern for the negative implications that those intentions have for the individual. Amoral manipulation captures the willingness to engage in behaviours that hurt others but benefit the self and to disregard social norms when it is beneficial to do so. The desire for control captures the desire to be in charge of social interactions, and the desire for status captures the need to accumulate external indicators of success such as wealth, power, and status. The MPS measure is gaining favour in the current literature as a better representation of what Machiavellianism encapsulates. It also shows better psychometric qualities relative to other existing Machiavellianism measures (Miller et al., 2015), and for these reasons, I decided to use MPS as the instrument to measure Machiavellianism. The 5-point Likert scale contains 16 items and includes items such as “The individual is willing to be unethical if he/she believes it will make him/her succeed,” “This person likes to give the orders in interpersonal situations,” and “This person believes that team members backstab each other all the time to get ahead” (Dahling et al., 2009). The list of all the items included in the scale can be found in Appendix 2. The scale showed high coefficient alpha reliability ( $\alpha = .925$ ), and the raters demonstrated significant agreement on their ratings of CEO Machiavellianism,  $ICC = .699$ ,  $p < 0.001$ , suggesting that

both the scale and the videometric technique used is suitable for assessing CEO Machiavellianism.

### **3.3. Dependent variable**

To measure firm performance, I use an accounting-based measure, namely return on assets (ROA), instead of market-based measures of performance, since the latter has been shown to be affected by factors that are not in CEOs' control (Krekel et al., 2019; Ataay, 2020). However, since a number of related studies in the literature still include a market-based value to supplement their findings, I will separately re-estimate the models using market-to-book (MTB) ratio as a market-based value of firm performance and will also report the results with this measure as the dependent variable. ROA was calculated as net income divided by average total assets (the average of the beginning balance and ending balance of total assets), and MTB was calculated as stock price divided by book value per share.

### **3.4. Moderating variable**

Based on literature recommendations (Wangrow et al., 2015, Cannella et al., 2009) and data availability, I measured managerial discretion with four firm-level factors. The first one is capital intensity, defined as the extent to which firms depend on large bases of fixed assets (Hambrick & Abrahamson, 1995). Capital intensive firms restrict managerial discretion because large investments in fixed assets bind firms to a particular course of action (Graffin et al., 2013; Quigley et al., 2020). The second factor included in the managerial discretion measure is the firm's size (Quigley et al., 2020). Firms with many employees face bureaucratic momentum (Mintzberg, 1978) and find it harder to create change (Aldrich, 2008), thus limiting managerial discretion. The third factor is the percentage of independent directors, who are representatives of

other organizations that do very little or no business with the firm, also restrict managerial discretion by preventing CEOs from engaging in self-serving behaviours (Cannella et al., 2009). They tend to be more objective, more vigilant, less forgiving and more incentivized to monitor CEOs to protect their own personal reputation (Cannella et al., 2009). The fourth factor is whether the CEO also serves as the chair of the board of directors, which reduces the effectiveness and independence level of the board (Filatotchev & Nakajima, 2010). If the CEO is also the board chair, he or she will be under weaker surveillance from the board and consequently have it easier to push forward his or her goals rather than those of the company (Finkelstein & D'aveni, 1994). While other studies have used other factors in constructing managerial discretion composite scores such as R&D intensity (e.g. Li & Tang, 2010), doing so would severely reduce sample size due to data not being available for all companies and consequently reduce the power of the study.

Capital intensity was calculated by dividing the net value of property, plant and equipment by the number of employees (Graffin et al., 2013). Firm size was measured by the natural logarithm of the total number of employees. The percentage of independent directors was calculated as the number of independent board members divided by the total number of the board members, and the CEO duality was represented by a dummy variable, with 0 representing a CEO who was not the board chair and 1 representing a CEO who was also the board chair. I reverse-coded CEO duality so that it would align with the other factors, standardized each factor to a mean of 0 and a standard deviation of 1 and then summed all four variables. Finally, I multiplied the resulting variable by -1 so that higher values indicate higher managerial discretion.

### 3.5. Control variables

I included a number of variables in the estimations to control for potential confounding factors. For individual-specific factors, I controlled for CEO tenure, defined as the number of years the CEO has been with the organization in that position (Fischer & Pollock, 2004). I also controlled for CEO age because it determines the structural power a CEO has in an organization (Finkelstein, 1992). To control for firm-specific factors that may affect firm performance, I controlled for prior firm performance, measured as the average ROA in the preceding two years ( $\frac{ROA_{-1} + ROA_{-2}}{2}$ ). I also control for firm leverage by including debt-to-equity ratio and firm slack by including free cash flows in the estimations. To control for inertial forces in larger firms, I included a measure of each firm's sales in the previous year (natural log of sales in the previous year) and also controlled for firm age. Lastly, I included an industry dummy (four digits GICS industry group) in the models to control for industry effects.

#### **4. Model and estimation**

The sample used in this paper consisted of two years of longitudinal data for each CEO, so for this reason, I followed previous literature that used videometric techniques and used panel approaches to test the hypotheses (Petrenko et al., 2019). More specifically, I used the generalized estimating equations (GEE), which have been widely used as an estimation method for this type of data because these equations account for the nonindependence of observations in the panel data (Liang & Zeger, 1986). Because GEE requires selecting an appropriate correlation structure, I chose the exchangeable working correlation structure as the best fit for the models tested based on the quasi-likelihood criteria (Cui & Qian, 2007). To reduce the issue of multicollinearity as well as to make the results easier to interpret, I standardized all variables besides the nominal ones (industry and duality), which are typically not standardized. All models were checked for multicollinearity by calculating variance inflation factor (VIF) statistics. None of the VIF values exceeded 2.3, and since the general consensus is that VIF should not exceed 10 (Menard, 2002; Myers, 1990), multicollinearity was not an issue in none of the models.

## 5. Results

Table 1 reports the means, standard deviation and the correlation between variables used in the models. Even though some variables are significantly correlated, that is to be expected, and because the variance inflation factor statistics are within the normal range (as discussed in the above section), multicollinearity is not a problem. Hypothesis 1 predicts that CEO Machiavellianism will negatively impact firm performance. Model 1 in Table 2 shows that this is indeed the case ( $b = -.144$ ,  $SE = .0709$ ,  $p < 0.05$ ). The results show that for every increase in CEO Machiavellianism by one standard deviation, the firm's performance (measured by ROA) decreases by .144 SD. Stated differently, for every increase in CEO Machiavellianism by one standard deviation, the firm's performance (measured by ROA) decreases by 1.26%. Hypothesis 2 predicts that managerial discretion will weaken the negative effect that CEO Machiavellianism has on firm performance. The results shown in model 2 of Table 2 provide strong support for this hypothesis ( $b = -.125$ ,  $SE = .0528$ ,  $p < 0.05$ ), suggesting that the lower managerial discretion resulting from capital intensive firms do indeed restrict the negative impact that Machiavellian CEOs have on firm performance. This interaction is visually represented in Figure 1.

### 5.1. Robustness Check

To check the robustness of the results, I ran a few additional models. First, I include the four variables used to compute managerial discretion (duality, capital intensity, firm size, % of independent directors) as controls to test both hypotheses. Models 3 and 4 in Table 3 present the results; both hypothesis 1 ( $b = -.154$ ,  $SE = .0717$ ,  $p < 0.05$ ) and hypothesis 2 ( $b = -.18$ ,  $SE = .0673$ ,  $p < .01$ ) are supported. Then I test the original models using market-to-book ratio as the dependent variable (table 4, models 5 and 6). Results do not support hypothesis 1 ( $b = -.031$ ,  $SE$



= .055,  $p = .576$ ) but support hypothesis 2 ( $b = -.088$ ,  $SE = .038$ ,  $p < .05$ ), adding further support to the argument that moderators must be studied to gain a better understanding of how Machiavellianism affects firm performance.

**Table 1.** Correlations and descriptive statistics.

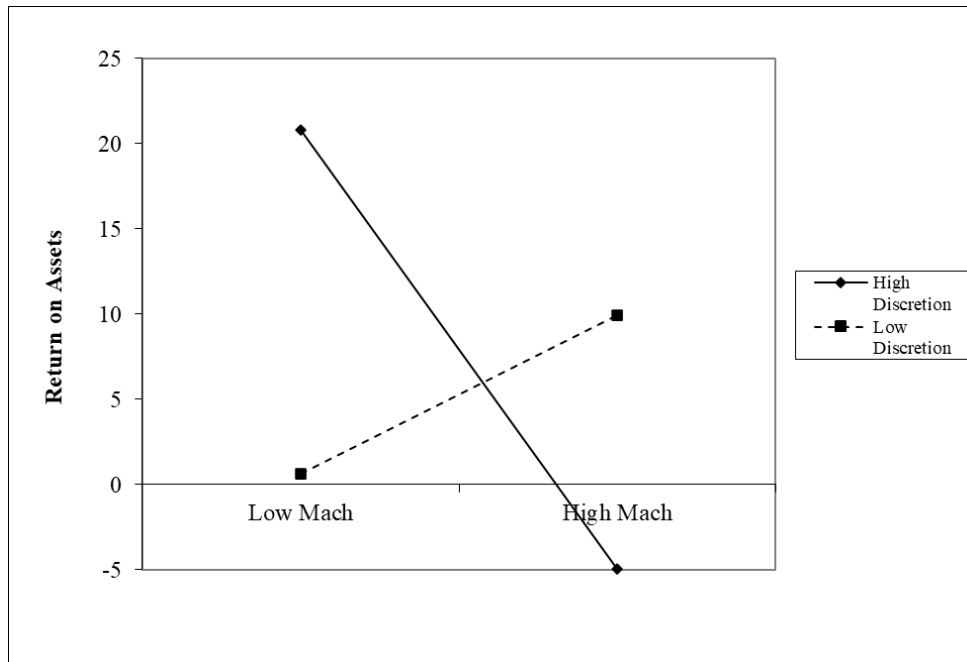
	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Industry	4591.47	1831.50										
2. Tenure	9.81	6.23	0.08									
3. Age	58.94	7.19	0.01	.261**								
4. Return on Assets	7.50	8.69	0.06	0.07	-0.08							
5. Market to Book Ratio	8.69	12.16	.158*	0.10	-0.10	0.10						
6. Firm leverage	145.29	281.36	.205**	-0.01	0.03	-.201**	.765**					
7. Company age	34.32	29.97	-.257**	-0.06	0.05	-0.01	-0.12	-0.10				
8. Inertial forces	9.06	1.47	-.164*	-.226**	0.08	-0.09	0.04	0.13	.280**			
9. Prior firm performance	7.91	6.14	-0.08	.141*	0.02	.514**	0.07	-0.13	-0.06	-0.04		
10. Machiavellianism	2.76	0.50	-.164*	0.12	.242**	-.169*	-0.04	-0.01	0.03	-0.02	-0.08	
11. Managerial Discretion	0.00	1.00	-0.03	.339**	.253**	.164*	-0.02	-0.12	-0.04	-.413**	.155*	0.12

Note:  $N = 192$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

**Table 2.** GEE models predicting the effect of CEO Machiavellianism on firm performance (measured by ROA).

	Model 1		Model 2	
	$\beta$	$p$ - value	$\beta$	$p$ - value
Intercept	0.111	0.046	0.097	0.094
Tenure	-0.007	0.920	0.001	0.986
Age	0.042	0.589	0.012	0.866
Firm leverage	-0.036	0.458	-0.073	0.164
Company age	-0.012	0.862	-0.002	0.978
Inertial forces	-0.103	0.289	-0.031	0.751
Prior firm performance	0.309	0.000	0.294	0.000
Free Cash Flows	0.074	0.329	0.054	0.494
Machiavellianism	-0.144	0.042	-0.161	0.024
Managerial Discretion			0.075	0.268
Machiavellianism X Managerial Discretion			-0.125	0.018
Wald chi-square	133.5		149.0	

$N = 194$ ; Industry effects included; All variables are standardized for ease of interpretation.



**Figure 1.** The interaction between CEO Machiavellianism and managerial discretion.

**Table 3.** GEE models predicting the effect of CEO Machiavellianism on firm performance including additional control variables.

	Model 3		Model 4	
	$\beta$	$\rho$ - value	$\beta$	$\rho$ - value
Intercept	-0.036	0.808	-0.138	0.402
Tenure	-0.017	0.820	-0.006	0.940
Age	0.027	0.741	0.011	0.889
Firm leverage	-0.041	0.489	-0.097	0.100
Company age	-0.002	0.976	-0.011	0.883
Inertial forces	-0.254	0.171	-0.258	0.144
Prior firm performance	0.328	0.000	0.318	0.000
Free Cash Flows	0.053	0.507	0.017	0.837
Machiavellianism	-0.154	0.031	-0.177	0.015
Managerial Discretion			-0.616	0.109
Machiavellianism X Managerial Discretion			-0.180	0.008
Duality	-0.017	0.829	-0.470	0.064
Capital Intensity	0.026	0.733	-0.293	0.108
Ind. Directors	-0.100	0.198	-0.546	0.066
Firm size	0.279	0.253		
Wald chi-square	187.2		169.0	

N = 194; Industry effects included; All variables are standardized for ease of interpretation.

**Table 4.** GEE models predicting the effect of CEO Machiavellianism on firm performance (measured by MTB).

	<b>Model 5</b>		<b>Model 6</b>	
	<b><math>\beta</math></b>	<b>p - value</b>	<b><math>\beta</math></b>	<b>p - value</b>
Intercept	-0.305	0.000	-0.321	0.000
Tenure	0.065	0.288	0.082	0.149
Age	-0.126	0.075	-0.119	0.106
Firm leverage	0.668	0.000	0.628	0.000
Company age	-0.011	0.850	-0.015	0.802
Inertial forces	-0.290	0.008	-0.269	0.015
Prior firm performance	0.006	0.919	-0.005	0.929
Free Cash Flows	0.141	0.047	0.135	0.059
Machiavellianism	-0.031	0.576	-0.040	0.443
Managerial Discretion			-0.030	0.526
Machiavellianism X Managerial Discretion			-0.088	0.020
Wald chi-square	175.0		180.2	

N = 192; Industry effects included; All variables are standardized for ease of interpretation.

## 5.2. Post Hoc Analysis

I did not hypothesize about higher-order relationships between CEO Machiavellianism and firm performance in this study, but it is a possibility that this relationship is quadratic, meaning it has an inverted U-shape. I test for this possibility in model 7 and model 8 (table 5). Both models fail to provide evidence for a higher-order relationship between CEO Machiavellianism and firm performance, even when including the hypothesized interaction in model 8.

**Table 5.** Post-hoc models predicting a quadratic relationship between CEO Machiavellianism and firm performance.

	<b>Model 7</b>		<b>Model 8</b>	
	<b><math>\beta</math></b>	<b><math>\rho</math> - value</b>	<b><math>\beta</math></b>	<b><math>\rho</math> - value</b>
Intercept	0.121	0.027	0.119	0.044
Tenure	-0.006	0.936	0.013	0.873
Age	0.046	0.558	0.016	0.820
Firm leverage	-0.030	0.551	-0.064	0.233
Company age	-0.015	0.839	-0.005	0.950
Inertial forces	-0.103	0.291	-0.031	0.762
Prior firm performance	0.311	0.000	0.295	0.000
Free Cash Flows	0.072	0.350	0.056	0.478
Machiavellianism	-0.396	0.420	-0.537	0.376
Machiavellianism <sup>2</sup>	0.253	0.606	0.380	0.527
Managerial Discretion			0.077	0.260
Machiavellianism X Managerial Discretion			-0.573	0.467
Machiavellianism <sup>2</sup> X Managerial Discretion			0.460	0.565
Wald chi-square	130.9		143.9	

N = 194; Industry effects included; All variables are standardized for ease of interpretation.

## **6. Discussion**

Based on the upper echelons theory, this study found that Machiavellian CEOs hurt firm performance and that managerial discretion moderates this relationship. While other studies have shown a very small negative effect of Machiavellianism on performance (e.g. Forsyth et al., 2012), these studies are concerned with the performance of individuals, not that of the firm. Moreover, none of these studies have focused on the upper management level employees (CEOs and other senior managers) who deal with strategic rather than technical duties and have a much bigger impact on shaping their firms' present and future. Furthermore, this study answers the call to include moderators while studying the effect of Machiavellianism on performance and offers strong evidence that the negative impact of CEO Machiavellianism on firm performance is stronger when CEOs have higher managerial discretion, a theoretically sound effect but that has never been tested before.

### **6.1. Theoretical implications**

This study makes several contributions to the management literature. First, it advances the upper echelons and Machiavellianism literature by studying the relationship between CEO Machiavellianism and firm performance and finding that they are negatively related. While other studies have found a small negative relationship between Machiavellianism and job performance, this paper explicitly studies CEO Machiavellianism and the impact it has on firm performance. Second, it supports Forsyth et al.'s (2012) anticipation that including moderators in models of Machiavellianism and performance should give a clearer picture of the effects the first has on the second. By hypothesizing that higher managerial discretion will give more opportunities to Machiavellian CEOs to take actions that primarily benefit them instead of the firms, this study

shows that the negative effect of Machiavellianism on firm performance is stronger when managerial discretion is higher. This finding gives a more contextual understanding to the relationship between the two constructs. Third, it demonstrates the benefits of using the relatively new videometric technique to measure personality traits from populations that are reluctant to respond and hard to reach, such as that of CEOs. Using this method, researchers can assess not only Machiavellianism but also other personality traits from other populations of interest and advance research in multiple fields.

## **6.2. Practical implications**

On a practical level, this study is helpful to boards of directors, stakeholders and shareholders who may use the findings of this paper to elect CEOs (or decide not to) by assessing Machiavellianism through public videos or interviews. While companies screen potential employees by asking questions to predict the fit between the employee and the job, screening CEOs for Machiavellianism may prove useful considering the negative effects it has on firm performance and other organizational factors such as employee satisfaction and counter-productive work behaviours. This study also demonstrates the powerful effect that limiting managerial discretion available to CEOs can have on mitigating negative consequences that may arise from CEOs' self-serving actions. As illustrated in Figure 1, CEOs high in Machiavellianism do not have a negative effect on their firms if the discretion given to them is low (refer to Figure 1). This gives the boards of directors a powerful tool; if they find out the CEOs ranks high in Machiavellianism and the boards are concerned this will have detrimental effects to the firms, the boards may limit CEOs' managerial discretion to prevent them from negatively affecting the performance of their firms. Other stakeholders such as banks and investment companies may

also use these findings to make more informed decisions on funding firms and investing their investors' capital.

### **6.3. Limitations**

Despite the contributions, this study should be interpreted in light of its limitations. First, the sample was composed of companies in the S&P index. These companies are the biggest in the US; thus, the results may not generalize to smaller companies there or throughout the world, where cultural and social factors likely play a role. Second, only a limited number of firm-level factors affecting managerial discretion were discussed in this paper. The literature points to other factors that impact managerial discretion on the environmental and individual levels, which were not discussed in this paper. A suggestion for future research is to incorporate these other factors in managerial discretion measures and examine whether they impact the impact of Machiavellian CEOs on firm performance. Third, while support was found for hypothesis 1 when using ROA as a performance measure, this hypothesis was not supported when using market-to-book as a market measure of firm performance. However, these two measures do not always represent the same construct of firm performance (Fryxell & Barton, 1990). The market-to-book value is influenced by factors external to the firm outside of the CEO's influence, so it is expected that some differences may arise. Regarding hypothesis 2, however, the results show that managerial discretion moderates the impact of CEO Machiavellianism on firm performance in the predicted direction, even when market-to-book value is used to measure it.

### **6.4. Summary**

Despite its limitations, this study makes theoretical and practical contributions by providing evidence that CEO Machiavellianism and firm performance are negatively related and that lower

(higher) managerial discretion weakens (strengthens) this relationship. Future research can further advance the finding of this study by using other factors that affect managerial discretion (especially on the individual and environmental level) and by considering other moderators that may affect the relationship between CEO Machiavellianism and firm performance.



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## Appendix 1: Ethics approval



Interdisciplinary Committee on  
Ethics in Human Research (ICEHR)

St. John's, NL Canada A1C 5S7

Tel: 709 864-2561 [icehr@mun.ca](mailto:icehr@mun.ca)

[www.mun.ca/research/ethics/humans/icehr](http://www.mun.ca/research/ethics/humans/icehr)

ICEHR Number:	20220576-BA
Approval Period:	September 1, 2021 – September 30, 2022
Funding Source:	
Responsible	Dr. Jianyun Tang
Faculty:	Faculty of Business Administration
Title of Project:	<i>CEO Machiavellianism and firm performance: the moderating role of managerial discretion.</i>

September 1, 2021

Mr. Klevi Sula

Faculty of Business Administration Memorial University of Newfoundland

Dear Mr. Sula:

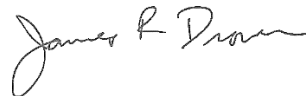
Thank you for your correspondence addressing the issues raised by the Interdisciplinary Committee on Ethics in Human Research (ICEHR) for the above-named research project. ICEHR has re-examined the proposal with the clarifications and revisions submitted, and is satisfied that the concerns raised by the Committee have been adequately addressed. In accordance with the *Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (TCPS2)*, the project has been granted *full ethics clearance* for one year. ICEHR approval applies to the ethical acceptability of the research, as per Article 6.3 of the *TCPS2*. Researchers are responsible for

adherence to any other relevant University policies and/or funded or non-funded agreements that may be associated with the project. If funding is obtained subsequent to ethics approval, you must submit a Funding and/or Partner Change Request to ICEHR so that this ethics clearance can be linked to your award.

The *TCPS2* requires that you strictly adhere to the protocol and documents as last reviewed by ICEHR. If you need to make additions and/or modifications, you must submit an Amendment Request with a description of these changes, for the Committee's review of potential ethical concerns, before they may be implemented. Submit a Personnel Change Form to add or remove project team members and/or research staff. Also, to inform ICEHR of any unanticipated occurrences, an Adverse Event Report must be submitted with an indication of how the unexpected event may affect the continuation of the project.

The *TCPS2* requires that you submit an Annual Update to ICEHR before September 30, 2022. If you plan to continue the project, you need to request renewal of your ethics clearance and include a brief summary on the progress of your research. When the project no longer involves contact with human participants, is completed and/or terminated, you are required to provide an annual update with a brief final summary and your file will be closed. All post-approval ICEHR event forms noted above must be submitted by selecting the *Applications: Post-Review* link on your Researcher Portal homepage. We wish you success with your research.

Yours sincerely,

A handwritten signature in black ink, appearing to read "James R. Drover". The signature is fluid and cursive, with the first name "James" and last name "Drover" clearly distinguishable.

James Drover, Ph.D.

Vice-Chair, ICEHR

JD/bc

cc: Supervisor – Dr. Jianyun Tang, Faculty of Business Administration

## Appendix 2: Survey Questionnaire

**Q1) This person is willing to be unethical if he/she believes it will help him/her succeed.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q2) This person is willing to sabotage the efforts of other people if they threaten his/her own goals.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q3) This person would cheat if there was a low chance of getting caught.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q4) This person believes that lying is necessary to maintain a competitive advantage over others.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q5) This person believes that the only good reason to talk to others is to get information that he/she can use to his/her benefit.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q6) This person likes to give the orders in interpersonal situations.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q7) This person enjoys being able to control the situation.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q8) This person enjoys having control over other people.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q9) This person believes that status is a good sign of success in life.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q10) Accumulating wealth is an important goal for this person.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q11) This person wants to be rich and powerful someday.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q12) This person believes that people are only motivated by personal gain.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q13) This person dislikes committing to groups because he/she don't trust others.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q14) This person believes that team members backstab each other all the time to get ahead.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q15) This person believes that if he/she shows any weakness at work, other people will take advantage of it.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree

**Q16) This person believes that other people are always planning ways to take advantage of the situation at his/her expense.**

☐ Strongly disagree   ☐ Disagree   ☐ Neither agree nor disagree   ☐ Agree   ☐ Strongly agree



### **Appendix 3: Informed Consent Form**

Title: CEO characteristics and their implications on firm performance

Researcher(s): Klevi Sula, Faculty of Business Administration, M.Sc in Management,

Ph: 709-219-7079 Em: ksula@mun.ca

Supervisor(s): Jianyun Tang, Associate Professor at the Faculty of Business Administration,

Ph: 709-864-3144 Em: jytang@mun.ca

You are invited to take part in a research project entitled “CEO characteristics and their implications on firm performance.”

This form is part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. It also describes your right to withdraw from the study. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Klevi Sula, if you have any questions about the study or would like more information before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

#### **Introduction:**

I am a M.Sc student in the second year of the Master of Science in Management program at Memorial University of Newfoundland. As part of my Masters' thesis I am conducting research under the supervision of Jianyun Tang.

### **Purpose of Study:**

In my thesis I will study the impact that a certain characteristic present on every individual, including CEOs, has on firm's performance. Researchers have found that certain CEO characteristics, such as age, education and tenure play a role in the decisions made by CEOs. By affecting the decisions made, these characteristics affect the performance of the firms these CEOs manage. However, there are other characteristics, such as the one studied in my thesis, that are not adequately studied in the literature. For some of them, no research has been done whatsoever. For the one studied in this thesis, researchers have found positive, negative or no relationship at all between firm performance and this characteristic, suggesting that there are other factors and conditions that moderate this relationship. Moreover, these studies offer limited generalizability as they were concerned with the performance of employees and supervisors who are responsible only for a small part of companies' operations and use mostly their technical abilities to perform their jobs. CEOs, on the other hand, are responsible for looking at the "big picture", for developing and supervising their companies' strategies and for creating and maintaining relationships with powerful individuals.

My aim is to fill this gap in the literature by studying how this characteristic present on CEOs affect the performance of their firms. Moreover, I will consider the moderating role that managerial discretion has on this relationship. CEOs with more latitude of action (higher discretion) have more decision-making power and thus are expected to impact their firms more than CEOs with lower discretion. This variable has not been accounted for in the literature and I

suspect that by not considering managerial discretion as a moderating variable, the relationship between the characteristic in focus and firm performance may be hidden.

### **What You Will Do in this Study:**

You will be asked to watch short video-interviews of CEOs (ranging from 2.5 to 3 minutes) and then read a series of statements (16 statements per video) regarding the individuals in these videos. You have to answer to what extent you agree with each statement (from 1- Strongly Disagree to 5- Strongly Agree). The format of the questionnaire is this: You will watch the first video and then answer to the 16 statements. Then you will watch the second video and answer to the 16 statements and so on. There are 102 videos in total. To prevent rater fatigue, 17 groups of videos are created. Each group has 6 videos alongside the 16 questions for each video and each group will take roughly 25 minutes to finish. The groups are separate from each other so that you can complete each of them whenever your time allows.

### **Length of Time:**

Watching all videos and answering the statements about them will require approximately 8 hours.

### **Compensation**

For your time and work done, you will receive \$15 per hour via e-transfer, up to \$120 if you complete all the videos. If you decide to withdraw the study before completing all the videos, you will be compensated proportionally for the videos completed.

### **Withdrawal from the Study:**

- You can end your participation in this study whenever you want by simply closing the browser. Any data collected up to that point will be permanently deleted.
- After all questions have been answered and the data is collected, you can still withdraw from the study and ask for the data to be removed.

**Possible Benefits:**

You will receive training online via Zoom on how to complete surveys and how to avoid biases and other methodological issues during the process.

The scientific community and the society as a whole will have a better understanding of how the characteristic in focus (which is present in every individual to varying degrees) on top executives impacts firm performance.

**Possible Risks:**

There are no risks to participating in this study as the entire process will be done online at the comfort of your home. You can start and stop watching the videos whenever you want and can also quit participating in the study altogether at any time.

However, if during the participation you feel uncomfortable, uneasy and upset, you can contact Memorial University's Student Wellness and Counselling Centre (UC5000) -- (709) 864-8874

**Confidentiality:**

The ethical duty of confidentiality includes safeguarding participants' identities, personal information, and data from unauthorized access, use, or disclosure.

All communication between us will be kept confidential and not shared with anyone.

Furthermore, all data gathered from you will be seen only by me and you; only us will know how you answered the questions.

**Anonymity:**

Anonymity refers to protecting participants' identifying characteristics, such as name or description of physical appearance.

The data provided by you will be seen only by me, meaning only you and me will know how you answered the questions.

Every reasonable effort will be made to ensure your anonymity. You will not be identified in publications without your explicit permission.

**Use, Access, Ownership, and Storage of Data:**

The data will be stored electronically on Google Drive. The data files will be password-protected for added security. Only I will have access to the data. The data won't be archived to be accessible to other researchers. Data will be kept for a minimum of five years, as required by Memorial University's policy on Integrity in Scholarly Research.

**Third-Party Data Collection and/or Storage:**

Data collected from you as part of your participation in this project will be hosted and/or stored electronically by me on Google Drive and is subject to their privacy policy, and to any relevant laws of the country in which their servers are located. Therefore, anonymity and confidentiality of data may not be guaranteed in the rare instance, for example, that government agencies obtain a court order compelling the provider to grant access to specific data stored on their servers. If

you have questions or concerns about how your data will be collected or stored, please contact the researcher and/or visit the provider's website for more information before participating. The privacy and security policy of the third-party hosting data collection and/or storing data can be found at: <https://www.google.com/drive/terms-of-service/>

### **Reporting of Results:**

The data will be part of the thesis, but only reported in a very brief and aggregated form.

Upon completion, my thesis will be available at Memorial University's Queen Elizabeth II library, and can be accessed online at: <http://collections.mun.ca/cdm/search/collection/theses>.

### **Questions:**

You are welcome to ask questions before, during, or after your participation in this research. If you would like more information about this study, please contact: Klevi Sula Ph: 709-219-7079 Em: [ksula@mun.ca](mailto:ksula@mun.ca) or the supervisor Jianyun Tang, Ph: 709-864-3144 Em: [jytang@mun.ca](mailto:jytang@mun.ca)

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at [icehr@mun.ca](mailto:icehr@mun.ca) or by telephone at 709-864-2861.

### **Consent:**

By completing this questionnaire, you agree that:

- You have read the information about the research.

- You have been advised that you may ask questions about this study and receive answers prior to continuing.
- You are satisfied that any questions you had have been addressed.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw participation from the study by closing your browser window or navigating away from this page, without having to give a reason and that doing so will not affect you now or in the future.
- You understand that I will be able to see your responses and therefore your data can be removed once you submit this survey.

By consenting to this online survey, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Please retain a copy of this consent information for your records.

Clicking Accept below and submitting this survey constitutes consent and implies your agreement to the above statements.

☐ **I Accept**

☐ **I do not Accept**