Transnational experience and high-performing entrepreneurs in emerging economies: Evidence from Vietnam

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ABSTRACT

Do high-performing entrepreneurs in the technology sector in emerging economies have more, or different, transnational experience than the founders of high-performing non-technology businesses? Employing Vietnam as a case study, we find that they do; the founders of high-performing technology-oriented businesses are 15 times more likely to have transnational experience in the U.S. compared to their non-technology peers, and are 35 times more likely to be graduates of American universities compared to founders of high-performing, non-technology-oriented business. The founders of high-performing non-technology businesses are more ‘place-based’, as they have predominantly lived and studied in Vietnam. Our data and methods are comprised of a logistic regression analysis of the biographical details of Vietnam’s 143 highest-performing entrepreneurs; the founders of the 76 Vietnam’s (non-technology-based) companies with the highest market capitalizations and the 67 founders of Vietnam’s highest performing technology-oriented companies, in terms of private equity fund-raising, as of April 2020. The paper’s theoretical contribution is the advance it makes in analytical explanations of why technology-based entrepreneurs have more transnational experience, especially in the U.S., than high-performing founders of businesses in other sectors; this helps extend theory on the relationship between social and human capital and entrepreneurial performance, specifically in the technology sector.

1. Introduction

High-performing, technology-enabled entrepreneurship in emerging economies has been found to be associated with higher rates of transnational experience, with the founders completing university studies abroad, especially in the U.S. In their studies of Chinese, Indian and Taiwanese technology entrepreneurs, Kenney et al. [1] and Batjargal [2] found that returnees who studied at American universities constituted a significant share of the entrepreneurs who founded high-performing technology companies. Returnees from the U.S., then, constitute a ‘brain gain’ when they return to their home country [3]. This begs the core questions motivating this article: do similar patterns of transnational experience occur in Vietnam’s growing technology sector? If it does, are Vietnam’s high-performing high-technology entrepreneurs more likely to be overseas returnees than founders of high-performing non-high-technology businesses? Why?

To answer these questions, we compare the biographical details of high-performing entrepreneurs with respect to the “where” of their education and work experience, comparing Vietnam’s highest-performing technology entrepreneurs to the founders of the country’s highest-performing non-high-technology companies. Vietnam is an interesting case to study, analytically, because of evidence in existing literature that demonstrates how particular forms of social capital are said to determine entrepreneurial propensity and performance [4,5]. Typically, familial and political connections, built through deep local experience, are found to determine entrepreneurial performance in Vietnam. On the other hand, emerging evidence suggests that transnational experience, especially in the U.S., is prevalent amongst the high-performers in the country’s venture capital market [6] and in the pursuit of Silicon Valley-styled innovation policies in Vietnam [7]. Thus, there is a gap in knowledge as studies have not yet systematically explored the extent to which Vietnam’s high-performing entrepreneurs are best described as having transnational experience [1,2] or as being place-based entrepreneurs [8].

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Drawing on theory on the relationship between social and human capital and entrepreneurial performance, in this paper we offer: (1) novel empirical evidence of the transnational experience of Vietnam’s highest-performing entrepreneurs, and (2) appreciative theory to unpack why technology-based entrepreneurs have more transnational experience than high-performing entrepreneurs in other sectors. Through this tack, we extend theoretical tools for understanding the relationship between social and human capital and entrepreneurial performance [8–12], by building upon state-of-the-art literature on why transnational experience uniquely contributes to entrepreneurial performance in burgeoning technology sectors in emerging economies.

Our data and methods are comprised of a novel analysis of two sets of high-performing entrepreneurs in Vietnam. The first set are the founders of Vietnam’s highest-performing high-technology startups, defined as the startups with technology-based products or services who have raised the largest amount of equity funding (according to Crunchbase) as of April 2020. The second group constitutes the founders of Vietnam’s most valuable publicly-traded companies, ranked by market capitalization by Investing.com, also as of April 2020, that are not technology-oriented companies. They operate across a number of industries, including finance, real estate, consumer goods, industrials, and agriculture (see Appendix for the industry coding of each company included in the dataset). We analyze the university education and overseas (Việt Kiều) backgrounds of each founder in the two high-performing sets to ascertain the extent to which the founders of high-performing technology-enabled businesses possess different transnational experience than the founders of high-performing, but non-technology-oriented, businesses.

The paper offers the following contributions. Analytically, we extend the theoretical tools for conceptualizing and testing how high-performing, high-technology entrepreneurship may be distinct from high-performing entrepreneurs operating in other sectors, in terms of the transnationally-derived social and human capital of the founders. This approach is novel, as existing research [1,2] has not compared technology sectors to high-performing entrepreneurs in other sectors. In comparing high-performing entrepreneurs in the technology sector with other high-performing entrepreneurs, we are able to offer an advance as to the extent to which, and why, properties of the contemporary technology sector may be unique. In so doing, we also offer an advance for studies of the role of social and human capital as a determinant of entrepreneurial performance, especially in emerging economies.

Our second contribution is empirical; to the best of our knowledge, our study is the first to investigate the biographical characteristics of the founders of Vietnam’s high-performing firms. By focusing on these high-performing entrepreneurs, we offer insights into the determinants of the elite echelon of entrepreneurship, rather than sole proprietors or small, traditional firms. A significant body of research already exists on the role of social capital in the performance of technology entrepreneurs [13,14] and for small-scale entrepreneurship in Vietnam, specifically [4,5,15–20]. There is less empirical or analytical material on the determinants of high-performing entrepreneurs, especially in emerging economies such as Vietnam. Knowing more about the transnational experience of these high-performing entrepreneurs offers novel insight into the relationship between the location of founders’ education and work experience and their entrepreneurial performance.

The paper proceeds as follows. Section II develops the theoretical framework that guides the analysis, focused on the social and human capital of high-performing entrepreneurs. Section III presents the empirical findings of our regression analysis that tests hypotheses about the relationship between transnational experience and high-performing founders. In the discussion section, we analyze the extent to which the findings update existing knowledge on the determinants of high-performing entrepreneurship, particularly high-technology businesses, in emerging economies. We conclude the paper with a discussion of scholarly and policy implications, the study’s limitations and avenues for further research.

2. Social and human capital and entrepreneurship in Vietnam

Social and human capital – particularly work experience, social networks and education – have been studied for their relationship with innovation and entrepreneurial performance [1,2,10,11,21]. Seminal work, such as Granovetter [22], offers analytical tools to better understand whether strong ties (deep, close connections via friends and family) or weak ties (more shallow or distant connections) are most associated with entrepreneurial performance [23,24]. Engel [25], taking a system-level view, examines the characteristics underpinning global clusters of innovation, finding that weak ties, defined as ‘frequent connections created through networking and face-to-face relationships’, are ‘the conduit for important intelligence, opportunity, and personal mobility’.

A variety of socioeconomic and political factors are said to determine entrepreneurial activity, including social security [26] and political ties [27,28], which determine the propensity to undertake entrepreneurial activity and access to financial capital and permits, respectively. Financial resources, through income [29] and childhood adversity [30], are especially important determinants of entrepreneurial access, and ultimately, performance

Studies note that the nature of technology-oriented business models may benefit from different social and human capital endowments than businesses in other sectors. Businesses with a physical presence require production facilities, physical/land permits, and access to credit in order to establish operations. Administrative burdens, such as registering property and the costs involved in starting a business, are identified as crucial determinants of more physically-oriented, or traditional, businesses [31]. Entrepreneurs are well-served by their knowledge of how to obtain land-use rights, for instance, and how to navigate the bank loan underwriting process. Experience in “the place” helps entrepreneurs to accumulate this knowledge. Thus, the performance of founders of businesses with a physical presence may benefit on account of being “place-based” entrepreneurs [8].

Technology-based entrepreneurship, instead, does not necessarily need production facilities, permits or even dedicated office space. The logic follows that founding and growing technology-oriented businesses, especially internet-based businesses, does not hinge on the same access to credit lines, or permits, or physical space that physically-oriented businesses require. Rather, existing literature shows that technology entrepreneurs perform on account of knowledge of the startup ecosystem, awareness of how to start and scale technology-enabled businesses (such as e-commerce), and the possession of social networks and professional experience relevant to venture capitalists [1,2,6]. Rather than bank loans, high-performing technology entrepreneurs raise venture capital (VC) for their startups. Research shows that VC managers tend to rely on their personal networks [32] to source investment opportunities and to evaluate founders on the basis of their (university-level) educational backgrounds [33]. VCs have also been found to exhibit “homophily” – the tendency to associate with those like you – when making investment decisions [34]. Thus, technology startup founders’ ability to raise VC funding – a key determinant of grow-grow technology startups – can depend on their social networks (and thus, proximity to VCs through ‘bonds or bridges’), the “where and what” of their university degrees, and their similarity to the VCs from which they are raising funding.

Research has revealed that such transnational experience, especially studying at U.S. universities, has been prevalent amongst high-performing entrepreneurs in the technology sector in other countries in South and East Asia. In the Chinese context, hai gui (“sea turtles”) who have gained experience overseas and then returned to China (are prevalent in studies of cohorts of successful internet-based entrepreneurs. Scholars assert that it is their transnational social networks and U.S.-derived human capital (university education, specifically) that is propelling their positive entrepreneurial performance in their home countries [2]. In these studies, scholars such as Batjargal [2] operationalize human capital as “startup experience, industry experience, and Western
experience.” In a similar way, Kenney et al. [1] find, in the cases of China, India and Taiwan, that immigrants from the three countries often “came to the U.S. for educational opportunities, usually at the graduate level” [1]. They then stayed in the U.S. to gain work experience and returned to their home countries with knowledge of the “American way of business” and social networks in both the U.S. and their home country [1].

Thus, transnational experience, especially in the U.S., has been found to act as a driver of technology-based entrepreneurship in East Asia because of the acquisition of knowledge of Western business models, social ties across U.S.-based networks, and similar experience to VC investors [2]. Said another way, as a result of time spent studying or working overseas, the exposure to American practices and training, combined with the development of social networks that span national borders, returnees are said to have both the inclination and ability to found and scale technology-enabled startups in home countries in East Asia. Human capital, in this context, refers to the knowledge and skills gained through university studies and experience working abroad, specifically in the U.S. Human capital manifests as substantive knowledge – of the industry and associated business model – and procedural knowledge – which in the context of technology entrepreneurship, centers around how to establish and scale the company, in terms of how to secure financing, recruit talent, etc. [35] Social capital derived from transnational experience is understood to be the transnational networks as well as the possession of experience similar to others in the peer group. For technology founders, this is especially relevant to raising funding from venture capitalists in home and international markets, through one’s social network as well as through homophily exhibited by prospective VCs [1,2]. On the other hand, emerging research on entrepreneurial performance in non-technology-oriented businesses in emerging economies points to place-based, institutional, drivers, such as the prominence of family and political connections and embeddedness in the local triple helix of university, industry and government, as the enablers to access bank credit, obtain permits, etc. [8-11].

There is emerging literature that specifically explores the determinants of entrepreneurial performance in Vietnam. Studies have, until now, tended to focus on management [15], why some businesses are ‘born global’ [36], the role of trust [4], and the role of political connections [16,17,27,28,38,39]. To date, little has been published on the relationship between the transnational or place-based accumulation of social and human capital in the context of high-performing entrepreneurship in Vietnam. A notable exception is a study that observed that 49 out of 100 of the richest Vietnamese on the domestic stock exchange and by talent recruited by the company.

Table 1, below, summarizes our expectations based upon the above literature review – for the relative transnational or place-based experience of high-performing entrepreneurs in emerging economies, specifically in Vietnam.

2.1. Hypotheses

Based upon our above synthesis of the literature on the relationship between transnational or place-based experience and entrepreneurial performance, we formulate theoretical expectations regarding the backgrounds of Vietnam’s high-performing founders that we will empirically test in the following section. First, emerging research on high-performing, high-technology entrepreneurs in East Asia point to transnational experience, particularly in the U.S., as a common feature. Batjargal [2] and Kenney et al. [1] both point to exposure to the American way of doing business as typical of high-technology entrepreneurs in China, India and Taiwan. Studies of Vietnam’s growing startup activity, venture capital market and startup-centric innovation policymaking suggest that U.S. work experience, such as working at Silicon Valley-headquartered startups or at technology giants like Intel in Santa Clara, is increasingly typical in the backgrounds of those leading technology-oriented businesses in Vietnam [6,7]. Existing research and media coverage, however, do not point to the same U.S. connections for the founders of Vietnam’s high-performing non-technology-oriented businesses [37-39].

When transnational experience is mentioned for this cohort, it instead points to time spent in the former Soviet Union, typically in the 1980s and 1990s [42]. Chesnokov [43] notes that this early pattern, owing to prevailing geopolitical connections, consisted of Vietnamese migrants to the Soviet Union who were highly educated and developed “keen business sense and experience” due to their commercial activity there. They returned to Vietnam in the 1990s to capitalize on the Law on Companies and the Law on Private Enterprises, both passed in 1990, which allowed for the creation of private businesses. Based upon this, our expectation is that the cohort of high-performing, non-technology-oriented businesses, that were founded in the 1990s...
onwards, may have experience in the Soviet bloc, if they have trans-
national experience.

Collectively our first hypothesis focuses on differential sets of ex-
periences – in terms of location – across the two cohorts. Technology-en-
abled entrepreneurs in Vietnam are more likely to have trans-
national experience, often being returnees from the U.S., leveraging
their knowledge of and connections to the American technology sector
and venture capital. The non-technology founders are largely expected
to benefit from place-based experience, but based upon scholarship on
the transnational experience of this cohort, those who do have trans-
national experience are expected to have returned from the Soviet bloc
rather than from the global West.

**Hypothesis 1.** High-performing technology entrepreneurs are more
likely to have transnational experience in the West, specifically the U.S.,
whereas non-technology entrepreneurs are less likely to have trans-
national experience; when they do, it is likely to be in the Soviet bloc.

Our second hypothesis focuses on the location of university experi-
ence, specifically. Our expectations around university studies stems
from research that shows that education acts as a formative experience,
shaping one’s worldview, providing important technical know-how
(human capital) and fostering social networks (social capital) [3,14].
Notably, Batjargal [2] and Kenney et al. [1] both point to studying at U.
S. universities as a typical entry point into time abroad for Chinese,
Indian and Taiwanese founders of technology-focused companies.
Focusing on this specific mechanism, we examine the location of where
the founders completed university studies. This informs our second
expectation, that high-technology founders are be more likely to be
graduates from universities in the global West, especially U.S.
universities.

**Hypothesis 2.** High-performing technology entrepreneurs are more
likely to be graduates of U.S. universities than the high-performing
founders of non-technology-oriented businesses.

3. Data and methods

To test our hypotheses, we examine the transnational versus place-
based experiences of two sets of high-performing founders in Vietnam:
the founders of technology-oriented and non-technologically-oriented
businesses. For both company sets, we used company valuation as of
April 2020 as the indicator of their high performance. To compile the list
of the highest-performing technology-focused companies, we identified
the Vietnam-headquartered technology businesses that had raised the
most equity funding. We used equity funding as the metric since Viet-
name’s technology companies are, for the most part, not yet listed on the
Ho Chi Minh City stock exchange, given the nascent stage of the coun-
try’s technology sector. The source for our technology company data
was CrunchBase,1 which has comprehensive details of early-stage
funding for startups globally. We operationalized highest-performing
technology companies for the Vietnamese context such that US
$100,000 in equity funding was set as the lower limit. This search
resulted in a list of 110 companies.

We then examined the information exported from the CrunchBase
search on each of the 110 companies, which includes their date of
founding, company description, headquarters location, company struc-
ture and industry categories. We built out the CrunchBase information
with our own search (in English and Vietnamese) on the company
websites and for recent news of each company’s activities. This infor-
mation helped us to triangulate that these companies are Vietnamese,
that their product or service is technology-enabled, that they are
currently independent and actively trading, and were privately-founded
(rather than state-founded).

We first filtered out companies whose core business is not techno-
logically-enabled.2 We operationalized “technology” to mean that the
company’s core offering was included in one of these CrunchBase “In-
dustry Groups”: Apps, Artificial Intelligence, Business Information Sys-
tems, Data and Analytics, Design, Gaming, Information Technology,
Internet Services, Media and Entertainment, Messaging and Telecom-
munications, Mobile, Platforms, Software, and Video.3 In total, the
analysis led to 45 companies being filtered out from the technology-
focused founders list on the basis of the thrust of their business not
being technological in nature.

Our second filter was the date of founding, to ensure that the com-
pany is privately founded, rather than state-created. In cases when
companies were established prior to 1986 (when the doi moi reforms
were implemented, which first enabled private ownership), companies
were cut from the list, as they are state-created firms, rather than
entrepreneurial firms. In total, five companies were removed from the
technology company dataset on the basis of being state-founded.4 We
also checked the rest to make sure none were state-founded, as state
firms continued to be built post-1986, and removed one more.

The third criteria was that companies have to be actively trading as
independent companies. This filter helped us to ensure that we were not
including the senior leaders of companies that are either defunct or
subsidiaries of parent companies. For example, GATE Technology is the
subsidiary of a French company, and was thus removed. In total, these
filters led to us cutting out four companies, deemed illegitimate because
(a) their websites and social media were not updated for more than a
year or had been taken down (e.g. OnOnPay last updated their Facebook
page in November 2018, and their website was not accessible through
searches in both English and Vietnamese), (b) there was news about
them failing, being defunct or even being scam companies (e.g. Modern
Tech), or (c) nothing could be found about them through extensive
online searches in both languages (e.g. Dificat). A further three com-
panies were removed from the dataset as our research revealed dupli-
cation errors in the CrunchBase database.5

After applying these filters, we were left with a list of 52 Vietnam-
headquartered companies that offer technology-based products or ser-
vices, are currently operating, and are independently owned. As several
of these companies have more than one founder, in total, our dataset
includes 67 founders of high-performing technology-enabled companies
in Vietnam. While we were constructing this technology-enabled com-
pany set, we were also compiling the list of Vietnam’s most valuable
publicly-traded non-technology-oriented companies, which underwent
the same qualifying filters, but beginning with public equity market
capitalization.

We used publicly-traded market capitalization (“market cap”) as the
measure for high-performing firms outside of the nascent technology
sector. We used the Investing.com database to obtain the details of

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1 CrunchBase is the database managed by TechCrunch, which is one of the prominent online media outlets for global technology news. CrunchBase is available at: https://www.crunchbase.com/home.

2 For example, Vincom Shopping was captured in our CrunchBase search, but Vincom is one of the largest shopping mall retailers in the country, which opened its first mall in 2004. Digifitworld also appeared in both searches, initially, but was filtered out of the Technology-enabled list as it began as a brick-and-mortar business selling physical products (CDs, floppy disks, etc.).

3 For the complete list of Crunchbase Industry Groups and Industries, see: https://support.crunchbase.com/hc/en-us/articles/360043469544-What-Industr-
ies-are-included-in-CrunchBase.-

4 Four companies were excluded on the basis of the date of founding (hence state ownership) filter as are follows (with date of founding specified in the parenthases): 1. Dong Nai plastics (1975), 2. TASCO (1971), 3. Traphaco (1972), and Dong Nai Plastic (1976). Loc Troi Group (1993) was filtered out on the basis of its state origins rather than date of founding.

5 The three companies are: (1) The gioi di dong is Mobile World; “Gioi” means world in English, and “di dong” is Utop is part of FPT. (2). Axie Infinity is the product of Sky Mavis.

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publicly-traded companies traded on the Ho Chi Minh City Stock Exchange. This resulted in us identifying 314 companies with a market cap of over 0.5 trillion VND; this threshold ensured we obtained at least one company in each of Investing.com’s industry categories. Similar to the high-performing technology list, we filtered companies that were established by or owned by the state. As a result of this filter, 219 companies were found to have state origins and were thus cut from the list. The independent and actively-trading filter then led to the removal of two foreign-owned companies and one subsidiary company: Interfood Shareholding (foreign), VNS Security (foreign) and Viet Dragon (subsidiary). Lastly, there were companies that were under the same conglomerate, founded by one entrepreneur—for instance, Vinhomes and Vincom Retail were both under Vingroup, founded by Soviet returnee Pham Nhat Vuong. Companies like Vinhomes, Vincom Retail and Vingroup were thus considered duplicate entries (due to having the same founder) and, accordingly, treated as one instead of multiple. In this way, we removed a further twelve entries on Investing.com. As of this stage, we had identified 80 high-performing, non-technology-oriented businesses.

Once the two sets of companies were established, we then identified all of the founders of each of these technology-based and non-technology-oriented firms. Most companies’ founders were specified in the Investing.com and CrunchBase databases, but several were not. In these cases, we took three further steps to identify the founders: (1) examining the company website to see if the company founder’s name is specified in the history or overview; (2) for non-technology-oriented companies, checking VietStock.com, a domestic database of traded companies, and (3) if first two steps were inconclusive, we conducted a Google search. If, after all these steps, we could not find any details on the founder, we omitted the company from our analysis. On this basis, three companies were removed from the technology list and eleven from the non-technology list. The result of these filters was a list of the 69 highest-performing non-technology-oriented companies and 49 highest-performing technology businesses in Vietnam, as of April 2020, that were actively-trading, founded by a private individual, not state-owned, nor a subsidiary of another company. A full list of these companies and their founders can be found in the appendix.

As several firms have more than one founder our total number of founders is 143 (76 non-technology and 67 technology-oriented). We collected and coded biographical details of each of these 143 founders. This data was gathered through a variety of sources, in English and Vietnamese, including LinkedIn, media coverage, alumni(alumna) news/report from alma mater of different co-founders, public speeches, and Wikipedia. Our data collection included specifying up to four previous work experiences and the location and subject of each university degree obtained. We used this list of founders to create our dependent variable Technology Founder. This variable takes two values: 1 = technology founder and 0 = non-technology founder.

Hypothesis 1 predicts differences between the founders of technology and non-technology-oriented businesses in terms of the country location of their overseas work experience. We created two variables to test each part of this hypothesis. First, we include Western work experience, which is a count of the total number of previous jobs held in the global West (i.e., countries in Europe, Australasia and the Americas). In our dataset this includes Australia, Austria, France, Germany, Norway, United Kingdom, and United States. We also created a variable for Soviet work experience, which is a count of the total number of previous jobs held in a country that was a member of the Soviet Union. In our dataset Soviet work experience includes Russia, Romania, and Ukraine.

Finally, Hypothesis 2 is about the location of founders’ educational experiences. In particular, we expect to see differences in terms of whether or not founders obtained degrees from Western, especially American, universities or from non-Western universities. We created two variables: USA education, which is a count of the total number of degrees obtained from American universities; Non-Western education, which is a count of the total number of degrees obtained from universities outside of the global West.

Our empirical analysis also includes several important control variables. First, we include a series of dummy variables for Degree level obtained, including Undergraduate (UG), Masters (both MA and MSc), MBA, and PhD. Second, we include a variable indicating the sector(s) in which the business operates. This constitutes the three main sector categories reported by the Vietnamese government in its GDP distribution by economic sector: Agriculture, forestry and fishing, Industry (including construction) and Services. Finally, we include variables for each founders’ Gender (1 = female; 0 = male). Table 2 presents summary statistics for all of our variables.

4. Empirical Analysis

In what follows we present the results of our regression analysis. As we are working with a binary dependent variable, we opted for logistic regression analysis. We also expect some variation at the level of the different sectors. As such, we use multi-level models with fixed effects for Sector. Our results are presented in two models, with each corresponding to our hypotheses, in Table 3 below.

Our regression results provide support for our hypotheses. The results presented in model 1 suggest that where a founder obtained their previous work experience is a major difference between high-performing founders of technology-enabled and non-technical businesses. In particular, technology-oriented founders are about 15 times (15.23, as specified in the “Western work experience” line in Table 2) more likely than non-technology founders to have previous work experience in the global West. Said another way, our models predict the odds of being a tech-founder versus a non-tech found as a function of (1) work experience and (2) education. The odds of being a tech founder with study or work experience in the global West is 15 times that of non-tech founders. This is a sizeable difference. Fig. 1, below, visualizes the marginal effects for our key findings, which helps to show that the largest difference is between those with no Western work experience and those with two or more previous jobs in the global West.

Looking more closely at the data, we can see that the majority of this experience in the global West, about 55%, is in the U.S., compared to 32% in Europe and just 11% in Australasia. While the relationship between high-performing technology-based founders and Western work experience is very high, only a small portion of the founders of Vietnam’s high-performing non-technology-oriented companies have transnational experience. The relative rate by which non-technology founders are returnees from work in the Soviet Union is much lower than that of technology founders as having transnational experience in the global West. Thus, the pathway for founders of technology

### Table 2

| Sector                  | Obs | Mean  | Std. Dev | Min | Max |
|-------------------------|-----|-------|----------|-----|-----|
| Founder                 | 143 | 0.4685315 | 0.5007627 | 0   | 1   |
| Western work experience | 139 | 0.2657343 | 0.7778171 | 0   | 4   |
| Soviet work experience  | 141 | 0.0629371 | 0.3188179 | 0   | 3   |
| MBA                     | 136 | 0.1555556 | 0.3678333 | 0   | 1   |
| Masters                 | 136 | 0.1111111 | 0.3154401 | 0   | 3   |
| PhD                     | 136 | 0.1037027 | 0.3060113 | 0   | 1   |
| Gender                  | 143 | 0.1188811 | 0.3247862 | 0   | 2   |
| Sector                  | 143 | 6.957746  | 1.825249  | 1   | 8   |

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Investing.com was chosen as it contains updated data for Vietnamese public companies, was easily accessible (i.e. no payment required or IP region lock) and, as a bonus, was available in both Vietnamese and English.
companies going overseas to a specific region is more defined, and far more U.S.-focused, than that of the founders of non-technology-oriented businesses.

Also, as evident in Table 3, we find large differences between high-performing technology and non-technology founders when it comes to where they studied and hence support for Hypothesis 2. Technology founders are 35 times more likely (35.28, as indicated in Table 3) than the founders of high-performing non-technology-oriented businesses to have degrees from American universities. Our marginal predicted means reflect these sizeable differences, where we see important differences between those with zero American degrees and those who have obtained just one American degree. Indeed, most American degrees obtained by our founders were at the undergraduate (UG) level. It is also at the UG level where we see attendance at elite U.S. universities. This includes the Ivy league universities of Yale and Stanford, as well as highly-ranked universities such as the University of California Berkeley and UCLA. By contrast, not only are Masters, MBA and PhD degrees rare amongst founders in our dataset, the list of overseas universities attended for postgraduate studies are lower ranked. This includes Griggs University, Golden Gate University, and California Miramar University, with only New York University amongst the Western universities that the high-performing Vietnamese founders attend for postgraduate studies.

In contrast to degrees obtained in the U.S., our results show no significant differences for Non-Western education. Instead, the marginal predicted means show little differences for those with zero and those with even four degrees from non-Western universities. Thus, the transnational experience of technology founders is mostly evident in the context of (undergraduate level) university studies in the United States.

Table 3
Logistic regression analysis of the determinants of Technology Founders in Vietnam.

|                | H1          | H2          |
|----------------|-------------|-------------|
| Western work experience | 15.23**     |             |
| (2.81)         | (2.81)      |             |
| Soviet work experience | 0.184       |             |
| USA education  | 35.28**     |             |
| (2.81)         | (2.81)      |             |
| Non-western education | 0.840       |             |
|                | (-0.43)     |             |
| **Control Variables** |             |             |
| UG             | 1           | 1           |
| MBA            | 1.632       | 1.045       |
| (0.80)         | (0.07)      |             |
| Masters        | 2.368       | 2.098       |
| (1.08)         | (0.88)      |             |
| PhD            | 0.232       | 0.0694*     |
| (-1.79)        | (-2.14)     |             |
| Gender         | 0.230       | 0.330       |
| (-1.72)        | (-1.32)     |             |
| Sector         | Yes         | Yes         |
| N              | 117         | 117         |

Odds ratios with t statistics in parentheses.
*p < 0.05, **p < 0.01, ***p < 0.001.

companies going overseas to a specific region is more defined, and far more U.S.-focused, than that of the founders of non-technology-oriented businesses.

Also, as evident in Table 3, we find large differences between high-performing technology and non-technology founders when it comes to where they studied and hence support for Hypothesis 2. Technology founders are 35 times more likely (35.28, as indicated in Table 3) than the founders of high-performing non-technology-oriented businesses to have degrees from American universities. Our marginal predicted means reflect these sizeable differences, where we see important differences between those with zero American degrees and those who have obtained just one American degree. Indeed, most American degrees obtained by our founders were at the undergraduate (UG) level. It is also at the UG level where we see attendance at elite U.S. universities. This includes the Ivy league universities of Yale and Stanford, as well as highly-ranked universities such as the University of California Berkeley and UCLA. By contrast, not only are Masters, MBA and PhD degrees rare amongst founders in our dataset, the list of overseas universities attended for postgraduate studies are lower ranked. This includes Griggs University, Golden Gate University, and California Miramar University, with only New York University amongst the Western universities that the high-performing Vietnamese founders attend for postgraduate studies.

In contrast to degrees obtained in the U.S., our results show no significant differences for Non-Western education. Instead, the marginal predicted means show little differences for those with zero and those with even four degrees from non-Western universities. Thus, the transnational experience of technology founders is mostly evident in the context of (undergraduate level) university studies in the United States.

5. Discussion and analysis

Overall, our analysis supports the expectations that founders of high-performing technology companies have more transnational experience – particularly in the U.S. – than the founders of high-performing, non-technologically-oriented businesses in Vietnam. Our results show that founders of Vietnam’s high-performing technology businesses are significantly more likely than the founders of non-technologically-oriented businesses to be Western returnees. Of our results, U.S. university experience stands out as a prominent feature of the experience of the founders of Vietnam’s high-performing, technology-oriented businesses.

This suggests that Vietnam’s nascent technology sector has high-performing entrepreneurs that have similar transnational experience as earlier peer groups in China, India and Taiwan [1,2]. In recent studies, though, scholars have begun finding that as the Chinese ecosystem has matured, the founders of high-performing technology-based businesses are increasingly graduates from top universities embedded in coastal urban areas [44,45]. Vietnam’s technology ecosystem is in an early stage, with startup activity and venture capital funding multiplying year-over-year since the country’s WTO accession in 2007. As the Vietnamese technology sector matures, if it continues on a similar trajectory to China’s, it could see the further advance of
place-based entrepreneurship [44,45]—as local universities, the related Triple Helix, and ultimately, more locally-trained high-technology entrepreneurs gain success in Vietnam.

Our findings offer evidence of a strong relationship between an American university education and the founders of high-performing, technology companies in Vietnam. This aligns with the findings of previous studies of internet-based, and technology sector, entrepreneurs in East Asia, including Batjargal [2], Kenney et al. [1] and Klingler-Vidra and Wade [7], which found that transnational experience in the U.S. was prevalent. The transnational experience in the U.S. is said to shape founders’ motivations for starting a technology-based business when they return to Vietnam. Such a desire was expressed in a media interview given by Pham Hung, the founder of Base.vn (one of the technology-based entrepreneurs in our dataset), in saying that:

the thing talked about the most at Stanford is what to do to create new value, and this is the way the famous school expects from Stanford’s people. And that was why I decided to come back to Vietnam. I have to create new value to build up my country [46].

The impact of American higher education on one’s professional mindset has been demonstrated in other arenas, including amongst economic policy [47], trade [48], and legal [49] realms. Our findings suggest that a similar mechanism is at work amongst Vietnamese returnees from the U.S.

Motivated to return to Vietnam to start a technology company, the time in the U.S. also endows the entrepreneurs with an ability to perform as technology entrepreneurs. According to existing scholarship on returnee technology entrepreneurs, once in their home country they draw on their transnational social network for advice, access to talent, new ideas, and help with equity fundraising. The VC managers active in Vietnam are, in large part, returnees with transnational experience in the U.S [6]. Given the prevalence of homophily [34], Vietnamese VCs may be more likely to fund technology founders who, like them, have experience in the U.S. Collectively, the time studying and living in the U.S. leads to accumulate experience that motivates their entrepreneurial activities and know-how in order to perform (human capital). It also seems to endow them with the social capital (in terms of social networks as well as the “right credentials”) that helps them effectively secure VC funding and scale up their startups in Vietnam.

It is essential that we place our analysis in a historical context of market development, and specifically the advance of the technology sector, in Vietnam. Though both sets of companies were the highest-performing, in terms of market cap and equity funding, respectively, as of April 2020, they do not represent a truly like-for-like comparison. Instead, the high-performing, non-technology-oriented businesses tend to have been founded years earlier, and in many cases, by older founders. In fact, we can conceive of there being three waves of entrepreneurs since the doi moi reforms in 1986 [43]. The first wave since the doi moi reforms were micro businesses (mom and pop shops or vendors) that sprung up after Vietnam switched from a planned to market economy, when private ownership was first allowed. Then, a second wave can be conceived, with businesses founded during the 1990s and early 2000s. These businesses are large, organized businesses that, in many cases, have hundreds to tens of thousands of workers, and have become household names in Vietnam. This second wave constitutes the early wave of the high-performing non-technology-oriented companies that were analyzed in this study. Then, a third wave began when Vietnam ramped up its capitalist transformation in the 2000s. These businesses are fundamentally technology-based, striving to disrupt industries such as real estate, finance and logistics. This includes Vietnam’s first ‘unicorn’, VNG, which achieved a valuation in excess of US$1 billion valuation for its mobile phone-focused video gaming products.

Thus, though we studied the highest-performing businesses in Vietnam at the same point in time (April 2020), we acknowledge that the technology and non-technology businesses would be subject to different opportunities and challenges as a result of both the time of founding and the different natures of the businesses. The non-technology-oriented companies, in many cases, took years to build into the large businesses they are today, while the technology companies achieved significant equity valuations, in some cases, within a few years. So, we do not portend to have a perfectly comparable set of founders, with only the nature of their business as the differing variable. We still contend that the highest-performing entrepreneurs in Vietnam—including Le Hong Minh, the founder of VNG, and Dang Le Nguyen Vu, the founder of Trung Nguyen Group, the dominant coffee maker—are worth studying side-by-side. Without the non-technology founder group, we would be less able to ascertain whether, or how, transnational experience, especially university education in the U.S., may differ from high-performing entrepreneurs more broadly.

6. Conclusion

In this article, we have shown differential rates and directions of transnational experiences underpinning two sets of Vietnam’s highest-performing entrepreneurs; those who founded the country’s highest-performing non-technology-oriented companies, in terms of market cap, and those whose technology-focused businesses have raised the largest amount of private capital. We found strong evidence that the technology cohort is comprised of Vietnamese returnees—overseas returnees—who in large part completed university studies in the United States. The founders of Vietnam’s highest-performing non-technology businesses, on the other hand, have less overseas experience, whether studying or working abroad. They do not have transnational experience, whether in the U.S. or in the Soviet bloc, to the same extent to which the founders of technology-enabled companies have. In this way, Vietnam’s high-performing technology founders have accumulated much more transnational experience than the non-technology cohort. As a result, the non-technology founders can be better described as place-based entrepreneurs, that benefited from social and human capital available in their locale (often in Ho Chi Minh City and Hanoi).

The strength of the findings points to the U.S. university experience as the most prominent driver of performance for Vietnam’s high-technology founders. This has clear policy implications. Firstly, in light of the Covid-19 pandemic, technology-enabled entrepreneurship is said to be a more resilient form of both economic activity and job creation [50]. Such resilience is essential in the midst of the ongoing Covid-19 pandemic. More generally, technological entrepreneurship is associated with innovation gains that boost productivity and ultimately economic growth. But it is also a driver of increasing rates of inequality. This tendency for technological innovation to increase inequality needs to be met with purposeful efforts to better include, and better distribute, opportunities to participate [51-53].

In order to further embed Vietnam’s growing technology-enabled startup activity into place-based entrepreneurship, policy could strive to further incorporate elements of the American university experience at universities in Vietnam. This could include increased support for entrepreneurship clubs and incentives for entrepreneurship curriculum. If it is the education, or human capital, itself, that is driving the relationship between U.S. universities and technology entrepreneurship, then furthering domestic universities’ provision of this entrepreneurship in the curriculum and campus activities could help engender pertinent social and human capital. This development of top national universities has underscored the Chinese trajectory in recent years, and relatedly, the increased prevalence of top-performing, locally-trained high-technology founders [54]. These individuals come together in certain provinces, especially on the coast, and either collaborate ‘intra-province’ or collaborate with teams across provinces, in order to foster novel products or processes. In a similar way, studies of the university educations of Silicon Valley founders have found that there is tendency for high-performing startup founders to have graduated from elite universities in the U.S., especially Stanford University [55,56].

Future research can go deeper into the causal mechanisms at work in Vietnam, with respect to which aspects of social and human capital,
obtained by studying at a university in the U.S. or working in the U.S., matters most to entrepreneurial performance. Such insights would need to take a more qualitative tack, surveying or interviewing founders to ascertain the ways in which the U.S. experience endowed them with helpful social networks or provided them with the know-how for establishing a startup. Said another way, interviews with Vietnam’s high-performing technology sector entrepreneurs would help to further unpack precisely how transnational experience in the U.S. shapes their willingness and ability to successfully found and grow technology-based businesses. A better understanding of why and how returnees go on to build technology-enabled companies can further scholars’ understanding of the ways in which technological advance, especially in emerging economies, aims at fostering a “good society”, in terms of the extent to which technology ameliorates local, societal problems [57].

Despite the study’s limitations, we contend that the article offers a number of advances. Empirically, the paper offers novel insight into the differential social and human capital foundations of high-performing founders of technology-based and non-technology-oriented, “brick and mortar”, businesses in Vietnam. Particularly in emerging economy studies, a thrust of existing research examines social capital vis-à-vis its relationship with household enterprises rather than the founders of high-performing, technology-based startups. Less is known about the social and human capital endowments of these high-performing entrepreneurs. Based upon our analysis of a novel dataset, we reveal that studying at a U.S. university is 35 times more likely amongst technology-based entrepreneurs than in the cohort of founders of non-technology companies. This phenomenon is not likely to be unique to Vietnam, and as such, needs to be on the research agenda in order to better understand the rise of “global clusters of innovation” in the contemporary political economy [25].

Analytically, the paper contributes through its approach to empirically testing and theorizing the role of transnational experience in the performance of technology sector entrepreneurs. Existing studies [1,2] tend to theorize and examine the experiences of technology-based entrepreneurs in isolation, without a benchmark to entrepreneurs in other sectors. We bring the study of technology entrepreneurship into the wider study of entrepreneurial performance by distilling analytical expectations for technology and non-technology founders in social and human capital terms. This is an advance on existing conceptualizations, which offer insight into the prevalence of transnational experience amongst technology entrepreneurs, but not a baseline by which to compare such a cohort to other high-performing entrepreneurs, or to explain why they may possess more, or different, transnational experience. Through our approach, we move the analytical toolkit a step closer to delineating the ways in which changes to one’s world view, the development of U.S. linked social networks, technical know-how, and the possession of similar experience sets uniquely contribute to the performance of technology-based entrepreneurs.

Finally, the finding that it is U.S. training that is associated with the founders of a burgeoning cohort of founders of technology-oriented startups raises questions about the societal impact of such a relationship. Certainly, policymakers in Vietnam and other emerging economies are working to encourage entrepreneurship that is both technologically-enabled and contextually relevant. A better understanding of why and how U.S. trained returnees go on to build technology-enabled companies can further scholars’ understanding of the ways in which technological advance, especially in emerging economies, is oriented towards fostering a “good society” [57] and towards “inclusive innovation” [53], in terms of the extent to which technology strives to ameliorate local challenges and benefit wider society.

### Author contribution/CRedit author contribution statement

Robyn Klingler-Vidra: Conceptualization, Data curation, Methodology, Roles/Writing- Original draft, Funding acquisition, Berlin Tran: Conceptualization; Data curation; Roles/Writing – original draft. Adam William Chalmers: Methodology, Roles/Writing- Original draft, Data curation, Formal analysis, Visualization.

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### Appendix. List of founders (listed alphabetically by cohort by company names)

| Company Name | Tech-enabled or non-tech cohort | Industry coding | Founder name |
|--------------|--------------------------------|-----------------|--------------|
| Base.vn      | Technology                      | Information Technology, Internet, SaaS | Hung Pham    |
| Buymed       | Technology                      | B2B, E-Commerce Platforms, Health Care, Medical, Pharmaceutical | Peter Hiep Nguyen |
| Canavi       | Technology                      | Mobile Apps     | Hieu Tran    |
| Canavi       | Technology                      | Mobile Apps     | Nguyen Hoang Hai |
| Canavi       | Technology                      | Mobile Apps     | Tuan Vu      |
| CENTECH Communication JSC | Technology | Analytics, Big Data, Mobile Advertising, Service Industry | Kien Trung Nguyen |
| Coc Coc      | Technology                      | Internet, Local, Search Engine, Software | Le Van Thanh |
| Coc Coc      | Technology                      | Internet, Local, Search Engine, Software | Nguyen Duc Ngoc |
| Congnhadat.net | Technology            | Internet, Local, Search Engine, Software | Nguyen Thanh Binh |
| CYFEER JOINT STOCK COMPANY | Technology | Information Technology, Property Development, Real Estate | Dominic Vu |
| DooPage      | Technology                      | Hospitality, Information Technology, Property Management, Real Estate, SaaS | Phong Pham |
| EcoTruck     | Technology                      | E-Commerce, Information Technology, Internet, Software | Truong Hua |
| F88          | Technology                      | Information Technology, Logistics, Supply Chain Management | Anh Le |
| F88          | Technology                      | Consumer, Financial Services, Lending, Trading Platform | Cong Tran |
| Feroh         | Technology                      | Consumer, Financial Services, Lending, Trading Platform | Steven Nguyen |
| Finhay        | Technology                      | E-Commerce, Fashion | Thanh Huong Nguyen |
| Finhay        | Technology                      | Advice, Financial Services, FinTech, Wealth Management | Huy (Shayne) Nghiem |
| Finhay        | Technology                      | Advice, Financial Services, FinTech, Wealth Management | Minh Tri Do |

(continued on next page)
| Company Name                          | Tech-enabled or non-tech cohort | Industry coding                                                                 | Founder name                  |
|--------------------------------------|--------------------------------|---------------------------------------------------------------------------------|------------------------------|
| gachvang.com                         | Technology                      | E-Commerce, Internet, Property Management, Real Estate, Real Estate Investment   | Peter Cheng                 |
| gachvang.com                         | Technology                      | E-Commerce, Internet, Property Management, Real Estate, Real Estate Investment   | Phat Nguyen                 |
| GAPIF Communications JSC              | Technology                      | Creative Agency, Digital Marketing, Mobile Advertising, SMS                      | Kien Trung Nguyen           |
| HeyU                                 | Technology                      | Information Technology, Logistics                                               | Pham The Anh                 |
| iCare Benefits                       | Technology                      | FinTech, Retail Technology                                                      | Trung Dung                  |
| JAMUA                                | Technology                      | E-Commerce, Lead Generation, Online Portals, Shopping                            | Le Hung Viet                 |
| KAMEHIO                              | Technology                      | E-Commerce, Food and Beverage, Restaurants                                       | Taka Tanaka                 |
| KidsOnline                           | Technology                      | Internet, Mobile, Parenting                                                     | Binh Nguyen                 |
| KidsOnline                           | Technology                      | Internet, Mobile, Parenting                                                     | Ha Dau                       |
| KidsOnline                           | Technology                      | Internet, Mobile, Parenting                                                     | Long Le Huy                  |
| KidsOnline                           | Technology                      | Internet, Mobile, Parenting                                                     | Manh Vu                      |
| KidsOnline                           | Technology                      | Internet, Mobile, Parenting                                                     | Mao Dao Khac                |
| Lac Viet Computing                   | Technology                      | Cloud Computing, Information Technology, Service Industry, Software,              | Ha Tran                      |
| Lixhos, Inc.                         | Technology                      | Beauty, E-Commerce                                                             | Sao Tran (Sao Lonsdale)       |
| LOGIVAN                              | Technology                      | Information Technology, Logistics, Railroad, Transportation                      | Louise Le Pham              |
| Luxstay                              | Technology                      | E-Commerce, Hospitality, Sharing Economy, Travel Accommodations, Vacation Rental | Steven Nguyen               |
| Moxa                                 | Technology                      | Apps, Electronics, Mobile, Mobile Payments, Payments                            | Dung Nguyen                 |
| Moca                                 | Technology                      | Apps, Electronics, Mobile, Mobile Payments, Payments                            | Tran Thanh Nam               |
| Momo                                 | Technology                      | Finance, FinTech, Mobile Payments                                              | Nguyen Thi Minh Hien         |
| MWG - Mobile World Group             | Technology                      | Consumer Electronics                                                           | Nguyen Duc Tai               |
| OkieLa                               | Technology                      | E-Commerce, Logistics, Mobile Apps, Shopping                                     | David Tran                   |
| OkieLa                               | Technology                      | E-Commerce, Logistics, Mobile Apps, Shopping                                     | Max-F. Scheichendorf          |
| POPS Worldwide                       | Technology                      | Digital Entertainment, Digital Media, Film Production, Internet, Music, Social Media | Esther Nguyen               |
| Propzy                               | Technology                      | Business Information Systems, Marketing, Real Estate, Social Media               | John Le                      |
| Pushsale.vn                          | Technology                      | Marketing, Business Information Systems, Logistics                              | Do Xuan Thang                |
| Rever.vn (REVER)                     | Technology                      | Information Technology, Real Estate                                             | Phan Le Maah                 |
| Sendo                                | Technology                      | Consumer Electronics, Consumer Goods, E-Commerce                                | Dung Nguyen Duc Viet         |
| Sendl                                | Technology                      | Consumer Electronics, Consumer Goods, E-Commerce                                | Nguyen Phuong Hoang           |
| Sieu Viet Group                      | Technology                      | Consumer Electronics, Consumer Goods, E-Commerce                                | Tran Hai Linh                |
| Sieu Viet Group                      | Technology                      | Human Resources, Internet, Recruiting, Staffing Agency                           | Minh Tam Phan                |
| Sky Mavis                            | Technology                      | Blockchain, Video Games                                                        | Aleksander Leonard           |
| Sky Mavis                            | Technology                      | Blockchain, Video Games                                                        | Larren                       |
| Sky Mavis                            | Technology                      | Blockchain, Video Games                                                        |                            |
| Telio.vn                             | Technology                      | B2B, E-Commerce, Fast-Moving Consumer Goods, Retail, Retail Technology           | Sy Phong Bui                  |
| Tiki Corporation                     | Technology                      | E-Commerce, Retail, Shopping                                                    | Son Tran Ngoc Thai           |
| Tima                                 | Technology                      | Financial Services, FinTech, Mobile Apps                                       |                            |
| Topica Edtech Group                  | Technology                      | Education, Information Technology, MOOC                                         | Tuan Pham                    |
| VceRe.com                            | Technology                      | E-Commerce, Public Transportation, Tourism, Travel                              | Long Luong                   |
| VceRe.com                            | Technology                      | E-Commerce, Public Transportation, Tourism, Travel                              | Thang Dao                    |
| VNG                                  | Technology                      | Internet, Software                                                             | Bryan Pelz                   |
| VNP                                  | Technology                      | Internet, Software                                                             | Le Hong Minh                 |
| Vntrip.vn                            | Technology                      | E-Commerce, E-Commerce Platforms, Leisure, Tourism, Travel, Travel Agency        | Lam Le Duc                   |
| Vntrip.vn                            | Technology                      | E-Commerce, E-Commerce Platforms, Leisure, Tourism, Travel, Travel Agency        | Thai Nguyen                  |
| Waves Vietnam Podcasts               | Technology                      | Audio, Podcast                                                                 | Ben Le Tu Quoc Minh          |
| Waves Vietnam Podcasts               | Technology                      | Audio, Podcast                                                                 | Kevin Gao                    |
| WeFit                                | Technology                      | Fitness, Mobile Apps, Wellness                                                  | Khoi Nguyen                  |
| ACG                                  | Non-tech                        | Finance                                                                       | Dang Thu Thuy                |
| ACG                                  | Non-tech                        | Finance                                                                       | Huynh Thanh Thuy             |
| ACG                                  | Non-tech                        | Finance                                                                       | Nguyen Duc Kien              |
| ACG                                  | Non-tech                        | Finance                                                                       | Pham Trung Cang              |
| ACG                                  | Non-tech                        | Finance                                                                       | Tran Mong Hung               |
| ACG                                  | Non-tech                        | Finance                                                                       | Trinh Kim Quang              |
| ACG                                  | Non-tech                        | Finance                                                                       | Pham Anh Dao                 |
| An Phat Plastic and Green Environment| Non-tech                        | Basic materials                                                              |                            |
| JSC                                  | Non-tech                        |                                |                            |
| Apax                                 | Non-tech                        | Service                                                                       | Nguyen Ngoc Thuy             |
| Bamboo Capital                       | Non-tech                        | Service                                                                       | Nguyen Ho Nam                |
| Century Land                         | Non-tech                        | Service                                                                       | Nguyen Trung Vu              |
| Century Synthetic Fiber Corp         | Non-tech                        | Consumer cyclical                                                            | Dang Trieu Hoa               |
| CEO Group                            | Non-tech                        | Capital goods                                                                 | Doan Van Binh                |
| CMC Corp                             | Non-tech                        | Telecommunications                                                          | Nguyen Trung Chinh           |
| Dai Thien Loc Corp                   | Non-tech                        | Basic materials                                                               | Nguyen Thanh Nghia           |
| Dat Phuong                           | Non-tech                        | Capital goods                                                                 | Luong Minh Tuan              |
| Dat Xanh Real Estate Service and     | Non-tech                        | Service                                                                       | Luong Tri Thin               |
| Construction                         |                                |                                |                            |

(continued on next page)
## Company Name | Tech-enabled or non-tech cohort | Industry coding | Founder name
--- | --- | --- | ---
Digiworld | Non-tech | Consumer non-cyclical, Tech | Doan Hong Viet
Fecon Foundation Engineering | Non-tech | Capital goods | Pham Viet Khoa
First Real | Non-tech | Service | Nguyen Hau Hiep
FIT INVEST | Non-tech | Finance | Nguyen Thi Minh
FIT INVEST | Non-tech | Finance | Nguyen
FPT Group JSC | Non-tech | Service | Trinh Van Quyet
FPT | Non-tech | Finance, Service, Tech | Bui Quang Ngoc
FPT | Non-tech | Finance, Service, Tech | Do Cao Bao
FPT | Non-tech | Finance, Service, Tech | Truong Gia Binh
Hai Phat Invest | Non-tech | Capital goods | Do Quy Hai
Hoa Binh Construction & Real estate | Non-tech | Capital goods | Le Viet Hai
Hoa Phat Group | Non-tech | Basic materials | Tran Dinh Long
Hoang Anh Gia Lai JSC | Non-tech | Consumer non-cyclical | Doan Nguyen Duc
Hoang Huy Investment Services | Non-tech | Consumer cyclical | Do Huu Ha
Hoang Quan Consulting Trading Service | Non-tech | Capital goods | Truong Anh Tuan
Hoasen Group | Non-tech | Basic materials | Le Phuong Vu
Hung Vuong Corp | Non-tech | Consumer non-cyclical | Duong Ngoc Minh
IB Securities | Non-tech | Finance | Nguyen Thi Tuyet
Khang Dien House Trading Investment | Non-tech | Service | Ly Dien Son
Kien Long Commercial | Non-tech | Finance | Truong Hoang Luong
Kinh Bac City Development | Non-tech | Service | Dang Thanh Tam
Kinh Do | Non-tech | Consumer non-cyclical | Tran Kien Thanh
Kinh Do | Non-tech | Consumer non-cyclical | Tran Le Nguyen
Kosy | Non-tech | Capital goods | Nguyen Viet Cuong
LDG Investment | Non-tech | Service | Nguyen Khanh Hung
Masan Group | Non-tech | Basic materials | Nguyen Dang Quang
Minh Phu Seafood | Non-tech | Consumer non-cyclical | Le Van Quang
Mobile World | Non-tech | Service | Nguyen Duc Tai
Nafoods Group | Non-tech | Consumer non-cyclical | Nguyen Manh Hung
Nam Long Investment Corp | Non-tech | Capital goods | Nguyen Xuan Quang
Nam Viet Corp | Non-tech | Consumer non-cyclical | Doan Toi
Ngoc Phong Industry | Non-tech | Basic materials | La Van Hoang
Nova Land | Non-tech | Capital goods | Bui Thanh Khoi
Pan Pacific Corp | Non-tech | Consumer non-cyclical | Nguyen Duy Hung
Phat Dat Real Estate Development | Non-tech | Service | Nguyen Van Dat
Pomina Steel Corp | Non-tech | Basic materials | Do Duc Thu
Quoc Cuong Gia Lai JSC | Non-tech | Service | Nguyen Thi Nhu Loan
Saigon Securities Incorporation | Non-tech | Finance | Nguyen Duy Hung
Sao Mai Group | Non-tech | Service | Le Thanh Thuong
Son Ha International Corp | Non-tech | Capital goods | Le Vinh Son
Tien Duc Cardiology | Non-tech | Healthcare | Dr. Nguyen Ngoc Chieu
Tan Tao Investment and Industry | Non-tech | Service | Dang Thi Hoang Yen
Techcombank | Non-tech | Finance | Hoang Quang Vinh
Techcombank | Non-tech | Finance | Le Kien Thanh
Thanh Nam Inox | Non-tech | Basic materials | Nguyen Hung Cuong
Thanh Thanh Cong Group | Non-tech | Consumer cyclical | Dang Van Thanh
Soncombank | Non-tech | Consumer non-cyclical | Finance, Service
Thien Long Group | Non-tech | Consumer non-cyclical | Vo Ngoc Thao
Tri Viet Securities | Non-tech | Finance, Service | Pham Thanh Tung
Trung An Hi-tech | Non-tech | Consumer non-cyclical | Le Thi Tuyen
Trung An Hi-tech | Non-tech | Consumer non-cyclical | Pham Thi Binh
Trung Thanh Furniture Corp | Non-tech | Consumer cyclical | Vo Truong Thanh
Viet Capital | Non-tech | Finance | Nguyen Thanh Phuong
Viet Nam Intl Bank | Non-tech | Finance | Dang Khoi Vu
Viet Phat Import Export | Non-tech | Basic materials | Nguyen Van Binh
Vietjet Aviation | Non-tech | Transportation | Nguyen Thanh Phuong
Vietnam Sun Corp | Non-tech | Transportation | Thao
Vingroup | Non-tech | Capital goods, Service | Pham Nhat Vuong
Vinh Hoan Corp | Non-tech | Consumer non-cyclical | Truong Thi Le Khanh
VNDIRECT Securities | Non-tech | Finance | Pham Minh Hoang
Yes1 | Non-tech | Service | Nguyen Anh Nhuong

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