# Comparison of Government's Strategic Aims and Company Needs within the Hungarian Startup Ecosystem

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## Abstract

Startup companies are frequently perceived by the host state to be important actors who are increasing the economic competitiveness of the state's economy and its wider region. In response, states usually design assistance strategies to increase these startups' effectiveness. But credibly measuring whether these assistance strategies meet their stated goals is problematic, as there is a dearth/lack of suitable information related to startups to make the needed assessments. This paper aims to compare what Hungarian startup companies were struggling with and whether the Hungarian state's central entrepreneurial and innovation strategies intended to assist these startups were actually in alignment. The paper derives its data from the Hungarian Startup Report, the latest report from the Global Entrepreneurship Monitor, and relevant government strategies and uses content analysis to make its comparisons. The findings are categorized using Ben Spiegel's entrepreneurial attributes-based ecosystem model. Overall, the paper finds that many of the needs of the startups were addressed in government strategies at the abstract level on the cultural attribute side, but social and material attributes have mismatches and needed to be covered. This raises future questions on the effectiveness of the Hungarian government's startup assistance strategy and its implementation.

## Introduction

The aim of the last fifty years of governments' support for science and technology has been to achieve "socio-economic goals such as national security, economic development, welfare, and the environment", but measuring the actual impact of this support has never been easy. (Benoit, Doré, 2005, 1.) The social sciences may serve as a base framework-creator to develop a conceptual model for measuring the impact of research and development, but any developed ideas must concretely appear in the market for achieving real effects. Putting inventions into practice and making them meet real needs is the baseline of innovation.

As the terminology developed by the OECD Oslo Manual states, innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization, or external relations. (OECD, 2018) Therefore research, development, and innovation became strong keywords together in economic development strategies and/or economic boosting policies.

To further their economic growth, states around the world develop set policy objectives to become innovative leaders. Specifically, they seek to strengthen their research and development capacity, innovation and entrepreneurial ecosystem, and startup scene. States then design and implement policies and strategies to meet these objectives. But do they actually achieve their objectives? The effectiveness of the state's stated claims has rarely been subjected to empirical testing. This article focuses on a Central and Eastern European country, Hungary, were recently published data allows for an empirical comparison.

Most of the available research related to the Hungarian startup ecosystem focuses on the state's support in the venture capital sector. (Csákné Filep, Radácsi , Tímár, 2020) At the same time, the role of the government and EU funds appeared significant in financing technology incubator programs, organizing research hubs, and starting a state-level university startup education program, just to mention the biggest projects.

Although intensive interest has been shown in the area of innovation as a dedicated way how to achieve competitiveness, known supporting data on measuring effectiveness and impact are a lacking issue. As the non-governmental organization Startup Hungary, formed by successful business actors, has started its reports in 2020, researchers and policymakers got a tool for a holistic overview not just of how startup companies look like but also a list of their crucial issues to be solved. As all startup-related government strategies have been already in force at the time of the analyses, one can only monitor if the strategies are still covering startups' needs based on this new information. Therefore, in the following, this paper highlights the current pain

points of startups from the report and pairs them with a strategic answer, if there is any. It is presented in Spiegel's (2017) attribute-based entrepreneurial ecosystem model to serve as the framework for the analysis.

Findings can be a useful policy-making, revision-helping tool as well. Building in any available new information is important as "[b]ad expectations can destroy value as easily as bad execution." (Adner, 2006.)

## Case selection

The current literature on the comparison of state's innovation policies and their actual impact on individual European states is lacking the case of Hungary. Fortunately, the recently published data now allows for such a comparison to be made.

According to one of the performances measuring tools for European countries, the European Innovation Scoreboard report (EC, 2021), Hungary is an emerging innovator with strength in sales impacts, digitalization, and linkages, but with decreased performance in investigated indicators relative to the European Union over time. Results do not necessarily mean that the particular points of the examined country do not develop. Rather, they indicate that the overall performance of a state does not follow the development tendencies of other European countries, and to keep up, further policy steps could be needed.

In 2013, an ecosystem-level roundtable cooperation – led by the state at the ministerial level – declared that Budapest has the potential to become a European startup capital. Although the outcome of the discussion, the "Runway Budapest 2.0.2.0. Startup Credo", was never implemented, it could comprehensively summarise the scale of what startup companies could add to the Hungarian competitiveness and what was thought to be required at that time to achieve it. Such an information flow and synergies within the ecosystem of this understudied, high-potential segment of private actors would help to build a more innovative, prosperous, and entrepreneurial-friendly country.

Although in 2016, the Digital Startup Strategy of Hungary was launched, due to its expiration, it is no longer in force. Research conducted by the European Commission in the same year on the sector in Hungary revealed that the country "has a vast science and innovation potential that can bring about a structural shift upwards in its economy" (EC, 2016), which could be seen as a cause for mild optimism. The report's findings and recommendations – primarily focused on the research and development-based innovations – were explicitly incorporated into the latest Hungary's Research, Development and Innovation Strategy 2021-2030. The innovation strategy does not paint the complete picture, so it is complemented by the small- and medium-sized

company supporting strategy (Strengthening of Hungarian Small and Medium-Sized Enterprise Strategy 2019-2030), which also covers startups.
In these strategies, the state's claimed aim is to boost startup companies. As there was no comprehensive – publicly known – data collection about startups' weaknesses, whether startups' problems and government's aims actually meet has not been tested yet. In the last two years, two Hungarian startup reports have been conducted and published, and data is now finally available with regard to Hungary. This paper aims to realize a comparison between the states' claims and the startups' needs. To do so, a relevant comparative framework on the innovation ecosystem must be found; one that allows for the two sets of data points, government startup boosting strategies and actual startup needs, to be compared.

## Literature review: innovation and entrepreneurial ecosystems

A large and growing body of literature has investigated the concept of ecosystems in social science, which idea has been taken from natural sciences. It can be seen as "a set of actors with varying degrees of multilateral, nongeneric complementarities that are not fully hierarchically controlled" (Jacobides, Cennamo, Gawer, 2018), and is widely used both to describe innovation and entrepreneurial networks.

Within innovation-related studies, a significant amount of research has been published on the innovation ecosystem, which was developed from innovation modeling, started in 1945 by Bush's linear innovation model (Bush, 1945). From the first linear concepts, over time, researchers have developed non-linear, feedback-based frameworks. Considerable actors of the models vary by concepts and authors, including coupling, system, or evolutionary models (Marinova, Phillimore, 2003). In a study that set out to determine the so-called Quadruple Helix Model, the drawn innovation ecosystem is a multi-level, multi-modal, multi-agent system, where actors continuously co-evolve, co-specialize, and co-opt (Carayannis, Campbell, 2009). Summarising 120 publications from the last 15 years, a current study states that the definition of an innovation ecosystem is "the evolving set of actors, activities, and artifacts, and the institutions and relations, including complementary and substitute relations, that are important for the innovative performance of an actor or a population of actors." (Granstrand Holgersson, 2020)

The importance of innovation model development results in ecosystem models stating that firms' competitive advantage is based on its surrounding institutes and organizations, not just inside processes. From this perspective, there is an unambiguous relationship, an "obvious harmony" between some of the innovation ecosystem models and entrepreneurial ecosystem ones. (Spigel, 2017) At the same time, holistically speaking, both ecosystem concepts have

social, cultural, and institutional dimensions (Motoyama Knowlton, 2016) where the state is involved.

Next to and similarly to innovation-centred research, several studies investigated especially the concept of the entrepreneurial ecosystem, and its models differ in what authors found significant to include. These models bear the advantage of operationalizing regional and international market accessibility, human capital, financing (including high-risk venture capital), mentorship, incubators and other support organizations, universities, and policymakers with regulatory and support roles – the combination and interdependencies of various social, political, economic, and cultural elements. (WEF, 2013)

In this paper, the author chose to use the attribute-based model of the entrepreneurial ecosystem, which presents the investigated country's cultural and social perspective, which is claimed to be a crucial part of development (Lounsbury et al., 2019.) The model arranges success factors into three interconnected attributes: cultural, social, and material. Cultural attributes can create a milieu that normalizes entrepreneurship as a career path, and pioneers are an important inspiration to follow. Social attributes are social network-based resources that can support learning, knowledge transfer, and investment where both the customer and the supplier have access to this network. Material attributes mean organizations, like universities or support services for early-stage firms, and institutions with formalized rules. Spiegel (2017) defined all 11 elements within his three attributes in Table 1.

| Cultural attributes | Supportive culture | Cultural attitudes support and normalize entrepreneurial activities, risk-taking, and innovation. |
| | Histories of entrepreneurship | Prominent local examples of successful entrepreneurial ventures. |
| Social attributes | Worker talent | Presence of skilled workers who are willing to work at startups. |
| | Investment capital | Availability of investment capital from family and friends, angel investors, and venture capitalists. |
| | Networks | Presence of social networks that connect entrepreneurs, advisors, investors, and workers and that allow the free flow of knowledge and skills. |
| | Mentors and role models | Local successful entrepreneurs and business people who provide advice for younger entrepreneurs |
| Material attribute | Policy and governance | State-run programs or regulations that either support entrepreneurship through direct funding or remove barriers to new venture creation. |
| | Universities | and other higher education institutions which both train new entrepreneurs and produce new knowledge spillovers. |

| | Support services | Firms and organizations that provide ancillary services to new ventures, for example, patent lawyers, incubators, or accountancies. |
|---|---|---|
| | Physical infrastructure | Availability of sufficient office space, telecommunication facilities, and transportation infrastructure to enable venture creation and growth. |
| | Open markets | Presence of sufficient local opportunities to enable venture creation and unimpeded access to global markets. |

**Table 1.** *Attributes of Entrepreneurial Ecosystems Spigel (2017, 56.) – modified by the author*

As the entrepreneurial ecosystem can be seen as more of a conceptual umbrella than a coherent theory (Spigel, 2017), the paper uses the chosen model as a framework to analyze the competitiveness of a narrow entrepreneurial segment, the innovative small and medium-sized companies – startups.

It means that the above described attribute-based model is not just territorially focused on this research but only investigates a sub-part of the entrepreneurial ecosystem: the startup ecosystem claimed in this paper as a subcategory of both the innovation and entrepreneurial ecosystems. Usage of attributes is important as Hungary's cultural background is claimed to be not completely entrepreneurial-friendly (Kozma, 2021), so framing the investigation into this context can add to the scientific discussion.

In this paper, startup companies are defined in the Hungarian Digital Success Program, Digital Startup Strategy of Hungary (2016): "startup means a new company with high growth potential or a project team starting the process of becoming a business and preparing for the entry to the market". (Jáki, Molnár, Kádár, 2019)

**Data**

Based on the available data, the paper compares the startup-related aims of strategies in force and the available information about startups' needs in Hungary. In this paper, the role of the state is analyzed only at an abstract, strategic level. As currently there is no startup-specified strategy in force, and based on the number of Hungarian strategies relevant for the startups,[1] this research only selects ones which (1) are in force, (2) suit the literature review's dual approach (innovation – entrepreneurship), (3) deal with startup-related issues.

Research, Development, and Innovation Strategy (2021-2030) has been in force since 13 July 2021, replacing the "'Investment into the Future' National Research-development and Innovation Strategy (2013–2020)"

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[1] For example: Hungary's Artificial Intelligence Strategy (2020-2030).

strategic document. As previously mentioned, the base of the strategy in force – explicitly stated in the document – is provided by the European Commission report from 2016, the "Peer Review of the Hungarian Research and Innovation System" and its highlighted policy recommendations. The report mentions the word "startup" 21 times, though it is almost exclusively in foreign countries' case studies. The report also highlights that not all innovation is science-based in Hungary. That is the startup-focused limit of the innovation strategy in force, which mentions "startup" 33 times and has a short subchapter of startup and spin-off activities. However, the main focus is still on research and development support and research and development commercialization as innovation. This strategy was prepared between 2019 and 2021, so it built on information from that time and the recommendations of the European Commission report from 2016. No comprehensive startup survey was – knowingly – available at that time.

From an entrepreneurial perspective, the Strengthening of Hungarian Small and Medium-Sized Enterprise Strategy (2019-2030) is analyzed, as startups are one form of small and medium-sized enterprises (SMEs) many issues are relevant. The word "startup" appears explicitly 16 times in this strategy, but in its action plan three closely related program is highlighted: (1) Startup ecosystem development, (2) Startup competence development, (3) University innovation ecosystem development (including startup support within the organization). On the other hand, important issues like entrepreneur-friendly regulation and taxation, internalization, or strengthening entrepreneurial culture are at the center of the document. The limitation of this strategy is that it does not focus only on the startups, but in many cases, startups have different problems and needs. The strategy has been valid since 2019, also without clear data on the specific needs of startup companies.

To further investigate the entrepreneurial side, the study uses the latest leading annual entrepreneurship ecosystem review, the Global Entrepreneurship Monitor 2021/2022 Global Report (GEM), and its findings related to Hungary. Reflecting on the lack of relevant, startup-specific information from the Hungarian ecosystem, Startup Hungary has launched an annual report since 2020. The survey from 2020 was conducted 2021 spring; for 2021, completed 2022 spring. Continuation of the data collection can contribute to a historical analysis of the development in the region.

This Hungarian Startup Report (2020, 2021) uses the survey methodology designed by Agnieszka Skala, Associate Professor of Faculty Management, Warsaw University of Technology. Startup Poland has used this research design for over seven years to make similar reports.

The Hungarian Startup Report 2021 compares data both from 2020 and 2021, therefore analysis is based on that document. In 2021 212 tech companies filled the survey, while in 2020 this number was 232. Estimation of the Startup

Hungary Report is that in 2021 approximately 1000 active startups operated in Hungary, but there is some differentiation from other sources.[2]

The Startup Hungary Report survey not only questions success-related topics but attempts to understand the key issues these companies face by analyzing either country or sector-specific issues.[3]

To summarise the analyzed documents with their henceforth used abbreviation, this paper investigates the following documents: (1) Research, Development and Innovation Strategy 2021-2030 (NRDIS); (2) Strengthening of Hungarian Small and Medium-Sized Enterprise Strategy 2019-2030 (SMEs); (3) 2021/2022 Global Entrepreneurship Report (GEM); (4) Hungarian Startup Report 2021 (HSR).

**Comparing and Contrasting**

Starting from this concept, the research question in this paper tries to answer: are the needs of the startups being met by the government strategies in Hungary? In doing so, it compares and contrasts selected needs and aims within an entrepreneurial ecosystem framework. The goal is to see if (1) there are new issues which appeared in the ecosystem since the strategies were developed; (2) whether there are any blind spots in the strategies due to the lack of comprehensive information.

The selection process of needs and aims was based on qualitative data analysis. Initially, content analysis was used, by assigning codes[4] (Neuendorf, 2017) to selected report and strategy segments. The used codes here were the 11 subcategories of Spiegel's three attributes (2007), listed in Table 1. As the same coding was used to target problems and aims within the documents, this sub-attributes-based matching becomes possible in the second phase, and comparisons can be drawn.

Coded aims that have no matching pair on the need side, are not selected for the analysis based on the lack of empirical data why they seem irrelevant to the startups now. On the other hand, coded needs without strategic aims are in fact policy shortcomings are in need of a solution. This list is one of this paper's key findings. Matching needs and aims, and problems without a strategic response are listed in Table 2.

The analyzed strategies are based on innovation and entrepreneurial ecosystem-related information between 2016-2021, but they came into force before a comprehensive startup survey was conducted. As the startup

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[2] On the other hand, Dealroom database statistics, published with the Hungarian Express Innovation Agency, shows 1521 startups on 27. May 2022.
https://startupbase-hungary.dealroom.co/

[3] Upcoming European Union regulation part of the Research is left out from the research as it does not strictly fit to the topic of this paper.

[4] Used software: MAXQda Analitics Pro 2020.

ecosystem is agile itself – and unlike SMEs, a startup company does not stay long in this startup life phase -, regular revision is necessary, so having comprehensive data from the last two years in the Hungarian Startup Reports related to the situation and the problems of them makes it a great opportunity to investigate.

To see the reflection of the now appearing problems in the aims of the government, this research selects country-specific issues from the reports with content analysis and pairs them with relevant answers from the selected Hungarian government strategies. Problems found in the HRS and responses from the strategies are framed in Spiegel's attribute-based entrepreneurial ecosystem model.

In this section Table 2. presents the result of a comparison and contrast of Hungarian startups' needs and the state's aim to boost them, presented in Spiegel's (2017) attribute-based entrepreneurial ecosystem model.

| Attributes of Entrepreneurial Ecosystems, Spiegel (2017) | | Startups' need (2021) | State's aim in strategies |
|---|---|---|---|
| Cultural attributes | Supportive culture | There is certainly a lack of gender diversity. Only 29% of startups reported having a female co-founder, and only 12% had a female CEO (SHR). | *From an R&D perspective:* Aim and tools to raise STEM field women researchers, which might be a base for spin-offs. (NRDIS) |
| | Supportive culture / Histories of entrepreneurship | Fear of failure (opportunity) 33,7% (place 42/47 in the ranking) (GEM). | Being an entrepreneur should be an attractive and respected career path. Supporting/encouraging entrepreneur path should include a safety net. Their role in the community should be strong; they should hold high social status (SMES). |
| | | Entrepreneurs hold very low social status (SHR: Kozma, 2021). | |
| | Histories of entrepreneurship | Total early-stage Entrepreneurial Activity (TEA) and Established Business Ownership (EBO) are both below 10% (GEM). | |
| Social attributes | Worker talent | For champions (51%), attracting qualified personnel was the number one barrier to growth (SHR). | *From an R&D perspective:* Encouraging SMEs to work with researchers from universities and research institutes. Cooperation with undergraduate and PhD students (cooperative programs). Stop researchers' brain drain. (NRDIS) |
| | Investment capital | Only 10% have succeeded in raising international at all, while 42% want to raise funds from international VCs funds in the following year (SHR). | Encouraging international VCs to come to Hungary. (SMES). |
| | | Private and public VCs continue to work separately from each other, even more drastically than before, while 70% who raised money got "public funds" (SHR). | Working public VC programs should continue but strengthening private VCs at the same time is important. (SMES). |
| | | Over 40% strongly agree that "most of the local VCs offer government and EU-backed financing | *From R&D perspective:* For R&D actors' administrative burdens should be demolished |

| | | opportunities that come with many strings attached - e.g., strict rules, restrictions, and administrative burden" (SHR). | (application, project management) (NRDIS). |
|---|---|---|---|
| | | Angel investments are still a rarity, with VCs dominating from the pre-seed stage forward (SHR). | Angel investors, crowdfunding, etc., should be involved. (NRDIS) The role of the angel investors should be strengthened (SMES). |
| | Networks | - | - |
| | Mentors and role models | Mentoring becomes a paid job (career mentors) to help the startup meet its investment agreement obligations as investors lack portfolio management expertise. (SHR). | No relevant answer has been found. |
| Material attributes | Policy and governance | Most startups said their biggest legal burdens include strict rules for acquiring public financial support, bureaucracy in day-to-day operations, and Hungarian legal entities are not ideal for receiving funding and managing cap tables. Choosing a legal form is an issue, too (SHR). | Special startup tax, innovation tax reduce option, tax options for VCs and angel investors. Changing competition law and other restrictions to easy investment. Legal base for crowdfunding, conditional / soft-loan. Reducing bureaucracy. (NRDIS)  "Startup-friendly" bases: regulation, tax, less bureaucracy. Legal innovations, like equity crowd-funding. Improving the quality of policy making and cooperation with forums where actors can meet (SMES). |
| | | Over 30% of startups who incorporated foreign entities aiming for simple and transparent law (SHR). | |
| | | 21% see lower taxes on employees as a help-to-succeed option (SHR). | |
| | | Convertible Notes require a banking license (SHR). | |
| | | Secure Agreements for Future Equity (SAFEs) are not easy to adopt in the Hungarian legal system (SHR). | |
| | | Startup-suitable ESOP with beneficial taxing conditions are missing (SHR). | |
| | | Low scores in ease of entry and market dynamics indicate some regulatory barriers, preventing entrepreneurs from offering their goods and services to the domestic market (GEM). | |
| | Universities | - | - |
| | Support services | - | - |
| | Physical infrastructure | - | - |
| | Open markets | A majority of respondents, 37%, focus solely on the local market and another 19% report less than a quarter of their revenue coming from international sales (SHR). | Supporting to reach the international market is important; used tools could be international incubators and sharing knowledge (SMES). |

**Table 2.** *Matching startup needs and problems with government strategic response in Hungary*

**Analysis**

From cultural attributes, based on the GEM statistics, less than 10% of the adult population is an entrepreneur (in any stage of business). Furthermore, entrepreneurs have low social status, and Hungarians have a high fear of failure (33,7%) compared with other GEM investigated countries in 2022. (HSR, 2022; GEM, 2022) Encouragement of entrepreneurship, higher social status, and a respected career path are stated in the strategies to reach. (SMEs) On the other hand, the Hungarian education and culture still have not addressed the "fail fast" culture of startups, which can even appear on the regulation level (bankruptcy laws), (EC, 2016).

The so-called "champions"[5] reported that attracting qualified personnel was the number one barrier to growth (51%). Nevertheless, university-related claims were not reported. (HSR, 2022) In the NRDIS only research-related human resource issues are stated (brain drain, cooperative Ph.D./MA programs, university-industry cooperation), but science is only one aspect of the problem, lack of skilled labor causes a more complex problem for these companies. From a diversity perspective, both the number of female co-founders (29%) and CEOs (12%) are low (HSR, 2022), but the lack of female founders and CEOs is also addressed only from researcher and spin-off direction, but non-R&D based companies or female CEOs without scientific background go beyond the strategies' scope.

Reaching for domestic investment is not a problematic issue in Hungary for startups. However – based on the report - the structure of venture capital and angel investment shows interesting trends: 70% of the startups raised money from "public" (state or EU-backed) venture capitals. On the other hand, 40% strongly agree that money comes with "strict rules, restrictions, and administrative burden". Cooperation between "public" and "private" funds is weak. Only 10% of startups were able to raise money from international funds. (HSR, 2022) Partial answers can be found in the strategies. Besides the state-backed and fully private funds, in Hungary, there is a fully public venture capital actor, the Hiventures Venture Capital Fund Management Ltd., supporting startups from pre-seed phrase, which can have connections with the problem of the still rare angel investments, as angels typically invest in pre-seed level.

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[5] The Hungarian Startup Report 2021 identifies two certain categories within its respondents: "champions" and "pretenders". It helps when one would like to see what the most successful startups see different than the rest of them. Champions (1) have average monthly revenue over of 80 000 EUR, in the last 6 months; and (2) have been growing at an average 5% or more per month in the last 6 months; or (3) have a well-known international VC backing them. Pretenders (1) are over 3 years old (started in 2018 or earlier); (2) have not yet reached product-market fit, and (3) have no regular revenue or only an average monthly revenue of under 10 000 EUR. (HSR, 2022)

Venture capital has an effect on mentoring as well. Instead of being an activity to give back to the community, career mentors try to cover and manage investor's lack of portfolio management expertise (Kozma, 2022.), which is not covered directly, but can be connected to the high bureaucracy where startups need extra help to meet the requirements.

The market size in Hungary is limited to scale; still, 37% focus only on the domestic market, while 19% of the global-aiming ones reported that less than a quarter of their revenue is coming from international sales. (HSR, 2022) Demolishment of administrative burdens (without specification) is dedicated to R&D actors and can be connected to the next point. (NRDIS)

With investigating from state support's perspective, the most obvious boundaries to solve could be the basic policy and governance-related problems. Issues mentioned include strict rules for acquiring public financial support, bureaucracy in day-to-day operations, regulatory barriers, possible legal entity problems (receiving funds, using convertible notes, ESOP or SAFE), and high employee taxes. There are many reasons behind startups incorporating foreign entities, but over 30% of them aim for simple and transparent law. (HSR, 2022) One can find a response in the strategies as startup-friendly institutions have been drawn as goals.

Many of the problems are covered in the investigated strategies in an abstract way. The Hungarian Research, Development, and Innovation Strategy addressed the issues from an R&D&I perspective therefore, suggestions there can be understood as research-based startup support. Cultural and bureaucratic-legal issues are covered; the latter should be the major issue that the state can handle easily and quickly. Building on the existing solutions, and learning from previous experiences is also a good practice in the strategies.

However, venture capital-related problems are addressed differently. Taxation and administration problems, continuity, and internationalization are highlighted, but smart money is not in focus – not solving the lack of knowledge, what this paper mentioned related to the mentors.

It does not appear as a problem, but in the strategies, there is a strong focus on networks in the ecosystem, redefining the university's role in innovation networks, building research infrastructure networks, and establishing IPO support grants (NRDIS).

**Conclusion**

This comparison finds that startup-related Hungarian strategies are based on ideas from the period between 2016-2021 but could not have a comprehensive, data-based fund. Still, their analyzed aims in the cultural attribute are not far from needs, as reported in the Hungarian Startup Report. On the other hand, complete consistency cannot be declared as social and material attributes are not fully matched. Furthermore, most of the time,

strategies address issues not from the startup, but from the R&D aspects, which can be useful for R&D-based startups but not necessarily for a whole ecosystem.

From a cultural and human resource point, new problems appeared, while investment capital and governance-related problems got more detailed with new information available.

As aims themself do not lead to competitive startups, the abstract, strategic goals must be translated to action, rules, and regulations. Many of the problems not explicitly found in the reports appeared in a level of abstraction which can be extendable and used to serve as a base of implementation. Realizing existing strategic aims and reflecting on new issues can use good practices from all over the world, which often leads to copying and not implementing models without considering local economic and cultural attributes.

Naturally, it is the forever lasting, both ideological and practical question: which problem should be solved by the state and where can the "invisible hand" of the market can clear the path for success, which requires further investigation.

Limitation of the paper: it is not aiming to analyze points from the strategies which are not addressed in the reports, as there is no empirical data on why they are no longer a problem, whether it is currently irrelevant, or the strategies have already solved it, negligence or other factors

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