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The Impact of Institutional Voids on Entrepreneurial Firm Growth: A Quantitative Research in Egypt

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Abstract

This study investigates the impact of micro-level institutional voids on the growth of entrepreneurial firms. A sample of 315 Egyptian Information, Communication, and Technology (ICT) companies, representing diverse sizes and maturity levels, was used to model the correlation between variables via structural equation modeling. The results suggest growth has a strong positive relationship with product-market voids; a strong negative relationship with capital-market voids; and an insignificant negative relationship with labor-market voids. Only a few previous papers investigated different dimensions of micro-level institutional voids instead of the more common focus on macro-level voids. Additionally, a focus on entrepreneurial growth as the ultimate goal of a firm advances knowledge in the area. The presented results allow firms to manage institutional voids better and assist institutions, particularly financial ones, in enhancing their services to support company growth. Ultimately, this paper opens up new avenues for future research on entrepreneurship, institutional voids, and firm growth in emerging economies.

Keywords

Institutional voids; micro-level voids; institutional entrepreneurship; institutional theory; firm growth; emerging economies

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1. Introduction

Entrepreneurship is an integral part of any economy and is believed to be an engine for its growth and prosperity (Brenes et al., 2019; Heeks et al., 2021; Liedong et al., 2020; Rahman et al., 2022; van Dijk, 2018; Zhai & Su, 2019). Businesses do not operate in a vacuum but instead need a host of institutions and other organizations to enhance and support their activities (Andrews & Luiz, 2024; Istipliler et al., 2023; Rahman et al., 2022; Saha et al., 2022; Urban, 2018; van Dijk, 2018). Such institutions are oftentimes non-existent or not functioning correctly, especially in emerging economies (Andrews & Luiz, 2024; Chan & Mustafa, 2020; Istipliler et al., 2023; Jayanti & Raghunath, 2018; Junaid et al., 2022; McCarthy & Puffer, 2016; Narooz & Child, 2017; Pindado et al., 2023; Saha et al., 2022; Sobhan & Hassan, 2023). Thus, studying the success or failure of entrepreneurial businesses and the impact of external institutions has intrigued researchers for a long time, aiming at enhancing market activities of different economies.

Institutions support the growth of firms, and the lack thereof has often been expected to pose a hindrance to private sector companies, particularly SMEs (Brenes et al., 2019; Istipliler et al., 2023; Junaid et al., 2022; Liedong et al., 2020; Narooz & Child, 2017; van Dijk, 2018). However, opponents of this view challenge it, relying on evidence of firms not only growing despite such institutional voids but actually using them as opportunities for their growth (Lieber, 2017; Liu, 2011; Mansour, 2022; Onsongo, 2017; Phillips & Tracey, 2007; Urban, 2018). This can be, for example, by substituting non-existent or non-functioning institutions through the creation of new product/service lines for the business (Albertini & Muzzi, 2016; Franczak et al., 2023; Heeks et al., 2021; Istipliler et al., 2023; Liedong et al., 2020). Therefore, the researchers can infer from existing literature that institutional voids can either pose hindrances to businesses or act as 'opportunity spaces' (Heeks et al., 2021; Istipliler et al., 2023; Pindado et al., 2023). However, specifically when it comes to micro-level institutional voids (voids at the level of the industry as opposed to macro-voids, which are at the level of the country at large), research still does not tell us which types of voids can be utilized as opportunities and which types of firms can do so. Despite the nuanced classification of institutional voids provided by Khanna and Palepu (1997) and despite their identification of the potential for entrepreneurs to fill existing voids, research thus far is unclear on how and when businesses can use institutional voids to their advantage using this taxonomy of voids.

Therefore, empirical research must tackle questions such as the types of institutional voids that can be overcome by firms, which types of firms can overcome voids, and especially in an emerging market setup, which has long been thought to provide the best setup for this interplay. This is crucial for many reasons that can affect the firms, institutional players, and the economy at large. First, different institutions need to understand their potential impact on firms and act accordingly. This can encourage institutions to improve their services if they see high market potential or steer away from particular sectors or types of firms. Second, entrepreneurs can better strategize in facing or using institutional voids depending on how they impact their

growth. Finally, the government can interfere where institutional voids really matter to be more efficient in targeting and solving institutional issues (Lieber, 2017; Liedong et al., 2020; Narooz & Child, 2017; van Dijk, 2018; Zhai & Su, 2019). Based on previous discussions, this research intends to get answers to the following questions:

R1: What is the impact of each type of micro-level institutional void on the growth of firms in an emerging economy?

R2: Does the type of firm (in terms of size and/or maturity) impact the relationship between micro-level institutional voids and firm growth? And how?

The researchers focus on the ICT field given its importance and dynamic nature as well as its entrepreneurial orientation (Sivathanu & Pillai, 2019). Research is conducted in Egypt as it is an important emerging economy, a context highly recommended for the study of institutional voids (Adomako et al., 2020; Jayanti & Raghunath, 2018; Lieber, 2017; Liedong et al., 2020; Narooz & Child, 2017; Urban, 2018; Yu et al., 2019). This is especially important in the African region, where research on the topic is lagging behind other regions (Pindado et al., 2023; Urban, 2018). Finally, this research focuses on micro-level institutional voids, as research in this area is relatively scarce (Saha et al., 2022; Zhai & Su, 2019). The researchers carried out a quantitative study involving 315 ICT companies of varying scales, ranging from micro to large-sized. Moreover, these companies represented various levels of maturity in their entrepreneurial process, ranging from startup businesses to declining firms.

This research paper is a contribution to the field of entrepreneurship and institutional theory, as it highlights the hindering or facilitating role institutional voids can play in the growth of entrepreneurial firms. The researchers hereby inspect this paradox to identify differences among types of institutional voids and types of businesses that can lead to a positive outlook on the firm's growth. In this regard, the researchers advance institutional theory and institutional entrepreneurship. In practice, researchers also assist entrepreneurs, institutions, and policymakers in building a stronger ecosystem that can foster the growth of entrepreneurial firms and the economy as a whole. In terms of the structure of this research paper, first, it thoroughly reviews existing literature on the topics of interest. Second, the theoretical framework and hypotheses are presented. Subsequently, the research methodology is outlined. Following that, the research findings are scrutinized. Finally, a discourse on the implications of the research and potential directions for future research is emphasized.

2. Literature Review

2.1. Entrepreneurial Firm Growth

Prominent studies in entrepreneurship have identified firm growth as a valuable dependent variable to examine (Braunerhjelm & Thulin, 2022; Hafiz et al., 2021; Monteiro, 2019; Saha et al., 2022; Vaz, 2021). After all, the ultimate proof of a firm's success is whether it can endure or, even better, grow. "There is an increasingly

accepted understanding that the main challenge for entrepreneurs is not simply starting a business but rather making it grow" (Monteiro, 2019, p. 96). A sizable portion of recent entrepreneurship research has concentrated on new ventures. However, this makes it difficult to account for other organizational characteristics such as size and maturity. Moreover, such focused attention steers away from the ultimate end-goal of a firm, which is revenue generation and growth, creating a bias towards starting a business regardless of the outcome (Chan & Mustafa, 2020; Vaz, 2021; Zhai & Su, 2019). Given the importance of firm growth, it is essential to define it properly. The definition of firm growth has taken various forms. Most definitions can be classified as either examining tangible measures of such growth (outcomes) or as an attempt to understand what drives a company's growth (the reasons behind growth). An example of the former is a definition in terms of an increase in the number of employees, revenue, profits, and number of markets of operation (Hafiz et al., 2021; Monteiro, 2019; Siepel & Dejardin, 2020). According to the previous definition, this means that growth comes from proper management of the resources a company owns (Coad et al., 2017) or from searching for and utilizing the proper knowledge regularly (Henrekson & Johansson, 2010).

In this research paper, the researchers rely on the former definition of growth, i.e., defining it in terms of its measures or outcomes. This approach provides a more distinct perspective that is conducive to empirical research and the collection of concrete data. Furthermore, the examination of the impact of institutional voids indirectly assesses growth by considering factors that contribute to a company's expansion or its ability to navigate such voids (Urban, 2018). Therefore, the researchers claim that the second type of firm growth definition, i.e., in terms of the reasons behind growth, can be indirectly inferred from this research paper. The primary focus of this research paper revolves around entrepreneurial firms in various stages of growth. This approach is in accordance with the recommendations put forth by other researchers to address the survivor bias, gain insights into the processes followed by firms at different maturity levels, and bridge the knowledge gap beyond new venture startups (Albertini & Muzzi, 2016; Junaid et al., 2022; Reypens et al., 2021). This aligns with the findings of the studies of Ato-Sarsah et al. (2020), Junaid et al. (2022), Li (2020), Naujocks-Mix (2019), Reypens et al. (2021), Yu et al. (2019), and Yu and Wang (2021). By adopting this approach, the researchers aim to uncover the actions undertaken by different entrepreneurial firms at various stages and explore the anticipated outcomes of these actions (Yu et al., 2019; Yu & Wang, 2021).

2.2. Institutional Void

Institutional theory deals with the formal and informal rules, structures and norms enforced by institutions in a firm's environment (Chan & Mustafa, 2020; Istipliler et al., 2023; Jayanti & Raghunath, 2018; Junaid et al., 2022; Lang, 2018; Mansour, 2022; Rahman et al., 2022; Sobhan & Hassan, 2023; Urban, 2018; van Dijk et al., 2018; Zhai & Su, 2019). Thus, institutions can be considered the constraints or boundaries within which companies operate (Ramirez-Urquidy et al., 2023). However, assuming that

institutions only influence firms or entrepreneurs is not realistic. Institutions are also impacted by firms that can go so far as to substitute for such institutions. Therefore, the lens of institutional theory is critical in the study of entrepreneurship to examine the interplay between organizations and their external environments as both are proven to highly influence each other (Albertini & Muzzi, 2016; Narooz & Child, 2017; Rahman et al., 2022; Urban, 2018).

The first classification made to institutions is the distinction between formal and informal institutions. Formal institutions focus on governmental as well as other formalized institutions and how they impact firms. This includes institutions dealing with legal systems, governmental processes, and rules. Informal institutions, on the other hand, deal with cultural aspects, corruption, and non-official businesses (Istipliler et al., 2023; Ramirez-Urquidy et al., 2023; Sobhan & Hassan, 2023). Institutions have been further classified into three dimensions: regulatory, normative, and cognitive. Regulatory institutions are those where the regulatory framework, in the form of laws, transparency of policies, and market restrictions, is under investigation. The normative dimension addresses issues such as bribery and corruption, bureaucracy, and cultural distance. Finally, the cognitive dimension examines illiteracy or skill shortages, technological sophistication, and cognitive distance (Liedong et al., 2020; Mansour, 2022; Urban, 2018; Yu et al., 2019).

A gap in institutions is coined an institutional void and can be described as the absence or non-functioning of an institutional environment to support and/or regulate entrepreneurial endeavors. For example, this can be in the form of a lack of necessary norms or practices, governmental bodies overseeing certain activities, organizations that upgrade the capacity of the labor market (Andrews & Luiz, 2024; Istipliler et al., 2023; Jayanti & Raghunath, 2018; Khanna & Palepu, 1997, 2010; Liedong et al., 2020; Mansour, 2022; Narooz & Child, 2017; Pindado et al., 2023; Saha et al., 2022; Yu et al., 2019). Similar to the work of Khanna and Palepu (1997, 2010), Lieber (2017), Saha et al. (2022), and van Dijk (2018) classified institutional voids into macro voids, product market voids, labor market voids, and capital market voids. The macro voids cover factors such as regulatory framework, legislation, the media, and the political environment. In terms of the micro voids, first, product market voids refer to the lack of availability of high-quality market information and key actors in the field, such as suppliers and distributors. Second, labor market voids deal with the absence of required skills and competencies. Finally, capital market voids refer to the lack of financial services, such as banking and investment.

Research is divided in terms of the outlook on the impact of institutional voids on entrepreneurial businesses. Some research looks at institutional voids as deterrents to entrepreneurial performance and growth. Based on their systematic review of articles in the field, Liedong et al. (2020) conclude, however, that another theoretical perspective holds significant potential in the field. This can guide research towards a more balanced approach, moving away from the prevailing notion that institutional voids are solely restrictive or obstructive. This recognizes the fact that institutional voids can act as 'opportunity spaces' for businesses and are thus not always negative

(Liedong et al., 2020). In that light, institutional voids can act as opportunity generators for entrepreneurs to 'fill the void' through activities such as founding new ventures, building new products/services, or following new approaches to managing resources. This proposition is gaining increasing traction among researchers (Franczak et al., 2023; Liedong et al., 2020; Urban, 2018) and aligns with the concept of institutional entrepreneurship. Institutional entrepreneurship explains entrepreneurs' active change of existing institutional environments, aiming at creating new institutions, enhancing the functioning of existing ones, or changing the way such institutions operate (Albertini & Muzzi, 2016; Jayanti & Raghunath, 2018; Mansour, 2022).

It is the authors' view that institutional voids can indeed pose as opportunities for entrepreneurs rather than acting as hindrances. However, not all entrepreneurs are capable of utilizing such voids, and not all institutional voids easily lend themselves to being turned into opportunities. Thus, the proposed research intends to uncover when institutional voids follow one or the other trajectory. This study only covers micro-level voids as they are more relevant for entrepreneurs to fill. Macro voids, on the other hand, are not included in this study as they represent voids that are usually filled by governmental entities rather than the private sector. This is in line with recommendations made by Zhai and Su (2019) following their systematic review of literature on institutional theory and entrepreneurship. They concluded that there is a lack of research at the micro-level of institutional theory, where it is expected to have the highest direct impact on an entrepreneurial venture (Saha et al., 2022; Zhai & Su, 2019).

It is crucial to acknowledge that institutional gaps are more likely to occur in developing economies (Adomako et al., 2020; Lieber, 2017; Liedong et al., 2020; Narooz & Child, 2017; Urban, 2018; Yu et al., 2019). Scholars strongly advocate for the inclusion of these economies in research within the field of institutional studies due to the unique challenges and possibilities they present to entrepreneurs, providing a rich environment for examining the interaction with institutional voids (Franczak et al., 2023; Lieber, 2017; Liedong et al., 2020; Saha et al., 2022; Urban, 2018; Zhai & Su, 2019). To the best of the authors' knowledge, there have only been two attempts at examining institutional voids in the Egyptian context up to the current year. One of these is a thesis by Mansour (2022) and the other an article by Narooz and Child (2017). Both studies used a qualitative approach and followed a different typology than our current research paper. Mansour (2022) focused only on high-growth firms, while Narooz and Child (2017) compared the internationalization journey of SMEs from Egypt and the UK. Thus, both papers recommend that future research cover a wider sample of entrepreneurs in Egypt, and our paper aims to follow this call. Egypt, being a significant and expansive emerging economy, presents a compelling opportunity for investigation that could demonstrate the applicability of the analyzed principles to other developing markets, especially in the Middle East and Africa (Adomako et al., 2020; Lieber, 2017; Liedong et al., 2020; Narooz & Child, 2017; Pindado et al., 2023; Urban, 2018; Yu et al., 2019). Furthermore, the dynamic and innovative nature of the ICT industry offers the potential for intelligent assessment and effective utilization of institutional gaps (Sivathanu & Pillai, 2019; US International Trade Administration,

2022). As a result, this research concentrates on private sector companies operating in the ICT sector in Egypt, particularly in Cairo.

3. Hypotheses Development and Theoretical Model

The literature presented above shows the potential offered by the study of institutional voids and how it affects firm growth either positively or negatively. The growth of a firm is the ultimate goal of any business, as merely starting a business is not enough, and even sustaining it is not sufficient. Instead, growth is the motivator for a business to continue and for entrepreneurs to invest in it their time, money, and effort (Monteiro, 2019; Reypens et al., 2021; Yu & Wang, 2021). To that end, such growth is influenced by the external environment of a firm (Lieber, 2017; Liedong et al., 2020; Onsongo, 2017; Rahman et al., 2022; Urban, 2018) as well as its internal resources and how they are mobilized (Ato-Sarsah et al., 2020; Kiyabo & Isaga, 2020; Rahman et al., 2022; Urban, 2018).

Research on the relation of specific dimensions under micro voids is lacking. Additionally, many researchers have focused their efforts on other outcomes, such as innovation or venture startup, rather than firm growth. Therefore, the researchers investigate here the general themes that previous research has tackled when it comes to institutional voids. Junaid et al. (2022) distinguish between market and state voids, but do not detail the different subtypes for these two dimensions. In terms of market voids, in particular (as they are more relevant to micro voids), their findings show that they negatively impact entrepreneurs at different stages of entrepreneurship. Likewise, van Dijk's (2018) findings suggest that in most cases, institutional voids have a negative impact on firms and discuss the strategies companies use to deal with such negative effects. In terms of micro-level institutional voids, the findings show that product-market voids represent the highest negative impact, especially when it comes to SMEs operating in emerging markets. The most effective strategy used by SMEs in emerging markets to mitigate this is using substitution through their network.

Brenes et al. (2019) studied agribusinesses. They concluded that the negative impact of institutional voids depends primarily on the severity of existing voids rather than the expected configurational characteristics and strategies implemented by firms. Similarly, Franczak et al.'s (2023) research highlights the challenges that institutional voids pose, particularly for startups, and examines how gender differences impact this relationship in emerging markets. Istipliler et al. (2023) findings conclude a negative correlation between institutional voids and firm performance. However, this is found to be mitigated by a firm's innovativeness in addition to local partnerships and resource-sharing activities.

Lieber (2017) offers a fresh perspective on institutional voids in emerging markets, focusing on their effect on innovation. His study concluded that institutional voids can pose as opportunities rather than obstacles. In line with Lieber (2017), Liu (2011) qualitatively studied the impact of institutional voids on high-tech firms, comparing two high-tech parks in China. The findings show that institutional voids can

offer opportunities for entrepreneurs. Onsongo (2017) studied M-Pesa, a social enterprise in Kenya, which filled the financial void for a portion of the population that was previously excluded from the financial system. The case study shows how the firm was able to grow through identifying and properly covering this institutional void. Heeks et al.'s (2021) findings also showed the utilization of institutional voids by e-hailing platforms and detailed the different strategies used to do so. Yu et al. (2019) studied the moderating effect of institutional voids on the relationship between entrepreneurial bricolage and firm growth. Interestingly, the study concluded that institutional voids actually have a positive impact on the effect of bricolage on firm growth.

Despite the authors' belief that institutional voids can be utilized as opportunities, in this research paper, it was hypothesized that all types of voids act as a hindrance at different intensities. This is primarily attributed to the absence of clear insights from previous research regarding which voids can be leveraged as opportunities and under which circumstances. Consequently, this research includes the following developed hypotheses:

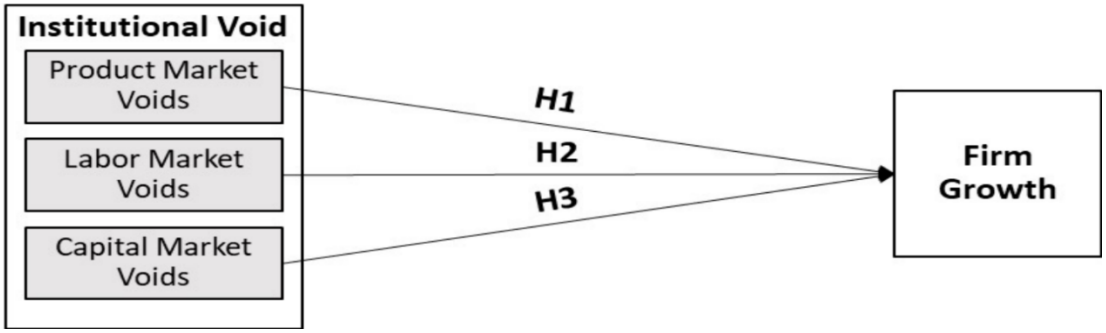
H1. Product market voids impact firm growth negatively with less significance compared to labor- or capital-market voids.

H2. Labor market voids impact firm growth negatively with moderate significance compared to product- or capital-market voids.

H3. Capital market voids impact firm growth negatively with more significance compared to product- or labor-market voids.

Accordingly, the suggested theoretical model is presented in Figure 1.

Figure1 *Conceptual Framework*



4. Methodology

4.1. Research Context

Egypt, being an emerging economy, presents a compelling case for examining institutional voids. Emerging economies are believed to offer fertile land for the study of institutional voids as these markets are more prone to experiencing such gaps (Brenes et al., 2019; Heeks et al., 2021; Jayanti & Raghunath, 2018; Junaid et al., 2022; Khanna & Palepu, 1997, 2010; Lieber, 2017; Liu, 2011; Mair & Marti, 2009; Narooz & Child, 2017; Onsongo, 2017; Urban, 2018; Zhai & Su, 2019). Furthermore, the ICT

industry provides a solid foundation for this study. It is not only acknowledged as a sector focused on innovation, but it is also a highly dynamic industry in Egypt, expanding at a rate surpassing the country's overall GDP (16% for 2020/2021). In addition, it contributed 5% to the GDP in 2020/2021 and attracted investments totaling $3 billion (US International Trade Administration, 2022).

4.2. Population, Sample, and Data Collection

The database of the Information Technology Industry Development Agency (ITIDA), an arm of the Ministry of Communications and Information Technology in Egypt, reports 2,000 companies registered under ICT (ITIDA, 2023). Given that most of these companies are located in Egypt's capital, Cairo. That is why this study focuses on this area. A random sample of ITIDA's database is used. With a 95% confidence level as the target, a sample of 323 firms was selected and collected (Saunders et al., 2009). The unit of analysis is decision makers or entrepreneurs (mainly owners and managers) at companies of different sizes operating in the ICT field in Cairo. This approach guarantees that these individuals possess the necessary knowledge regarding the external institutions that are perceived to impact the firm or even the industry at large. This also ensures accurate reporting on the growth performance of the companies.

A structured questionnaire was designed and tested with a pilot of 36 respondents to evaluate the validity of the research instrument. After refining the survey based on the pilot, data was collected from a random sample of 323 respondents. Nine of the responses had missing data, so they were discarded, yielding a total sample size of 315 (i.e., only 3% of the sample size was discarded), which is within the acceptable range for non-response rate (Saunders et al., 2009). Data was first collected by directly contacting firm owners/managers online, and then the rest of the sample was collected by visiting the company premises. The total duration for data collection was four months, conducted in 2023. The demographic characteristics and their frequencies and percentages are presented below in Table 1.

4.3. Constructs Measurement

4.3.1. Firm Growth

As Zhou and de Wit (2009) point out, firm growth is usually measured by growth in sales and employment as they cover both short- and long-term factors and are more objective than market share, for example. This is supported by other studies that use the same measures of firm growth in addition to market share (Yu et al., 2019; Yu & Wang, 2021). Market share was not used in this study as it is more subjective than the other two indicators, given that the survey relies on self-reporting. This is also due to the lack of accurate information at the country-level for companies to rely on confidently. Using a relative measurement (i.e., percentage growth) instead of an absolute measure is what studies of firm growth commonly employ, as it gives a better

representation of growth and is easier to obtain (Zhou & de Wit, 2009). This also helps capture the firm's growth as an unfolding series of events. This is to reflect the fact that firm performance "does not happen at once across different measures but tends to happen in a sequence" (Siepel & Dejardin, 2020, p. 3). The current research uses relative growth/decline in sales, number of employees, and a general comparison with competitors' growth rate as measures of firm growth.

Table 1 *Demographic Characteristics of the Sample*

Demographic	Characteristics	Frequency	Percent
Years in business	Less than 5 years	61	19%
	5 to less than 15 years	94	30%
	15 to less than 25 years	86	27%
	25 or more years	74	23%
Company Size (based on number of employees	Micro: less than 10 employees	67	21%
	Small: between 10 and 49 employees	94	30%
	Medium: between 50 and 200 employees	81	26%
	Large: more than 200 employees	73	23%
	Small: annual sales between 1 Mn & 50 Mn	97	31%
	Medium: annual sales between 50 Mn & 200 Mn	76	24%
	Large: annual sales higher than 200 Mn	75	24%
Company Maturity (Firm Lifecycle)	Startup: starts with the launch of the business and ends when it reaches breakeven	62	20%
	Early growth: starts with breakeven and ends with the establishment of a sustainable business	76	24%
	Expansion/ sustained growth: marked by healthy profits and a clear indication of growth potential	93	29%
	Maturity: marked by a successful position in the market, while growth slows and competitive pressures grow	81	26%
	Decline: market share begins to decline, financial position might still be adequate, yet is deteriorating; ends when the company is either sold, closed, or manages to reinvent itself	3	1%
Respondent Position	Manager/Team leader	77	24%
	Department head/ Section chief	62	20%
	Executive/ Director	72	23%
	Owner/Partner	104	33%

4.3.2. Institutional Voids

For the dimensions of institutional void, namely product-, labor-, and capital-market voids, a combination of the measurements presented by Khanna and Palepu (2010), Saha et al. (2022), and van Dijk (2018) was used, leading to the constructs presented in Table 2. For all dimensions of the different variables, a five-point Likert scale was used. Additionally, control variables were analyzed to showcase differences in organizational characteristics as well as the respondent's position in the firm.

Table2 *Institutional Void Construct*

Variable	Dimension	Item/Measure	Reference(s)
Institutional Void	**Product Market Void**	We find it difficult to obtain accurate information about our industry (e.g., customer tastes, market shares, suppliers, trends, etc).	(Khanna & Palepu, 2010; van Dijk, 2018)
		Customers in our market are not protected against defective products/services or false claims by companies.	(Khanna & Palepu, 2010; Saha et al., 2022; van Dijk, 2018)
		Sources of information on company performance are reliable.	(Khanna & Palepu, 2010; van Dijk, 2018)
	Labor Market Void	It is easy to find the right caliber of candidates for vacancies.	(Khanna & Palepu, 2010; Saha et al., 2022; van Dijk, 2018)
		The current educational system does not offer the caliber of employees needed for our company.	(Khanna & Palepu, 2010; Saha et al., 2022; van Dijk, 2018)
		Legal and judicial systems make it easy for employment contracts to be enforced.	(Khanna & Palepu, 2010)
	Capital Market Void	Financial institutions offer appropriate opportunities for our field.	(Khanna & Palepu, 2010; Saha et al., 2022; van Dijk, 2018)
		The cost of financing (interest rates, fees, and collateral requirements) poses an obstacle to our operations.	(Khanna & Palepu, 2010; van Dijk, 2018)
		The requirements and process of accessing finance are transparent and objective.	(Khanna & Palepu, 2010; van Dijk, 2018)

5. Results

5.1. Reliability and Validity Analysis

To measure the reliability and validity of all the scales used, the researchers employed SPSS (version 26) and LISREL (version 8.80) to calculate them. The obtained results are presented in Table III. As shown, all factor loadings exceeded the required limit of 0.5, and the Average Variance Extracted (AVE) is above the 0.5 threshold, leading to convergent validity (Hair et al., 2019). Moreover, the sample means and standard errors are presented in Table 3, showing normal ranges. Similarly, Cronbach (α) and Composite Reliability (CR) are both higher than 0.7 in all instances, yielding a high reliability and internal consistency (Saunders et al., 2009). Regarding the perception of respondents to the research questions, they have a significant and positive view of the product market voids (mean = 3.632 and p-value = 0.000). In contrast, respondents have a significant negative view of labor market voids (mean = 2.666 and p-value = 0.000) and financial market voids (mean = 2.617 and p-value = 0.000). In terms of the dependent variable, respondents have a significant and positive view of firm growth (mean = 3.140 and p-value = 0.035).

Table 3 *Reliability & Validity of the Measures*

Construct	Item	Factor loading	Reliability coefficient	Composite Reliability	Average Variance Extracted	Explained variance	Sample Mean	Standard error	t-Value	Confidence Interval (95%)		P-Val
										Lower	Upper	
Product Void			**88.3%**	**91.2%**	**77.6%**	**81.2%**	**3.63**	**0.647**	**9.8**	**3.5**	**3.7**	**0.000**
	IV_P1	0.91										
	IV_P2	0.75										
	IV_P3	0.83										
Labor Void			**92.6%**	**95.3%**	**81.3%**	**87.2%**	**2.67**	**0.719**	**-4.6**	**2.5**	**2.8**	**0.000**
	IV_L1	0.88										
	IV_L2	0.80										
	IV_L3	0.82										
Finance Void			**91.1%**	**94.2%**	**84.4%**	**85.3%**	**2.62**	**0.722**	**-5.3**	**2.5**	**2.8**	**0.000**
	IV_F1	0.86										
	IV_F2	0.72										
	IV_F3	0.77										
Firm Growth			**73.2%**	**75.6%**	**51.8%**	**67.2%**	**3.14**	**0.662**	**2.12**	**3.0**	**3.3**	**0.035**
	FG1	0.65										
	FG2	0.88										
	FG3	0.52										

The diagonal values shown in Table 4 represent the testing of the discriminant validity. This shows a slight lack of discriminant validity in one case only, namely that between product market void and firm growth at 0.88, which is supposed to be a maximum of 0.85 (Hair et al., 2019). It is important to note that, given the closeness of these constructs, the analysis is still valid despite this. However, future researchers are encouraged to review the survey before re-use to ensure overcoming such discriminant validity issues.

Table 4 *Discriminant Validity*

Construct	Firm Growth	Finance	Labor	Product
Firm Growth				
Finance	(0.83)			
Labor	(0.72)	0.79		
Product	0.88	(0.64)	(0.69)	

5.2. Effect of Organization Characteristics on Results

As shown in Table 5, the following organizational characteristics all have a significant effect on the model: firm size (based on the number of employees), firm size (based on the firm's revenue), and the firm's maturity level (following the company lifecycle approach). For the first two organizational characteristics, the firms were classified as micro, small, medium, or large using standards of the Central Bank of Egypt (Central Bank of Egypt, 2020). For the firm's maturity level, the firm is classified as belonging to one of the following: startup, early growth, expansion/sustained growth, maturity, and decline, following the taxonomy presented by Lichtenstein and Lyons (2008). The Multivariate Analysis of Variance (MANOVA)

Technique was implemented to measure the effect of organizational characteristics on the research variables. All possible interaction effects within groups and across groups were analyzed. It is indicated in Table 5 that product- and capital-market voids have a significant effect on firm growth. In contrast, labor-market voids do not have a significant effect on the dependent variable. However, when combining the effect of either indicators of firm size (number of employees or revenue level) with labor-market voids, the effect on firm growth becomes significant.

Table 5 *Effect of Organizational Characteristics & Independent Variables on Firm Growth*

Tests of Between-Subjects Effects					
Dependent Variable: Firm Growth					
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Corrected Model	212.344[a]	19	11.176	14.876	0.000*
Intercept	57.256	1	57.256	76.214	0.000*
Firm Size - # of Employees	7.657	3	2.552	3.397	0.018*
Firm Size - Revenue	9.689	3	3.230	4.299	0.005*
Firm Maturity - Lifecycle	9.360	4	2.340	3.115	0.016*
Product-Market Void	25.777	1	25.777	34.311	0.000*
Labor-Market Void	2.433	1	2.433	3.238	0.073
Finance-Market Void	18.486	1	18.486	24.607	0.000*
Firm Size (# of Employees) X Labor-Market Void	7.792	3	2.597	3.457	0.017*
Firm Size (Revenue) X Labor-Market Void	8.269	3	2.756	3.669	0.013*
Error	221.622	295	0.751		
Total	3540.168	315			
Corrected Total	433.966	314			
* Indicates significant effect at a 5% level					
R-squared = 0.489					

5.3. Structure-Equation Modeling (SEM)

After using the most valid and reliable constructs, LISREL 8.80 was used to test the fitted model. This resulted in the goodness of fit indices presented in Table 6, with all figures showing an adequate or good fit model (Dewhurst, 2006; Hair et al., 2019; Saha et al., 2022).

Table 6 *Goodness of Fit Indices*

Indicator	Value
Chi Square	285.46
df	48
RMSEA	0.126
RMR	0.054
GFI	87%
AGFI	79%
R-square	0.65

The effects of the path analysis are illustrated in Figure 2 and summarized in Table 7. First, these show that a significant, strong, and positive relationship exists between product-market voids and firm growth. This means that the higher the voids in this area, the more firms can utilize them to their advantage, leading to growth. Second, labor-market voids have an insignificant, strong, and negative effect on firm growth. Lastly, contrary to product-market voids, capital-market voids have a

significant, strong, and negative effect on firm growth, so that the higher the void in the market, the more companies struggle to grow.

Figure 2 *Path Diagram*

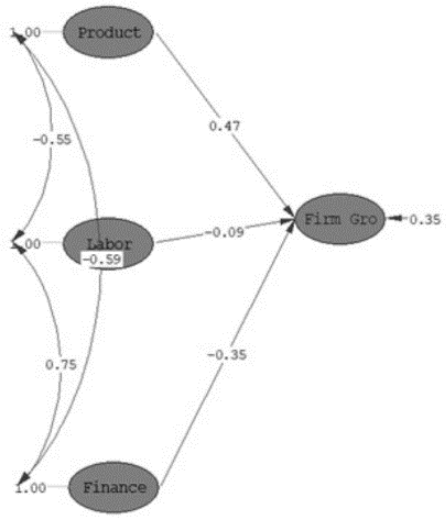


Table 7 *Path Analysis*

Hypothesis	Effect	Path Coefficient	Standard Error	t-Value	P-Value
H1a	Product -> Firm Growth	0.47	(0.07)	7.2	0.000*
H1b	Labor -> Firm Growth	-0.09	(0.07)	-1.17	0.121
H1c	Finance -> Firm Growth	-0.35	(0.08)	-4.48	0.000*

* Indicates significant effect at a 5% level

Table 8 *Correlation Structure Between Research Constructs*

	Firm Growth	Finance	Labor	Product
Firm Growth	1.00			
Finance	-0.70	1.00		
P-Value	0.00			
Labor	-0.61	0.75	1.00	
P-Value	0.00	0.00		
Product	0.73	-0.59	-0.55	1.00
P-Value	0.00	0.000	0.000	

In terms of the internal relation among independent variable dimensions, these are presented in Table 8. This indicates a significant, strong, and positive association between financial market voids and labor market voids and a significant, strong, and negative association between financial market voids and product market voids. Lastly, a significant, strong negative correlation exists between product market voids and labor market voids. In comparison to the suggested research hypotheses, the relative impact of the different institutional void dimensions compared to one another was supported by the findings. This means that the findings support the notion that capital-market voids have the most significant negative impact on firm growth compared to the other two institutional void dimensions. Second, the labor market had a moderate negative impact compared to the other two dimensions. However, the findings show that this impact is not significant, unlike what was originally hypothesized. Lastly, product-

market voids actually had a positive impact on firm growth, rather than the hypothesized negative impact.

6. Discussion and Implications

As discussed before, relatively limited research exists linking specific micro-level institutional void dimensions to entrepreneurial firm growth. However, generally speaking, findings related to labor and capital market voids align with researchers who view institutional voids as a hindrance to the performance of firms (Brenes et al., 2019; Franczak et al., 2023; Istipliler et al., 2023; Junaid et al., 2022). Specifically, in terms of capital market voids, Saha et al. (2022) indicate that financial constraints pose the highest challenge for firms. Interestingly, the findings oppose those of van Dijk (2018) in that his results suggest that product-market voids pose the highest negative impact for firms. However, the findings show a positive impact of product market voids. Regarding product market voids, the results align with the general themes of researchers such as Heeks et al. (2021), Lieber (2017), and Liu (2011), who view institutional voids as opportunities for firms. Before delving deeper into the results of the research, semi-structured interviews were conducted with 20 Egyptian IT entrepreneurs using a convenience sample. These interviews aimed to explore the meaning of the study's findings, given the context in which they were conducted. Such a contextual investigation is crucial to ensure that the analysis of the results is both practical and impactful (Chan & Mustafa, 2020). Therefore, the analysis below takes this contextual understanding into account.

In terms of the presented hypotheses, the comparative results expected among different microvoids were proven. As hypothesized, capital market voids have the highest negative impact on firms' growth because firms cannot fill such a void on their own or avoid the need for financial support. Based on discussions with companies in the field, the financial or capital market in Egypt has witnessed constant changes and challenges over recent years. Companies cannot avoid the need to deal with the financial sector for various reasons. IT companies are obliged to import software needed for their business, and one of the financial challenges they face is the lack of availability or restrictions put by the Central Bank on foreign currency usage. This is further compounded by the fact that the exchange rate has experienced significant turbulence in recent years, due to the government's efforts to float the USD fully. Another challenge entrepreneurs face is the banks' unease in financing companies that rely heavily on intangible assets, as this poses a high risk for the bank. Additionally, entrepreneurs are either not willing or not able to find equity financing to cover liquidity issues. Therefore, the negative effect of the capital void is that the highest entrepreneurs in the IT field in Egypt are unable to overcome it.

Secondly, labor market voids had a weaker negative effect on firms' growth compared to capital market voids. Such a void, despite its negative impact, is apparently one where companies are still able to find creative solutions to overcome. As discussed with the entrepreneurs, labor is an integral part of an IT company,

especially when it operates on the software side of the business. Despite the challenges the labor market voids pose, entrepreneurs operating in the field have found creative ways to handle this void. When it comes to the difficulty of finding the required caliber of candidates to recruit, many companies have resorted to recruiting individuals with the right attitude (e.g., commitment or willingness to learn) and training them internally on the missing skills. Such skills can be soft skills, which the Egyptian education system seems to lack, or technical know-how relevant to the job. Also, diversifying sources of recruitment has helped entrepreneurs reach a wider pool of candidates, allowing for a better success rate. Many firms also facilitate this at the university level by speaking in classes or at events to better inform students about the job market and their firm. The second major challenge faced by entrepreneurs is employee retention, especially due to the brain drain of talent by the EU and other developed markets. In that regard, entrepreneurs shared a few interesting initiatives they use to overcome this. One such approach was recruiting employees from Upper Egypt, where they witnessed higher loyalty to the firm. Another interesting method was centered around creating a working environment that employees like through a shorter work-week, remote-work, or giving gifts to employees, such as movie tickets. Therefore, despite the challenges labor voids present, they are easier for firms to overcome in this context.

Finally, product market voids ended up having a positive, rather than the assumed negative, effect on firms' growth. It appears that entrepreneurs can utilize the lack of market information, suppliers, and/or sellers in their market to their advantage, potentially by filling these gaps themselves. When discussed with the entrepreneurs, they did conclude that sometimes the lack of product market institutions, such as those protecting customers' rights or providing accurate information, works in their favor, as customers end up relying on firms they trust rather than market data. It seems that the firms we interviewed were up to such trust, and that is why customers kept using their services, leading to their growth. Future research might try to investigate this particular void at a larger scale to come to more in-depth and generalizable conclusions.

The focus on firm growth advances the study of institutional void, as this is the ultimate measure of success or failure of a concept in entrepreneurship (Mattingly, 2015; Monteiro, 2019; Saha et al., 2022). Additionally, previous research was biased towards the study of macro-level institutional voids, maybe due to such data being more readily available through secondary sources (Saha et al., 2022). A shift towards a deeper understanding of micro-voids was, therefore, deemed necessary, especially since these voids are more likely to pose opportunities for firms to fill themselves. Despite researchers highlighting the relevance of institutional voids for emerging markets, much research focused instead on developed markets (Saha et al., 2022), and African markets witnessed even less attention by scholars (Pindado et al., 2023; Urban, 2018).

Many scholars have argued for the case of institutional voids acting as opportunities rather than constraints for firms, especially in the context of emerging markets (Heeks et al., 2021; Lieber, 2017; Liu, 2011; Onsongo, 2017; Phillips & Tracey, 2007). This research has concretely shown how that plays out in product

market voids, whereas such a positive outcome was not witnessed in labor and capital market voids. Additionally, it was highlighted how some organizational characteristics, such as firm size, can enhance or even alter the impact of such voids on firm growth. This has also shown the higher sensitivity or stronger impact of SMEs in such a situation as compared to smaller (micro) or larger firms. Finally, using a SEM approach for our analysis is rare in the field of institutional void, where most research relies on aggregated, secondary data or qualitative research (Saha et al., 2022).

From a practical perspective, this study can also help firms navigate their way in dealing with different types of voids. This suggests that improvements in certain institutions may not necessarily lead to better growth trajectories for firms, but rather understanding how to leverage and utilize gaps to their advantage can offer significant benefits (Saha et al., 2022). Still, financial institutions need to respond to the need for solid, transparent, and well-functioning services to support the growth of ICT companies in Egypt. Without access to finance, firms struggle, especially during times of economic turbulence (Saha et al., 2022). Additionally, the labor market needs to find better ways of serving the market with a special focus on SMEs.

7. Conclusion

This study has investigated the impact of micro-level institutional voids on firm growth in the context of ICT companies in Egypt. The findings show that product-market institutional voids have a significant positive impact on firm growth, showing that firms can use such a void to their advantage. On the contrary, capital market institutional voids have a significantly negative impact on firm growth, as companies are unable to fill such a void themselves. This research calls for a deeper analysis of the types of institutional voids and when and how they impact firms, especially in terms of their performance and growth.

7.1. Suggested Future Research

The researchers hope that this research can become an inspiration for researchers, especially in emerging markets, to further the study of institutional voids and firm growth. The context under study, namely the Egyptian ICT sector, might limit the generalizability of findings. Although Egypt presents an excellent context for studying emerging markets, the generalizability of the model needs to account for country-specific differences. The same applies to the industry under study. Moreover, this research was highly focused on companies operating in Egypt's capital, Cairo, and therefore, findings might not apply to other less-privileged or less-served areas (Franczak et al., 2023). To gain a more nuanced understanding of the findings, the inclusion of other demographic characteristics at the respondent, entrepreneur, and/or organizational levels might yield interesting future findings. It would also be important for future research to incorporate other voids and/or other concepts primarily about internal organizational factors, such as entrepreneurial orientation and bricolage. Finally, future research is encouraged to delve deeper into the exact strategies entrepreneurs use to overcome institutional voids

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