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The pursuit of legitimacy: how do AI start-ups navigate between macro and meso institutional environments?

by

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(International Business Specialization)

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1 Abstract

Start-ups need to acquire resources from their environment in order to survive. In the born-global industry of artificial intelligence (AI), a novel arrangement is emerging where start-ups must navigate distinct contextual environments. Past studies have found that both country-specific regulatory frameworks and industry-wide norms evolving across national borders exert unique pressures on AI start-ups. Research, however, has yet to uncover precisely how start-ups respond to these institutional pressures in their pursuit of crucial resources. Through an embedded multiple case study involving two prominent AI industrial clusters, this investigation sheds light on how this unfolds and extends the literature on the born-global industry phenomenon. Particularly, consistent with past entrepreneurship research, I examine the utilization of corporate social responsibility (CSR) as a mechanism for start-ups to create the perception of being legitimate, and thus, worthy of receiving support. The emergent findings reveal that despite efforts by formal regulations to influence start-up operating frameworks, entrepreneurs are largely guided by informal norms established via industry decision-makers. Moreover, it was discovered that (a) AI start-ups increasingly rely on industry norms in contexts where formal regulations are weak; (b) the embeddedness of CSR in meso-level norms may increase the propensity of start-ups to engage in CSR activity; and (c) industry decision-makers play a primary role in establishing the governing rules in AI, which in turn may inform policy development. The implications of these findings are threefold. Foremost, knowledge of the factors leading to the access to resources can offer entrepreneurs operating in AI and similar nascent industries insight regarding what legitimacy-building activities in which to engage. Secondly, this research may allow policymakers to identify opportunities to intervene in the establishment of normative values in order to create an environment conducive to responsible practices. Finally, this work provides management scholars with an increased understanding of entrepreneurial behavior in the previously unexplored context of the born-global industry.

Keywords: start-ups, institutional environments, corporate social responsibility, artificial intelligence

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3 Introduction

Start-ups need to survive. The acquisition of resources is imperative to survival. Resources are even more important if an entrepreneur wants to grow his/her start-up (Alvarez & Busenitz, 2001). Resources can be internal (i.e., a talented workforce) as well as external (i.e., network ties). To acquire these crucial inputs, a startup must be perceived as legitimate by the holders of resources (Zimmerman & Zeitz, 2002). Research shows that internally, employees are motivated to work for firms that cohere with societal values such as sustainability (Lee, Park & Lee, 2013). Externally, key stakeholders are more likely to offer their support – such as access to funding, technology, customer goodwill, etc. – to start-ups that are aligned with the social rules and norms of their environment (Suddaby, Bitektine & Haack, 2017). Institutions play a key role in determining what constitutes legitimate behaviors (Scott, 1995). They set the framework through isomorphic pressures by which a firm is judged and in turn prescribe standards for how to operate (Beddewela & Fairbrass, 2016). Within the emerging field of artificial intelligence (AI), unpredictable institutional settings are evolving.

AI is a born-global industry. Its roots can be traced to the research labs of universities and technology companies spanning the globe (Agrawal, Gans, & Goldfarb, 2017). Advancements in the field occur regularly and often antecede the implementation of the national regulatory frameworks intended to govern the actions of those responsible for AI's development and use (Wagner & Delacroix, 2019). Alternatively, informal rules and norms emerge within the industry as means for guiding behavior, and that in turn prescribe the actions judged as legitimate (Gasser & Schmitt, 2019). This meso-level approach towards industry governance is largely unexplored by management scholars. A review of the literature by Bruton, Ahlstrom and Li (2010) found that extant institutional research has focused namely on the top-down regulatory effects on firms

and on a country-specific basis. Such an approach is insufficient to inform the decision-making of entrepreneurs operating in nascent industries such as AI largely because national borders within this context are blurred. Each country takes a heterogeneous approach toward articulating and enforcing formal legislative measures. However, the technology and the commercial activity of industry decision-makers stretches across national boundaries (Wagner & Delacroix, 2019). Therefore, actors within AI may operate in multiple institutional environments (De Castro, Khavul & Bruton, 2014). In particular, entrepreneurs are faced with the task of attaining legitimacy among a myriad of stakeholders at both national and industry levels. The rules and values established by each level of institution may be distinct and countervailing, thus creating potential constraints and challenges for start-ups in their pursuit of legitimacy (Fisher, Kuratko, Bloodgood & Hornsby, 2017). A study is needed that can identify the interplay between these two levels. The purpose of this thesis is to address this gap in our understanding by examining how AI start-ups navigate these distinct institutional contexts. With this knowledge, entrepreneurs will be better informed to make strategic decisions regarding how best to build legitimacy for their young firm, and in turn, acquire resources crucial to its survival.

AI is proving to be a double-edged sword. While this can be said of many nascent industries, both sides of the AI blade are sharper. On the positive side, AI technology is starting to improve human lives in countless ways, from simplifying shopping to enhancing healthcare experiences (Rogers & Bell, 2019). Common examples of AI-based technologies include autonomous vehicles, personal assistants in smartphones and helping robots. Widespread use of AI in business is still considered to be in its infancy (Gasser & Schmitt, 2019), but the potential is quite enormous. A McKinsey Global Institute (2018) study suggests that by 2030, AI could deliver additional global economic output of $13 trillion per year through improvements in efficiency and

automation. A 2017 report from PricewaterhouseCoopers suggests a possible 14.5% boost in GDP for North American economies from AI by 2030, with industries such as automotive, financial services, retail, manufacturing, energy and healthcare being among the most significantly impacted. Thus, AI has the potential to do good by enabling the transformation of modern economies for the better (Gasser & Schmitt, 2019).

Yet even as AI generates consumer benefits and business value (Fast & Horvitz, 2017), it is also giving rise to a host of unwanted, and sometimes serious, consequences (The New York Times, 2017). The most visible ones, which include privacy violations, discrimination, accidents, and manipulation of political systems, are more than enough to prompt caution in the industry. More concerning still are the consequences not yet known or experienced. If used improperly, a number of harmful outcomes may arise from the technology (Wagner & Delacroix, 2019). Disastrous repercussions – including the loss of human life, if an AI medical algorithm goes wrong, or the compromise of national security, if an adversary feeds disinformation to a military AI system – are possible, and so are significant challenges for organizations from reputational damage and revenue losses to regulatory consequences and diminished trust.

Thus, a major concern for policymakers and for industry actors responsible for the development and deployment of AI technologies is the increase in ethical and transparent governance practices (Gasser & Schmitt, 2019). In today's socially conscious environment, stakeholders expect companies to be socially responsible (Peloza & Shang, 2011). Unavoidable pressures to behave accountably is imposed upon AI practitioners from multiple angles, including internally from employees, as well as externally from regulatory agents, capital providers and the broader society (Calo, 2017). The occurrence of this phenomenon on a large-scale is evident in a review of the recent popular press pertaining to AI. For instance, publications

in the Harvard Business Review have drawn attention to potential biases in AI algorithms as a major social concern (Nkonde, 2019). Additionally, articles in the Sloan Management Review have called for ethical considerations to precede any developments in in the subfield of machine learning (Kinni, 2017). McKinsey & Company (2018) have suggested that any company employing AI must tackle identify and tackle any social risks preeminently in order to be sustainable in the long-term. Other examples of this phenomenon include the initiatives taken by many universities and research institutions to promote responsible AI. Recently, this has involved the implementation of dedicated ethical research institutes, teaching curriculums and outreach and partnership programs with industry. Such calls for greater emphasis towards addressing ethical concerns are likely to increase in the future, as prominent media outlets such as the New York Times (2019) have opined that AI is likely to be "the biggest thing since the advent of computers".

For start-ups, this has meant that alignment of their activity with the nascent societal values is requisite for satisfying stakeholder demands (Gasser & Schmit, 2019) and the potential to acquire key resources. In particular, corporate social responsibility (CSR) has emerged as a primary value at the regulative and industry level in order to cohere organizational practices with societal demands and minimize potential negative consequences (Wagner & Delacroix, 2019). Defined by the United Nations (2019) as the "integration of social and environmental concerns into business operations", CSR may function as a tool for start-ups to enact and uphold the social values embedded in its institutional environment (Scherer, Rasche, Palazzo & Spicer, 2016; Beddewela & Fairbrass, 2016). In turn, this may confer start-ups with legitimacy (Marano & Kostova, 2016; Muthuri & Gilbert, 2011). How firms in AI and related industries manage this issue remains largely unexplored in the management literature, despite its importance to

organizational survival (Zuzul & Edmondson, 2017; Agrawal, Gans & Goldfarb, 2017). Therefore, in pursuit of understanding pressures from multiple levels of institutions, the CSR activity of AI-startups serves as a deliberate departure point in this study's analysis.

Extant research has widely acknowledged the role of environmental forces on entrepreneurial behavior, including CSR. It's conceded that formal and informal institutions shape entrepreneurial behaviours in subtle but pervasive ways (Estrin, Korosteleva, and Mickiewicz, 2013). In particular, institutions exert influence over organizations, called isomorphism, that forces organizations in the same population to resemble other organizations that face the same set of environmental conditions (Hawley, 1968). For instance, institutional factors such as culture, laws, economic incentives, tradition and history, all can influence an industry through environmental pressures and, in turn, shape the practices of start-ups (Baumol, Litan, & Schramm, 2009). At their core, institutions consist of rules and norms, both formal and informal, which structure social interaction by constraining and enabling actors' behaviors (Helmke and Levitsky, 2004). Much attention has been given to the role of macro institutions, which namely create and structure the regulative environment in which firms exist (Bruton, Ahlstrom & Li, 2009), through formal policies, laws and sanctions and other country-level characteristics that influence entrepreneurial actions (Autio et al., 2013). This stream of research has concentrated on the influence of these forces on organizations, including in contexts of emerging macro institutions, such as the case of developing countries (Jamali & Karam, 2018). What remains understudied is the phenomenon of emerging meso institutions and how entrepreneurs respond to their isomorphic pressures (Kim, Wennberg & Croidieu, 2016). It's known that meso level institutions play an important role in helping to direct the actions of individuals and communities (Roelants, 2000; Elsner, 2010). In particular, meso institutions are

composed of communal values that accrete over time into a coherent and predictable set of well-known rules and taken-for-granted norms (De Castro et al. 2014). For example, communities of practice develop in niche technological spheres and have been found to operate based on the established collective values, such as the explicit sharing of novel innovations for the betterment of the group (Hildreth & Kimble, 2004). Furthermore, meso institutions prescribe how entrepreneurs should behave at the industry-level, and are imposed through normative pressures (Kim et al., 2016). In AI, the development of informal rules has been found to guide entrepreneurial behavior through normative measures throughout the industry (Gasser & Schmitt, 2019). Together with macro institutions, the meso environment enables and constrains start-up activity with respect to legitimacy acquisition (De Castro et al., 2014). In an evolving meso-level context such as AI, distinctions emerge between the formal regulative measures of the macro environment and the informal norms of the meso environment (Gasser & Schmitt, 2019). Novel technologies can surface at a rate faster than the formal policymaking measures intended to inform practice (Boddington, 2017). For instance, the advancement of country-level legislation may not be sufficient to ensure the responsible development and use of new machines and algorithms. Instead, informal measures may emerge within the global AI industry to guide decision-making with regards to CSR (Gasser & Schmitt, 2019). As a result, in gaining legitimation advantages start-ups must purposefully navigate the divergent operating frameworks created by these distinct institutional contexts.

While the link between start-up behavior and its embodying macro environment is well-established in the literature, our knowledge of emerging meso institutional contexts is insufficient to guide entrepreneurial practices (Gasser & Schmitt, 2019). In particular, dearth

research has examined how born-global industries prescribe the norms of start-ups against the backdrop of country-specific macro forces. Furthermore, it is not known how entrepreneurs can acquire legitimacy across these contexts, including as it relates to CSR activity in AI. This scarcity of research is concerning given that legitimacy is particularly crucial for start-ups given their lack of a previous track record upon which resource holders may judge their performance (Zimmerman & Zeitz, 2002). Knowledge of these factors may provide entrepreneurs with insight into how to acquire resources and, in turn, increase the likelihood firm survival. Therefore, the need for a study that can identify the interaction between these two levels of institutions becomes clear. This thesis aims to address this gap through an analysis of the CSR activity employed by start-ups in the born-global AI industry. The focus on CSR allows for pragmatic insight into entrepreneurs' legitimacy building action, given that CSR is central to the meso-level normative values in AI (Gasser & Schmitt, 2019). To guide subsequent analysis, this thesis adopts the following research question: *How do AI start-ups navigate between macro and meso institutional environments?*

In the dynamic environment of new ventures where about one-fifth of business start-ups fail in the first year and about half succumb to business failure within five years (Small Business Administration, 2018), it is critical that we gain a better understanding of how entrepreneurs may acquire legitimacy (Überbacher, 2014). The contributions of this exploration are threefold. Firstly, with the results of this study, practitioners may learn about the pressures faced by start-ups in born-global industries and reflect on strategies utilized for the purposes of accessing key resources for their own young firms. In particular, findings may reveal to entrepreneurs some examples of the CSR practices requisite for the acquisition of legitimacy. Secondly, by understanding the development of governance norms within the field of AI, policymakers will

be better prepared to guide the direction of the responsible deployment of novel technologies. Specifically, it may identify opportunities for strategic participation in industry decision-making as it relates to creating positive outcomes. This is important given the potential for negative consequences to arise should misuse of the technology occur (Rogers & Bell, 2019). Finally, this study offers scholars of entrepreneurship insight into a nascent industry containing international operating norms. In particular, it extends institutional theory to the context of born-global AI industries, which to date consists of novel institutional characteristics (De Castro et al., 2014). Such an approach addresses ongoing calls in the literature for increased research into meso-level institutions (Kim et al., 2016; Droege & Johnson, 2007)

To address my research question, I analyze the cases of the AI industrial clusters in Montreal, Quebec and Kuala Lumpur, Malaysia, respectively. In particular, I utilize a two-tail replication logic approach to purposefully reveal distinctions among contexts chosen based on theoretical sampling measures (Yin, 1994). These clusters were selected based on the sharp distinctions between them in terms of the development of their macro institutional environments, so as to allow for the opportunity to explore their potentially contrasting characteristics (Bettis, Helfat & Shaver, 2016). Montreal's AI cluster is at a mature stage in development, containing a wide range of prominent stakeholders and institutions, as well as clearly enforced formal regulations (McKinsey, 2018). It is widely recognized as a global AI hub. Conversely, Kuala Lumpur's cluster is at an early stage of development and contains a lesser quantity of stakeholders given its relative novelty (Hassan & Abu Talib, 2015). Pressures exerted by formal institutions in this context are predictably weaker given its evolving state of development (Scott, 2007). Furthermore, Malaysia's formal business regulations are significantly less complex and less enforced than those of Canada (World Bank, 2018). Accordingly, it is apt for offering insight

into the opposite end of the theoretical spectrum. The AI industry itself is a well-suited testbed for the study multilevel institutional structures. Common behaviors are expected to be observed by start-ups in each cluster setting given the born-global characteristics of the industry. This may be opportune for providing insight into an emerging meso context (Bradley & Klein, 2016). Data for this study was collected through interviews of policymakers, academics and entrepreneurs, who correspond to, and provide insights into better understanding the macro, meso and micro institutional levels, respectively. Such an approach serves as an effective method to demonstrate the behavior of entrepreneurs in response to multilayered environments (Kim et al, 2016). Additional data was collected from scholarly papers, industrial and governmental reports, and the corporate websites of the organizations under study in order to increase the internal and external validity of the findings (Eisenhardt, 1989).

My results reveal that while macro and meso institutions each influence start-up activity, the norms of the meso environment may guide start-up behavior through isomorphic pressures in contexts where the macro institutions are weak. I uncover that industry decision-makers play a key role in developing the normative values found at the meso level. These were found to include the acceptable and appropriate CSR practices that when utilized could confer legitimacy upon a start-up. The norms that guide these practices were discovered to extend beyond national borders and were enforced through various isomorphic pressures. My findings extend the current literature by providing insight into the influence of norms embedded in the meso environment and their effect on firm decision-making. In particular, the results illuminate how taken-for-granted CSR norms may lead to the successful acquisition of legitimacy through the use of CSR. This contributes to our understanding of how entrepreneurs can acquire resources key for their start-up's survival. For scholars of CSR, this study identifies the mechanisms that explain AI

start-ups' governance practices in heterogeneous contexts. The data collected highlights the specific activities employed by AI start-ups as well as their link to the contexts in which they operate. Beyond the scientific implications of exploring this phenomenon, these findings may offer a greater and richer understanding of entrepreneurship in born-global industries and a more accurate picture of the environment to assist policy makers in making the best use of their legislative and fiscal power.

3.1 Outline of the research

The remainder of this thesis is organized into six parts. The first part consists of a selective review of extant literature. This section provides a summary of formal concepts and theories regarding how entrepreneurial behavior is shaped by institutions. It also includes a review of our current knowledge pertaining to organization's pursuit of legitimacy through the use of CSR activity, in order to identify where the gap exists. The second part elaborates on the research methodology used to address the research question at hand. Measures taken to ensure the study's internal and external validity are also provided. The third part consists of the presentation of the findings of the study. The fourth part will answer my research question by showing emergent theoretical dimensions, including a discussion of the propositions and corollaries that arose through my analysis. The fifth part elaborates on the important discoveries resulting from this exploratory research, including the theoretical and practical implications. I consider the contributions to multiple streams of literature, as well as offer strategic advice to entrepreneurs and policymakers working in nascent industries such as AI. Lastly, this thesis concludes with a mention of the limitations of the current study along with proposals for future research questions to help guide future scholarship.

4 Theoretical Background

In the search to understand the creation, survival and growth of start-ups, legitimacy plays a key role. Legitimacy is a resource for start-ups – one necessary for the acquisition of other resources and for survival – and thus, is a key factor influencing start-up growth (Moser, Tumasjan, & Welpe, 2015). Legitimacy, a social judgement of acceptance, appropriateness, and/or desirability, enables organizations to access other crucial inputs such as capital, technology, networks and customer goodwill, among others. The motivating factor for external stakeholders to give key resources is their belief that the start-up is indeed competent, efficient, appropriate and/or needed (Zimmerman & Zeitz, 2002). A start-up may be perceived as possessing these qualities if its practices and utterances are in clear alignment with its environment (Fisher et al., 2017), which is composed of, and shaped by, institutions (Scott, 1995).

As a result, an understanding of the institutional setting in which a start-up exists is of great importance. This social system evolves the prescribed scripts, rules, norms, values and models that are socially reinforced and come to be accepted by the holders of resources as legitimate (i.e. acceptable, appropriate and/or desirable). Entrepreneurial organizations and their members need to behave in a manner that is consistent with the embodying institutional environment or face sanctions for deviating from the accepted norms (Schein, 2009). This may include heightened levels of difficulty in accessing critical resources. Therefore, a review of institutions and related theory serves as a requisite starting point for investigating start-up behavior. Institutions can be broken down into three distinct elements: regulative, normative and cognitive institutions (Scott, 1995). In the following section I begin by exploring the roots of institutional theory along with the influence of each of these three elements and the mechanisms through

which they exert isomorphic pressures on start-ups. This provides the needed background for understanding the influence of environmental forces. Next, I delve into the literature on the different levels of institutions, including the macro and meso-level structures they are constructed of, which both play a crucial role shaping start-up behavior (Gasser & Schmitt, 2019). Given the linkage between institutions and legitimacy, I then proceed to provide explore the known mechanisms through which entrepreneurs can acquire legitimacy, including a discussion of the increasingly common use of CSR as a legitimacy-building tool (Beddewela & Fairbrass, 2016). Finally, this work results in the identification of the insufficiencies in our current knowledge, and the formulation of the research question that guides subsequent analysis.

4.1 Start-ups under institutional pressure

Institutions construct the social system in which start-ups operate. Through coercive mechanisms, institutions shape the behavior and outcomes of start-ups within their sphere (Scott, 1995). Given that start-ups must rely on their environment for resources, they are forced to cohere to the extant institutional pressures and expectations or risk foregoing scarce inputs. The term "institution" broadly refers to the formal rule sets (North, 1991), ex ante agreements (Bonchek & Shepsle, 1996), less formal shared interaction sequences (Jepperson, 1991), and taken-for-granted assumptions (Meyer & Rowan, 1991) that organizations and individuals are expected to follow. Institutions can be derived from rules such as regulatory structures, governmental agencies, laws, courts, professions, scripts and other societal and cultural practices that exert conformance pressures (DiMaggio & Powell, 1991). They create expectations that determine appropriate actions for organizations (Meyer & Rowan, 1991), and also form the logic by which laws, rules, and taken-for-granted behavioral expectations appear natural and abiding

(Zucker, 1977). Institutions define then what is appropriate in an objective sense, and therefore render other actions unacceptable or even beyond consideration (DiMaggio & Powell, 1991).

4.1.1 Three pillars of institutional theory

Institutional theory is concerned with regulatory, social, and cultural influences that promote survival and legitimacy of an organization rather than focusing solely on efficiency-seeking behavior. Institutional forces have been identified in multiple works, including sociology (DiMaggio & Powell, 1983, 1991), organizational theory (Meyer & Rowan, 1991), political science (Bonchek & Shepsle, 1996), and economics (North, 1990). These are collected and summarized by Scott (2007) in his well-known formulation of the primary categories of institutional forces. This tri-faceted framework lends an appropriate perspective for understanding multiple aspects of the environment surrounding start-ups in a given society. Scott does not view institutions as variables; rather, institutions are social arrangements that have achieved a high level of adaptability to change, that is, resilience (Scott, 1995). Institutions can be viewed as social arrangements that are complex and flexible. They consist of representational elements (verbal and social activities) as well as concrete objects and resources. Extant research looks at institutions that affect how economic transactions arise, are maintained, and are transformed. Such a framework enriches examinations of start-ups by adding a social lens for understanding the context in which entrepreneurial action takes place (Valdez & Richardson, 2013). Drawing upon previous institutional literature, Scott defines the three pillars taken together as the source of conformity and order for a social group. The three pillars that constitute institutions are the regulative (rules), normative (norms and customs), and cognitive (cultural

values and beliefs). Each of these components has related activities, behaviors, and material resources that provide constancy and worth to societal existence. Each of these pillars are embedded in and communicated through social agents (Jepperson, 1991). These agents are interconnected and include various types of systems (i.e., symbolic and relational), beliefs, and practices (Valdez & Richardson, 2013). The next section of this thesis presents an overview of these institutional pillars as well as a description of their influence on organizations.

Regulatory (legal) systems

The regulative pillar of institutions standardizes and limits actions. Vital to this pillar is the ability to set rules (either formal or informal) and establish rewards or punishments that influence future actions (Scott, 1995). Regulatory structures are relatively rational, negotiated arrangements to exchange problems that can change readily (North, 1990). Regulatory institutions frequently include the laws, regulations, and their enforcement. Such institutions are comprised of the sanctions, policies, and political power that codify acceptable corporate behavior (Scott, 2007). These regulative components stem primarily from governmental legislation and industrial agreements and standards. These rules provide guidelines for new entrepreneurial organizations and can lead to organizations complying with laws in order to be perceived as appropriate.

Start-ups, compared with larger organizations, are more affected by administrative costs associated with observance of macro regulations, such as those imposed by government regulation (Verheul, Wennekers, Audretsch & Thurik, 2002). The constraints levied may hinder entrepreneurs who are typically more resource-strapped than their well-established counterparts. Alternatively, some may choose to deviate in order to avoid potential costs but only if the penalties

for doing so are perceived as inconsequential or ambiguously enforced, such as in weak regulatory regimes (De Castro et al., 2014). Nonetheless, for start-ups, the regulative pillar creates pressures to conform to the official "rules of the game", in order to maintain the right to operate. Compliance with such regulatory systems may confer a start-up with regulatory legitimacy, which recognizes and safeguards its ability to exist.

Normative (social) elements

The normative institutional pillar represents models of organizational and individual behavior based on obligatory dimensions of social, professional, and organizational interaction. Normative institutions guide behavior by defining what is appropriate or expected in various social and commercial situations. Normative systems are typically composed of values (what is preferred or considered proper) and norms (how things are to be done, consistent with those values) that further establish consciously followed ground rules to which people conform (Scott, 2007). Normative institutions therefore exert influence because of a social obligation to comply, rooted in social necessity or what an organization or individual should be doing (March & Olsen, 1989).

Research has shown that normative values are set by a variety of social actors including the media, institutional investors, NGOs, educational and professional associations, researchers, and social movement organizations, among others (Shnayder & Van Rijnsoever, 2018). These agents set the socially accepted standard for what constitutes legitimate organizational practice. For start-ups, normative institutions impose additional constraints to those of the regulative environment (Kim et al., 2016). They exert supplementary, and often divergent, isomorphic pressures on entrepreneurs via the stakeholders they interact with. For example, formal rules and

regulations may require certain action of a firm (i.e., compliance with data protection laws), while the informal shared norms may prescribe alternative actions (i.e., proactive consumer data protection measures) (De Castro et al., 2014; Darnall, Henriques & Sadorsky, 2010). Nevertheless, successful conformity with the pressures of this sphere may reward a start-up with perceived legitimacy in the eyes of relevant social actors (Muthuri & Gilbert, 2011).

The key for a start-up to access resources is for it to address the norms and values held by those who control needed resources. For example, values pervasive in the venture financing industry may be most central to accessing financing, unless an unconventional source can be located (Bruton et al., 2009). Another important means of acquiring normative legitimacy is through networks (Zimmerman & Zeitz, 2002). Such networks consist of ties between start-up personnel and individuals, organizations, and associations outside the firm. Networks aid the survival of the start-up by providing credibility, contact, and support for the entrepreneur; building a positive image of the start-up; and facilitating access to resources (Zimmerman & Zeitz, 2002). The new venture that is networked with established organizations in their industry is identified with them, and the networks contribute to the new venture's legitimacy. Thus, the new venture "piggybacks" on the legitimacy of the established organizations (Starr & MacMillan, 1990). Networks are a particularly important function for AI startups given the industry's tightly knit community of practice (Gasser & Schmitt, 2019).

Cognitive (cultural) elements

The cognitive pillar represents models of individual behavior based on subjectively and (often gradually) constructed rules and meanings that limit appropriate beliefs and actions. Cognitive institutions may operate more at the individual level in terms of culture and language,

and other taken-for-grantedness and preconscious behavior that people barely think about (DiMaggio & Powell; Meyer & Rowan, 1991). Furthermore, the cognitive pillar is based on a common shared understanding and provides cultural acceptance and certainty to a new venture. Cognitive institutional elements include cultural values, ideology and identity. They encompass common or shared beliefs about what resembles acceptable corporate behavior.

Cognitive legitimacy can be derived by start-ups from addressing "widely held beliefs and taken-for-granted assumptions" that provide a framework for everyday routines, as well as the more specialized, explicit and codified knowledge and belief systems promulgated by various professional and scientific bodies (Scott, 1995). Scott explains that, in the cognitive view, social systems include roles and rules of action that constitute what the system is and that specify what it means to be an actor in such a system. Actors learn both who they are (identities) and what is expected of them (roles) from contact with ongoing systems. The identities and roles preselect the types of actions considered appropriate, as well as practically effective.

The prevailing cognitive framework prescribes how to view the world and what actions are effective. A start-up may demonstrate that it is acceptable and desirable by endorsing and implementing methods, models, practices, assumptions, knowledge, ideas, realities, concepts, models of thinking, and so on that are widely accepted and considered useful and desirable in one or more of the domains in which it operates (Suchman, 1995). In doing so, it can access resources. In the most basic sense, the start-up tries to put forward the impression that its identity is such that it provides what is needed or desired and will be successful in the environment in which it purports to operate. The exhibition of behaviours that are culturally acceptable within the institutional setting may result cognitive legitimacy (Muthuri & Gilbert, 2011). Hence, it is

in the best interest of resource-constrained entrepreneurs to align their start-ups with relevant cultural institutions.

4.1.2 Navigating institutional environments

Scholars have long accepted that these institutional forces shape the behavior of organizations that operate within their spheres of influence (Estrin et al., 2013). Specifically, the effect of the regulative, normative and cognitive elements is to exert isomorphic pressures upon start-ups. DiMaggio and Powell (1983) suggest organizations converge on similar practices and behaviors and appear similar to like organizations over time due to such pressures. In particular, this occurs through three distinct institutional mechanisms: coercive, normative and mimetic forces. Coercive isomorphism stems from political influence and organizational legitimacy, often conveyed through laws, regulations, and accreditation processes (or outside agency requirements) (Scott, 1995). Through fiscal or legislative measures, political agents may shape the appearance and actions of organizations within their sphere. Normative isomorphism is associated with professional and industry values. For instance, universities may embed graduates with ideals and principles for how they ought to operate their own businesses pertaining to ethical practices. Mimetic isomorphism is described as copying or mimicking behaviors or best practices that result in response to uncertainty. For example, new entrants to a field may imitate the strategy of successful incumbents when faced with doubts about how to compete. In practice, these three forces produce an environment that induces organizational conformity, or homogeneity, through pressure to appear legitimate, competition, mandates associated with funding, and influential professional group and network values, amongst others (DiMaggio & Powell, 1983). Our current knowledge of how entrepreneurs navigate these isomorphic forces in the context of a born-global industry is insufficient with regard to key decision-making.

Isomorphic influences occur when organizations are heavily impacted by institutional environments that dictate how legitimate, successful organizations should look and behave and constrain the ability and motivation of their decision makers to conceive of and implement certain types of organizational change (Zajac & Kraatz, 1993). As a result, such environments often lead to the uniform adoption of certain practices and structures by start-ups and to the persistence of these practices and structures, independent of rational efficiency or effectiveness concerns for the particular organization. Such institutional pressures are greatly context-specific for the reason that unique geographical settings tend to contain distinct institutional arrangements (Scott, 2007). Research has shown that the strategic behavior that entrepreneurs exhibit in heterogeneous locations may differ due in large part to variation in the characteristics of their respective environments (Beddewela & Fairbrass, 2016). For example, the legitimacy-building mechanisms utilized by firms in mainland China were found to be markedly different from those mobilized by managers in nearby Taiwan (Ahlstrom, Bruton, & Yeh, 2008). Among the underlying causes of this result, the authors surmise, is the less intrusive role of government in Taiwan. Coercive pressures enforced by macro level institutional agents created distinct operating frameworks that resulted in divergent firm behavior. Parallel results were found in other studies that compared legitimacy-seeking behavior across developing economies, including India and its surrounding region, as well as Latin America (Bruton, Ahlstrom, & Puky, 2009). This suggests the value of understanding contextual approaches to management and reemphasizes the importance of environmental constraints to start-ups (Hitt, Ahlstrom, Dacin, Levitas, & Svobodina, 2014). To date, much analysis has investigated how institutions affect entrepreneurship through a macro lens (i.e., national or regulatory level), including namely developing regulative systems such as those of emerging economies (Porter & Kramer, 2019;

Brixiova, 2013; Amorós, 2009; Griffiths & Zammuto, 2005). In the case of artificial intelligence, each country constructs a unique operating framework for the start-ups within its regulative scope. Laws, sanctions and policies are developed and enforced to heterogeneous extents in each unique setting. Isomorphic pressures are highly likely to digress on a contextual basis. Therefore, to examine only the influences of the nation-specific macro environment would leave glaring holes in our understanding of the global AI phenomenon, as industry norms at the meso level are known to span across borders (Gasser & Schmitt, 2019). What's needed is research that can link and identify the interplay between the macro and the meso environment. This thesis aims to contribute to addressing this objective.

Meso institutions play a crucial role in guiding actions at the individual and community level (Elsner, 2010). Defined as the connective tissue that links macro and micro level structures (Kim et al., 2016), meso institutions serve as a bridge built on communal values that accrete into a coherent set of well-known rules and taken-for-granted norms (De Castro et al., 2014). Most commonly, it is cited in the literature as the industry or sector in which start-ups operate (Rasiah, 2017), and is described as shaping the framework of entrepreneurs through its effect on firm infrastructure, including policies, standard operating procedures, rules and guidelines (Townsend, Hunt, McMullen & Sarasvathy, 2018). Meso institutions have been shown to increase in importance in cases where formal institutions are weak or undergoing significant change (De Castro et al., 2014; Droege & Johnson, 2007). Unlike macro environments where regulative processes and bureaucracies lead to a relatively static state over time, the meso environment is dynamic and constantly evolving (Droege & Johnson, 2007). Different interests from various social agents contribute to the deliberate and conscious effort to construct more acceptable and desirable conditions (Campbell, 2014). For example, the community of informal

entrepreneurs in Dominican, those who own unregistered businesses, have been found to establish a distinct set of informal operating rules based on what's best for the inclusive economic interests of the group, such as the actions that will allow them to remain informal and avoid taxation, amongst others. (De Castro et al., 2014). In meso institutions, the goal is to allow for and encourage institutional entrepreneurship on the part of those embedded in its sphere. These institutions can be identified in local geographically defined communities, but they can also refer to communities of practice and communities bound together by political, ethnic and economic ties. Furthermore, they can be formal, with codified rules, or informal, with rules that members know and follow but that no one explicitly states (Helmke and Levitsky, 2004).

The instrumentality of meso-level forces has been well-documented. It has been found that in emerging economies, meso institutions can fill the void created when macro institutions remain under development (Kim et al., 2016). The symptoms of which can be limited enforcement of legal requirements and tacit complicity of organizations to circumvent legal institutional frameworks. The meso provides an informal bridge between cultural and social values to those of formal policymaking through normative measures (Kim et al., 2016). An example of this phenomenon was observed by Bruton, Ahlstrom and Puky (2009) in their study of vital entrepreneurial activity within the venture capital industry across multiple contexts. These researchers found that the industry itself exhibits a consistent influence across national boundaries through industry-wide standards and principles, including in developing countries where formal regulation was ambiguous. Simply put, meso institutions are the anchor around which informal norms develop despite the codified or non-existent rules to the contrary (De Castro et al., 2014). For the purposes of AI, the global industry serves as the community of practice in which inherent connections amongst actors within the profession exists (Gasser &

Schmitt, 2019). However, given the institutional differences subsistent at the country level, it's unclear how industry actors in unique contexts navigate between distinct formal policy measures and profession-wide norms (Wagner & Delacroix, 2019). Current theory has yet to explain how this unfolds despite its implications from a practical and theoretical perspective.

4.1.3 Institutions and start-up legitimacy

The fundamental purpose of navigating institutional environments is primarily to acquire legitimacy in the eyes of important stakeholders and subsequently access crucial inputs (Fisher et al., 2017). Thus, institutional theory forms a foundation for understanding how entrepreneurs not only create new products and services, but how they must also seek legitimacy for their new ventures (Suddaby, Bitektine & Haack, 2017). As we've seen, each of the three institutional pillars impacts legitimacy in pervasive ways. It is important that entrepreneurial firms legitimize their activities if they are to secure resources and support from stakeholders and society. Access to resources is less problematic for established organizations because past performance itself often provides legitimacy and access to resources (Zimmerman & Zeitz, 2002). Society judges an organization as appropriate partly because of its past performance. Established organizations can use their performance record to acquire legitimacy and access resources. The new venture cannot do so, however, because of its limited or nonexistent record of performance. Since most new ventures lack a track record (i.e., paying customers, a strong financial history) and are low-power actors (Santos & Eisenhardt, 2009), they often struggle to garner endorsements from powerful institutional actors, who often question their purpose. AI start-ups are likely to face this challenge, along with the additional task overcoming of newness/unfamiliarity associated with the nascent industry within which it operates (Zuzul & Edmondson, 2017).

Research has suggested that there exists a legitimacy threshold for new ventures, below which an entity is perceived as illegitimate and is unlikely to attract resources and above which it becomes a significantly more desirable recipient for resources (Zimmerman & Zeitz, 2002). This threshold is defined as the point at which "an organization moves from an untenable collection of resources to a potentially sustainable enterprise" (Rutherford & Buller, 2007). Start-ups that are able to effectively navigate across this threshold have a higher chance of survival than those who do not (Nagy, Rutherford, Truong & Pollack, 2017). Given the importance of legitimacy for start-ups, we need to understand how new ventures can acquire high levels of legitimacy. A consensus in the literature supports the premise that that start-ups can proactively engage in legitimation strategies for this purpose and subsequently enhance their long-term prospects. This involves pragmatically proving its value through strategic action to demonstrate alignment of values and beliefs prescribed within the institutional environment (Fisher et al, 2017), or to change the environment itself (Zimmerman & Zeitz, 2002). This may include conformance with the environment (i.e., "following the rules" and adopting traditional practices), selection of the environment (i.e., choosing a setting that is favorable to the organization), manipulating the current environment (i.e., influencing the norms and values of society) and/or creation (i.e., introducing new operating practices, models, and ideas). Common to each of these legitimation strategies is the need for start-ups' activities to coincide with system-wide norms, beliefs, and rules (DiMaggio & Powell, 1983). Increasingly, CSR has become a widely used mechanism for organizations to achieve this objective and attain the judgement of legitimate (Beddewela & Fairbrass, 2016; Fernando & Lawrence, 2014; Zhao, 2012). This is true for the polarizing AI field (Gasser & Schmitt, 2019; Wagner & Delacroix, 2019), yet current literature is insufficient in understanding its application and instrumentality.

4.2 The pursuit of legitimacy via CSR

CSR as a legitimacy-building tool

In today's socially conscious environment, stakeholders, such as consumers, employees, investors, local communities, government, non-profits, and media, expect companies to be socially responsible (Peloza & Shang, 2011). In other words, institutional norms demand that a company be aware of its impact on various stakeholders and honor the "social contract" between business and society. A company's CSR actions comprise of various strategies and operating practices that contribute to the long-term economic, social, and environmental wellbeing (Kotler & Lee, 2005). Through CSR activity, a company enacts and upholds the socio-cultural norms and regulatory policies in its institutional environment and attains legitimacy (Palazzo & Scherer, 2016).

In turn, legitimacy drives the business outcomes of CSR as stakeholders willing to offer their support for companies that have achieved legitimacy (Luo & Bhattacharya 2006). There has been ample evidence of CSR being effectively utilized as a legitimacy-building mechanism. In the consumption domain, a positive record of CSR fosters consumer trust in the company that can lead to increased consumer patronage (Du et al., 2011). In the employment domain, socially responsible companies enjoy a significant advantage in attracting, motivating, and retaining talented employees (Greening & Turban, 2000). In the investment domain, a positive CSR record attracts socially responsible investors (Hill et al., 2017). For multinational enterprises situated in developing countries, CSR can contribute to legitimation advantages through reputation and relationship-building mechanisms (Beddewela & Fairbrass, 2016), while firms operating in

controversial industries, such as oil and gas, may utilize CSR action to meet and satisfy the needs of skeptical resource holders (Du & Vieira, 2012).

As a result of its instrumental effectiveness, CSR has emerged as a current trend in the pursuit of legitimacy (Vishwanathan, van Oosterhout, Heugens, Duran & Van Essen, 2019). Behind the implementation and evaluation of CSR lies the institutions which provide the logics of its appropriateness (Beddewela & Fairbrass, 2016). In effect, they are responsible for shaping and prescribing the nature and form of the CSR activity employed. Particularly, the CSR action of organizations has been commonly viewed as being expressly linked to the regulative, normative and cognitive values pervasive in the embodying context (Rathert, 2016). Therefore, this thesis draws on Scott's (2007) previously discussed three pillars of institutions to examine how start-ups engage in socially responsible behaviors in response to their environment.

Regulatory CSR activity

The regulatory pressure for CSR impacts firms' CSR activities through government regulation and industrial self-regulation (Campbell, 2007). In particular, policymakers may utilize fiscal and legal measures to encourage CSR (Moon & Knudsen, 2018), while codified documents and agreements within an industry or association may create similar isomorphic pressures (King & Lenox, 2000). Regulatory pressure may also influence customer reactions, and in particular, shape their preferences, monitoring, and even boycotts (Campbell, 2007). It is essential that start-ups take these factors into account accordingly. Individual governments generate different regulatory pressures towards CSR, specifically by endorsing or facilitating particular governance methods (Kim, Amaeshi, Harris, & Suh, 2013). Being politically embedded, international regulative pressures on CSR may lead towards global approaches.

These include the demands of international organizations such as the Global Reporting Initiative and the International Organization for Standardization 26000, and the influence of non-governmental organizations (Rodriguez, Siegel, Hillman, & Eden, 2006). International firms may respond to these broad initiatives in order to maintain legitimacy with their global customers, stakeholders and peers (Dunning, 2003).

At the national level, the state establishes hard regulations which act as a coercive mechanism for CSR uptake whilst industries establish 'soft' regulation to which their members voluntarily adhere (Marquis et al., 2007). The capacity of the government and industry associations to monitor behaviours and enforce regulations where they exist is of crucial importance as these institutions do not always enforce regulations effectively (Matten and Moon, 2008). Weak macro contexts have been suspected of declining to enforce standards and regulations or easing business regulations relating to CSR as an inducement for foreign investment (Moon and Vogel, 2008). Looking to developing country settings, such concerns are not unfounded. For example, some governments have been reluctant to impose regulations for fear of discouraging domestic investment, and such fears have mitigated the introduction and enforcement of more stringent regulations for companies (Muthuri & Gilbert, 2011). In addition, inefficient legal systems and uncertain regulatory frameworks allow for different interpretations and varying degrees of CSR compliance (Marquis et al., 2007). In some cases, organizations may seek to control or influence regulators in ways that bend them towards the will of the organizations they are supposed to oversee (Campbell, 2007). Therefore, different regulatory systems can produce different forms of CSR, and it's in the best interest of start-ups to intently take into account environmental forces during decision-making processes. Our current

knowledge of these nuances across borders not sufficient enough to guide AI entrepreneurs in their decision-making.

Normative CSR activity

CSR practices are also influenced by social norms, values and expectations (Scott, 1995). Corporations become socialized into role-expectations (e.g. acting as 'good corporate citizens') to which they must conform in order to remain socially relevant and perceived as acceptable (Brammer and Millington, 2004). Normative values for CSR are set by a variety of social agents including the media, institutional investors, NGOs, educational and professional associations and social movement organizations, amongst others. In effect, these actors set standards for legitimate CSR practices (Beddewela & Fairbrass, 2016). They validate start-up activity based on existing normative frameworks, exert pressure on entrepreneurs to conform to social norms, and encourage and influence the adoption of structures, practices, or procedures deemed socially responsible in that context (Matten and Moon, 2008). Organizations situated within a common institutional environment tend to exhibit similar CSR practices due to the normative isomorphic pressures faced (Khan, Lew & Park, 2015). For example, nearly every multinational in thes coffee industry prepare a similar CSR report outlining their sustainable growing practices given the normative demands for responsible production processes (Bradley & Botchway, 2018). In exchange for aligning with normative values, entrepreneurs may have a higher propensity to receive support from relevant social agents, many of whom may provide key resources (Zimmerman & Zeitz, 2002). Therefore, start-ups must seek to be responsive to stakeholder needs, and in turn, these stakeholders confer normative legitimacy to start-ups that adhere to

societal expectations. However, what remains unclear is how such normative pressures influence start-up activity within an emerging global industry.

Cognitive CSR activity

Cognitive pressures also enable or constrain business activity through a number of mechanisms (Kim, Amaeshi, Harris & Suh, 2013). First of all, CSR policies and behaviors in unique countries may be based on the respective cultural traditions and values (Welford, 2005). For example, as suggested by Marquis et al. (2007), corporations may identify and support arts as a social issue if the local community identifies with, and values, cultural artefacts. Peer pressure is another effective means of facilitating socially responsible behavior. Isomorphism of CSR may occur as organizations mimic the best practices of company leaders irrespective of their industry (Matten and Moon, 2008). Isomorphism can also result from the pressure exerted on companies through industry standards and codes of conducts. At the global level, this may play out in global networks, for example, the UN Global Compact is designed to leverage institutional pressures through mimicry within a network (Muthuri & Gilbert, 2011). A number of flourishing initiatives specific to AI have emerged in recent years. For instance, powerful technology companies are publishing formal expressions of norms as a mode of self-regulation, which function as an articulation of ethical guidelines or principles. Microsoft recently published a book that included a description of their AI ethical principles[1]. It's too early to tell whether this is a sustaining trend, but it is a noteworthy development in the landscape of responsible values for AI. Concurrently, initiatives for responsible AI governance are stemming from third party

[1] Microsoft, The Future Computed (Redmond, CA: Microsoft Corporation, 2018), https://1gew6o3qn6vx9kp3s42ge0y1-wpengine.netdna-ssl.com/wp-content/uploads/2018/02/The-Future-Computed_2.8.18.pdf.

organizations. Prominent examples include the principles from the OECD's Committee on Digital Economy Policy[2] and a report on ethical guidelines from the European Commission's High-Level Expert Group on Artificial Intelligence (AI HLEG)[3]. Nevertheless, a single unifying initiative has not been formally adopted on the global scale leaving a patchwork of governing standards to guide the industry (Gasser & Schmitt, 2019). As a result, start-ups situated in different contexts face distinct cognitive demands pertaining to CSR activity. The application of current theory is not yet adequate to explain these demands.

4.3 Assumptions of this study

Although the strategic responses of start-ups to macro environmental influences have been identified, and the role of the meso environment in prescribing informal norms well-known, how firms navigate these two levels of institutions has been unexamined to date. Predicated on findings from the review of the literature, this thesis is underpinned by the assumption that start-ups may strategically steer through multiple levels of institutions. It is presumed that CSR may be employed, either latently or deliberately, by entrepreneurs in order to manage the enabling and constraining rules and norms they face. Subsequent analysis assumes that such CSR activity can be effectively utilized as a means for acquiring legitimacy within distinct institutional contexts. This assumption is believed to be reasonable based on previous research which has highlighted the ability of entrepreneurs to purposefully navigate multiple institutional environments in regard to firm survival (De Castro et al., 2014). Furthermore, as we've seen, a

[2] "OECD Moves Forward on Developing Guidelines for Artificial Intelligence (AI)," OECD, February 20, 2019, http://www.oecd.org/going-digital/ai/oecd-moves-forward-on-developing-guidelines-for-artificial-intelligence.htm.

[3] "Ethics Guidelines for Trustworthy AI." (European Commission High-Level Expert Group on Artificial Intelligence, April 8, 2019), https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai.

number of CSR scholars agree that contemporary firms have the propensity to engage in socially oriented activities as a method for legitimacy-building (i.e., Beddewela & Fairbrass, 2016; Rathert, 2016; Du & Vieira, 2012).

4.4 Research question

Upon review of extant research, the need for further exploration of how start-ups navigate multi-level institutional structures becomes clear. The current literature recognizes the ability for institutions to shape start-up behavior through various isomorphic pressures, as well as the use of CSR by start-ups as a legitimacy-building tool. However, a gap in our understanding emerges upon examining the navigation of distinct institutional forces with regard to the acquisition of legitimacy. The role of an emerging meso context and how entrepreneurs respond to its imposing forces in parallel to those of the macro context remains an important area of scientific and real-world interest. The concept of a born-global industry remains similarly understudied despite in pragmatic implications. The blurred national boundaries of AI and the distinct country-specific regulations emerging have thus produced a large gap in our understanding. Against this backdrop, the following research question emerges to guide this study's analysis:

How do AI startups navigate between macro and meso institutional environments?

Emergent findings from this exploration can provide important theoretical insights. This knowledge may offer scholars an in-depth look at how entrepreneurs navigate an emerging meso environment by extending the literature to examine the AI industry context. Such findings may also be applicable to other nascent fields. Furthermore, it contributes to our understanding of the emergence of born-global industries, a previously unexplored domain. In addition to the scientific interest in studying this phenomenon, it is hoped that a greater and richer understanding

of CSR may provide a more accurate picture of the AI environment to assist policy makers in making the best use of their legislative and fiscal power. From the standpoint of entrepreneurs, this research may allow a glimpse into the strategic activity of firms in the AI industry, allowing for reflection on one's own decision-making with specific regard to how best to build legitimacy. Finally, the results can play a role in addressing the grand challenge of global governance in a rapidly advancing field that has the potential for both significant societal benefits and challenges.

5 Methodology

5.1 Research Design

To address my research question, I utilize a qualitative research methodology and in particular an embedded multiple case study approach. The appropriateness of using this research design is presented in the following section. In particular, I discuss why the chosen methodology is needed for this study. In addition, I consider the use of a two-tail replication logic approach as suggested by Yin (1994), utilized in order to capture an understanding of the born-global AI industry within the two distinct contexts. This involves a review of the theoretical and literal replication required in the selection of contexts and participants. Next, an overview of the research procedures utilized to best portray an accurate picture of the findings (Eisenhardt, 1989) is deliberated. Finally, I conclude this section with a discussion of the measures used to ensure the validity of the results.

5.1.1 Rationale for qualitative design

The exploratory nature of the proposed research question suggests the need for a qualitative research methodology. Qualitative research is utilized when the researcher wants to understand how individuals interpret, construct, and attribute meaning to their experiences (Merriam, 2009). Baxter and Jack (2008) describe qualitative research as studying things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. It is a broad approach to the study of social phenomena and aims to understand how people make sense of their world and the experiences they have in the world (Marshall & Rossman, 2011). As such, a qualitative approach provides an opportune means to understand the decision-making processes of AI entrepreneurs.

According to Merriam (2009), the following four features are key to understanding the nature of qualitative research: (1) The focus is on process, understanding, and meaning, (2) the researcher is the primary instrument of data collection and analysis, (3) the process is inductive, and (4) the product is richly descriptive. In terms of research design, Lapan and Armfield (2009) argue the importance of implementing the approach that is most appropriately and effectively addressing the research questions of inquiry. These factors intimate the use of qualitative methods to understand start-up activity in relation to contextual factors. Accordingly, this study adopts this approach.

5.1.2 Explanatory case study design

The first and most important condition for deciding which specific qualitative research method to apply was determined by the type of research question(s) being asked. "How" questions, like the one being explored, favor the use of an explanatory case study design and seek to explain how a phenomenon occurs and asks about contemporary events over which the investigator has little or no control (Yin, 2009). In terms of the research process, Yin (2009) defines case study research as "an empirical study that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). As a form of qualitative research, case studies allow the researcher to search for meaning and understanding, emphasize the researcher as the primary instrument of data collection and analysis, strategize inductive investigations, and conclude with in-depth and rich descriptions of a phenomenon (Merriam, 2009).

A key characteristic of case studies is the notion of boundedness, in which a researcher is able to study a case in its entirety for a time frame consistent with the research questions (Putney, 2010). Concurring, Lapan and Armfield (2009) provided additional common characteristics of most case studies, which included (1) the contextualization of a case, where certain details are provided for the reader, (2) triangulation of data collection methods and data sources, (3) purposeful sampling, where information-rich sources are sought because that is where the answers to the study questions are likely to be found, and (4) Summaries are used to review and synthesize results offering interpretations that do not reflect judgments.

Although there are varying types (e.g., single-case holistic designs, single-case embedded designs, multiple-case holistic designs, and multiple-case embedded designs), case studies are chosen because the researcher is ultimately interested in insight, discovery, and interpretation (Yin, 2009). While all designs can lead to successful case studies, Yin (2009) suggests when the opportunity allows multiple-case designs are preferred over singe-case designs.

5.1.3 Embedded multiple case study

For the purpose that was set forth in this study, an embedded multiple-case study design offers the opportunity to explore, rich and in-depth, the decision-making process of entrepreneurs with regard to their perspective on the environment and the associated CSR activity, or lack thereof. In an embedded design, subunits reside within the main unit (Yin, 2009). These embedded units correspond to national regulations at the macro level, the industrial norms at the meso level, and the CSR actions of AI start-ups at the micro level.

The rationale that guided the selection of this explanatory embedded multiple-case study design included: (a) the findings and interpretations are more robust and compelling than a

single-case design (Herriott & Firestone, 1983); (b) the opportunities for comparison of similar and/or contrasting results (Lapan & Armfield, 2009); (c) the outcomes are presented as individual portraits that contribute to our understanding of the issues, both individually and collectively (Putney, 2010); and (d) viewing contexts through multiple lenses rather than one isolated case provides a holistic and meaningful understanding of a complex phenomenon (Yin, 2009). In addition, Yin discusses the use of analytic generalization as "…the opportunity to shed empirical light about some theoretical concepts or principles…" (Yin, 2013, p. 40). Yin (2013) also notes that analytic generalization can result in corroborating or refuting the theoretical framework used in designing a study or extending the original theory with new concepts uncovered in the attempts to illustrate the concepts in a case study. The use of this qualitative method allows for the researcher to effectively do both, and in effect extend theory on entrepreneurial behavior.

5.2 Replication logic

This study utilizes a "two-tail" replication design. Yin (1994) advises that researchers use this approach when analyzing cases from two extremes in order to demonstrate dissimilar outcomes based on theoretical conditions. For our purposes, this study is concerned with the evaluation of the norms prescribed by a born-global industry in parallel to the isomorphic pressures of heterogeneous national regimes. As such, theoretical replications were undertaken in the purposeful selection of each industrial cluster, given their distinct institutional environments, as they are expected to produce contrasting results (Bettis, Helfat & Shaver, 2016). Individual countries each adopt their own unique approach to the regulation that promotes and governs AI (Gasser & Schmitt 2019). The Canadian example of Montreal represents a mature macro institutional environment with strong acceptance of AI, well-enforced regulation,

and governmental support. It is widely recognized as a principal hub in the field (McKinsey, 2018). It's been argued that high levels of institutional development is associated with strong isomorphic pressures given the imposing interests of the multitude of social agents present (Scott, 1995). For these reasons, it is suitable to serve as one extreme of interest. Conversely, Kuala Lumpur represents an emerging macro environment with still-developing regulations and a lesser scale of major players and established entities (Hassan & Abu Talib, 2015). Its' formal institutional pressures are predictably weaker given the context's evolving state of development (Scott, 2007). Accordingly, it is apt for offering insight into the opposite end of the theoretical spectrum. On the whole, these distinct contexts serve as a strong example to highlight the effects heterogeneous institutional forces, and more explicitly, how start-ups purposefully navigate these divergences. Past research has examined how the enforcement of laws take shape within contexts of both high and low development (i.e., Rathert, 2016), but entrepreneurs could benefit from an analysis of both as it may assist in selecting the most strategic location to situate their start-ups.

Literal replication was undertaken in the selection of the AI industry. This type replication assumes that the cases selected are similar and the predicted results will be similar too (Bengtsson, 1999). Common behaviors are expected by start-ups in each cluster setting given the born-global characteristics of the industry of AI. The national boundaries of AI are blurry (Wagner & Delacroix, 2019). Industry practitioners from various parts of the world engage in common practices which has been sometimes attributed to the technology's ability to scale internationally (Gasser & Schmitt, 2019). For this reason, it represents an appropriate opportunity to study start-up behavior across contexts in a nascent industry, the findings of which may be applicable to further novel and pioneering fields.

5.3 Research procedures

Data collection

The process of collecting data for this study involved the pragmatic selection of contexts and participants. I applied qualitative interviews as a means of data acquisition utilizing a semi-structured interview guide as the primary instrument for gathering information. Expert consultation involving academics and policymakers provided insight into the macro and meso level forces, while interviews of start-up decision-makers allowed for insight into firm activities at the micro level. Reviews of corporate websites, industry reports, government documents and academic papers also played a significant role in the study's analysis (Eisenhardt, 1989). This archival data allowed the researcher to reliably capture the institutional pressures exerted in each of the research settings as well as served for triangulation purposes on the part of start-ups' behavior. These research activities and the steps taken in the analysis of collected data are elaborated on further below.

Selection of contexts

The analysis of heterogenous institutional settings is requisite for the comparison of entrepreneurial activity in the context of unique environments. The sharp distinctions between the Montreal and Kuala Lumpur AI clusters allow for such examination. Montreal's cluster is at a mature stage in development, containing a wide range of prominent stakeholders and institutions, as well as clearly enforced formal regulations. Kuala Lumpur's cluster is at an intermediate stage of development and contains a lesser quantity of stakeholders given its relative novelty. Furthermore, Malaysia's formal business regulations are significantly less complex and enforced than those of Canada (World Bank, 2018), allowing for the comparison

of dissimilar macro institutional environments, in alignment with the theoretical replication logic. For these reasons, the two clusters were selected and first-hand data from agents within each of these geographical settings was collected. Additional data was gathered through archival sources, including governmental and industry reports, which allowed for the researcher to effectively map out each of these contexts in terms of emerging environmental factors (Sonpar & Golden-Biddle, 2008).

Selection of Start-ups

Purposeful sampling was also used to determine the participants, who composed one of the embedded units of analysis. In particular, start-ups whose offerings may present a potential social concern were chosen for evaluation based the previously acknowledged link between CSR and firm reputation (Cai & Pan, 2012). In addition, this study sought to explore the behavior of start-ups with traits considered to be typical within the given context. This meant selecting start-ups whose actions weren't extreme or deviant from the contextual norm (Collinson & Rugman, 2010). The identification process was completed through a review of extant reports on the local industrial cluster as well as expert consultation. Participants were vetted specifically to ensure that they did not represent an atypical case based on their history, potential ethical issues or organizational characteristics. This served to ensure that the start-ups weren't a significant outlier and, in effect, may increase the potential generalizability of the findings. Studying firms considered to be archetypal within the context can also increase the reliability of findings emerging from the cross-case comparison (Yin, 1994).

It was important to involve only those subjects presumably qualified to provide the best insight into the specific phenomena of interest (Charmaz, 2000). As with case selections, this

also allowed the investigator to discover, understand, and gain insight from a specific sample from which the most could be learned (Merriam, 2009). Data for this study was collected through interviews of policymakers, academics and entrepreneurs, who correspond to, and provide insights to better understanding, the macro, meso and micro institutional levels, respectively. Such an approach serves to demonstrate the behavior of entrepreneurs in response to macro and meso level factors.

At the entrepreneurial level, in depth interviews were conducted with key decision-makers in each organization. CEOs and senior managers were chosen because they possess the most comprehensive knowledge of the characteristics of the organization, its strategy and performance (Miller & Toulouse, 1986). Thus, this provides the best opportunity to identify startups' responses to the influences of their institutional environments. Relatedly, interviews of academics and government officials allowed the researcher to capture clear understanding of the macro and meso environments. As such, purposeful sampling of these participants increased the prospect that the research captured an accurate characterization of the target population. A triangulation of sources was utilized in order to enhance the credibility and consistency of the reported characteristics of the distinct levels of institutions. The CSR strategies of firms reported in interviews were corroborated through an analysis of firms' websites and online reports. Descriptions of the start-ups interviewed, including, denomination for purposes of this study, informants interviewed, products/services offered, and potential implications of their AI technology, are presented in Table 1. Information pertaining to the industry experts interviewed are presented in Table 2.

Table 1. Start-up Informants

Start-up	Informant(s)	Product/Service Description	Potential Negative Consequences
MS1	CEO/Founder	Educational tutoring platform connecting students globally through the use of AI systems. Analyzes student learning based on personal information and compares it to large database.	• Bias associated with AI and users based on gender and race • Potential to cut jobs of existing tutors • Collects data and personal information of students
MS2	CEO/Co-founder COO/Co-founder	Takes video or imagery as a data input and extracts meta-data out of that input. Using CCTVs, software extracts information regarding what's happening within a location through computer vision. Mostly used in spaces like stores and malls so that managers can make decisions based on the information provided regarding what's happening in the physical space.	• Collecting unsolicited personal information of customers • Implications regarding privacy • Collecting unsolicited personal information of customers
MS3	Co-founder	Uses deep Learning to replicate the human judgment about which images or video sequences found on social media are the best, where "best" is to be defined by the user. This generates optimal images, which have a direct positive impact on viewer engagement and image data management	• Content collection from social media users, including written text, as well as images. • Implications regarding privacy
KLS1	Director, Vice President of Strategy	Processes visual information in a real time retail environment by taking a snapshot of and analyzing customers' facial elements. It then processes the information against database of known facial demographics which includes emotion, ethnicity, age and gender in order to understanding these characteristics of its customers.	• Surveillance of customers and analysis of their emotions, age, gender, ethnicity.
KLS2	CEO/Co-founder COO	Uses machine learning to analyze live and historical data to return actionable insights into high-tech equipment and machinery, in real time. Has the ability to flag suboptimal operations and identify impending failures prior to their occurrence.	• Involves highly sensitive data pertaining to vital operations of customer's enterprises. • Misuse could lead to costly complications, such as damage to crane or buildings, production interruptions, etc.
KLS3	Founder/CEO	Chabot software created to chat like a human in chat apps such as Facebook messenger. AI autonomously answers questions and performs tasks using machine learning to automate previously human tasks in real time.	• Replaces human element within interactions between businesses and their customers. • Collects data from the people it interacts with and uses it to get smarter through machine learning.

Table 2. Expert Informants

Interviewee	Context/location	Denomination
Full Professor & Consultant at Government Agency	Kuala Lumpur	KLP1
Associate Professor & Director of AI Research Lab	Kuala Lumpur	KLP2
Full Professor in AI	Montreal	MP1

Background and Context Data

A number of secondary data sources served a key purpose in this research. In particular, this study reviewed government documents that included annual statistics and overviews of the national AI sectors, industry reports produced by trade associations and local investment agencies that highlight funding sources, and academic articles that previously mapped out the development of the industrial clusters under study. This archival data is vital in capturing the nature of institutional environments of each cluster and their associated pressures. For example, these sources were used to identify the relevant institutional agents present, their demands, and the pressures and influence they exert upon actors within their sphere. This included the identification of pertinent actors identified in the literature, such as governmental agencies with a stake in the AI sector, funding bodies, and industry associations, among others. The collected information was used in corroboration with related data gathered via interviews of industry experts (Eisenhardt, 1989). Such triangulation may offer a better understanding of the pressures exerted and may increase the reliability and consistency of this study's results (Yin, 2003). Furthermore, a clear understanding of the environmental forces provides the requisite starting point for the subsequent inquiry into the activities of start-ups. On the part of start-ups, company websites and related reports from the selected participants were also thoroughly reviewed in order to triangulate the interview data, highlight historical information, and reduce negative effects resulting from potential biases related to recency or misinterpretation (Podsakoff, MacKenzie & Podsakoff, 2012).

Qualitative interview

Interviews are utilized as a primary means of understanding start-up behavior in the context of their institutional environment. Merriam (2015) describes the main purpose of a research interview as "obtaining a special kind of information," including unobservable behavior, feelings and interpretations of the world, as well past events that are difficult to replicate. Interviews allows the researcher to understand what is "in and on someone else's mind" (Patton, 2015). This technique allows for a deepened understanding of decision-making and is highly appropriate when conducting intensive case studies (Merriam, 2015). As such, this method provides a strong method for understanding start-ups' perception of institutional forces, as well as the logics behind their legitimacy-seeking activity.

Semi-structured interviews consisting of flexibly worded and open-ended questions were conducted. This format of interview allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic (Merriam, 2015). This elasticity is important given the exploratory nature of each case study. Interviews were conducted over a period of approximately six months. They lasted approximately 60-75 minutes, and questions varied from fairly general to specific inquiries, so to allow the researcher to guide the conversation in any direction of interest as well as to allow participants to provide their own meaning to the phenomenon at hand. Typically, the interviews were one-on-one between the interviewer and the participant. In some cases, multiple respondents from a start-up partook in the interview so as to allow for greater knowledge of decision-making. With regards to the logistics, the researcher reached out to participants via email initially to determine interest and availability of interviewing. Upon receiving positive confirmation, participants were contacted via phone to schedule interviews. Once the interview appointments were confirmed, the

researcher arranged his schedule accordingly to meet with the participants for their interviews during various days, times and locations.

Upon arrival to the interview, the participant was welcomed, thanked for participating, and assured of confidentiality. Prior consent was sought from participants to record the interviews via audiotape. The researcher then reminded the participant of the purpose of the study and explained the process of the interview. In concluding the interview, the researcher summarized the session and checked in with the participant to make sure the information had been captured accurately. The interviewee was allowed time to respond and clarify anything the researcher may have misrepresented. The interviewee was thanked for participating in the individual interview and their willingness to elaborate on practices in the AI industry.

A common interview guide (see appendix) was utilized for all interviews and across both research contexts so as to allow for the imminent replication logic to be observed (Yin, 1994), with the expectation being that firms within different settings will navigate their environment in distinct ways. Interview questions were intentionally left open-ended, with prompts used to expand discussion and to further elicit the views and opinions of the participants (Creswell, 2003). Probes were developed to explore key issues in depth as they emerged in the interview context. Relevant documents and archival data about the organization were collected at the time of interview to provide triangulation of reference material for thematic analysis and for post research inquiry (Creswell, 2003). The interviews were recorded and transcribed verbatim in order to maintain accuracy and subjected to thematic coding based on the concepts and themes identified in the entrepreneurship and institutional literature.

5.3.1 Data analysis

The analysis of collected data followed procedures set out by Gioia, Corley and Hamilton (2013) in light of its effectiveness in contributing to the early stage of theory development (such as the case in the AI literature), its' potential to bring rigor to qualitative research. I followed three key steps to make sure that empirical observations were "connected to extant theoretical ideas to generate novel conceptual insight and distinctions" (Langley, Smallman, Tsoukas, & Van de Ven, 2013). This analytical process requires researchers to systematically examine competing theoretical explanations in light of emerging empirical evidence. This process occurred around three iterative steps.

Step 1. Event-History Analysis and Open Coding

I started by creating a database based on the chronology of material and field notes. This step was useful to make sense of material and to reconstruct the experiences in each context. After each interview, I engaged in a process of "open-coding" (Strauss & Corbin, 1998) wherein I read the transcripts line-by-line and created a dataset of codes using words or short phrases summarizing the meaning of different parts of text (Gioia et al., 2013). The codes utilized were informed primarily by extant literature. This step involved multiple iterations of reviewing theory, analyzing collected data and categorizing ideas in accordance with established concepts. Next, I consolidated redundancies and defined our first-order categories so that they reflect my informants' concepts-in-use (Gephart, 2004).

Step 2. Axial Coding

I coded the data via several cycles of comparisons between data and theory, acting as a knowledgeable agent (Gioia et al., 2013) to interpret evidence. I initially grouped first-order categories according to areas of prior research on institutions, including macro-level factors, (i.e.,

regulations), meso-level factors (i.e. norms) and CSR activity (i.e., regulatory, normative, and cognitive activities). I then grouped conceptually overlapping first-order categories into second-order themes (Gioia et al., 2013). Themes were identified based on their frequency (i.e., repetition of the occurrence of words/phases/ideas), indigenous typologies (i.e., the use of unfamiliar, local words or familiar words used in unfamiliar way) and metaphors and analogies (i.e., identification of broad underlying themes that might produce those metaphors). In understanding my respondents' frameworks, I processed interview transcripts via cutting and sorting techniques, including finding exemplars – quotes or expressions that appeared important – and then arranged them into piles of things that go together, and word co-occurrence, which involved identifying how many words commonly occur with other words to form a particular idea.

Step 3. Generating Propositions

In the last step, I compared second-order themes with the extant theoretical framework and insights in the literature. That is, "to develop and contextualize my findings theoretically" (Tracey & Jarvis, 2007, p. 673), I asked how my emerging findings were similar or different from prior institutional and entrepreneurship research. This involved comparing the key properties and concepts emerging from my results with past studies in order to identify what ideas my findings validated and what ideas my findings diverged from. I repeated this process until I was able to aggregate my second-order themes into aggregate dimensions reflecting an even higher degree of abstraction. The result of this process led to the creation of a coding structure, presented in the analysis section, which forms the basis of propositions to be tested in future research.

Cross-Cross Analysis

I performed a cross-case analysis in order to derive emergent patterns from each context and the start-ups operating within them (Yin, 1994). In particular, upon producing thick descriptions of each case, I probed for similarities and differences as it pertains to the types of institutional pressures present in each setting. Furthermore, I conducted a comparison of start-up behavior in each setting in accordance with the concepts identified through data collection and coded around previously established research themes. This involved subjecting themes of both cases to variable-oriented analysis, such as pressures exerted at the macro (i.e., country-level factors) and meso (industry-oriented factor) levels, as well as CSR activities by start-ups. The Presentation of Data section of this thesis includes a detailed write-up of the findings organized around these central variables.

5.3.2 Standards for the quality of conclusions

Being able to trust the research results of this study are especially important since practitioners and policymakers in the field of AI are responsible for overseeing technologies with the potential to produce positive outcomes for society if well-managed. It was the researcher's aim to therefore present insights and conclusions that were valid and reliable. To do so, the researcher implemented strategies to establish credibility, consistency and reliability.

Credibility

Credibility addresses the issue of whether or not research findings match reality (Merriam, 2009). In other words, does the findings capture what was actually there? To address this and related questions, this study utilized the following strategies to increase the credibility of its findings. Johnson (1997) proposed triangulation strategies as one of the most effective

approaches to reinforce credibility in qualitative research. One common strategy utilized to enhance credibility is data triangulation, which uses multiple data sources within a method to help understand a phenomenon (Johnson, 1997). The researcher collected data from a variety of sources, including semi-structured interviews, industry and governmental reports, and corroborated findings with start-ups' corporate websites. This threefold data collection approach was utilized to enhance insight into participant experiences and to increase internal validity (Yin, 1994).

A second strategy for this study was member-checking, or otherwise known as respondent validation, in which participants were invited to confirm and provide feedback regarding data collection (Merriam, 2009). Accordingly, the researcher reviewed claims and statements made by participants as well as allowed them to review research notes at the end of each interview. The researcher inquired about whether or not the interpretations accurately represented their experiences. Maxwell (2008) suggests member-checks are one of the most important ways of ruling out the possibility of misinterpreting what participants say and do and the perspective they have on what is going on.

A final strategy was the use of inference descriptors where the researcher used verbatim participant phrases to describe their experiences (Johnson, 1997). Accordingly, the data collection tools capture verbatim exemplars as expressed by the research subjects during the interviews. Moreover, the following section also incorporates participants' own words in direct quotations from interviews to describe their personal experiences. By reading verbatim, readers of this report can experience for themselves insights into participants' perspectives. Combined, these strategies provided credibility for the design quality of this study. Thus, making the report

believable, capturing what was actually experienced, and making the findings applicable to the research questions.

Consistency

Rather than demanding the replication of results, qualitative researchers are concerned with whether the results are consistent with the data collected (Merriam, 2009). In other words, given the data collected in this study, do the findings make sense to outsiders? Are they consistent and dependable?

Strategies for addressing the concern of consistency were similar to those of credibility (e.g., member-checks, triangulations, etc.). Miles and Huberman (1994) suggested data collection and analysis be consistent for supporting a study's external validity. Consistency, "describes in detail how data were collected, how categories were derived, and how decisions were made throughout the inquiry" (Merriam, 2009, p. 223). For this study, the data collection and analyses were uniform and consistent across each interview. Each interview was conducted in near-identical formats within a consistent timeframe. The data collection process for both methods followed similar procedures as outlined previously. Analyses of interviews consisted of categorizations derived from the coding structure. Specifically, thematic maps were designed based on the use of the Gioia method for analyzing interview data (Gioia et al, 2013). Combining these analyses consequently led to propositions and corollaries. These sequential processes and procedures for collecting and analyzing the data enhanced the consistency and reliability of this research and its subsequent outcomes.

Reliability

Reliability in research refers to the degree to which a methodology produces accurate and dependable results (Brahma, 2009). Though a number of issues may affect reliability, there are a number of measures that may be taken to ensure that a study's results accurately depict the phenomenon under investigation (Merriam, 2009). This study took a number of proactive actions to ensure that the findings do indeed provide a correct illustration. To ensure the accuracy and completeness of data, I recorded and transcribed verbatim every interview that took place. I also utilized data triangulation by corroborating the interview results with background and archival sources, including government documents, industry reports, academic articles, and company websites, so as to increase the verifiability of the results. To address any potential interpretation issues, I asked broad, open-ended questions, rather than leading or short-answer questions, in order to allow participants to provide their own perspectives and to capture the meaning they attach to their words and actions. Finally, to improve validity, I have clearly explicated my rationale for using the chosen qualitative inquiry in my study, clarified data selection, provided transparent data handling procedures, and discussed the data analysis techniques utilized (Miles & Huberman, 1994).

6 Presentation of Data

This research investigates how AI start-ups manage distinct contextual forces in their pursuit of acquiring legitimacy. The primary research question guiding this exploration is the following: *How do AI start-ups navigate between macro and meso institutional environments?* This section presents the data collected in order to address this inquiry. Its organization is threefold and grounded on the underlying replication logic of the study. Firstly, I present parallel overviews of each of the two clusters, which includes a mapping of the nascent institutional environments, followed by detailed descriptions of start-ups responses to the pressures exerted by their contexts as it pertains to crossing the legitimacy threshold. The purpose of contextual mappings is to identify the institutional agents in each context who in effect set the boundaries for how AI start-ups in their sphere can behave through isomorphic pressures (Miles, 2012). In their role as gatekeepers of resources, these agents create the context providing the operating framework that start-ups deal with (Scherer et al., 2016). Therefore, I focus on the mechanisms through which they set the direction towards how they want start-ups to operate in order to answer my "how" research question (Yin, 1994). This is guided by extant research on institutions, including the three primary isomorphic forces: coercive, normative and mimetic (Kostova, Roth & Dacin, 2008; Scott, 1995). Analysis of these mechanisms may allow for a better understanding of the environmental forces that shape entrepreneurial behavior (Miles, 2012). Data in this section is organized around codes identified in the literature review. This is namely Scott's (1995) three pillars of institutions – regulatory, normative and cognitive – as it is widely-accepted that these pillars are responsible for constructing the isomorphic pressures that affect organizational legitimacy building (Miles, 2012; Zimmerman & Zeitz, 2002). On the part of start-up responses, I uncover how entrepreneurs in these settings navigate the boundaries

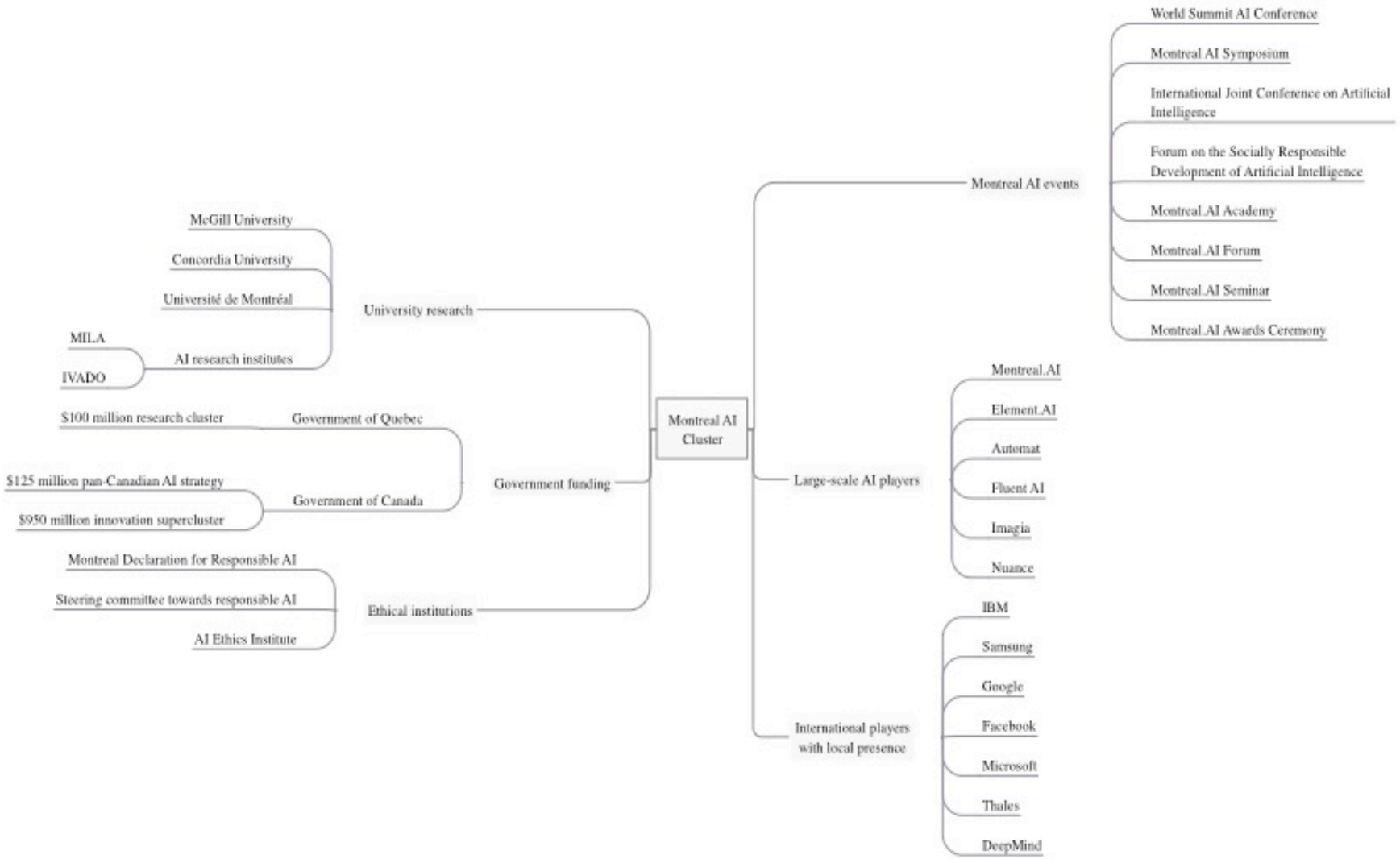
created by the existent frameworks as well as the motivations underlying their chosen behavior. The aim is to understand their decision-making, so as to shed light on how they may attain legitimacy (Zimmerman & Zeitz, 2002). This includes the CSR activities utilized as a result of the interaction effects with their distinct institutional forces. Such an approach can allow for insight into the respective characteristics of the two contexts in alignment with the theoretical replication logic.

The final component of this section consists of a cross-case analysis between the two settings. This involves the presentation of the replicated and divergent contextual forces present in each case, as well as the collective responses to institutional environments on the part of start-ups. This comparison can allow for insight into previously unexplored born-global industry phenomenon by revealing how common normative values and practices may exist across national borders. Understanding the global characteristics may suggest novel insight into how firms acquire legitimacy in nascent industries such as AI.

6.1 Within-case exploring and describing: Montreal

Montreal's AI industrial cluster is a globally recognized hub that has reached an advanced stage in its development. It is widely recognized as leader in research and innovation within the field (Montreal International, 2019). A number of factors have contributed to its growth and allowed it to mature into a dynamic ecosystem. Firstly, the presence of talented academic researchers influenced the cluster's rapid progression. Montreal has shone based on its ability to produce fundamental research and train experts in the field. This is important given that the talent pool for AI research is miniscule in comparison to many other industries. Most notably, Professor Yoshua Bengio of the Université de Montréal is considered one of founding fathers of AI as he

is the pioneering researcher within the sphere of Deep Learning. Since his breakthroughs in the early 2000's, he has continued to publish extensively on AI in scientific journals, as well as establish premier research labs and found numerous AI-focused new ventures in the region. In 2018, Bengio was recognized as the computer scientist who collected the largest number of citations within the field. Bengio has been a driving force in promoting Montreal as an AI center as well as in attracting additional academic researchers. As of 2019, Montreal is home to over 300 professors, post-docs and PhD students specializing in the field, forming the largest AI academic concentration globally (Montreal International, 2019). Thus, the cluster is driven by a strong push towards the research and development of new technologies. Each of the key institutional forces within the setting are presented next, along with a visual overview of the cluster.



Visual mapping of Montreal's AI Cluster

6.1.1 Montreal institutional mapping

Regulatory Institutions

Role of government – Over $1 billion in both public and private financing has been awarded to Montreal's universities and their associated research labs. Among the largest investments was the Government of Canada allotment of approximately $230 million in funding towards the development of the Supply Chains and Logistics Excellence Artificial Intelligence (SCALE.AI) supercluster initiative that spans the region. At the provincial level, the Quebec government launched a committee composed of academics and business leaders to further establish the province as global centre for AI research back in 2017 and were provided with $100 million in funding to manage. This financing serves an incentive mechanism for new and existing ventures to locate operations in Montreal. By establishing a local presence, AI players contribute to the development of Montreal as a leading hub within the industry. Additionally, for start-ups, this funding plays a role in ensuring that they are at the very least compliant in their operations. As one entrepreneur described: "all things equal, governmental funding and private investment is more apt to go to companies with strong social reputations" (MS2). Through these funding enticements, firms are inherently driven to be perceived in an ethical light as a starting point. In other words, the holders of capital may guide social actors in a towards responsible outcomes through coercive pressures.

Policies and regulations – At the national level, the Personal Information Protection and Electronic Data Act (PIPEDA) governs how firms can collect, store, and use information about online users in the course of commercial activity. The Québec Private Sector Privacy Act (QPSPA) serves the

same purpose within the provincial sphere. The combination of these two regulatory institutions function as governmental control mechanisms that ensure, at a minimum, that firms are generally performing operations that provide protection for consumer privacy and personal data. The strong enforcement of these laws urges entrepreneurs to be conscious of their operations, and in particular, how they manage their customers' information, amongst other things. Non-compliance could result in legal repercussions, damage to the firm's reputation, and loss of the right to operate. Cases of this occurring are increasingly common in the Canadian context (The Globe and Mail, 2019). Thus, legislative agents may coerce start-ups and established organizations alike to behave in similar ways through their regulative controls.

In summary, governmental initiatives are pertinent via their funding mechanisms, while pervasive policy measures create an environment conducive to CSR. As to be expected within a developed national setting, regulative forces are prevalent in the Montreal AI cluster.

Normative Institutions

Universities and research labs – Montreal is one of the largest hubs for primary research in the field of AI. In particular, the cluster is home to leading AI academics, including Yoshia Bengio, considered by many to be the founding father of deep learning (Montreal International, 2019). Indeed, within his labs emerged one of the largest streams of AI currently possible. The cluster is also home to a number of major academic institutions, including McGill University, Concordia University and l'Université de Montréal, who each offer specialized training in AI at various levels (Investissement Quebec, 2019). Together, these universities form a number of leading research labs. The Montreal Institute for Learning Algorithms (MILA) brings together researchers from the Université de Montréal and McGill University to form the world's largest academic center for

research in Deep Learning, yielding original papers in the field, including the introduction of the domain by Professor Bengio. IVADO brings together researchers of HEC Montréal, Polytechnique Montréal and Université de Montréal. In effect, IVADO connects industry professionals and academic researchers to develop cutting-edge expertise in the domains of data science, operational research and artificial intelligence.

The presence of highly influential figures in the field of AI, as well as the impressively large quantity of talented researchers has helped to promote Montreal as a primary cluster globally. By situating operations in close proximity of these influential academics and prominent research institutions, start-ups may access the cutting-edge innovations being produced. In fact, one of the start-ups I interviewed was initially formed in the lab of a local university, composed of a few researchers and commercialized upon graduation. They cited ethics being part of their training programs as being an antecedent to the development of their CSR policies. Other firms may access these new technological breakthroughs through their network or by attending seminars, workshops and conferences. Accordingly, in order to maintain positive relations and a strong image at such events, firms must abide by the extant social norms present within the cluster. Thus, universities and similar research institutes can create expectations for CSR through normative isomorphic forces wielded upon start-ups in the cluster.

Firm composition – The production of a large quantities of original research in the field of AI has drawn the attention of a number of significant technology multinationals. This includes companies such as Facebook, Google, IBM, Microsoft and Samsung, with many of them establishing their own research labs within the cluster (Montreal International, 2019). Furthermore, the cluster is home to a number of large-scale AI players. For instance, established in 2003, Montreal.AI is a conglomerate that partakes in training, investment, consulting and event organization with the

region. It identifies as a connective body that allows entrepreneurs to collaborate through its large-scale network and extensive group of AI practitioners/enthusiasts on social media, which at the time of this study had over 30,000 members. Other large-scale players such as Element.AI, Automat, and Imagia, amongst others, have come to call Montreal their home. Montreal is also the site of a significant number of technology startups. Though not all specific to AI, Techno Montreal (2019) reports that approximately 3000 IT companies operate locally, with around a third of them being start-ups.

On the whole, the presence of prestigious research institutes, and access to a talented labour pool draws firms of all sizes to the region. Many partnerships form among these companies as a result of their close proximity and similar technological capabilities. Two of the entrepreneurs I interviewed deliberately cited partnerships with large-scale technology companies as a key sales channel for their enterprise. In such a case, both mentioned their partners' demand for a socially responsible product. In particular, multinational organizations were mentioned as being under higher levels of public scrutiny and therefore needing to ensure that any business partnerships formed are void of potential harmful effects. The start-ups' technology thus needs to be coherent in a number of ethical facets, which in turn forced the start-ups to evaluate and implement strategic CSR actions. This subsequently would allow start-ups to expand the scope of their potential network and customers. An absence of such practices would likely cause difficulty in acquiring key partners. Thus, major firms, such as MNEs, function as a carrier to the creation of normative measures within the Montreal context. Through interaction effects, start-ups may learn the acceptable and appropriate practices within the institutional environment.

In summary, the clusters development has allowed it to emerge as a leader within the global industry. As a result, it serves as a backdrop against which many normative measures evolve given

the scale and scope of local AI actors. Pressure to conform is significant given the interconnectedness of the cluster, as well as the need to attract partnerships and resources.

Cognitive Institutions

Ethical associations – With the emergence of new technologies comes the rise of possible moral concerns. In response, ethical institutions have formed in Montreal to assist practitioners by providing cognitive guidelines for behaving responsibly. The Montreal AI Ethics Institute exists to encourage the engineers developing new technologies, and the companies commercializing them, to consider the ethical implications of their work. The institute performs consulting and research work, as well as leads seminars and workshops regarding responsible AI. Relatedly, the Montreal Declaration for Responsible Development of Artificial Intelligence is a considerable initiative that includes a set of ethical standards for the commercialization of AI. The project was the culmination of years of research and consultations with local citizens, experts, public policymakers and industry stakeholders, civil society organizations, and professional orders. In effect, it is the physical materialization of the demands of relevant cluster stakeholders. It advises AI professionals on how they ought to govern, and among its signatories includes the municipal government, leading AI researchers, large-scale AI players. The existence of these institutions serves to legitimize the need for ethical practices in the industry. They function as cognitive pressures towards the adoption of CSR action. An entrepreneur interviewed described his signing of the Declaration as "important in the eyes of our stakeholders" (MS3), because it allowed his start-up to be viewed as acceptable by his peers. On the whole these institutes contribute to creating the values and beliefs in the importance of responsible development through their mimetic pressures. Start-ups may conform to the norms prescribed by such institutions, thus increasing their propensity towards ethical behavior.

Networks, interaction and collaboration – Frequent interaction occurs between firms of different sizes, as well as with academic researchers through industry events hosted by non-profit organizations and governmental agencies. Montréal hosts more international events than any other city in North America, and artificial intelligence features in numerous major conventions focused on the future of the industry. Among the major AI events held in Montreal are the World Summit AI Conference, Montreal AI Symposium, International Joint Conference on Artificial Intelligence, and the Forum on the Socially Responsible Development of Artificial Intelligence Through these events norms are developed, shared, and reinforced. For instance, thought leaders, such as prominent academics and practitioners, conduct workshops on the development of AI ethics. Firms strive to maintain their reputation within the community by adhering to the expectations for CSR activity. Each of the entrepreneurs interviewed referred to this as an important action for their start-up and discussed it as a prerequisite for hiring talent and accessing capital. In effect, collective responses to institutional environments may occur as start-ups navigate external demands through the pervasive implementation and reinforcement of CSR.

In summary, frequent exposure to responsible practices leads to meaningful cognitive pressures towards the adoption of CSR practices. The presence of institutes dedicated to ethics in corroboration with regular exposure to CSR ideas and concepts creates an environment conducive to the adoption of related practices. In particular, mimetic forces, namely, the desire to appear appropriate and acceptable, underlies this pressure.

6.1.2 Montreal-based start-ups' CSR activity

Regulatory activities

Ethical data management – In response to the formal policies in place, such as the PIPEDA and QPSPA, start-ups place a strong emphasis on protecting consumer data and private information. This involves taking an ethical approach towards the management of the sensitive materials obtained. Each of the three start-ups offered similar descriptions to their methods of maneuvering macro regulations:

"We don't do things like facial recognition, we don't try to re-identify people when they come back again. Right it's what is happening in this moment, how is it relevant for the business, and then that is it. We expunge and we restart. So, for us, it's a very simplistic view." (MS1)

"…we don't keep track or access personal information. We use publicly accessible data. We don't go into people's private data and we don't associate an image with a profile or the personal information about the people who have created it or the people who share it." (MS2)

"We measure trends on an aggregated level, and not on the individual level. So we don't collect any personal data and if ever we run into it, we will not keep it. So we're kind of agnostic in terms of personal information." (MS3)

Upon review it becomes clear that the formal regulations have an influence on firm activity through their coercive forces. For example, each firm strives to maintain an aggregated view of data, as opposed to identifying personal information, given the related legal and social concerns. Fear of legal penalty or loss of reputation proves to be a powerful motivator in terms of firm behavior. The effects of the regulative and normative environmental forces, respectively, create the context influencing these decisions. Thus, ethical data management emerges as a common tool utilized among start-ups in order to cross the legitimacy threshold.

Accountability and transparency – Openness regarding ethical activities emerges as a similarly prevalent trend. Each of the three start-ups documented these types of practices on their corporate websites and discussed in interviews how they find it important to convey this information to their clients and end-users. This approach also appears to provide the added benefit of being able to appeal to international consumers, regardless of the regulations in their jurisdiction, as described:

"The features and capabilities of our product remain consistent regardless of the country we are operating in. The only change is language we are using. It's compliant with the highest level of regulations. We are very clear about this with every stakeholder we work with and it helps us appear more attractive to them and their customers." (MS2)

Another entrepreneur commented on the effects of the regulatory institutions present in relation to their products:

"The laws require that we are open about our practices. We can be asked at any time about what we're doing with our data, so we take steps to ensure that we are in good standing and as transparent as possible. We include this information on our website as well…" (MS3)

On balance, regulative institutions demand start-ups implement ethical considerations into their product designs, as well as the communication of these characteristics. Specifically, entrepreneurs respond to laws and legislation, which guide the outcomes of their activity through coercive pressure. In particular, the expectation for openness demanded by formal measures leads to this being reflected in start-up practices. The consequences for failing to abide by these formal measures are pervasive and well-understood.

Normative activities

CSR Communication – The importance of disclosing relevant CSR action emerges as an important normative activity. Indeed, social norms and values in the Montreal context prescribe that firms engage in ethical behaviors. An entrepreneur described the significance of this characteristic:

"For issues like this, we have to be very voiceful. Because people will think that we look at their images and we might just collect and put a robot-cam on their computer. We're not. It doesn't happen on people's computer. It's happening in the cloud and people don't really understand that. We have to be very careful and be very voiceful about that because the misperception could be detrimental to us." MS3

Clarity of governance practices was acknowledged by all three start-ups as being important in aligning with industry values. For instance, one entrepreneur describes his start-ups preparation of an 'ethics report' in order to demonstrate and inform relevant stakeholders of their CSR activity. Such a report aims to bring into line the firm's activities with the standards of the normative environment. Among the biggest drivers of these actions are the values pervasive within the AI community of practice. They are not suggested by formal institutions, but rather by the norms of the industry, which prescribe and value the sharing of proactive ethical activities by its constituents. This trend serves to legitimize operations among industry peers, in addition to end-consumers.

Cognitive activities

Networking and relationship-building – Each of the entrepreneurs interviewed at one point described the importance of joining in 'responsible-AI' events. This include undertakings such as the participation in the Formal Declaration, partnerships with AI ethics institutes, and involvement in local ethical development workshops and forums, and attending seminars. Common themes

described in being present for these events was learning about what the best practices are in the industry as well as extending their network of AI professionals. By learning of best practices, the entrepreneurs could gain an understanding of what's deemed culturally appropriate, which in turn could assist with enhancing their reputation. Overall, such activities function as a means for learning and aligning with broadly accepted social values. This importance of this activity was described by an entrepreneur as the following:

"One of the reasons we attend so many community events is to keep up to date with developments in the industry. A lot of the time, seminars will bring in leading researchers who share their view on the state of the art in AI. This includes the social aspects. A lot of the events are actually focused specifically on ethics, and we feel it's important to be there to take in all this information. We can incorporate it with our products, and this helps us relate and connect with our partners." (MS3)

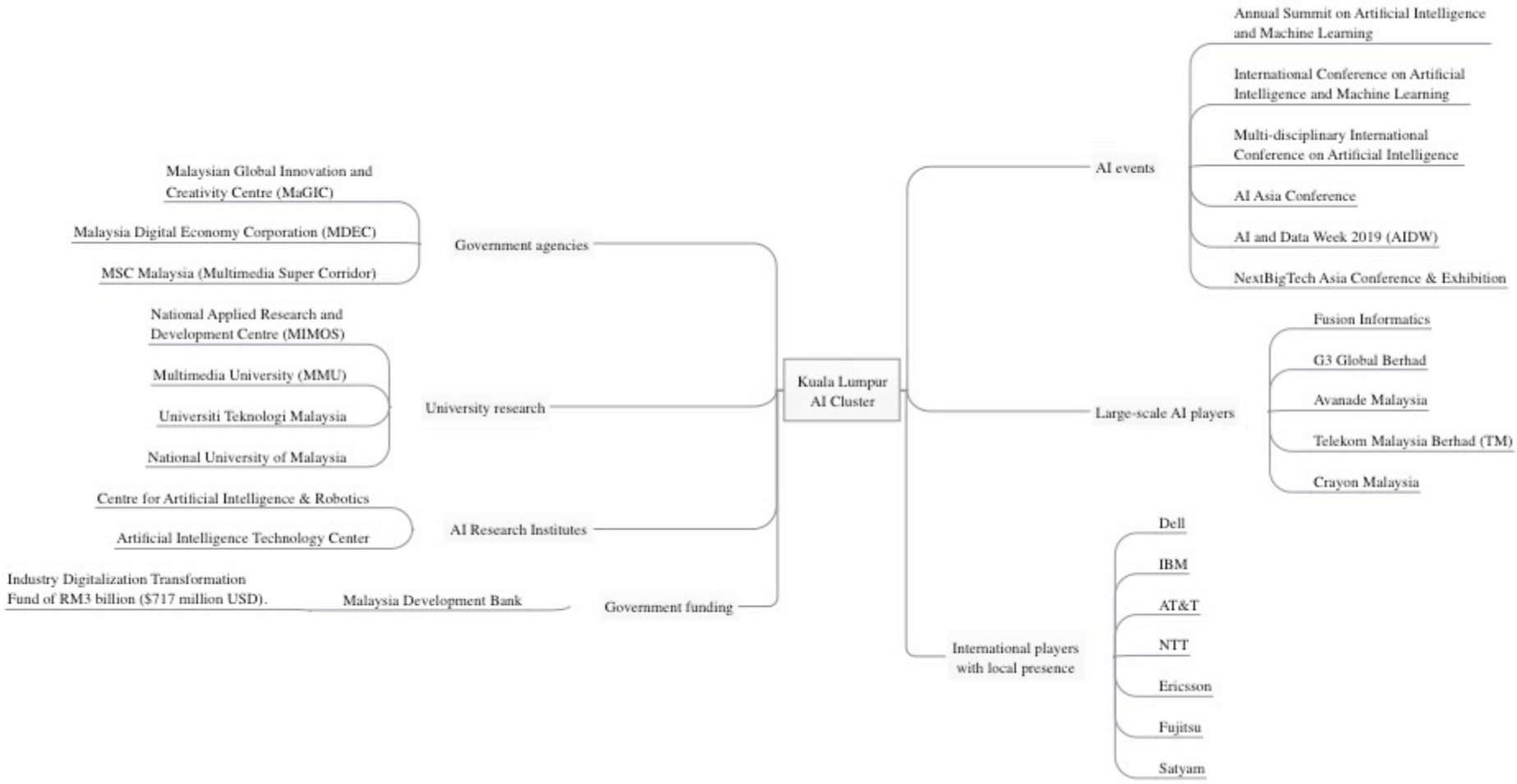
Furthermore, participation at community events allowed for entrepreneurs to build their network and subsequently increase chances acquiring key resources. What's needed for this to occur effectively is for start-ups to engage in governance practices that are coherent with the cultural values present. The start-ups interviewed at some point highlighted how their governance processes supported their ability to form relationships. It allowed for perceived congruence with their peers. Disregard for ethical behaviors may possibly lead to ostracism and an increased difficulty in forming key connections. In short, this indicates the local members serve as gatekeepers through which there is no alternative way around other than to subscribe to common norms and values in pursuit of crossing the legitimacy threshold.

6.2 Within-case exploring and describing: Kuala Lumpur

Throughout Malaysia's rapid development since gaining independence in 1957, the government has implemented ambitious development policies, fostering the rise of new industries and allowing the country to move up global value chains. Malaysia has successfully diversified its economy from one that was initially agriculture and commodity-based, to one that now plays host to robust manufacturing and services sectors, that have propelled it to become a leading exporter of electrical appliances, electronic parts and components. At the national level, the government adopted policies designed to promote macroeconomic stability, enhance the business and investment climate, foster the development of human capital, and encourage innovation. From 2010 to 2016, strategic policies allowed the technology sector to grow by 9 percent per year in value-added terms, faster than overall GDP, and is expected to approach 20 percent of the economy by 2020 (The World Bank, 2019). The country has made great strides in connecting people to the internet, especially through mobile, and has ambitious plans to expand broadband access to rural areas. The government's efforts to promote entrepreneurship are among the strongest in Southeast Asia (The World Bank, 2019).

Malaysia's AI cluster is built upon the foundations of the Multimedia Super Corridor (MSC), an initiative to by the Malaysian government to transform the nation into a knowledge-based economy. Modelled after Silicon Valley, the multibillion-dollar project started in 1995, spanning an area of more than 750 square kilometers from the Petronas Twin Towers (the world's tallest twin towers) in the centre of Kuala Lumpur to the newly built Kuala Lumpur International Airport in the south. It comprises several administrative, industrial and technological clusters. Among them, are (1) Putrajaya the newly-built seat of the federal government, (2) Cyberjaya – an intelligent city which houses multimedia industries as well as research centers and Multimedia University (MMU), and (3) Technology Park Malaysia – a park located in the centre of MSC

providing engineering and IT facilities to entrepreneurs, investors and industries. The corridor is proclaimed to be supported by the strengthened cyber laws, regulatory policies and range of attractive financial and non-financial incentives (Hassan & Abu Talib, 2015). This arrangement plays a role in the administration of macro level forces as well as in the normative and cognitive values described next.



A visual mapping of the Kuala Lumpur AI cluster.

6.2.1 Kuala Lumpur institutional mapping

Regulatory Institutions

Role of government – Malaysia's AI cluster is built upon the foundations of the Multimedia Super Corridor (MSC), an initiative to by the Malaysian government to transform the nation into a knowledge-based economy. The corridor is proclaimed to be supported by the strengthened cyber laws, regulatory policies and range of attractive financial and non-financial incentives (Hassan & Abu Talib, 2015). MSC is managed by a quasi-state institution named as Multimedia Development Corporation (MDEC), which carries out the promotion of commercial activities locally and globally, attracting investors and supporting "Multimedia Super Corridor status firms." MDEC awards "MSC Malaysia Status" to eligible local and foreign startups that develop or use multimedia technologies to produce or enhance their products and services and for process development. MSC Malaysia Status-awarded companies are eligible for attractive incentives, rights and privileges which promote continued growth for the firm, the industry and the Malaysian economy. In effect, this program functions as motivating mechanism for Malaysian citizens to start businesses and for existing businesses to expand locally. The standards required for achievement of this prestigious status allow the governmental agents to prescribe how firms should operate. Upon review of these prerequisites, there is minimal reference to any sort of corporate governance activity. Specifically, socially responsible behaviors are not demands by gatekeepers within the formal operating boundaries, and thus, there is negligible isomorphic pressures in this regard.

One of the primary major governmental agencies present in the cluster is the Malaysian Global Innovation & Creativity Centre (abbreviated MaGIC) whose main function is to foster creativity and innovation development in Malaysia through dynamic programs and capacity-

building initiatives. This involves offering a technology accelerator program, innovation bootcamps and workshops, and providing a large number of co-working spaces. MaGIC is also home to the National Regulatory Sandbox initiative, which serves as a platform for innovation by providing a safe testbed for entrepreneurs to experiment and pilot solutions that either require a new regulatory framework or potentially falls underneath blurred lines in the current regulatory environment. For policymakers, this program offers a means to intervene on data regulation matters, but only in a reactive manner.

In terms of cluster funding, Malaysia Development Bank launched the Industry Digitalization Transformation Fund of RM3 billion ($717 million USD) in 2019, which is intended to accelerate adoption of AI technologies and simultaneously enhance the nation's high-tech ecosystem. The funding will be dispersed to partnerships, public and private companies, and co-operatives, and utilized to develop specific assets, including software, licenses, patents etc., to finance the project relevant to the digital technologies and to provide working capital. Furthermore, Malaysian government agencies are mandated to promote the Industry 4.0 Policy Framework. Launched in 2017 by the Malaysian Ministry of International Trade and Industry, this framework is intended to promote the development of AI technologies and continue to transform the Malaysian economy into one of high value activities. Currently, AI as an industry is still developing in Malaysia and has not yet gained the same level of business and societal support as seen in Montreal. This is likely due to the industry's newness and consumers' relative unfamiliarity. Government agencies in turn are focused on the promotion and integration of new technologies, rather than its sustainable development. One local academic described the situation as the following:

"The one main hinderance is the acceptance of the industry as a whole. So, as the government continues to encourage it with incentives and provision of funding for training or upskilling of staff, I think Malaysia will position itself really well. I think as long as we do this and focus first and foremost on solving local problems, we'll be in a good place." (KLP1).

From an institutional perspective, there is little guidance on how existing firms should operate in terms of governance practices. Instead, efforts are focused on the implementation of new technologies towards transforming the economy. Thus, as legitimacy is concerned, from a national viewpoint isomorphic pressures for CSR are relatively insignificant in this respect.

Policies and regulations – The fundamental regulation in place pertaining to AI is the Personal Data Protection Act (PDPA), which came into force in November 2013. This act is intended to provide formal guidance pertaining to the responsibilities and requirements of organizations when it comes to dealing with the personal data of their employees, suppliers, and customers. This act applies to individuals and firms who collect and process personal data in regard to commercial transactions. However, the PDPA and related laws are weakly enforced and very few firms are well-aware of its specific detail. The administration of such laws does not appear to be influential in shaping the actions of start-ups. The act's lowly efficacy is highlighted by an academic interviewed as the following:

"…I'm quite hesitant to say that our data protection acts are effective. They do exist, but I don't believe they are very well enforced. I don't think I've heard of any companies suffering any major consequences for not following them. For the most part, companies are free to do as they please, as long as there are no serious crimes being committed" (KLP1)

Therefore, there is little incentive for start-ups to engage in CSR activity from a regulatory standpoint. For example, firms could hypothetically increase profits by exploiting user data for alternative purposes if the option presented itself, and likely not have to worry about consequences from formal policies. Certainly, this is most frequently not the case, but could be hypothetically possible. On balance, regulatory gatekeepers are largely inconsequential as it relates to their role in appropriating values towards ethical management of new technologies. The pressures for CSR and related ethical activity do not appear as requisite for the acquisition of legitimacy.

Normative Institutions

Universities and research labs – Research institutions play a significant role in the creation of the Malaysian AI cluster. Among the major contributors is Malaysia's national applied research and development centre, MIMOS, which supports the country's national development agenda by aligning its large-scale projects with the Industry 4.0 Framework. In particular, MIMOS is home to the largest AI-focused laboratory in the region and in the country. As a strategic agency under the Ministry of International Trade and Industry, MIMOS works on joint R&D initiatives with local firms and has filed more that 2,000 intellectual properties over the past 12 years across various technology domains. In consequence, a number of commercial enterprises have sprouted up from MIMOS laboratories. Through its role as a bridge between industry and government, the institute can connect macro forces with practical norms. However, given the public sectors' concentration on industry promotion, pressure for ethical development in its work is relatively infantile. On another note, the Multimedia University (MMU) is a purpose-built academic institution intended to offer information technology and multimedia-based courses at the undergraduate and postgraduate levels. The university provides knowledge workers for the AI and multimedia industries in the MSC as well as acts as a test bed for innovation in the ICT industry

through intra-industry projects. The university does offer some business and philosophical ethics training within its curriculums (MMU, 2019). Furthermore, the university also has close linkages with the industry through its centers of excellence, and specific industrial collaborations. As a result of these close linkages, operating norms practices can be shared between the university and its industry partners to some extent. Thus, normative isomorphic pressures may exist at this level as graduates expect some degree of CSR activity at the organizations they may be employed by.

Other important AI research labs include the Centre for Artificial Intelligence & Robotics at the Universiti Teknologi Malaysia and the Artificial Intelligence Technology Center at the National University of Malaysia. Both of these labs specialize in applied research projects and have produced dozens of AI-focused new ventures as a result of their innovations. Furthermore, they are active suppliers of knowledge workers to startups, established firms and research facilities. Similar to intra-industry projects at MMU, shared acceptable standards are produced as a result, which subsequently guide start-up behavior via legitimation mechanisms.

Firm composition – KL is home to a number of prominent technology multinationals such as Dell, IBM, AT&T, NTT, Ericsson, Fujitsu and Satyam. However, many of these enterprises are not heavily involved in local R&D activities themselves. Instead, they primarily provide support services to the southeast Asia region through their presence in Malaysia, as well as look to uncover innovations from local actors through acquisitions or partnerships (Hassan & Abu Talib, 2015). Among the local large-scale players involved with AI technology are firms such as Fusion Informatics, G3 Global, Avanade Malaysia, Crayon Malaysia and telecommunications giant Telekom Malaysia. However, a large quantity of other major domestic firms have yet to integrate AI into their operations. One academic interviewed suggested this occurred "because they are hesitant about the technology as a result of its newness, and do not want to risk disrupting their

operations" (KLP2). Therefore, much of the R&D pertaining to AI takes place at the academic level within Malaysian research institutions, with a large number of startups launching directly from university labs. The effect of this occurrence is for some firms to rely on the norms from their international partners, such as the aforementioned multinationals, as well as those found in university settings. In fact, two of the three start-ups interviewed suggested that nearly half of their clients were international - either with a local subsidiary or outside of Malaysia entirely. Accordingly, their products and/or services were required to cohere to the operating principles of their international partners in order to meet the demands of the institutional pressures of foreign contexts. These international agents can dictate the direction of CSR practices of local MNEs by selectively choosing who to partner with. Thus, through coercive forces, multinational can demand responsible and ethical practices of their Malaysian partners, leading to isomorphic pressure towards CSR activity. As a result of this phenomenon, global normative values and rules may inform the actions of local start-ups, as it could be requisite for crossing the threshold of what is perceived as legitimate. Failure to meet such demands may result in decreased access to resources, including smaller network advantages and partnerships with major players.

In summary, normative pressures towards CSR are prevalent. Crucial stakeholders such as employees and partners demand this type of activity from firm they associate with. These demands come from institutions within the industry, including shared values and beliefs in AI.

Cognitive Institutions

Networks, interaction and collaboration – Contrary to the Montreal cluster, there is an absence of ethical institutions serving instrumental purposes in Kuala Lumpur. As a result, marginal domestic cognitive forces exist that constrain the behavior of start-ups with regards to governance. Indeed,

much of the general society is predominantly concerned with potential impact of AI to increase efficiency, while also dealing with the costs of implementing changes to businesses. This was described by a professor as being a local issue, and leading to an abundance of talent being under-utilized:

"Many universities have, for years, offered AI courses as well as training for engineers or people who work in industry and want to upgrade the skills of their employees. So, the talent is there, but in terms of opportunities, not so much. There's a large pool of talent available, but these people are not really using their AI knowledge when they go to work because most of large companies are not motivated to use AI just yet. I think they're taking a "wait and see approach" towards the technology. They have started to show their interest by contacting some of the university researchers, but they have not fully applied AI to their business. So, I would I say, although there are talents, these talents do not know where to go. And I think that's why many of the graduates have opted to start their own companies. They do this to provide specialized services because they understand the capability of AI and how it can help different industries" (KLP1).

Another professor offered similar sentiments regarding the cognitive perspectives towards AI:

"I think that (universities and firms) are starting to work together more often, but I still wouldn't say that the collaboration is extremely high. Between universities and the government, yes, it's very closely connected because most universities are public, state-owned universities. However, I must say that a lot of university programs have been connected with industry partners through matchmaking activities. So, this has helped some strategic companies gain an advantage with their technologies. It's not quite at the same level as Japan or Germany where the industry sponsors

research in AI or robotics that is related to them and will benefit them eventually, but it is growing" (KLP2).

Through these interviews it became clear that domestic linkages were stable, but still had room for improvement. Communal practices were exchanged through these connections to some extent as a result. Alternatively, the informing of cognitive values through international partnerships emerged as a predominant theme during the interviews. Similar to the case of normative elements, one entrepreneur described the phenomenon as the following:

"We learn a lot from our foreign customers because they have to deal with different markets and require us to have a product that is capable of functioning in each of them... Our partners introduced us to some of the CSR proponents we are involved with and have told us specifically how they want our product to perform. This has helped us land other clients as a result." (KLS1)

Thus, exposure to the values embodied within the global industry provides start-ups with knowledge of acceptable governing practices. Through the coercive and normative pressures prevalent in the contextual environment of the industry, start-ups adopt ethical practices in order to acquire legitimacy in the eyes of stakeholders with international exposure. Given the still-emerging regulative setting, normative and cognitive values are among the primary pillars that give rise to much of the CSR activity that takes place locally. Formal institutions of the macro environment have yet to develop to the point where social responsibility is a key legislative priority. Therefore, for start-ups, the access to resources may be linked with distinct activities as it relates to macro and meso level contexts. The heterogenous environments associated with each level demand divergent practices in order to be viewed as legitimate. National level agents appear to coerce firms into the promotion of AI as a useful tool within Malaysia, while the framework set

by global actors extends beyond this approach and prescribes the adoption of CSR through normative forces. As a result, organizations in this setting may face increased constraints as they aim to be consistent with the standards of both levels of institutions. How entrepreneurs respond to these countervailing pressures is revealed in the following paragraphs.

6.2.2 KL-based start-ups CSR activity

Regulatory activities

The primary focus of the Malaysian government and its related agencies is the promotion and adoption of novel technologies, and the advancement of the nation as whole on the global stage. As we have seen, a lack of pertinent legislative pressure to engage in socially responsible and/or ethical behavior provides little rationale for start-ups to engage in CSR activities from a regulative point-of-view. In fact, none of the entrepreneurs interviewed had any first-hand knowledge or experience working with national regulations. The ambiguity of such policies and lack of pervasiveness regarding their enforcement appeared to lead to a general indifference on the part of the start-ups. The environment imposes little isomorphic pressure in this regard. Thus, in the context of CSR decision-making, regulatory institutions played a very minimal role.

Normative activities

Responsible design - On the other hand, the entrepreneurs interviewed made a number of references to the normative influences as it relates to the design of their AI. The following quote offers an interesting look of this perspective:

"Of course, there is this term of the "AI Blackbox". Meaning, customers and the general public do not know what the AI is doing and how it operates. Our first responsibility as a company is to know how decisions are made within the AI. We have to explain 'how' because if I am responsible for what is happening, I have to know that my choices are creating a positive result. The first stage of CSR is to take responsibility for AI and what the machine creates. This is what is asked of us by those in AI."(KLS3)

Another entrepreneur offered a similar description:

"AI security is also a major issue as facial recognition becomes more complex due to privacy concerns. We use facial calculations to identify individuals in comparison to taking a picture of that person. If people hack into our database, they will only see numbers but no pictures of the person. Our customers demand that we do this to protect their reputation." (KLS1)

Taken-for-granted beliefs about how firms should manage information pertaining to the public appear to guide decision-making. Concerns about individual privacy and safety lead to transparency being key components of the start-up's operations. These concerns were described as being informed by peers, partners and end-users. It was through interaction with global agents that start-ups learned the boundaries for what's deemed acceptable behavior. Deviance from such standards could result in "damaged reputation" and "loss of customers" as described above. Thus, through coercive and normative forces, start-ups are encouraged by their context to engage in responsible design behaviors.

Ex-poste activities – Consistent with governmental initiatives to promote AI nationally in Malaysia, one the entrepreneurs described his clear priority as making AI the most effective and efficient from a business perspective first, while giving attention to social implications after the fact:

"Our first priority is to develop a product that has clear value to our customers. Our focus is to design a technology that has functional use for our customers. After we have done that, and our customers understand our proposition, then we consider the social implications." (KLS1)

Similar sentiments were portrayed by another start-up; this pertaining to norms at the local a level:

"We mainly sell to large and medium sized companies based here in Malaysia ... In my experience, they don't inquire about how we manage data. So there isn't a strong need to create a plan. Instead we focus on promoting the usefulness of our products. Later on, if we want to expand to Europe, for example, we will need to re-evaluate our strategy. Here in Malaysia, we are free to do as we please for the most part." (KLS1)

Therefore, we see in a start-up that is focused domestically that the influences of governmental agencies appear to reside with the entrepreneur. It is acknowledged that international customers will require greater considerations, but the local focus does not demand the same level of extensive activity. Start-ups are able to evade the boundaries imposed by regulative agents, and instead conduct CSR as ex-poste activity with regard to domestic sales. Start-ups with a global outlook may benefit from taking a proactive approach to their governance principles.

Cognitive activities

Educational activities – AI as an industry is still developing in Malaysia and has not yet gained the same level of cognitive support as seen in Montreal. In particular, broader societal values haven't conferred the industry itself with legitimacy. Newness and consumers' relative unfamiliarity underlying this lack of support. As a result, with their knowledge of AI gained through training, their network and partnerships with multinational companies, some of the Malaysian entrepreneurs interviewed engage in educational activities in order to promote AI and develop legitimacy for the industry within the local context. For example, one entrepreneur discussed how he gives informative talks to governmental and business stakeholders with the aim of promoting the usefulness of AI technologies as well as its responsible deployment.

"Over the past 5 years I've been getting a lot of requests to do talks and workshops. Ideally, I would love to dive right into the implementation of AI for our customers, but I realized that a lot of educational work must first be handled. So, I start off by reviewing some of the basic themes such as what is AI, how it relates to data and how it can be utilized by companies. From there, I delve into teaching people how it enhances our decision-making and makes us faster, as well as a lot of the ethical requirements." (KLS3)

Similarly, another local start-up partnered with a government agency to launch a hackathon-type event in order to educate the community about the positive aspects of AI, as opposed to the negative components discussed such as "loss of jobs" (KLS3). This was described as the following:

"AI in Malaysia has only really started to take off over the last 5-6 years. I'd say that there is some support, but it's still gaining traction. To help gain customers, my team, and me personally, have given around a dozen seminars to local business leaders to help create a good view of technology. Many people are stuck in their ways or they don't want to use AI because its new and untested, so I think it's part of my responsibility to show them how it can improve their business and their lives." (KLS2)

Through these educational activities, entrepreneurs can contribute to the development of institutions within the local context. In particular, they mobilize their knowledge of the industry to create and shape the local context in which they operate. In combination with the norms spread through the global industry, these start-ups assist in the evolution of the cluster's social system. In effect, they link global industrial norms with the local practices via their creative activities.

Subsequently, these norms may become adopted as standard practice, and later adopted within formal regulations. This was elaborated on by one of the local academics:

"I personally have been consulted by government employees here about where the technology is heading. They want to know how to promote and regulate it, and I tell them that they should look at some the western countries and follow what they are doing. Many of the companies learn what to do through their international customers and their involvement in these markets." (KLP1)

Thus, start-ups may be obliged to participate in different activities to be perceived as legitimate by both local and international stakeholders. Coercive and normative forces are instrumental in shaping the operating frameworks behind these activities. Furthermore, regulative pressures have little influence on CSR activity given the weak macro context. This observation is markedly distinct from the case of Montreal's cluster where, for example, regulative functions play a more influential role in guiding behavior. A broad overview of divergences and replications observed between Kuala Lumpur and Montreal are presented in the following pages. This comparison can allow for greater insight into the AI industry as a whole and reveal some of its born-global features.

6.3 Cross-case exploring and describing: replication logic

This study utilized a two-tail replication design in order to analyze and derive insights from cases of two extremes. Through the use of theoretical replication, two industrial clusters at heterogeneous stages of development were analyzed in order to capture start-up responses to the influences of institutional environments. The nascent AI industry forms the literal replication logic as common factors are expected to be observed in each case because of the industry's born-global characteristics. In this next section, data from the two cases in compared in order to extract replicated and divergent findings as they pertain to start-up responses to context-specific and global institutional pressures. The purpose of the cross-case comparison is to allow for the identification of forces emergent in the AI industry that span across borders, as well as those that are unique within each national boundary. This approach can provide a glimpse into the novel institutional setting navigated by entrepreneurs in the nascent AI environment.

6.3.1 Comparing institutional contexts

Regulatory institutions comparison

At the macro level, literal replication was observed in the case of government involvement. Within each case, different levels of administration contribute to the development of the cluster through investments in university training programs, research labs and funding programs. Each government also had dedicated agencies responsible for the promotion and growth of the local AI clusters. The effect of this support was to foster a developing ecosystem that attracted new firms to invest in the local context. For start-ups, this provided an incentive towards selecting these clusters when making decisions about where to situate, but also subjected them to the regulative systems encompassed in each setting. In particular, government agents are able to

guide firm behavior through coercive pressures resultant from their funding mechanisms. Start-ups that demonstrate behavior consistent with macro rules and values were considered more likely to be perceived as legitimate, and thus, receive financial support in each case. The outcomes toward which firms are guided by these rules and values are where divergences occur.

Among the primary distinctions is the belief in the importance ethical and responsible practices in AI uncovered within Montreal's regulative environment, but which is largely absent in Malaysia. Stakeholders within the Canadian cluster value and prescribe that actors in the industry deliberately partake in actions that embody these beliefs. Entrepreneurs in this case each describe the pressure they encounter to cohere that occurs through governmental support mechanisms. In Kuala Lumpur, regulative systems namely concentrate on local growth and national advancement along global value chains. This emphasis on promotion of the state of economic development is revealed to result in lack of pertinent rules relating to CSR behavior. Specifically, it does not appear to have emerged as a key priority given the apparent focus on other growth-oriented tasks. This is reflected in the formal policies that shape the national environments. In particular, each context contains applicable laws that are intended to offer policymakers legislative and fiscal power to ensure that firms behave within the boundaries of proposed regulative systems. The results of these measures were observed to vary considerably in practice. In Montreal, entrepreneurs reported a clear understanding of the applicable policies and even take active steps to ensure sufficient compliance. In contrast, Malaysian regulation could be described as vague and inconsistently enforced. Entrepreneurs interviewed lacked any experience with the laws and regulations, while local academics described them as superfluous at best. Furthermore, in the case of Kuala Lumpur, the priority of public sector decision-makers remains focused on the introduction of AI and ends there. Little positive reinforcement is offered

by legislation for corporate responsibility, nor are any significant barriers present preventing enterprises from deviating from formal rules. Thus, start-ups could potentially circumvent the imposed macro framework if there was deemed to be a worthwhile reward to be gained or conversely, if there were additional costs associated with regulatory compliance to be avoided. In contrast, the perceived consequences of departing from within the boundaries of the regulative systems in the Montreal case are well-known and viewed distinctly as disadvantageous given the high potential of facing sanctions. Altogether, the efficacy of the regulative system present in each case in prescribing social responsibility may be linked with the development and maturity of the macro environment. Therefore, from a regulative perspective, the distinct environments in each case create heterogeneous pressures on firms within their spheres. Each country takes a unique approach to the formal governance of novel technologies leading to varied actions being perceived as legitimate.

Normative institutions comparison

Rivalled to the regulatory environments in each case, the isomorphic pressures exerted by normative institutions provides support for the literal replication logic utilized. The expectation for a number of common social values and activities were discovered, which can be attributed to the shared characteristics that exist within the industry. Among the factors involved in setting a common normative environment are the presence universities and research institutions, the role of the specialized workforce, and contribution of multinational firms. Foremost, each cluster contains multiple prominent academic and professional research institutions. It is through these educational carriers that norms pertaining to usage of AI may be developed. Ethical curriculums train AI professionals during their early days to consider the implications associated with the deployment of new technology. This can help to set the standards for acceptable and appropriate

governance, especially considering the general public's overall lack of understanding of how AI works. At this stage, AI professionals discover these models in their training program and may proceed to implement relevant CSR policies later on in the start-up process. This was observed by entrepreneurs in each case. Furthermore, the Montreal context features industry thought leaders who contribute to developing sustainable governance guidelines, which can later be shared through the academic community and included in university curriculums.

Relatedly, the presence of specialized training programs has led to the growth of a qualified talent pool within each setting. Demand for this scarce talent is known to be high throughout the industry, and as a result, start-ups reported some difficulties in gaining access to employees. One factor cited within each case was the expectation for employees to work on projects with some form of social impact. Those trained in AI understand it capabilities, usages and potential concerns, and thus are in a strong position to expect ethical projects and firm strategies. This provides motivation for start-up to engage in CSR activity as a component of their operations as a result. Alternatively, it can be perceived as disadvantageous to avoid social features because it prevented access to the most skilled talents. Thus, normative pressures towards CSR are present in both settings.

Finally, the prevalence of large multinational enterprises was also seen to influence start-up activity in each context. Though their degree of engagement in local research was divergent, their contribution to the spread of normative values appears consistent. Multiple times, start-ups reported the need to meet the social expectations of their international partners. In particular, new ventures looking to work with, or sell to, these multinationals had to maintain high levels of governance given the likelihood of their oversight due to their size and scope. This meant start-ups ensuring effective ethical practices within their offerings. Hence, partnerships exposed

local start-ups to values found across the AI industry and exert pressures to conform. On balance, these normative institutions contribute to establishing informal rules that persist across geographical contexts and, in turn, influence the operating frameworks of entrepreneurs.

Cognitive institutions comparison

In terms of cognitive influences, varying degrees of literal and theoretical replication were observed. On the whole, the AI industry itself was perceived as a legitimate at a societal level, with cognitive values in Montreal accepting and supporting the adoption of AI. Conversely, many in KL are skeptical of the effects of implementing such transformation activity. The newness and unfamiliarity of AI has appeared to prevent the industry from reaching its full potential, as described by local informants. Accordingly, firms in Montreal may obtain legitimacy merely by joining in the cluster. On the other hand, start-ups in KL actively participated in the cluster development and sought to build the reputation of the overall industry amongst the general public. This contribute to the construction of institutions and its associated allocation of resources was not mentioned as a necessary activity in the Montreal case. Closely linked to this phenomenon is the observed influence of ethical organizations. Specialized cognitive institutions have emerged in Montreal that contribute to establishing rules and values informing how the industry should function. This includes institutes specific to ethics, public sector steering committees and responsibility declarations that guide the development of the cluster towards sustainable outcomes. These institutions were reported to function as prominent for setting the boundaries for how firms should operate. The Malaysian cluster's development, for the time being, has not called for the emergence of these institutions, and, as a result, less pressure exists from cognitive forces to operate in similar ways. This theoretical replication could be expected given the strength and evolution of the two contexts.

Literal replication was observed as it pertains to the frequency of interactions and collaboration that occurs within industry clusters. The AI profession appears to form a community of practice as a result of the close linkages formed by the highly specialized actors within it. Regular interaction among those within industry may lead to the establishment of networks that exert mimetic pressure on entrepreneurs. For example, a large scope of AI-oriented events such as conferences and workshops allow for the sharing of values across the context, as well as relationship building among actors. The entrepreneurs interviewed described their attending of industry events as leading to novel outcomes for their start-ups including adopting improved practices pertaining to marketing, financing, and CSR practices. Among the benefits of engaging in these events and applying their subsequent teachings were reported to be enhancing their reputation, learning novel techniques, and recruiting skilled employees. Thus, interaction effects may foster isomorphic demands on the AI environment within each case. For entrepreneurs, aligning practices with cognitive values may result in increased access to resources from stakeholders within the cluster.

In concluding the examination of the pressures exerted by the institutional environments in the two clusters, it is important to review the emergent similarities and differences. Such characteristics are crucial to making sense of the observed start-up behavior in each case. From a regulative standpoint, distinctions were observed in the coercive forces wielded by formal agents. In Montreal, governmental stakeholders hold the ability to prescribe certain behaviors for start-ups given their legitimized policymaking and legislative powers. In comparison, the same level of government intervention into the ethical side of AI is non-existent in Kuala Lumpur. For Malaysian start-ups, this implies less urgency towards meeting regulative demands. In terms of normative pressures, both distinctions and commonalities were observed. Montreal

is ground zero for many of the industry-wide CSR initiatives and the corresponding values emanate throughout the cluster via local interactions. In Kuala Lumpur, similar values are prevalent, however, they are namely transferred via international actors. Where the two convene is the role of research institutions and universities in creating similar pressures for start-ups. Both contribute to the creation of local norms and train talented employees who seek ethical start-ups to work for. Finally, the nature of the cognitive pressures observed in each case showed mixed features. Broad acceptance of the AI technology persists in Montreal, while such societal approval in Kuala Lumpur is still emerging. As a result, the importance of certain CSR activities for start-ups in each case varies. In particular, for actors in Kuala Lumpur, CSR plays a large role in creating greater acceptability for the industry as a whole. Furthermore, Montreal is home to multiple ethical institutions and research centers that contribute to creating a greater environmental focus on social initiatives.

6.3.2 Comparing CSR activity

In light of the isomorphic pressures exerted globally by normative and cognitive institutions, the literal replication logic utilized suggests that a number of common CSR behaviors may occur in each case. Indeed, collective responses to environmental forces were observed on the part of entrepreneurs based in both Montreal and Kuala Lumpur. In particular, a number of homogeneous governance activities were broadly reported by each participating start-up. These include the integration of features such as ethical data management, accountability-oriented actions, communication of ethical practices, and responsible design functions. Common terminology was repeated in describing these practices in both interviews and on corporate websites, with language such as “openness” (15), “governance” (10), “responsibility” (17) and “transparent” (12) occurring most frequently. It can be noted that these

CSR activities each aim to ensure that the start-up is being honest and ethical with the data they collect and how they utilize it. Start-ups communicate these values as a means for appealing to stakeholders demonstrating their alignment with appropriate social standards, which prescribe that firms do not breach the trust given to them by their customers and end-users. Given the repeated occurrence of similar practices between the two extreme cases, CSR actions in AI appear to be widespread throughout the nascent industry. That is, even though a large number of differences exist in their external settings, firms engage in many of the same governance activities.

The underlying drivers behind such practices also resemble similar features. For instance, the attraction of new employees was a common theme described in each case. Through the social impact integrated into start-ups' offerings and utterances, entrepreneurs were better able to recruit and retain new talent, which is important in an industry that has limited supply of highly skilled workers. This characteristic was driven by the informal meso-level forces prescribing CSR in each of the two contexts. Another example of motivation for engaging in governance activities included the ability to create new partnerships with MNEs, which are more feasible if a start-up coheres with global norms and the regulations of countries that a potential partner operates in. In each context, the cognitive pressures exerted via interactions with international stakeholders encouraged the integration of homogenous practices. Industry-wide norms appear to span across borders to influence the strategic behavior of firms in AI. The effect of CSR activities is to serve as a legitimacy building mechanism in reaction to the demands of the global industry. In aligning their practices with the cognitive and normative institutional pressures, entrepreneurs in each setting were able to create legitimacy in the eyes of those responsible for

providing resources. This appeared consistent despite differences in state of development of the between the two industrial clusters as well as differences in national-level regulative measures.

Consistent with the theoretical replication logic, divergent observations were made regarding the regulative CSR activity between start-ups in the two cases. Foremost, the attention given to formal regulation pertaining to AI was distinct in each setting. As noted, the macro institutions in Malaysia pale in comparison to the development and complexity of Montreal. As a result, the degree of reliance on formal regulation to guide behavior varied significantly. Montreal entrepreneurs were, at the very least, aware of applicable laws and were all confident in their start-up's abidance of these formal rules. In effect, the regulatory environment constrained entrepreneur's behavior through the additional concerns needing to be addressed. Conversely, Malaysia's macro environment could be described as weak and/or developing and has little influence on CSR activity. Formal measures are considered by participants to be ambiguous and inconsistently enforced. Thus, start-ups are enabled to behave relatively autonomously with regard to macro institutions. Diversion from formal regulative boundaries is made practically possible because there is minimal deterrence constructed by any formal gatekeepers.

From a cognitive perspective, two key differences were observed. Firstly, the influence of industry acceptance played a role in the strategic action of start-ups. Malaysian entrepreneurs were forced to engage in the additional task of building local institutions. Participants partook in in educational activities, such as providing informational talks, describing them as key to promoting AI among relevant local stakeholders. The current lack of broader societal support requires these start-ups to engage in such forms of institutional creation where they help develop legitimacy for the industry as well as share common governance practices with their peers. On

the other hand, the presence of, and participation in, cognitive institutions such as the ethical declaration and ethical institute, contributed to start-up reputation building in Montreal. Engaging in this form of CSR activity was described as an opportunity to demonstrate congruency with the customs of the local cluster. The absence of similar institutions in Malaysia provided one less outlet for legitimacy-building for KL-based start-ups, in particular among domestic stakeholders.

All factors considered, it is the commonalities observed across the two settings that emerge as the most notable. The presence of industry-wide, informal rules served to guide start-ups in each context towards homogenous CSR activity. Institutional pressures functioned as a driving force in influencing the strategic behaviors of the entrepreneurs interviewed. Where the settings differed was in their cognitive and regulatory institutional characteristics. While the social system embodied in each cluster prescribed some parallel beliefs and values, the overall perceptions towards AI were distinct leading to unique start-up activity. Relatedly, a weak regulatory setting led to an increased reliance on informal norms by KL-based entrepreneurs.

7 Emerging Theoretical Dimensions and Propositions

The purpose of comparing heterogeneous contexts was to examine if indeed the proposed replication logic holds true regarding how AI start-ups navigate macro and meso environments. The findings of this investigation are organized in three sections according to the coding structure in Figure 1.

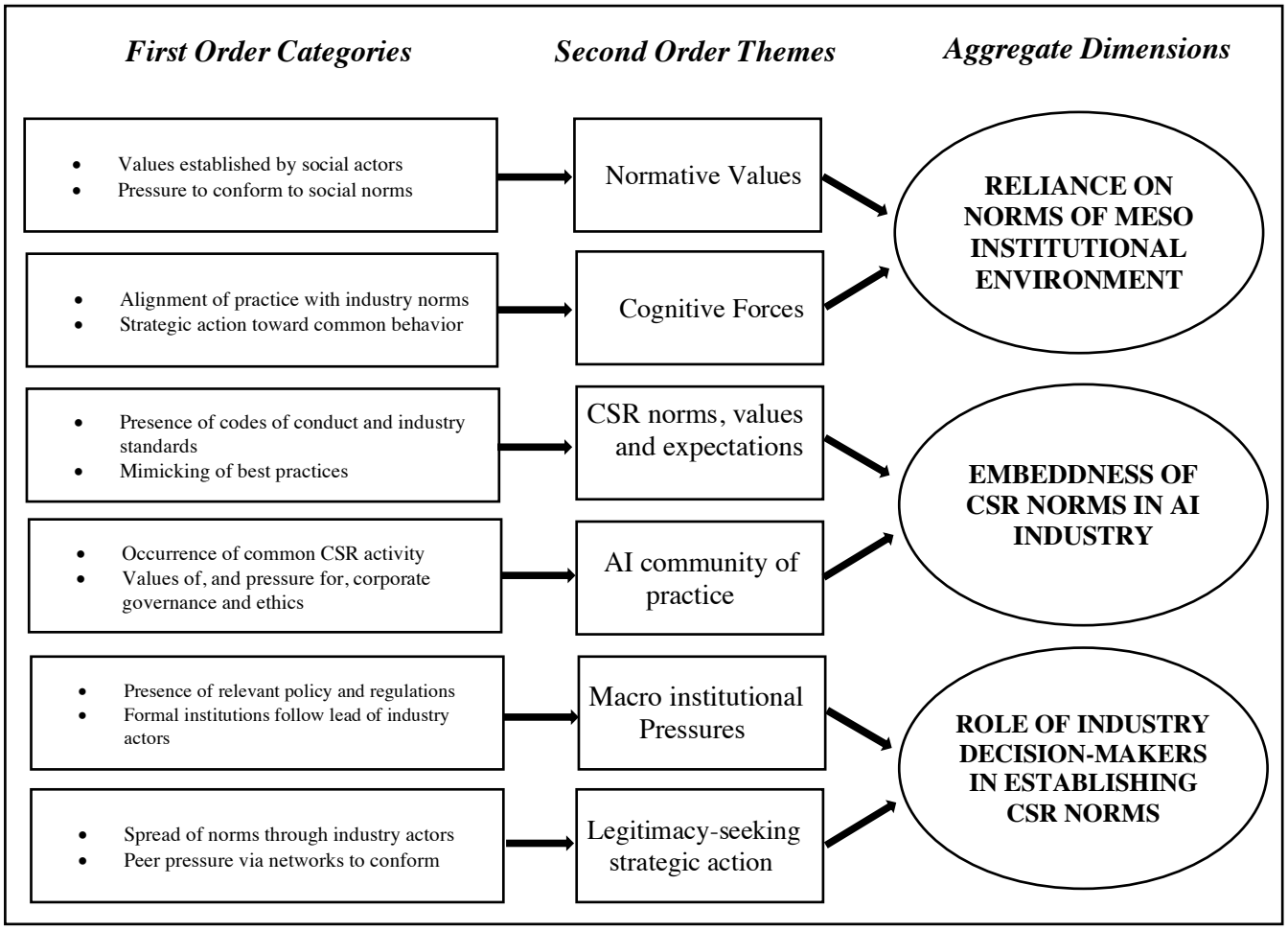


Figure 1. Coding structure.

Overall, six second-order themes emerged that were grouped under three aggregate dimensions. The first aggregate dimension describes how meso institutional narratives and

standards influence the decisions of entrepreneurs with respect to the legitimacy-seeking activities of their firms. The second describes how the propensity for start-ups to engage CSR is influenced by the embeddedness of CSR values within the norms of the meso environment. The third dimension characterizes the role industry decision-makers within the global AI industry. Using the evidence supporting each aggregate dimension, I generate a set of testable propositions that lay the groundwork for future research. Each of these propositions in turn produced a corollary insight that flows from the proposition and expands the understanding of CSR and AI. Illustrative quotes and stories are offered for each proposition in Table 3.

Table 3. Illustrative and supporting quotes for propositions.

Proposition 1: The weaker the formal macro environmental institutions, the more likely AI start-ups are to rely on norms in the meso institutional environment.
• We partner with MNEs who distribute our product across the world. In order for us to keep this partnership, we must ensure that our technology isn't biased towards users, regardless of their gender, age, or race. Our partners are accountable to a lot of stakeholders and they have an expectation for us to meet their (stakeholders') standards. **MS1**
• We sell a lot to retail, food service and things like that, where you're talking about an operator who has operations in 50 different countries. And the reality is that that is 50 different jurisdictions. And 50 different sets of privacy governance rules. In particular, Europe obviously is fairly progressive in terms of protecting customer information, while some other jurisdictions are just wild-wild west in terms of being able to do whatever you want. We've taken the position that we want this to be about value creation and not intrusion of customers personal lives and personal spaces. So, it's for that reason that we've adopted culturally a position and methodology that, we're confident will be able to scale anywhere on the globe. And that we're not engineering something that will work only in a market where there is a very liberal or deregulated, or lack of oversight on privacy. We want to be able to go to Europe and have no problem with confronting the most rigid in terms of customer privacy frameworks. **MS2**
• When you refer to social responsibility, I think that if I introduce more companies to this topic, the more society will accept the technology it and not be so scared of it. If I do this then I think I am doing the right thing. And of course, like any superpower, and I think this is a superpower if you know how to do this right, it comes with a certain responsibility. You should not use it to predict stuff that is selfish. KLS3
• Locally, we see a lot of influences leading us towards to corporate governance. Here in Montreal, we have scholars and ethics institutes and that put on workshops and seminars about using AI responsibly. **MS3**

- I think it's about the employees. All of our employees are very much driven for social responsibility and all that, and for them they don't find it as interesting to build AI to cut jobs, so the pressure on us is very internal in that regard. **MS1**
- A lot of what we do is led by our employees and by our partners. Many of the new grads we have hired want us to work on projects with high social impact, so this leads us to being ethically responsible in our decision-making. If we don't follow any governance principles, universities will no longer provide workers for a company like ours. **KLS1**

Proposition 2: The greater the embeddedness of CSR in the norms of the meso institutional environment, the higher the propensity for AI start-ups to engage in CSR activities.

- Certainly, public and private funding is more likely to go to companies who can demonstrate that their compliant with social standards. So, for us, we feel it's important to communicate our CSR policies. That's why we post all of our activities on our website and share with clients. **MS2**
- At the moment, the government is highly involved, because our product is really about AI and education. And there's already regulation to protect the privacy of the children. So, we just have to make sure that the AI and our process is compliant. Therefore, we are not collecting the location and we don't target their age or other private info like that. **MS1**
- There was a hackathon specific for AI that helped us to think about being socially responsible. We participated within the 'social impact track' and had the mentors that helped us think about our business model with regards to implementing this type of CSR. A lot of our competitors and customers participate in these types of activities so it's important for us to do the same. **MS1**
- Our approach to corporate governance enables us to get partnerships as well as foundation money in some respects. Let's say KPMG wanted to help deploy educational technology in some poorer region of the world and give it out for free to the students. Because we are confident in the ethics of our product, it gives the opportunity to KPMG to sponsor us and the fund the operational cost of it. **MS1**
- When you say CSR – who am I responsible to? I feel am accountable to the stakeholders who are the people that I serve, it's my employees and it's the community in general. So by serving my customers, I'm serving them and also their families, which means I'm serving the end-users as well as community and doing that much more. **KLS3**

Proposition 3: The more the AI industry matures, the greater the role of industry decision-makers in establishing CSR norms.

- Over the past 5 years I've been getting a lot of requests to do talks and workshops. Ideally, I would love to dive right into the implementation of AI for our customers, but I realized that a lot of educational work must first be handled. So, I start off by reviewing some of the basic themes such as what is AI, how it relates to data and how it can be utilized by companies. From there, I delve into teaching people how it enhances our decision-making and makes us faster, and most importantly, some of the ethical requirements later on. **KLS3**
- I think there's a lot of misconceptions of AI primarily due to the way media earns revenue today. It's based on viewership, reads, clicks etc., and isn't necessarily about what's truthful or accurate, and more about what generates viewership. We see it every single day, my cofounder and I have a constant back and forth about different things in

the media and different things that are happening. The reality is that it's upon us, the industry to educate people about what it is that we're doing, including promoting ethical practices. **MS2**

- We frequently attend in educational seminars, led by professors, managers, researchers, etc., since we need to find out the global standards if we want to expand outside Malaysia. **KLS2**
- I think the key things are transparency, accountability and explainability, which all come down to education. Right now, AI is a rourshart blot. It's anything. It could mean anything. It could connote fear. It could connote opportunity. It could connote the future or oppression. It means anything and everything depending on the political slant or the position of the individual who is making the statement. I think it's incumbent on entrepreneurs and investors, to come in on people who are leading this revolution to educate about what AI is, to educate about responsible usage of AI, and to educate about how AI can become something like electricity or democracy or free market. **MS3**
- Research labs matter. We need to collaborate with them in order to upgrade technologies and to hire employees from them. We cannot do what we do without their help. As a result, we adopt a lot of their ethical standards and they share them with us. **KLS1**

7.1 Emerging meso institutional context

In Canada, as in most developed countries, responsible corporate governance is the law of the land within the sphere of technology (OECD, 2018). Indeed, varying levels of formal institutions persist in the case of Montreal that lead to compliance pertaining to the development, deployment and use of AI. In this respect, AI parallels other industries where multiple levels of formal institutions exist and at each level firms take action to comply (Besharov & Smith, 2014). Measures such as the Personal Information Protection and Electronic Data Act and Québec Private Sector Privacy Act serve to set appropriate operating procedures for start-ups. However, while these measures do influence practices to a certain extent, they are not viewed as thorough and complex enough to entirely guide start-up behavior, as one entrepreneur described:

"There are some procedures in place to guide how we operate, however, we don't always resort to these rules. Instead, we feel we are much more accountable to our peers and to our clients who expect higher levels of ethics" (MS2).

This behavior is consistent with observations from other industries such as mining where formal policymaking doesn't always suffice in guiding firms' actions, and as result, practice informs policy (Dashwood, 2011). This could be expected in AI given the industries rapid pace of advancement (Gasser & Schmitt, 2019). Other interviewees cited similar experiences, noting that regulations are not necessarily the primary motivating factor for CSR. In the case of Malaysia, the emerging economic and political setting remains in state of development with the relatively modest priority of introducing new technologies into everyday processes (MDEC, 2019). Formal laws and legislation related to the use of AI, such as Malaysia's Personal Data Protection Act, do exist, but remain misunderstood and under-enforced (OECD, 2018), as described by a local professor and head of AI research lab:

"We do have the data protection act, but to what degree is it enforced? I'm a bit on the fence about how firmly it's policed. Even though the act does formally exist, based on personal experience, I'd say that companies can get away with using data however they please. Enforcement of the act is really not strict. And the extent to which government has tried to ensure companies are well-informed of the act's main principles could be improved. Being in my position, I often receive phone calls, out of the blue from larger companies asking if what they're doing is compliant because they themselves don't even know. So, I think enforcement-wise, implementation-wise, the act is still not very effective" (KLP2)

Thus, regulations and policies, which constitute the macro institutional regimes (De Castro et al., 2014), have developed to heterogenous extents within the Montreal and Kuala Lumpur cluster settings. Formal measures in Montreal are well-established and strongly enforced, while regulation in the Malaysian context is ambiguous and relatively lenient (OECD, 2018). Interestingly, it was revealed that start-ups in each of the two contexts engaged in similar CSR

activity, which embody shared normative beliefs and cognitive values. Malaysia-based start-ups employed thorough corporate governance practices despite a lack of formal regulation demanding such actions. These CSR activities include strong data protections measures, responsible design features, transparency, and educational activities relating to the technology, which are each pervasive activities of start-ups based in Montreal. It was discovered that the implementation of these actions is motivated through interactions with industry peers, including partners, customers, employees and universities. Through these exchanges, knowledge of how firms ought to behave is transferred and internalized (Anwar & Ali Shah, 2018). In other words, isomorphic pressure is exerted upon start-ups, who must meet the demands of their stakeholders in order to access key resources. Common norms come to exist based on exchanges between actors in the Malaysian network and those abroad, specifically in developed economies. For instance, one Malaysian entrepreneur noted that his start-ups' CSR policies were driven by the need to meet the social values of European-based multinational enterprises with whom they partner with. The transfer of knowledge and values through network effects has been demonstrated in past research (i.e., Anwar, Rehman, & Shah, 2018). Similarly, another Malaysian interviewee stated that "the ability to attract highly qualified employees is based upon using AI for projects with social benefits" as an important reason for engaging in CSR. Hence, values pervasive in the normative environment demand firms align their practices with widely held social values (De Castro et al., 2014).

Furthermore, each of the Kuala Lumpur-based entrepreneurs I interviewed had no firsthand experience with government regulation and relied on the limited information that circulated in their environment and supported accepted meso institutional practices. Accordingly, it is revealed that the judgement of legitimacy may be achieved through adherence with the taken-

for-granted rules that exist within the AI community of practice. Thus, the choices entrepreneurs make are consistent with the narratives developed within the industry found in their meso institutional environments (Kim et al., 2016). This suggests that:

Proposition 1: The weaker the formal macro environmental institutions, the more likely AI start-ups are to rely on norms in the meso institutional environment.

Corollary 1: Meso institutional narratives and values influence the decisions of entrepreneurs with respect to the legitimacy-seeking activity of their start-up.

7.2 Start-ups and CSR

Entrepreneurs I interviewed reported constructive outcomes from engaging in CSR activities, including improved customer goodwill. Indeed, much of the management literature concludes that social performance has a positive relationship with economic performance. However, most studies suggest this link to be caused by mechanisms such as increased capacity for innovation (Bernal-Conesa et al., 2017). Although CSR was involved in product development phases in some instances, it was primarily utilized for distinct purposes involving gaining access resources such as skilled employees and funding, as well as better professional networks. Isomorphic pressures in the environment demand this type of behavior, and firms may face sanctions for deviating, such as diminished reputation, difficulty attracting talent, etc. This theme emerged across both cases. Indeed, one entrepreneur described engaging in CSR activity primarily driven by the observation that "public and private funding is more likely to go to companies who can demonstrate that they're in line with social standards" (MS2). Thus, through coercive forces, the institutional environment encourages collective action by firms to behave ethically (Scott, 1995).

In effect, start-ups employed CSR as a strategic means to enact industry norms. Meso institutions play a primary role in prescribing these norms, which namely require that companies be aware of their impact on various stakeholders, amongst other things. It's been shown that in other contexts, industry players may shape the community norms and confer legitimacy based on exemplification of the shared values (De Castro et al., 2014). This was found to be the case in each of the Montreal and Kuala Lumpur clusters. In particular, alignment of start-ups' practices and utterances with the values of the AI industry may lead to the attainment of legitimacy, and subsequently, resources important for survival and growth. This experience was well-described by an entrepreneur as the following:

"*For us, we see corporate responsibility a lot in our everyday work. Whether its attending seminars or networking events for AI, there is always talk happening about dealing with the social issues of AI. It's across the industry. So, we have to make sure we follow these principles if we want to keep our reputation.*" *(MS1)*

Within the AI community of practice exists professional codes of conduct (Gasser & Schmitt, 2019), which suggest appropriate operating practices and appear to serve as an accountability mechanism. This was observed across first-order categories of coding and was subsequently grouped into a second-order theme. For instance, a Kuala Lumpur-based respondent echoed similar remarks:

"*Within our field, we really notice the demand for good governance. If you want to build relationships in AI with large companies or other partners, you need to have transparent practices.*" *(KL1)*

This phenomenon was similarly reported in both cases, supporting the assertion that CSR activity is driven by meso-level influences that span the industry globally, rather than country-specific macro institutions. In particular, the presence of taken-for-granted rules within AI demand CSR and thus motivates firms to engage in this type of behavior through coercive and normative forces. Furthermore, effective communication of these actions led to perceived alignment with social standards (Fisher et al., 2017) and consequently legitimacy (Zimmerman & Zeitz, 2002). This leads to the second proposition:

Proposition 2: The more CSR is embedded in the norms of the meso institutional environment, the higher the propensity for AI start-ups to engage in CSR activities.

Corollary 2: Start-ups may acquire legitimacy via CSR activity in contexts where the norms of the meso institutional environment prescribe CSR.

7.3 CSR in the AI industry

Governing norms emerging within a profession has been identified as an important element in cases of inadequate regulation (Gasser & Schmitt, 2019). My data suggests that the AI field is evolving as a form of profession containing highly specialized actors who contribute to the creation of acceptable operating practices through normative measures. In particular, I find an evolving institutional arrangement in which industry decision-makers shape operating standards, which are subsequently endorsed and recognized by macro institutional actors. This phenomenon has been observed in other technology sectors where rapid industrial advancement surpasses policymaking (Mougayar, 2016). Furthermore, my findings reveal that these meso-level norms may subsequently give rise formal measures. For example, in the Canadian context, taken-for-granted rules that formed through cognitive and normative institutions were later documented in

codified reports and declarations. The expressed norms that arose through factors such as research and development principles, network values and employee demands provide a common operating framework that offers guidance to the industry as a whole (Jobin, Ienca, & Vayena, 2019). This phenomenon has also been observed in the case of industry-developed CSR norms in other controversial sectors such as oil and gas (O'Connor & Gronewold, 2013; De Roeck & Delobbe, 2012), mining (Dashwood, 2011) and tobacco (Palazzo & Richter, 2005) What's novel to the AI context is the formal codification of such norms, and the importance to organizations of participation in their formation. The COO of one of the start-ups interviewed captured the implications of these elements in his discussion:

"*We are one of the signatories of the Declaration (of Responsible AI) and I believe that by signing it, we can offer support to help create an ethical field. Because, if AI starts to be viewed negatively, it will be harmful for the entire industry, including ourselves, through loss of sales, et cetera. By supporting it, we can promote ethics within the community, and this is good for us and everyone involved.*" *(MS2)*

Key stakeholders within the Montreal cluster, including researchers, academics and entrepreneurs contributed to the development of these documents, which were later endorsed and promoted by local and provincial governments. This public sector promotion provides support for the notion that in AI, macro institutions follow the lead of industry actors in terms of governance measures. In effect, macro institutions are forced to do so given the rapid pace at which advances occur in the meso environment. Similar observations were made regarding university-government partnerships occurring in Quebec, where government provided financial assistance towards AI projects so long as they go towards guiding ethical outcomes (Montreal International, 2019).

An absence of formal agreements of this nature persists in Malaysia, however, key elements of such documents are communicated through international actors via firm networks and partnerships. Emerging from interviews were themes such transparency, accountability, and ethical data management, analogous to the discourse uncovered in Montreal. Furthermore, the Malaysian start-ups interviewed spearheaded efforts to promote AI locally, including giving workshops and seminars on the value of AI, as well as sharing CSR activity with local constituents in their network. The effect of these actions was to share global industry values while simultaneously building legitimacy for industry as a whole, given the federal governments perceived insufficiency to do both to satisfactory levels. A CEO interviewed describe the importance of sharing his experiences through educational talks as the following:

"*I learn a lot from our foreign customers and feel it's important to share locally what we discover…This does include a lot of the ethical requirements in foreign countries. By sharing with other Malaysians, we help create an ethics culture locally which I feel is still needed. It will allow other companies here to grow internationally. We also help make our products more attractive to local customers, who haven't quite fully accepted the technology yet, by creating a positive image for AI.*" *(MS3)*

New technologies emerge regularly meaning industry decision-makers are important in determining sustainable governing actions within AI. So long as macro institutions remain underdeveloped in response to this advancement, normative values may remain as a key influence in guiding start-up behavior (De Castro et al., 2014). This leads to the third proposition:

Proposition 3: The more the AI industry matures, the greater the role of industry decision-makers in establishing CSR norms.

Corollary 3: Meso institutional actors influence the acceptable practices within the industry while macro institutions subsequently follow.

8 Discussion of Findings

This thesis set out to examine how AI startups navigate macro and meso institutional environments. Building on prior literature focused on the regulatory aspects of the macro institutional environment, I considered legitimacy-seeking behavior through the added lens of the meso environment where taken-for-granted behaviors toward social responsibility become institutionalized. Against the backdrop of Montreal, it was found that formal regulations of the macro environment and the informal rules of the meso environment were closely aligned. The formal regulations imposed in this context followed the development path of the rules and beliefs of the industry. In particular, established normative values came to be codified through formal documents and policies, which were subsequently articulated clearly and well enforced. For start-ups, coherence with industry-wide norms also amounted to meeting the demands of regulative systems. For entrepreneurs situated with the weak regulatory environment in Malaysia, the meso environment - the informal, unwritten community standards - provided guidance on how firms could behave. While entrepreneurs acknowledged that they could evade the boundaries set by macro agents without serious repercussion, the start-ups under study found it advantageous to adopt and even proactively go beyond expectations for CSR set by formal legislation. In particular, meso forces informed their actions through prescribed norms that signify that engaging in responsible and ethical practices is acceptable and even desirable. Furthermore, start-ups in Malaysia also engaged in institutional development due to industry newness/unfamiliarity, while those situated in Montreal could rely on existing legitimacy of the cluster itself for their own purposes.

On the whole, the CSR activity of start-ups in each cluster generally paralleled each other, despite differences in macro institutional contexts. This finding further supports the notion of AI

spanning national boundaries. The effect of the meso institutional environment was to serve as the connective tissue linking the macro and micro influences within the global industry. Indeed, decision-makers in the field play a significant role in guiding entrepreneurial activity and subsequent policymaking through the frameworks they create. Their setting of the industry's direction toward responsible outcomes, including ethical governance practices, increased the propensity for start-ups to engage in these mechanisms as a means for acquiring legitimacy. The results of this study contribute to a number of streams of literature to be discussed in this section. Implications for policymakers and entrepreneurs will also be discussed.

8.1 Theoretical implications

Entrepreneurial behavior and constraints

The two-tailed replication logic utilized suggests that across contexts, meso-level forces in AI prescribe that start-ups engage in common legitimacy-building actions. This finding contributes to addressing the previously overlooked level of meso institutions (Kim et al., 2016). In effect, resource-strapped entrepreneurs allocate resources towards CSR activity in order to develop and maintain a strong reputation in the eyes of industry stakeholders. This action is consistent with entrepreneurs in other controversial industries who appeal to skeptical stakeholders by "doing-good" (Vlachos, Panagopoulos, & Rapp, 2013; Cai, Jo, & Pan, 2012; Bhattacharya & Sen, 2004). Furthermore, this finding corroborates the observations made by De Castro and colleagues (2014) who found that in weak macro institutional contexts, entrepreneurs relied upon the actions of their peers in order to determine appropriate behaviors. Furthermore, these authors theorize that the role of meso structures in conferring legitimacy to small firms is

based on the engagement in practices deemed acceptable within a community of practice. My findings support the postulation that community values play a significant role in setting the expectation for desirable behavior. This result may be useful for scholars aiming to increase our understanding of the role of the community of practitioners in novel industries (Pyrko, Dörfler, & Eden, 2017).

My findings also provide empirical support for the notion that firms can purposefully navigate between multiple levels of institutions (De Castro et al., 2014). Past research has proposed that deliberate strategic action such as the employment of sustainable development initiatives can lead to perception of legitimacy at the macro level (Scherer, Palazzo & Seidl, 2013). Other studies have suggested that similar initiatives may be effective for legitimacy building purposes at the normative level (Muthuri & Gilbert, 2011). My data validates the assumption that start-ups can in-fact utilize this type of activity to gain legitimacy between contextual levels, and in particular may utilize CSR within environments where socially conscious stakeholders demand this type behavior. This extends our current understanding on how strategic action may be utilized toward the acquisition of resources by providing contextual evidence from the AI industry (Bradley & Klein, 2016). Such knowledge may assist researchers in their study of entrepreneurial activity by demonstrating the importance of the emerging lens of meso environments (Kim et al., 2016).

Furthermore, my findings deepen our knowledge of how firms operate in born-global industries (Murtha, Lenway, & Hart, 2002). In particular, it provides a novel look into firm behavior within the emerging industry of AI, which contains international operating norms that evolve ahead of regulative systems (Gasser & Schmitt, 2019). As has been documented, rapid advancements within the field has led policymaking to struggle to maintain pace with

technological innovations (Wall, 2018). In my study I observed a strong reliance by start-ups on meso norms for appropriate governance practices as a result. This finding enriches a number of similar studies that have examined the influence of industry norms, and specifically, their role in prescribing CSR (Segerlund, 2016; Dashwood, 2012; Sjöström, 2010; Levy & Kolk, 2002). For example, past research has found that in developing contexts such as China, decisions to adopt basic and proactive environmental management practices were less driven by concerns for legality than by their perceptions of the regulators' actions and gestures in such cases (Yee, Tang, & Lo, 2014). A similar study found that under the weak regulatory regimes of Latin America, start-up behavior was motivated by peer acceptance and recognition (Bruton, Ahlstrom, & Puky, 2009). My findings provide new evidence for the role informal institutions in creating the norms of socially responsible behavior. Recently, another study identified CSR as being a strategic tool used to satisfy the expectations of global stakeholders rather than the local laws and sanctions (Aksak, Ferguson, & Duman, 2016). My study enriches this proposition by showing how entrepreneurs may strategically acquire resources through such behaviors.

On the whole, my contribution to this stream of entrepreneurship literature supports the conclusion that the deployment of CSR may not always be linked to macro level forces but may rather be in response additional environmental factors. Through alignment with such forces, start-ups may increase their legitimacy and in turn acquire crucial inputs (Fisher et al, 2017). Reseachers of legitimacy have yet to look at how entrepreneurs in nascent, high tech fields may acquire such a perception for their firms nor have the institutions that establish what is desirable in such cases been studied (Nagy, Rutherford, Truong, & Pollack, 2017). In particular, such forces involving an emerging meso context in the field of AI have been overlooked to date.

Institutional environments

Environmental constraints have been well-document in scholars' quest to understand entrepreneurial behavior (Kreiser, Anderson, Kuratko, & Marino, 2019; Suddaby, Bruton & Si, 2015). This study adds to this conversation by showing how industry decision-makers alike may play an important capacity in contributing to establishing these environmental forces. In particular, my findings revealed that key actors within the AI industry supported the advancement of the normative measures that constitute a governance framework for the development, deployment, and use of AI. This result offers support for the idea that start-ups can function as builders of institutions (Qureshi, Kistruck, & Bhatt, 2016), who may work to improve the environment and to produce structures that help their business to be recognized and promoted (Bruton et al., 2010). To date, this supposition has namely been considered true in emerging economies in which legal institutions are weak and professional standards are only beginning to develop (Lim, Oh, & De Clercq, 2016). My findings extended this view to show that this phenomenon may also occur in developed economies, such as Canada, where a novel industry is emerging and guides the development of commercial norms. The construction and implementation of these taken-for-granted values and beliefs towards CSR subsequently informed legislation and policy making. The occurrence of industry practice anteceding formal regulation has also been observed in other industries such mining and oil & gas, where public uncertainty may force firms to proactively adopt sustainability practices that go beyond initial regulation (Beddewela & Fairbrass, 2016; Dashwood, 2012).

Similarly, as was the case in Malaysia, entrepreneurs mobilized their efforts to create legitimacy for the AI industry as whole through purposive educational activity. This finding enriches the work of Bylund and McCaffrey (2017) who argue that such action is necessary for

new ventures in cases of institutional uncertainty. With their knowledge of global practices, participant start-ups communicated their socially responsible practices with relevant stakeholders. This behavior may be explained by the concept of institutional entrepreneurship, which answers the question of how new institutions arise and are changed (Hardy & Maguire, 2017; Bruton et al., 2010). My finding enriches this theory by providing evidence from the AI industry where norms take shape internationally throughout the industry and thereafter inform the creation of formal institutions. The born-global dynamic observed in AI hasn't not been of focus in research on institutional creation up until now. These observations in Malaysia support the work of Smets, Greenwood and Lounsbury (2015) who propose that entrepreneurs can attain legitimacy for their own firm by attaining legitimacy the industry as a whole. The legitimacy-seeking mechanisms found to be used, including activities such as informative talks and educational seminars, may be effective in similar emerging industries (Battilana, Leca, & Boxenbaum, 2009).

The lack legitimacy for the AI industry in Malaysia led to disparity among levels of the environment, exposing start-ups to the challenges of institutional pluralism. That is, they begin to operate in multiple institutions spheres (Jancsary, Meyer, Höllerer, & Barberio, 2017; Kraatz & Block, 2008). I found that as Malaysian entrepreneurs gained exposure to international practices, they had to become more attuned to both the macro and meso institutional environments. This corroborates the notion that environmental awareness is crucial in nascent contexts (De Castro et al., 2014). Where the macro environment in this context is concerned, entrepreneurs are pushed to focus on the promotion of the technology locally along with some regard for its social implications. A balancing act occurs, as young firms focus on international partnerships, while also dealing with needs of their domestic market. As this process unfolds, I

found that AI entrepreneurs have to become more, rather than less, acclimated to the often-constraining norms of the meso institutional environment. In other words, start-ups are forced to play more than one game at a time (Moratis, 2016). This backs the idea that competing demands of the macro and meso institutional environments force the entrepreneur to continuously resolve tensions that arise from, 'multiple regulatory regimes, embedded within multiple normative orders, and constituted by more than one cultural logic' (Fisher, Kotha & Lahiri, 2016; Kraatz & Block, 2008). This finding enriches the literature by shedding light on how this process unfolds as it pertains to a born-global industry.

CSR

Even as AI generates ample consumer benefits and business value, it is also giving rise to a host of unwanted, and sometimes serious, consequences (Gasser & Schmitt, 2019). My results reveal that that the response of some AI industry start-ups has been the implementation of CSR activity in order to minimize reputational damage and/or revenue loss for the industry resulting from possible regulatory consequences and diminished trust. Consistent with extant theory on legitimacy, start-ups were found to conform to pervasive social expectations because doing so may create the perception that a start-up, its purposes and arrangements, are appropriate and socially acceptable (Suddaby et al., 2017; Fisher et al., 2017). Such social approval may lead to legitimacy and, in turn, provides access to material and symbolic resources that support survival and growth (Zimmerman & Zeitz, 2002).

Literature on stakeholder management and corresponding CSR activity has been traditionally concerned with well-established industries with potential negative implications (i.e., manufacturing, energy, mining, apparel, etc.) (Reast, Maon, Lindgreen, & Vanhamme, 2013; Du & Vieira, 2012; Sweeney & Coughlan, 2008). My data enriches this body of research

by highlighting the context-specific CSR functions unique to AI given the novel technological nature of the industry. To be perceived as legitimate in the eyes of resource-holders, AI entrepreneurs, within each case, engaged in normative and cognitive CSR activity, including practices such as ethical data management, proactive protective measures, responsible design, accountability and transparency, among others. These results extend our current understanding of CSR by highlighting firm's actions in an emerging and influential field as much of the CSR activity observed is specific to AI and has yet to be examined in the management literature (Reast et al., 2013). My results provide insight into these specific actions and may help pave the way for future research into the AI industry (Varian, 2018). Indeed, as new technologies transform industries, the need for an understanding of how firms manage their social obligations will be increasingly crucial (Aqueveque, Rodrigo & Duran, 2018).

Additionally, research has shown that when operating in industries with controversial implications, firms may offset negative perceptions through various strategic mechanisms (Vergne, 2012; Jo & Na, 2012). Increasingly, examples of this phenomenon occurring via the influence of informal norms are becoming pervasive (Mueckenberger & Jastram, 2010). Dashwood (2011) found that sustainable development evolved as a norm, which informs the policy and practices of mining companies. Oil & Gas companies are driven by taken-for-granted rules that prescribe the communication of CSR practices in their pursuit of stakeholder legitimacy (Du & Vieira, 2012). Further research argues that behavior of this nature may have positive effects on the overall financial performance of a firm (Tang, Hull & Rothenberg, 2012). My findings offer support for this literature by drawing attention to the role of CSR norms of in AI. The embeddedness of governance practices within the meso environment helps to balance social expectations and create legitimacy for firms and the industry itself. This further validates

the idea that while CSR is often linked with macro-level factors (see García-Sánchez, Cuadrado-Ballesteros, & Frias-Aceituno, 2016), they do not always account for the entire driving force behind its manifestation. Indeed, it appears that normative pressures have a prominent impact on engagement on CSR. The consequences of this finding lead to an important discussion of the emergent policy implications.

8.2 Policy implications

An understanding of the role of meso institutions in AI presents a strategic opportunity for policymakers to intervene to ensure the responsible development of the industry. Governmental actors at multiple level can take proactive steps to guide AI towards sustainable outcomes. This includes investment in the development of meso institutions which lead to CSR norm that later inform regulative systems. For instance, active involvement with normative institutions, such as universities, may be useful in fostering sustainable technology development curriculum and research projects in AI. Thus, graduates of programs may be inclined to start or work for a company that is mindful of its social concerns. Policymakers may also seek to build informative relationships with influential AI leaders, such as prominent researchers or heads of labs and institutes, in order to share key learnings as well as receive insight as to where the industry may be headed. Through affiliations of this nature, policymakers may stand to influence current practices, while also gaining an intelligence regarding future challenges associated with the formulation of laws and regulations. Finally, promoting and participating in professional institutions, such as industrial governing bodies, research centers and formal ethical declarations, may also serve as effective means for leading the industry towards results that are favorable for business and society.

8.3 Managerial implications

A number of practical implications for start-ups are also derived from the findings of my inquiry. With this study entrepreneurs may learn about the legitimacy acquisition process for start-ups located in heterogeneous contexts, which includes the distinct CSR activity needed. With this knowledge, entrepreneurs may be better prepared to situate and manage their start-ups effectively as they come to better understand the types of constraints they could expect to face.

Entrepreneurs situated in each cluster were found to partake in homogenous legitimacy building activities. Within the global AI industry, CSR is increasingly becoming the norm and as a result, firms who sell internationally, and particularly to the developed world, may face the need to engage in CSR based on the demands of their foreign partners. With this knowledge, entrepreneurs situated in emerging economies may take pre-emptive measures to ensure their offerings are aligned global standards in order to accelerate their growth and overall chances of survival. Firms typically change their behavior as the context develops in order to align themselves with established rules of the game. However, if information is available regarding the direction of the normative forces within an industry, it may be advantageous to start early and be ahead of local competitors in aligning organizational practices with those institutional pressures.

Furthermore, the findings of this study present implications with regard to the location decisions of a start-up. In an emerging macro context such as Kuala Lumpur, the newness/unfamiliarity of the AI industry pushes some firms to have to educate and inform their stakeholders about the usefulness of their technologies in order to be perceived as legitimate. That is, strategic action, which requires the expenditure of resources, is needed to attain

legitimacy for both the industry as a whole, as well as the firm itself. Therefore, start-ups that are in well-positioned to be able to allocate additional resources towards these activities (i.e., spinoffs from large corporations) may be better suited to initially situate in this type of context. In reward, it could possibly lead to lower levels of local competition given the smaller scale of the cluster, increased access to government support, and the opportunity to shape the macro institutions in their favor. On the other hand, in the strong macro context of Montreal, widespread acceptance and approval of the AI industry already exists meaning a relatively lesser amount strategic action is required to gain legitimacy for the cluster as a whole. Additionally, simply locating within the cluster, which has already in itself come to be perceived as legitimate, may in turn yield a start-up with legitimacy (Deephouse & Suchman, 2008). Entrepreneurs scarce in resources may thus be better off locating in a mature cluster as they are less likely to need to allocate resources towards shape the institutional environment.

9 Conclusion

Summary of contributions

Academic research conducted to date offers little insight into how entrepreneurs navigate between the enabling and constraining rules of the macro institutional environment and the norms of the meso institutional environment. To date, almost all of the analysis of how institutions affect legitimacy has looked at the macro (national or regulatory) level, yet institutions also help direct actions of individuals and communities at the meso level (Roelants, 2000; Elsner, 2010). The meso level institutions are a bridge built on community values that accrete over time into a coherent and predictable set of well-known rules and taken-for-granted norms (De Castro et al. 2014). This thesis set out to examine how start-ups navigate these countervailing forces with respect to building legitimacy in the AI sector. I utilized a two-tail replication logic to analyze the cases of the AI clusters of Montreal, Quebec and Kuala Lumpur, Malaysia, respectively, and the impact these institutional environments have on the legitimacy-seeking behaviour of new ventures. The research was conducted through semi-structured interviews of entrepreneurs and relevant stakeholders. Additional data was collected from scholarly papers, industrial and governmental reports, and the corporate websites of the organizations under study. After identifying themes and patterns in the data, it was evident that focus points could be outlined and code relations could be inferred by taking into account contributions from various categories of informants.

It was found that in a mature macro environment like Montreal, the formal regulations and the informal rules of the industry were closely aligned. The industrial norms closely informed the formal regulations, as a number of prominent local institutes and thought leaders helped

shape both of these institutional environments. As a result, firms can navigate these environments with unique constraints given their commonalities, leading to the acquisition of legitimacy and subsequently resources.

For entrepreneurs situated in Malaysia, where minimal regulatory constraints exist, the meso environment (the informal, unwritten community standards) set an expectation that engaging in responsible and ethical practices, to some degree, was acceptable and even desirable. Furthermore, it was observed that entrepreneurs in this setting play a role in creating the institutions of the macro environment. Given the newness/unfamiliarity of the technology, AI firms had to educate relevant stakeholders about the potential of their technology. Examining the AI sector within the Malaysian context suggests that it follows a similar development path as Montreal, where the formalization of previously informal rules leads to a clear alignment between macro and meso influences.

Through an analysis of the findings emerged theoretical implications for scholars of entrepreneurship, institutions and CSR. This thesis set out propositions to be empirically tested in future research, as well as extends the current literature within these domains. Practical implications were also presented for policymakers and entrepreneurs alike.

9.1 Limitations and future research directions

The generalizability of the findings from this study are limited due to the research method used. Consistent with extant expectations for qualitative research, the goal of this thesis was not to generalize but rather to provide a contextualized understanding through the intensive study of particular cases (Tsang, 2014). Future research may utilize the propositions formulated in this study as a starting point for quantitative analyses seeking to generalize.

As new technologies continue to emerge and transform our everyday lives, the need for meso-level actors to promote responsible and sustainable operating behavior in industries where formal regulation weal is extremely crucial. As a result, practically relevant research into the factors influencing the role of the meso-level in CSR activity remains of great importance. Future studies may further examine how this phenomenon occurs, namely by investigating the key drivers of meso-led CSR activity, the diffusion of responsible AI norms across the industry, and the role of government in the diffusion process. This could include addressing questions such as who are the key actors that drive the development of social responsibility? Under what conditions do CSR norms spread across geographies? And how can policymakers better promote the rise of meso-led sustainability initiatives?

AI now powers so many real-world applications that we barely notice it. For organizations, deploying AI requires progressive governance measures to prevent unintentional but significant damage, not only to reputation but, more importantly, to workers, individuals, and society as a whole. The effective development of responsible industry standards by decision-makers in the field and the engagement of policymakers in the formation of norms may lead to sustainable outcomes that lead to a productive use of AI in our societies. AI has the potential to completely transform everyday life for the better, but only if we purposefully guide it towards that outcome.

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11 Appendix

11.1 Interview Guide

Question Type	Question	Time	Question Category
Opening	Who are the major players (i.e. government agencies, institutions, associations, etc.) involved in the artificial intelligence ecosystem?	10 mins	Fact
	To be successful in this industry, who must you build connections with? Whose influence matters most?	5-7 mins	Stories
Introductory Transition	Which stakeholders have you specifically given thought to when developing and commercializing a new product?	10 mins	Examples Stories
Main subjects	From your perspective, what does corporate social responsibility mean?	10-12 mins	Activities Involvement Sharing
	How was your CSR strategy developed? What factors influenced this process?	5-7 mins	
	How do you integrate features such as corporate governance and ethics, community involvement, respect for diverse cultures and disadvantaged peoples, accountability and transparency into the creation of products? Follow up: What influences were involved in these decisions?	5-7 mins	
	In your view, what is the potential role of AI in today's world?	5-7 mins	
	Some social concerns exist related to AI, such as loss of jobs, data protection, harmful side effects, privacy issues, etc. How do you think AI firms can overcome or offset these issues? Follow up: does your company implement any measures to counterbalance such concerns?	5-7 mins	
Concluding	Do you have any additional thoughts regarding the incorporation of social responsibility into the creation of new AI products?	2-5 mins	Reflection
	Buffer	3 mins	
Total		**60 – 75 mins**	