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CONTENT

WINTER MESSAGE

Distinguished Readers and Friends,

The world today is at a serious crossroad. The global pandemic, the geopolitical tension – especially the Russian-Ukrainian and the Israeli-Palestinian war, as well as other wars in our world, the economy challenges, especially growing number of the EU sanctions against Russia – which basically ruin the individual countries in Europe -, the uncontrolled migration, have exacerbated challenges to global security, food security and global trade.

The 2015 COP21 – Conference of Parties - was a pivotal moment in the process as all Parties adopted the historic Paris Agreement – the first ever universal, legally binding global climate agreement that agrees to limit global temperature rise to well below 2˚C above pre-industrial levels, with an aspirational goal of 1.5˚C.

This year, the COP28 takes place in Dubai (United Aab Emirates) from 30 November until 12 December 2023. All global leader including the Pope Francis is going to COP28 and they will focus on global energy target. In order to keep 1.5 energy targets. In order to keep 1.5 ˚C alive, we must

- triple global renewable energy capacity and double energy efficiency by 2030
- agree on phasing out unabated fossil fuels.
- peak fossil fuel consumption well ahead of 2030.

Today, global security is in its worst form since the end of the Cold War, as more than thirty serious armed conflicts are taking place in the world, while the threat of terrorism is stronger than ever. It was considered unimaginable that war would rage in Europe in the 21st century, but today there is a bloody war in Hungary's neighbor and in two months war will rage in the Middle East as well.

António Guterres also formulated a harsh criticism of Israel, because according to him, although the terrorist attack by the Palestinian extremist Hamas is a shocking crime, this level of bite in the conflict is not without precedent. "The Palestinian people have been subjected to a suffocating occupation for 56 years. (...) They saw that their land was constantly being eaten up by the settlers: they were subjected to violence, their economy was suffocated, their people were displaced, and their homes were destroyed.

In three weeks, Christmas is here: the celebration of peace, family reconciliation and the birth of Jesus. What is needed is peace. Peace is not brought by weapons, but by people of good will. That is why the Western powers are to blame. Both Pope Francis and the Hungarian Prime Minister call for peace.

I wish all our ERENET members and friends a Merry Christmas and a blessed and peaceful New Year

Scientific Director of ERENET

PAPERS

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WHAT IS SUSTAINABLE DEVELOPMENT AND IS IT ACHIEVABLE?

ANNEX

Today sustainable development has become very popular in all aspects of society, but few appear to understand its meaning or importance. The article attempts to show the inter and intragenerational connections between the three pillars of sustainable development – namely a just society, a prosperous economy and stewardship of the natural environment.

Attempts will be made to show what fundamental policy changes should be made by governments, education, the private and social societies if we are to achieve a global sustainable development world. Further an attempt will be made at determining why the UN's Sustainable Development Goals for 2030 are falling short of reaching their objectives and what recommendations may be made to improve the possibility in the future.

Keywords: sustainable development, Three pillars interconnections, SDGs 2030, recommendations.

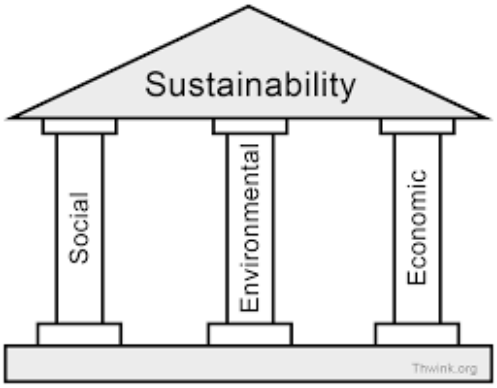
JEL Classification: Q01

Sustainable development (SD) has become a popular term in the last 20 years. However, despite its popularity, many people continue not to understand its meaning nor its importance to the future of humans. The purpose of this brief article is to attempt to show the inter and intragenerational connections of the pillars that sustainable development is based upon and what we as humans, everywhere, need to do in terms of policies, education, and regulation to ensure than we have a sustainable future.

Sustainable development is progress that meets the needs of the present, without compromising the ability of future generations to meet their own needs. It is a way of thinking about a better future for all humans while not further harming our natural environment.

We humans first need to breath oxygenated air, drink fresh water and eat food. These come from our natural environment. We also need money to purchase those things we cannot make, and these monies come from our economies. And lastly, we need social interaction as we are 'social animals'. This social interaction comes from our civil societies. If we are to meet these basic needs, for ourselves and future generations, then they must be sustainable. This sustainability will not just happen, it must be managed by policies from governments, educational institutions, the private sector, and civil society.

To help make these policy changes the following three pillar model was developed by the 2002 World Summit on Sustainable Development to facilitate the process.



But what do we know of each of these pillars? First 'social sustainability' encompasses notions of equity, empowerment, accessibility, participation, cultural identity, and institutional stability – basically that all people matter in a just society. Social sustainability entails fostering a meaning life through better education, healthcare, urban planning, gender equality, and peace. However, these are not easy to achieve due to their complexity and because the social system is intangible and cannot be easily modelled. It is not about ensuring everyone's needs are met but rather that we enable conditions for everyone to have the capacity to realize their needs.

Second 'environmental sustainability' encompasses natural resources that are needed to support human life. These resources must remain productive and resilient to support our and future generation's needs. These must NOT be harvested faster than they can be regenerated as its systems has boundaries within which to maintain its equilibrium. Today, there is major concern that we humans have taken that balance to a tipping point from which it cannot recover. This tipping point is evidenced by what we are seeing in 'climate change' – the warming of the atmosphere and oceans, diminishing ice levels, rising sea levels increased ocean acidification, increasing greenhouse gases, and crazy weather occurrences.

The natural environment is all connected such that climate change also affects our biodiversity – the reproduction in animals and plants, migration patterns, and their population size. The current rate of biodiversity loss exceeds is own ability to reproduce thus leading to many animal, bird, fish, and insect extinctions. What we 'people' must understand is that if the natural world remains threatened, so does the human world!

Lastly our 'Economic sustainability' encompasses our ability to make a living. Traditionally economists assumed the supply of natural resources was unlimited, markets would allocate resources efficiently, and technological advances would replace what was utilized. They were wrong! Now, we must rethink our economic postulations. This 'rethink' must include all three basic phases of economics from production to distribution to consumption and find new methods to replace the depletion and pollution caused by the old methods. Decisions must be made to find the most equitable and fiscally sound ways possible while considering the aspects of the other two pillars, social and environmental.

In January 2015, the UN General Assembly began the negotiation process on the sustainable development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 Sustainable Development Goals (SDGs). World leaders unanimously adopted the 2030 Agenda for Sustainable Development later that same year ambitiously aiming to speed economic prosperity and social wellbeing while protecting the environment. But the SDGs faced challenges right from the

beginning. These key challenges were geo-political instability, such as conflict between nations. Implementation, such as ensuring programs fit the local context. Governance, such as political will to transform sustainable development programs into sustainable long-term practices. The UN's 17 Sustainable Development Goals (SDGs) were as follows in the diagram below.

Unfortunately, 15 years later the world is not on track to meet the 17 Sustainable Development Goals (SDGs). The Sustainable Development Goals Report 2023: Special Edition, stated that the impacts of the climate crisis, the war in Ukraine, a weak global economy, and the lingering effects of the COVID-19 pandemic have revealed weaknesses and hindered progress towards the goals. The report further warns that while lack of progress is universal, it is the world's poorest and most vulnerable who are experiencing the worst effects of these unprecedented global challenges.

To be fully achievable it is recommended that: secondary and higher education schools offer sustainable development courses and programs, so all country's residents understand the basic concepts of sustainable development; that governments provide universities with financial support for R&D into SD to find innovative solutions to social inclusivity, responsible economic practices, and greater stewardship of the natural environment; that government formulate and implement social policies that foster tolerance, social cohesion, and justice for social interaction; that government promote smart growth through proper land use and align their economies with nature's regeneration capacity; and that government bring forth population controls such that natural resources are aligned with resource consumption.

In conclusion it is sustainable development's mission is to achieve balance among environmental, economic, and social sustainability such that we have a more just society, a more prosperous economy and greater stewardship of the natural environment. This cannot be achieved through isolated initiatives but needs integrated efforts of governments and its civil societies. Sustainable development will only thrive if all people work together to translate sustainable development concepts into action and if it is to be effective, it will depend on all **PEOPLE** taking ownership of the concept, showing leadership, and exercising good citizenship.

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UNLOCKING BUSINESS POTENTIAL: POSSIBILITIES AND OPPORTUNITIES FOR ENTREPRENEURS AND SMES

Unlocking business potential in India presents a myriad of possibilities and opportunities for entrepreneurs and small to medium-sized enterprises (SMEs). The recent ease of doing business reforms, including simplified registration processes, tax reforms, and infrastructure development, has significantly improved the entrepreneurial ecosystem. Embracing the Fourth Industrial Revolution, entrepreneurs can leverage digital transformation, innovation, and collaboration to navigate the evolving business landscape. The focus on key sectors such as agriculture, digital marketing, and eCommerce provides a strategic pathway for entrepreneurs to contribute to economic development and enhance the economic well-being of farmers. The agenda of doubling farmer income not only addresses financial aspects but also emphasizes the importance of value chain enhancement, market linkages, and capacity building. With a commitment to sustainable development goals, the narrative unfolds as a story of resilience, innovation, and inclusive growth, offering entrepreneurs a platform to unlock and realize India's vast business potential.

Keywords: Entrepreneurship, Rural Economy, SMEs, Marketing, Employment

JEL Classification code: R0, L5, Q2, Q4, M,21, M3, M29

Unlocking Business Potential: Possibilities and Opportunities for Entrepreneurs and SMEs

It's an honor to be part of this web meeting/webinar today. Before I begin, I would like to extend my heartfelt congratulations to the organizers – INSEEDS, ADORE, and SIMTRAK. Their tireless dedication has brought together a diverse assembly of young, vibrant minds.

Today's webinar revolves around a theme that resonates deeply in the current dynamic business landscape - "Unlocking Business Potential: Possibilities and Opportunities for Entrepreneurs and SMEs." This theme is not just a collection of words; it's a beacon illuminating the path to economic growth, innovation, and job creation, with the ambitious torchbearers being our youth entrepreneurs.

Technological transformations at various levels

The world of business is undergoing a transformation of epic proportions, a symphony of change that plays both daunting challenges and harmonious opportunities. In these times, forums like the one we're in become not just valuable but invaluable.

The air is also thick with concerns - talk of looming economic recession, the ever-encroaching fear of AI, generative AI, and the sweeping tide of digital transformation that threatens employment opportunities, leaving people to wonder about the future of the human touch in business. However, it's crucial to

acknowledge that these fears often find little footing in reality. In today's landscape of AI and Industry 4.0 technologies, it's crucial to recognize that these advancements need not kill jobs; instead, they have the potential to create even more employment opportunities.

INSEEDS, our esteemed host, has consistently demonstrated exceptional dedication to nurturing opportunities and development for individuals from diverse backgrounds. Their unwavering commitment to creating spaces for collaboration, learning, and inspiration is nothing short of commendable. It is through endeavors like this webinar that we collectively embark on the journey to empower and uplift entrepreneurs and SMEs. These are the backbone of our economy, poised to unlock their true potential and leave an indelible mark in their respective industries.

Indian economy, reforms: Transforming India's Business Landscape

India boasts a rich entrepreneurial heritage deeply entrenched in its cottage industries, traditional village enterprises, and the agricultural sector. Regrettably, during the colonial era under British rule, our entrepreneurial roots were severely weakened.

However, the clarion call for independence galvanized a reinvigorated focus on reinvigorating our rural economy and nurturing entrepreneurship, symbolized by the iconic Charkha (spinning wheel) and the principle of self-reliance.

In the post-independence period, our economic policies predominantly centered on public sector undertakings, entailing stringent governmental oversight and an overwhelming regulatory framework. This period, an era of "License and Permit Raj", called by Rajaji, was marked by exhaustive inspections and the prerequisite of licenses and permits for almost every facet of business operations.

License Raj

The term "License Raj," coined by Chakravarti Rajagopalachari, describes a system where the Indian government had a lot of control and regulations over the economy from the 1950s to the early 1990s. Under this system, businesses needed government licenses and permits to operate at every level and point, and getting these licenses and permits were often a difficult and complicated process.

Within this framework, Indian businesses were obligated to secure government licenses to conduct their operations, and the acquisition of these licenses were often a challenging and arduous process.

It required private companies to satisfy numerous government agencies—sometimes up to 80—before they could start producing things. Even after getting a license, the government continued to regulate production.

Rajagopalachari believed that the License Raj could lead to political corruption and economic stagnation. He was so concerned about this that he founded the Swatantra Party to oppose these practices. He believed in encouraging competition and protecting workers' rights while also limiting the role of government in certain industries. He opposed government interference in trade and the bureaucracy that came with it.

Over a period of time the economy emerged with lots of control over businesses, entrepreneurs and private sector. Rent seeking officials and bureaucrats and rampant corruption in the industrial administrative system prevailed and grew.

In a nutshell, the License Raj was a system of heavy government control over the economy, with many regulations and approvals needed to do business. This system, despite its intentions, hindered economic growth and created inefficiencies. Nonetheless, a significant transformation unfolded in 1991 with the introduction of the New Industrial Policy and subsequent deregulation initiatives that realigned our economic policy framework.

Economic reforms of 1991 created new opportunities

The economic reforms of 1991 in India heralded a new era of opportunity for the Indian youth. These reforms, characterized by liberalization, privatization, and globalization, brought about significant positive changes.

With the opening up of various sectors and the expansion of industries, job creation soared, offering a plethora of employment options to the young workforce. Simultaneously, entrepreneurship flourished, as the reforms simplified business establishment and management, providing a platform for innovative young minds to explore their ideas.

The surge in economic activity also boosted the demand for higher education and vocational training, equipping the youth with the skills needed for better job prospects. Moreover, the global exposure resulting from globalization empowered Indian youth to compete on a worldwide scale, fostering a spirit of innovation and competitiveness.

With economic growth came increased incomes, enabling young people to enhance their living standards and save for the future. Rapid urbanization, driven by economic growth, led to the creation of urban centers with better infrastructure, drawing youth seeking improved living conditions and job opportunities. Furthermore, the reforms expanded the financial sector, promoting greater financial inclusion and providing the youth with better access to banking and financial services, thereby broadening their economic horizons.

Reflecting on my school days in Kerala up until the 1990s, one scarcely encountered the term “entrepreneur,” and job prospects were limited, with few avenues of specialization and meager opportunities in the private sector. Today, the landscape has undergone a profound metamorphosis. Entrepreneurship development cells and courses have proliferated across educational institutions throughout the nation.

The complexities of brand establishment and marketing, once formidable and cost-intensive, have now become significantly more accessible. In contemporary times, initiating a business venture has become markedly more straightforward, with a streamlined process that experts and international agencies and our own experience prove that its 80% faster. An array of digital tools and infrastructure is available virtually cost-free.

Furthermore, India’s expansive market offers a multitude of opportunities for entrepreneurs and small and medium-sized enterprises (SMEs). From agriculturists and artisans to cottage industries and SMEs, the business arena and marketplace beckon for exploration and expansion.

These monumental changes transcend mere reforms; they signify a revolution reshaping the narrative of India's business landscape. The new India is of opportunities. It's the coming back and revival in full strength India's entrepreneurial legacy.

In the early 1990s, India confronted a significant economic crisis marked by a foreign exchange deficit, precipitating a pronounced economic downturn. In response to this predicament, the government initiated a series of economic adjustments through a package of reforms known as 'structural reforms' under the rubric of the 'New Economic Policy (NEP).'

The New Economic Policy initiatives encompasses a suite of governmental economic activities and encompasses various policy instruments aimed at bolstering macroeconomic stability. These measures encompass stabilization actions designed to curb inflation and rectify the Balance of Payments (BoP) weaknesses, as well as structural reform measures intended to enhance economic efficiency and heighten international competitiveness. The macroeconomic stabilization program encompass initiatives pursued by the government to:

- Restrain inflation by keeping the prices of goods in check.
- Maintain an adequate foreign exchange reserve to address BoP vulnerabilities.
- In conjunction with these stabilisation measures, the government also launched Structural Reform Measures, representing long-term initiatives geared towards:
- Enhancing the overall efficiency of the economy.
- Alleviating rigidity in various segments of the Indian economy to boost international competitiveness.
- The objectives of the New Economic Policy, 1991, were multi-faceted:
- To integrate the Indian economy into the global arena, charting a new course for the Indian market.
- To mitigate inflation rates and accumulate foreign exchange reserves, thereby accelerating economic growth.
- To increase private sector participation in economic growth by reducing government-controlled sectors.
- To facilitate the global flow of goods, services, capital, human resources, and technology by reducing trade constraints.
- To attain economic stability and create an unencumbered economic market by eliminating superfluous trade and tariff restrictions.

The components of the New Economic Policy, 1991, revolved around three pivotal concepts: Liberalization, Privatization, and Globalization. This model supplanted the earlier Licence Raj. The prime goal of these reforms was to stimulate rapid economic growth, lower inflation rates, reduce fiscal deficits, and rectify the BoP crisis.

Liberalization is a cornerstone of the NEP, signaling a shift from government control to a more open and market-driven economic system. Prior to 1991, the government held sway over the private sector, hampering decision-making within domestic industries. The liberalization policy sought to empower these sectors with greater autonomy, eliminating government interference.

The government's abolition of the licensing system was instrumental in streamlining industrial activities, reducing bureaucratic delays and corruption. Under the Liberalization Policy, various economic reforms were introduced, including those in the industrial sector, financial sector, tax regime, foreign exchange, and trade and investment policies.

Privatization involves the transfer of ownership and operation of public sector enterprises to the private sector. This transition was necessitated by the underperformance of public sector undertakings, which resulted in poor product quality and services for consumers. Privatization promotes diversification, higher profits, customer satisfaction, productivity, and growth, all within a competitive environment.

Globalization is the integration of the Indian economy with the global arena, fostering the free flow of trade, capital, information, technology, and people. This policy aimed to enhance economic development by facilitating collaboration with multinational corporations, reducing trade barriers, promoting exports, and attracting foreign investments.

The measures instituted under the LPG Policy included opening the market to foreign investments and international trade, reducing reliance on foreign loans, expanding the banking and capital sectors, increasing competition through privatization, and improving the quality of goods and services. Globalization, in turn, connected the local market with the global economy, attracted foreign direct investments, and reduced international trade restrictions, ultimately enhancing India's position in the global financial markets.

Unlocking Opportunities for Young Entrepreneurs

To shed light on the abundant entrepreneurial prospects available, let me present a case study featuring Leela.

Case:1
Leela, an organic dairy farmer from Kerala:

Leela, a widowed entrepreneur hailing from Kerala, shoulders the responsibility of providing for her family, which includes three children. One is a college student, while the other two face unemployment due to disabilities. Together, they have embarked on a journey into the realm of organic farming with a particular focus on dairy production. Leela manages a farm comprising four dairy cows and predominantly sustains her livelihood by marketing milk and dairy products.

An astute and resourceful entrepreneur, Leela capitalizes on the copious grass supply found in the neighboring uncultivated paddy fields in Kottayam, Kerala. By doing so, she curbs her reliance on costly cattle feed, leading to substantial cost savings while elevating the distinctive qualities of her milk and dairy produce.

Particularly noteworthy is the organic grass-fed ghee crafted by Leela, renowned for its exquisite flavor and aroma, especially among Non-Resident Indians (NRIs). Astonishingly, Leela remains oblivious to the exceptional qualities of her grass-fed cow's ghee.

In contrast to the market price for organic grass-fed cow's ghee on e-commerce platforms such as "Amazon India" and Flipkart, which often falls within the range of INR 950 to INR 1000 (12 to 13 US $) for 500 grams, Leela sells her ghee locally at a significantly reduced rate of INR 300 (US $ 3 to 4) for the same quantity. However, she grapples with the challenge of securing equitable prices for her products and expanding her market reach.

Leela's story is emblematic of countless farmers seeking fair remuneration for their produce. Herein lies an opportunity: fostering their integration into global value chains, facilitating their entry into e-commerce platforms, or even venturing into product exports.

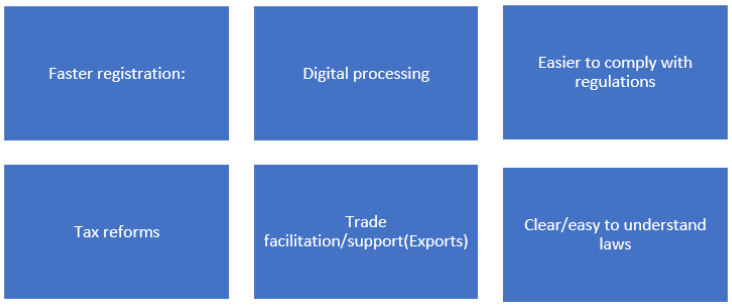
Brand building exercise: Digital marketers and brand & communication specialists help Indian brands attain market leadership

There exists a pressing need to nurture Indian local brands and elevate them to global recognition. By fostering the development of Indian SME brands with a formidable global footprint, our focus rests on digital marketing and the implementation of effective communication strategies to engage diverse international audiences.

The revival of Khadi, the hand-woven fabric, presents an environmentally conscious paradigm by embracing eco-friendly techniques and sustainable practices. It embodies a responsible approach to manufacturing and aligns with the growing global demand for eco-friendly products. Encouraging the Khadi movement and endorsing Khadi-made suits and dresses as the Corporate Dress Code could serve as a meaningful campaign. As part of our commitment to empowering rural communities and farmers, active support for Farmer Producer Organizations (FPOs) and farmer groups becomes paramount. By equipping them with essential resources, imparting training, and enabling market access, we not only bolster their livelihoods but also champion locally sourced, sustainable merchandise. This endeavor contributes to the holistic development of the agricultural sector while uplifting the rural economy.

Streamlining Business Setup

Several reform measures, initiated paved the Way for Effortless Business Establishment. Setting up a business today is 80% quicker and smoother, observed Dr. Rajan Sudesh Ratna, Senior Economic Affairs Officer at UN ESCAP, who was speaking at a meeting organized by ISED.



According to Economist Intelligence Unit's, BUSINES ENVORNMENT India ranks 10th as per its latest ranking for 2023. the report noted that ". Policy reforms are making it easier to do business in India, and we

expect major improvements in areas such as infrastructure, taxation, and trade regulation, boosting investment," Sound digital infrastructure, and favourable demographics, improvements in the country's business environment are reducing the risks

India has implemented significant reforms to improve the ease of doing business in the country. These reforms are aimed at creating a business-friendly environment, attracting investments, and promoting entrepreneurship.

Here are some key areas where reforms have been implemented:

- ❖ Simplified Business Registration: India has simplified the process of starting a business by introducing online registration platforms. Entrepreneurs can now register their businesses more easily and quickly, reducing bureaucratic hurdles.
- ❖ Single Window Clearance: The introduction of single window clearance systems streamlines the process of obtaining various licenses and permits. This centralized platform allows businesses to submit applications and receive clearances from multiple government departments, saving time and reducing administrative burden.
- ❖ Tax Reforms: The Goods and Services Tax (GST) has replaced multiple indirect taxes, unifying the tax structure across the country. This has simplified the tax compliance process for businesses and reduced the complexity of doing business in different states.
- ❖ Insolvency and Bankruptcy Code (IBC): The IBC has strengthened the legal framework for resolving insolvency cases, providing a more efficient and time-bound process for debt recovery. This has increased investor confidence and improved the ease of exiting businesses.
- ❖ Labour Reforms: Labour laws have been rationalized to provide flexibility to businesses while protecting workers' rights. The introduction of labor codes has simplified and consolidated various labor laws, promoting ease of compliance for businesses.
- ❖ Digital Initiatives: India has embraced digitalization in various sectors, including business registration, tax filings, and compliance procedures. Online platforms and digital services have made it easier for businesses to interact with government departments and complete necessary procedures remotely.
- ❖ Infrastructure Development: focusing improvement in physical infrastructure, such as roads, ports, and logistics networks, which enhances connectivity, reduces transportation costs, and facilitates the movement of goods and services across the country.
- ❖ Investor Protection: Measures have been taken to strengthen investor protection and corporate governance norms. This includes greater transparency, disclosure requirements, and enhanced mechanisms for resolving shareholder disputes.
- ❖ These ease of doing business reforms in India have resulted in significant improvements in the World Bank's Doing Business rankings. They have helped attract investments, foster entrepreneurship, and create a more conducive environment for businesses to thrive. The government continues to prioritize reforms to further enhance the ease of doing business in the country, promoting economic growth and development.

Reduction in compliance burden:

- GOI (Central Ministries, states and Uts) have decriminalised more than 3,500 provisions related to minor technical or procedural defaults (Source: Economic Survey 2022-23)

- reduced more than 39,000 compliances to foster ease of doing business as of January 17, 2023, according to the Economic Survey 2022-23.'
- New technologies will further reduce compliance burden. Monitoring of transactions, payments, labour related aspects, Supply Chain monitoring
- India has emerged as one of the most attractive destinations not only for investments but also for doing business
- Authorized Economic Operator Scheme (world Customs Organization) reduce compliance burden in trade/international trade (Exports-Imports)

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Framework to understand emerging business opportunities: key aspect to focus

It is important for specific industries and SMEs to align their operations, products, and services with the principles and targets of the SDGs.

The Sustainable Development Goals (SDGs) provide a comprehensive framework for future economic activities and model to be focused upon. SDGs encompasses a wide range of social, economic, and environmental objectives.

Renewable Energy Industry: The renewable energy industry plays a crucial role in achieving SDG 7 (Affordable and Clean Energy). By investing in and promoting renewable energy sources such as solar, wind, and hydroelectric power, this industry contributes to reducing greenhouse gas emissions, improving energy access, and promoting sustainable energy practices.

Sustainable Agriculture and Food Industry: SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production) are closely linked to the agriculture and food industry. SMEs in this sector can promote sustainable farming practices, reduce food waste, and support local and organic food production. Adopting sustainable supply chains and promoting fair trade can also contribute to SDG 8 (Decent Work and Economic Growth).

Responsible Tourism and Hospitality Industry: The tourism and hospitality industry has a significant impact on several SDGs, including SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production). SMEs in this sector can adopt sustainable practices, promote cultural preservation, support local communities, and minimize environmental impacts through responsible tourism initiatives.

Circular Economy and Waste Management Industry: SDG 12 (Responsible Consumption and Production) is directly related to the circular economy and waste management industry. SMEs can focus on reducing waste generation, recycling and reusing materials, and promoting sustainable consumption patterns. This industry contributes to resource efficiency, waste reduction, and mitigating environmental pollution.

Education and Skill Development Industry: SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth) are central to the education and skill development industry. SMEs in this sector can provide vocational training, promote lifelong learning opportunities, and support inclusive education. By equipping individuals with skills for sustainable employment, they contribute to poverty reduction and economic empowerment.

It is important for specific industries and SMEs to align their operations, products, and services with the principles and targets of the SDGs. This can be achieved by integrating sustainability into business strategies, adopting responsible practices, promoting innovation, and collaborating with stakeholders to address sustainable development challenges. By doing so, these industries and SMEs can make significant contributions to the global efforts towards achieving the SDGs and creating a more sustainable future for all.

Digital economy, Gig workers, Sharing economy, platforms, Industry 4.0.

The Fourth Industrial Revolution, characterized by the fusion of digital, physical, and biological technologies, presents both challenges and opportunities for small and medium-sized enterprises (SMEs).

Digital Transformation: SMEs need to embrace digital transformation to stay competitive in the Fourth Industrial Revolution. This involves adopting digital technologies and tools such as cloud computing, data analytics, artificial intelligence, and the Internet of Things (IoT) to streamline operations, improve efficiency, and enhance customer experiences. Embracing e-commerce and online platforms can also help SMEs reach new markets and customers.

Innovation and Agility: The Fourth Industrial Revolution emphasizes the importance of innovation and agility. SMEs should foster a culture of innovation, encouraging employees to think creatively and adapt to rapid technological advancements. By embracing new ideas, experimenting with emerging technologies, and being open to change, SMEs can stay ahead of the curve and seize new business opportunities.

Collaboration and Networking: Collaboration and networking are crucial for SMEs to thrive in the Fourth Industrial Revolution. Joining industry networks, participating in innovation ecosystems, and collaborating with larger companies, research institutions, and startups can provide access to resources, knowledge, and partnerships that enhance competitiveness and promote growth.

Talent Development and Upskilling: The Fourth Industrial Revolution demands a skilled workforce proficient in emerging technologies. SMEs should invest in talent development and upskilling programs to equip employees with the necessary digital skills. This can be achieved through training initiatives, partnerships with educational institutions, and participation in government-led skill development programs.

Cybersecurity and Data Privacy: As SMEs embrace digital technologies, cybersecurity and data privacy become paramount. SMEs need to prioritize implementing robust cybersecurity measures to protect sensitive business and customer data. Understanding and complying with relevant data privacy regulations is also crucial to maintain trust with customers and partners.

Access to Finance and Funding: SMEs often face challenges in accessing finance for technological investments and innovation. Governments and financial institutions should provide adequate support and funding mechanisms tailored to the needs of SMEs in the Fourth Industrial Revolution. This can include initiatives such as grants, loans, venture capital, and crowdfunding platforms.

By embracing digital transformation, fostering innovation, collaborating, upskilling employees, prioritizing cybersecurity, and ensuring access to finance, SMEs can leverage the Fourth Industrial Revolution to drive growth, enhance competitiveness, and create sustainable business models. Embracing these opportunities can position SMEs as key drivers of economic development and contribute to a prosperous and inclusive digital future.

Focus: Key sectors and markets

- There are significant business opportunities for youth entrepreneurs to contribute to and support the agriculture-farm economy, small and micro enterprises, and rural economy in terms of digital marketing, digital transformation, export promotion, and eCommerce facilitation:
- In E Commerce: there are lot of opportunities. Huge market. 80 percent of E Commerce is still dominated by B2B transactions and only 20 percent by B2C.
- There is a huge potential to set up local, regional and national level e commerce platforms focussing on B2C. The global e-commerce market size is reached US$ 16.6 Trillion in 2022 and its growing. According to a Deloitte India Report titled 'Future of Retail,' India's online retail market size is expected to reach US$ 325 billion by 2030, up from US$ 70 billion in 2022.
- Digital Marketing for Agriculture and Rural Products: Youth entrepreneurs can utilize digital marketing strategies to promote and market agricultural products, locally sourced goods, and handicrafts from rural areas. By creating engaging online content, leveraging social media platforms, and implementing targeted marketing campaigns, they can connect farmers and rural entrepreneurs with a wider consumer base, both domestically and internationally.
- Digital Transformation in Agriculture and Rural Businesses: Implementing digital technologies and tools in agricultural practices and rural businesses can drive efficiency, productivity, and innovation. Youth entrepreneurs can develop solutions such as farm management software, IoT-enabled devices for smart agriculture, and supply chain optimization platforms. By helping farmers and rural enterprises adopt these technologies, they can enable them to streamline operations, reduce costs, and enhance overall sustainability.
- Export Promotion for Rural Products: Youth entrepreneurs can play a crucial role in facilitating the export of rural products to international markets. They can establish export networks, provide market research and intelligence, and assist in obtaining necessary certifications and compliance requirements. By bridging the gap between rural producers and global buyers, they can unlock new market opportunities and generate economic growth for rural communities.
- eCommerce Facilitation for Rural Entrepreneurs: Building on the growing eCommerce trend, youth entrepreneurs can support rural entrepreneurs and small-scale businesses in establishing an online presence and selling their products through eCommerce platforms. This includes assisting with website development, online store setup, logistics, and payment gateways. By embracing eCommerce, rural entrepreneurs can access a wider customer base and overcome geographical limitations.

- ❖ youth entrepreneurs have a unique opportunity to contribute to the agriculture-farm economy, small and micro enterprises, and the rural economy through digital marketing, digital transformation, export promotion, and eCommerce facilitation. By harnessing these avenues, they can drive economic growth, empower rural communities, and promote sustainability in these sectors.

Opportunities in farm sector, Agro-based enterprises, AGENDA OF DOUBLING FARMER INCOME (DFI)

- Agenda of doubling farmer income (DFI) presents a significant opportunity for entrepreneurs to support farmer communities and farmer organizations.
- Dairy cooperatives in India there are close to 30 dairy Milk Cooperative Federations and close to two lakh primary dairy societies and around 2 lakh primary milk societies.
- Plans to expand this and each village having a primary agriculture society, by another 2 lakh
- FPOs/FPCs: Close to 18,000 (2023) its growing
- Agricultural Technology and Services: Entrepreneurs can develop and provide innovative agricultural technologies, tools, and services that improve productivity, reduce costs, and enhance the overall efficiency of farming operations. This can include precision farming solutions, farm management software, agricultural machinery and equipment, and access to modern irrigation systems. By offering these solutions to farmer communities, entrepreneurs can help increase agricultural productivity and ultimately contribute to doubling farmer incomes.
- Value Chain Enhancement: Entrepreneurs can focus on strengthening and enhancing the agricultural value chain. This involves establishing efficient post-harvest management systems, storage facilities, processing units, and value-added product development. By adding value to agricultural produce and reducing post-harvest losses, entrepreneurs can help farmers fetch better prices for their products, thereby increasing their incomes.
- Market Linkages and Access: Entrepreneurs can facilitate market linkages for farmers by establishing direct connections between farmers and consumers, retailers, exporters, and other stakeholders. This can involve setting up farmer cooperatives, online platforms, and distribution networks that ensure fair prices, reduce middlemen, and enable farmers to access wider markets. By bridging the gap between farmers and buyers, entrepreneurs can help farmers secure better market opportunities and improve their income potential.
- Financial Inclusion and Access to Credit. This can include microfinance, crop insurance, and credit solutions that help farmers access timely and affordable credit. By facilitating financial inclusion, entrepreneurs can empower farmers to invest in modern farming practices, purchase high-quality inputs, and enhance their overall productivity and profitability.
- Capacity Building and Skill Development: Entrepreneurs can contribute to doubling farmer incomes by offering training, capacity building, and skill development programs for farmers. These programs can focus on sustainable farming practices, advanced agricultural techniques, market intelligence, and entrepreneurship skills. By equipping farmers with the necessary knowledge and skills, entrepreneurs can enhance their income-generating capabilities and foster a culture of innovation and entrepreneurship within the farming community.
- The agenda of doubling farmer income presents a vast range of opportunities for entrepreneurs to support farmer communities and farmer organizations. By leveraging innovative solutions, market linkages, financial inclusion, and capacity building, entrepreneurs can play a pivotal role in empowering farmers, improving agricultural productivity, and achieving the goal of doubling farmer incomes.

Case 2:

HUM SHILPAKAR or We the Artisans
Facilitating ecommerce platforms for artisans and handicrafts sector

Case of HUM Shilpakar: Social Media based digital market for Artisan Entrepreneurs:

In response to the need for providing digital identity and market access to the Indian artisan community, an initiative called "HAM SHILPAKAR" was established. HAM SHILPAKAR is a social media-based platform specifically designed to help artisans connect with potential buyers and find markets for their unique products.

The Indian handloom and handicraft sector, known for its labor-intensive production methods, encompasses a wide range of high-value products such as Indian silk dresses, pottery, and handmade items crafted by talented artists and artisans. Unfortunately, over time, the manufacturers of these products have been facing challenges, leading to the disappearance of their unique creations.

Recognizing the importance of preserving and promoting these environmentally friendly, green products, HAM Shilpakar network, also known as the Artisans Network, conducted a comprehensive study. The study revealed the alarming decline in the number of manufacturers and the gradual disappearance of thousands of unique Indian products from the market.

To address this issue, HAM Shilpakar network has taken the initiative to provide a digital identity for manufacturers, cottage-based activities, potters, weavers, and handicraftsmen. By creating a dedicated platform, artisans can showcase their products, connect with potential buyers, and gain wider market access beyond their villages or panchayats.

The HAM Shilpakar platform serves as a bridge between artisans and buyers, enabling them to discover and engage with a diverse range of Indian handicrafts and handmade products. Through social media tools and features, artisans can share their stories, highlight their unique skills, and attract the attention of buyers who appreciate the beauty and craftsmanship of these products.

By leveraging technology and social media platforms, HAM Shilpakar network aims to revive the market presence of Indian artisans and their distinctive creations. The initiative not only promotes economic empowerment for artisans but also fosters the preservation of traditional craftsmanship, cultural heritage, and environmentally friendly practices.

The HAM SHILPAKAR initiative, conducted by the Artisans Network, focuses on providing a digital identity and market access for Indian artisans. By utilizing a social media-based platform, this initiative aims to revive the disappearing manufacturers and their unique, environmentally friendly products, fostering economic empowerment and preserving the rich cultural heritage of India's artisan community.

List of business ideas and entrepreneurial for youth:

1. E-commerce platforms that focus on artisan products
2. Support rural agro-businesses, farming community in terms of technology adoption:
3. Set up agro-tech-smart farming companies
4. Rural Green Energy services like: Solar installation and maintenance
5. Exporting these products

6. Facilitating exports

7. Helping farmers, Small industrial, cottage industries, artisans set up E-Commerce stores and sell online on various platforms

8. Digital marketing, brand building, social media presence

9. Provide business support services of various kinds such business registration, Tax and compliance services; Information- Market data, market research

10. Financial sector services for SMEs, Farming sector: Finance facilitation: arranging loans, insurance etc (crop insurance)

Exercise for Project Progress Challenge: Elevate Your Entrepreneurial Skills

1. In what ways can you intervene or take action within these contexts?

2. Could you explore the possibility of establishing a business that provides services to SMEs or farmers?

3. Please identify farmers who are in need of fair prices for their products? What strategies can you employ to address this issue and develop a viable business model?

4. Are there any specific handicrafts or traditional artisan businesses that are currently facing the threat of extinction? If so, how can you identify them and what measures can be taken to support and preserve them?

5. Can you formulate a business plan that focuses on revitalizing these businesses and promoting their products in the global market?

6. Work out a plan to facilitate export products of SMEs or Farmers?

7 Prepare a business plan in an area of your choice?

To conclude:

In conclusion, the journey of India's economy and entrepreneurial landscape has been marked by resilience, transformation, and a commitment to self-reliance. From the rich heritage of cottage industries to the challenges faced during the License Raj, the Indian economy has witnessed significant shifts. The reforms of 1991, ushering in liberalization, privatization, and globalization, acted as a catalyst for change, opening doors to new opportunities and economic growth.

The success stories, such as Leela's venture into organic dairy farming and the HAM Shilpakar network's digital platform for artisans, exemplify the transformative power of entrepreneurship. These stories highlight the impact of economic reforms, technological advancements, and the focus on sustainable development.

The efforts in the direction of making doing business climate more conducive through simplified registration processes to tax reforms and infrastructure development, further contribute to India's attractiveness for investment and entrepreneurship. The alignment with Sustainable Development Goals (SDGs) emphasizes the importance of responsible business practices and environmental sustainability, reinforcing India's commitment to global development.

Looking ahead, the Fourth Industrial Revolution presents both challenges and opportunities for small and medium-sized enterprises (SMEs). Digital transformation, innovation, collaboration, and upskilling are identified as key strategies for SMEs to navigate this new era successfully. The focus on sectors such as

agriculture, digital marketing, and eCommerce provides a roadmap for youth entrepreneurs to contribute to rural development and the well-being of farmers.

The agenda of doubling farmer income not only addresses the financial aspect but also emphasizes the need for value chain enhancement, market linkages, and capacity building. Realizing the potential of these opportunities requires a concerted effort from entrepreneurs, policymakers, and society at large.

In essence, India's business landscape has evolved into a vibrant ecosystem of opportunities, driven by a spirit of innovation, resilience, and a commitment to inclusive growth. The narrative of India's economic journey is no longer confined to reforms; it symbolizes a revolution that propels the nation forward, transforming challenges into opportunities and shaping a future where entrepreneurship plays a pivotal role in realizing the country's full potential.

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Winter in Petz Samu Garden in Budapest

Photos © by Antal Szabó

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INTERNATIONAL ENTREPRENEURSHIP OF FAMILY FIRMS FROM CENTRAL EUROPE: THE EXAMPLE OF POLAND

1. INTRODUCTION

Family businesses (also family firms or family enterprises) play a crucial role in both developed and developing economies by generating new jobs, added value and social stability as well as contributing to economic growth (Bednarz et al., 2017; Kraus et al., 2012; Peters and Kallmuenzer, 2018; Surdej and Wach, 2011). More recently, Arregle et al. (2021, p. 1159) noted that "family firms dominate the business landscape". According to the EU statistics, over 85 percent of European companies are family businesses, responsible for 60 percent of jobs in the private sector (Costa, 2021). Family ownership impacts various dimensions of business, such as performance (Pacheco, 2019; Agbim, 2020), strategy (Marjański and Sułkowski, 2021), and consumer's trust (Nikodemska-Wołowik et al., 2020) or recently the Covid-19 pandemic (Kraus et al., 2020). Family business as a research field is very diverse and growing (Xi et al., 2015). Based on their in-depth bibliometrics, Rovelli et al. (2021) observe that family businesses' internationalization has so far been disregarded in the literature in general compared to other popular topics. Nonetheless, the importance of family businesses in the international market is constantly growing (Wach, 2017; Wąsowska, 2017; Daszkiewicz, 2019). Moreover, it is assumed that large multinational family corporations will develop the fastest globally (The Economist, 2015). There is apparent growing interest in the research on the development of family businesses and their internationalization, as prior studies are incomplete and fragmented (Arregle et al., 2021). Many authors postulate the process approach to evolving family businesses and their internationalization (Langley et al., 2013; Reuber, 2016; Metsola et al., 2020).

What is more, the overwhelming majority of research on the internationalization of family businesses focused on Western Europe and/or are embedded in general entrepreneurship theoretical concepts (agency theory, stewardship theory, etc.). The above approaches give an essential insight into the understanding of the internationalization of the family firms but do not fully explain this phenomenon. Meanwhile, the fundamental source of knowledge about internationalization is international business theories (traditional or classic and alternative ones, e.g., international entrepreneurship) (Wach, 2021). These two observations inspired us to take up the topic of the internationalization of family businesses in Poland.

There is an evident gap in research on family businesses from the international business perspective (De Massis et al., 2018; Arregle et al., 2021). Additionally, countries of Central and Eastern Europe are latecomers to international business due to their historical heritage of centrally planned economies and the economic transformation, thus, it is interesting to show how the processes of internationalization of family firms occurred in Poland, as the largest economy in Central Europe. So there is a visible research gap.

The first studies on the internationalization of family businesses appeared in the early 1990s. Meanwhile, the actual internationalization of all Polish companies began in the middle of that period, which resulted from historical and political conditions. In fact, companies from Poland started the process of internationalization

after the political transformation, which significantly determined their effectiveness and specific conditions of competition with other companies in the international arena. Moreover, in the period before the transformation, private entrepreneurship was minimal in Poland and was usually limited to artisanal family-run microenterprises. Currently, it is estimated that in Poland, family businesses constitute from 35 percent (conservative estimates) to about 70–80 percent (optimistic estimates) of the total number of Polish firms (Surdej and Wach, 2011, p. 5). Therefore, it is intriguing to investigate the internationalization patterns of family firms from Poland. The inter- nationalization patterns include such behaviors as the speed, the scope, and the scale of internationalization (Glodowska et al., 2019). Our study answers the following research question:

RQ: What are the patterns of international entrepreneurship of family firms from Poland?

Studies on the internationalization of firms (international business) are diversified and rich in various theoretical perspectives. The classic theories (a traditional path or incremental internationalization) include stages models, resource-based view, and strategic perspective (Hutschenreuter et al., 2009; Wach, 2015; Glodowska et al., 2022). The latest or alternative theories include the network perspective, international entrepreneurship and integrated models (Melén and Nordman, 2009; Wach, 2016; Maciejewski et al., 2022). International entrepreneurship is a relatively new research stream within international business. Its genesis dates back to 1988; however, the seminal paper was published in 1994 by Oviatt and McDougall. It applies the various aspects of entrepreneurship to international business research, and sometimes it is referred to as entrepreneurial internationalization. It explores the internationalization of new ventures or startups, the development of new markets, risk-taking internationalization, innovation in the internationalization process, international entrepreneurial orientation, recognizing international opportunities, or internationalization of family firms. This study deals with the internationalization of family firms through the selected aspects of international entrepreneurship (e.g., rapid internationalization

The chapter is divided into three main parts. It starts with a general overview of the extant literature on the internationalization of family firms. This is followed by a description of the research methodology we applied in our two surveys in 2014 and 2018. We apply the process-based approach from a dynamic perspective (2014, 2018). The chapter ends with the empirical findings and their discussion. We will show the results of our empirical surveys conducted in two different periods on two different research samples.

2. LITERATURE REVIEW ON INTERNATIONAL ENTREPRENEURSHIP OF FAMILY FIRMS

Research on the internationalization of family businesses is a relatively young area of scientific exploration. The first publications on this subject appeared at the beginning of the 1990s (Donckels and Fröhlich, 1991; Gallo and Sveen, 1991; Gallo and Estape, 1992; Gallo and Pont, 1996). However, greater interest in the internationalization of family businesses has been visible for only just over ten years (Fernández and Nieto, 2006; Casillas et al., 2008; Kontinen and Ojala, 2011; Pukall and Calabro, 2014). The literature review showed that the issue of "familiness" in internationalization is very heterogeneous and inconsistent, underlying the specific features of family enterprises that allow them to be differentiated from non-family firms. Family businesses have particular attributes, such as emotions, social relations, risk aversion, long-term orientation, and intergenerational succession, which characteristically determine the logic of running an international business (Hadryś-Nowak, 2018a; 2020). The com- bination of financial and tangible capital invested in the enterprise by the family and the involvement of family members makes family businesses unique (Daszkiewicz, 2019). This uniqueness and the growing role of family businesses in the international arena inspire in-depth

research on the internationalization of companies from various geographical areas (Alayo et al., 2020). The more so as many researchers note that "familiness" can have both a positive and negative impact on their international effectiveness (Wąsowska, 2017).

Attempts have been made to examine the process of internationalization of family businesses using a wide range of theories in the domain of entrepreneurship: resource-based view, agency theory, stewardship theory, social capital, resource dependency theory, and behavioral theory (De Massis et al., 2015; De Massis et al., 2018; Kraus et al., 2011). Relatively few studies explain the internationalization process of family businesses in the international business mainstream, including internationalization theory, the Uppsala model, knowledge-based theory, network theory, or international entrepreneurship (Arregle et al., 2012). Meanwhile, it is the classic (traditional) and alternative theories of international business that most comprehensively explain the mechanisms, motives, patterns and models of internationalization of family businesses (Verbeke, 2013; Wach, 2015; Wach, 2021). The division of the international business domain into the classic (traditional) and alternative theories in the literature is illustrated in Figure 16.1. The classic (traditional) approach is A, B and C types, and the alternative ones are a new type of internationalization or extensions and modifications of types A, B and C, shown in Figure 16.1 as types 2, 3 and 4 (Hutschenreuter et al., 2009; Wach, 2015).

In the case of family firms, the internationalization motives explained within the international business domain (access to market and/or resources, knowledge, and technology, cost reduction, environmental push and pull factors) are supplemented with family-centric, non-economic motives (trustworthy, reputation, socio-emotional welfare, succession). This makes the internationalization process of family firms even more complex and interesting (Kano and Verbeke, 2018; Hadryś-Nowak, 2018a).

Previous studies on the internationalization of the family firms do not provide unequivocal results as to the role of "familiness" for various aspects of internationalization (e.g., pace/rhythm, entry modes, speed, scale, and scope) (Arregle et al., 2021). However, these studies confirm that we cannot ignore specific and evident trends in the internationalization of family businesses that can be translated into some general patterns of these companies (Wach, 2017; Chirico et al., 2020; Metsola et al., 2020). Most studies on the internationalization of family businesses show that they more often follow the traditional path of internationalization, consistent with the incremental model. This means that they initiate internationalization in closer markets, keeping a short cultural and geographical distance. They also prefer the primary forms of entering foreign markets, characteristic of the initial stages in the Uppsala model (Pukall and Calabro, 2014; Hadryś-Nowak, 2018b; Arregle et al., 2012).

Daszkiewicz and Wach (2014), while researching Polish companies, noticed the active attitude of family businesses toward foreign markets. The primary motivation for the internationalization of these companies was search for the market (market seeking). However, these companies did not engage in advanced entry modes into foreign markets. According to the authors, this was much more visible compared to non-family businesses. Similarly, Kryeziu et al. (2021) also proved that family businesses from transition economies internationalize gradually through an incremental learning process. This process contributes to building relationships and network connections and a structure that allows these companies to improve quality and competitiveness in foreign markets. In addition, it should also be noted that family businesses finance their activities primarily from family sources, and therefore it is essential for them to control their undertakings. Consequently, they do not want foreign ventures that would limit their control. For this reason, they will engage in less capital-intensive forms of expansion into foreign markets (Casillas et al., 2010; Metsola et al., 2020). Zaefarian et al. (2016), in turn, believe that it is related to the random and unintentional identification of opportunities without strategic involvement and the use of network connections. Accordingly, exporting seems to be the most common form of starting internationalization for family businesses. It allows for two research hypotheses:

H1: Family businesses from Poland internationalize rather according to the traditional-incremental internationalization model (stages models).

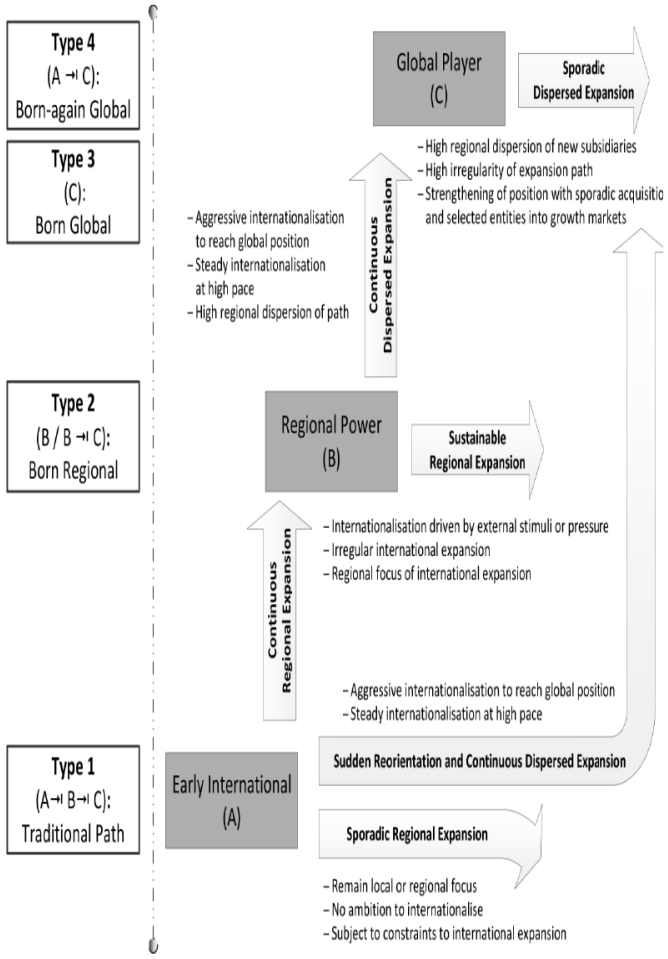

Figure 1. Paths of internationalization of the firms

H2: Family firms from Poland internationalize rather onto closer markets in accordance with the principle of a short cultural and geographical distance.

Recently empirical research provides evidence that family businesses also undertake other forms of internationalization and implement more dynamic, fast and early internationalization models in line with the theory of entrepreneurial international- ization (Metsola et al., 2020; Arregle et al., 2021) (see also Figure 16.1). Metsola et al. (2020), based on a review of several hundred articles, built their model of the internationalization process of family businesses, in which they established four development paths: (1) the path of sporadic internationalization; (2) the path of staged internationalization; (3) the born globals path; and (4) the born-again globals path (see also Wach, 2014, who apart from the previously mentioned paths, identified one more path: born regional). Metsola et al. (2020) based this distinction on two fundamental assumptions regarding liabilities and capabilities. Liabilities are mainly related to family life's direct and indirect effects (socio-emotional wealth protection, risk aversion, conservative and centralized decision-making, conflicts of interest, and a lack of resources, human capital, and creativity). This factor determines the first two models of internationalization of family businesses. In turn, the capabilities that drive the internationalization of family born globals and born-again globals are related to the involvement of a new generation of owners in management, net- working, human resource development, building social capital, and drawing on the long-term orientation of family businesses (Metsola et al., 2020). Therefore, it turns out that the rapid and early internationalization of family businesses is also observed. However, other determinants and motivators of this internationalization are identified. The literature, especially in international entrepreneurship, suggests that family firms record fast growth caused by new generations of entrepreneurs – the successors (Graves and Thomas, 2008; Meneses et al., 2014). The above allows us to assume that the speed of internationalization of family firms does not necessarily have to be slower than that of non-family firms. Therefore, we hypothesize that:

H3: The speed of the internationalization (measured in years) is the same for family and non-family firms in Poland.

The basis for the foundation of H3 shows new aspects of the importance of owner- ship and control over the internationalization process. The international attitude of the entrepreneur impacts the internationalization process (Wach and Glodowska, 2021), similarly, the entrepreneur-owner of the family company influences the level of internationalization (Daszkiewicz and Olczyk, 2015). Wach (2017), in his research, confirmed that the most internationalized family businesses were managed by owners – successors with a global mindset, and vice versa, the least internationalized family businesses with the lowest level of global thinking. Sestu and Majocchi (2020) also noted that fully family-controlled family businesses are less internationalized than family businesses, allowing family-based managers to undertake the decision-making process. Family businesses tend to maintain their socio-emotional wealth and are therefore reluctant to engage in international ventures requiring diversification of control and management. This also applies to more engaged investment forms in foreign markets (Boers, 2016). Alessandri et al. (2018) believe that greater involvement in foreign markets reduces ownership control.

The same is shown by Metsola et al. (2020) in their model of four paths of inter- nationalization of family businesses. They state that family control and centralization of decisions are typical of sporadic and staged internationalization. This generally means that it slows down the internationalization process of family businesses. The authors believe that the effective internationalization of family businesses should be based on eliminating liabilities in favor of developing capabilities. The involvement of family businesses in foreign markets depends on the ownership structure and family involvement in the decision-making process (control

over internationalization). In this context, one can also consider the contribution of foreign capital to the ownership structures of family firms. According to previous studies, ownership structure can be a factor affecting and stimulating firms' internationalization, especially related to the foreign versus domestic ownership structure (Anil et al., 2014; Larimo and Arslan, 2013; Wach, 2017; Pacheco et al., 2022). According to Koji et al. (2020), foreign investors can improve the performance of family firms. This is not only about financial contribution but transfer of knowledge, innovation, and management insight from foreign firms. Foreign investors contribute to a better understanding of the foreign market through access to business networks and, consequently, more effective communication with local entities in the foreign market (Calabrò et al., 2013). Wąsowska (2017) also confirmed the role of foreign capital in the internationalization of family firms. She noted that the impact of minority foreign ownership is more pronounced than the controlling foreign ownership. What is more, foreign shareholders are more effective in strategy formulation to adapt the family firm to the current international market environment and can be perceived as a filter in the recruitment process of talented managers and staff who are valuable to the company and who are free from family connections (Koji et al., 2020). Taking the above into account, we assume the following two hypotheses:

H4: Family firms from Poland with a diversified ownership structure (foreign capital) achieve a greater scale of internationalization (measured by TNI) than family firms fully-controlled by domestic ownership.

H5: Family firms from Poland with a diversified ownership structure (foreign capital) internationalize faster than family firms fully controlled by domestic ownership.

3. RESEARCH METHODOLOGY

We applied the quantitative research design for both studies in 2014 and 2018, as one of the possibilities that best suits the studied problem. This was mainly due to the lack of availability of data on family firms' internationalization. Thus, we decided to use our own survey, which can be considered a novelty of this chapter based on the unique data.

Table 1. Structure of the survey sample in 2014 and 2018 (in number of businesses)

Size of the firm	2014			2018		
	Non-family	Family	Total	Non-family	Family	Total
Micro	18	22	40 21%	26	24	50 14%
Small	20	26	46 24%	85	68	153 43%
Medium	35	24	59 31%	54	52	106 29%
Large	36	9	45 24%	30	16	46 13%
Total	109 57%	81 43%	190 100%	195 55%	160 45%	355 100%

Source: Own elaboration based on survey results.

Both surveys (in 2014 and in 2018) were dedicated only to internationalized businesses from Poland, being from various regions and industries, as well as of various sizes. Like the general population, the research samples also include both family and non-family firms on a random basis. This meant we could find the actual share of internationalized family firms.

The survey sample consists of 190 companies in 2014[1] and 355 companies in 2018[2] (Table 1). The survey in 2014 was conducted using the Computer Assisted Web Interviewing (CAWI) technique, while the one in 2018 used the Computer Assisted Telephone Interviewing (CATI) technique. The sample includes only inter- nationalized companies; the first question asked in the questionnaire was about any international activities and only exporting firms were accepted to the survey. The surveyed group of enterprises includes micro (21.1 % in 2014 and 14.1 % in 2018), small (24.2 % and 43.1 % respectively), medium (31.1 % and 29.9 % respectively) and large (23.7 % and 13.0 % respectively) companies. These businesses include both family businesses (42.6 % in 2014 and 45.1 % in 2018) and non-family businesses (57.4 % and 54.9 % respectively). Based on the random criteria, the share of family businesses in the research samples (2014 vs. 2018) is very similar. This supports the statement that about 55 % of Polish internationalized businesses are family firms. In the survey questionnaire, we used a very simple solution: the declaration of respondents on their family firm status ("Is your firm a family firm? For the purpose of this questionnaire, a family firm/family business is defined broadly. These are firms which are largely owned by the same family and which employ or at least are supported by family members"). For the purpose of this chapter, for the statistical analysis, we selected only family firms, as the research sample was larger.

Table 2. Used variables in statistical calculations

Full name	Measures	Scale
Transnationality index (TNI)	Average of the share of foreign assets in total company assets, the share of foreign sales in total company sales and the share of foreign employment in total company employment	Scale from 1 to 100
Foreign ownership	The percentage of foreign ownership in company assets	4 categories: Domestic (0%), Minor foreign (1–50%), Major foreign (51–99%), Foreign (100%)
International speed	The speed with which the company starts its international activities	2 categories: Early (within 3 years), Slow (more than 3 years)

Size of firms	Average annual employment size	4 categories: Micro (less than 10), Small (less than 50), Medium (less than 250), Large (250 and more)

Source: Own elaboration.

4. EMPIRICAL RESULTS

4.1 Internationalization Scope

The scope of internationalization is usually measured by the number of countries the firm operates in (Głodowska et al., 2019). It indicates the territorial concentration and diversification of the firm's international activities (Zahra and George, 2005), and thus it can also be expressed by other indicators.

Internationalized family firms from Poland operate mainly both in the EU and outside at the same time (about two-thirds of the investigated firms); the Chi-square test of independence showed a statistically significant relationship for 2014 between a territorial scope and whether the company is family or non-family ($Chi^2 = 5.369$, df

= 1, p = 0.021). An odds ratio of 2.08 indicates that the chance of being active also outside EU markets (not only in the EU) is more than twice as high for non-family firms as for family firms (Table 16.3). Declared responses from the 2018 survey show that this link is no longer statistically significant ($Chi^2 = 1.31$, df = 2, p = 0.52), suggesting a blurring of the difference in this respect between family and non-family firms.

The size of family firms has a statistically significant effect on their territorial scope, both in 2014 ($Chi^2 = 8.400$, df = 3, p = 0.029) and 2018 ($Chi^2 = 13.851$, df = 6, p = 0.0313). The odds quotient indicates that as the size of family firms increases, their propensity to be active also outside the EU increases. Meanwhile, small internationalized family firms are primarily active only in EU markets (Table 16.4).

The empirical statistical calculations (p = 0.029) confirm the hypothesis H2 that family firms from Poland prefer closer countries for their internationalization, that is, EU markets, for which there is no psychic distance (cultural and geographical distance). Nevertheless, the empirical results cannot be absolutized

Table 3. Territorial scope of non-family and family firms in 2014 and 2018

Scope of internationalization	2014			2018		
	Non-family	Family	Total	Non-family	Family	Total
Within and beyond the EU markets	83 76%	49 60%	132 70 %	151 60%	116 72%	267 75 %
Within the EU markets	26 24%	32 40%	58 30 %	41 39%	40 27%	81 23%

Only beyond the EU markets	0 0%	0 0%	0 0%	3 1%	4 1%	7 2%
Total	109 100%	81 100%	190 100%	195 100%	160 100%	355 100%

Source: Own elaboration.

Table 4Territorial scope and size of family firms in 2014 and 2018

Scope of internationalization	Micro	Small	Medium	Large	Total
2014					
Within and beyond the EU markets	11	12	18	8	49
Within the EU markets	11	14	6	1	32
Only beyond the EU markets	0	0	0	0	0
Total	22	26	24	9	81
2018					
Within and beyond the EU markets	12	49	43	12	116
Within the EU markets	10	19	7	4	40
Only beyond the EU markets	2	0	2	0	4
Total	24	68	52	16	160

Source: Own elaboration.

Most empirical studies observed that family firms are less internationalized than non-family firms, also in Poland (Daszkiewicz, 2019). There are also some studies showing the opposite trend. For example, Popczyk (2013) observed that family firms listed in the alternative stock exchange in Poland are more internationalized.

4.2 Internationalization Speed and Internationalization Scale

The speed of internationalization or the pace of internationalization tells us how quickly the firm goes international (Zahra and George, 2005). It is measured by the number of years from the firm's inception to its first internationalization. The discovery of rapid or accelerated internationalization, which is the genesis of international entrepreneurship research, revolutionized international business research. It reveals that born globals are an important part of the modern economy (Maciejewski and Wach, 2019), including family born globals (Wach, 2014).

The scale of internationalization can be defined as the "extent" of internationalization, the "degree" of internationalization, or the level of internationalization (Zahra and George, 2005; Głodowska et al., 2019). Usually, it is expressed as the share of sales to foreign markets to total sales (Głodowska et al., 2019). The literature offers various complex measures such as transnationality index (TNI), degree of internationalization (DOI), internationalization index (II), and SME index of globalization developed by the OECD. We decided to use TNI as it is very universal, being able to be applied to both SMEs and

transnational corporations. What is more, it checks various dimensions of internationalization (sales, employment, assets).

Table 5. International speed and TNI vs. foreign ownership of family firms in 2014 and 2018

Speed and degree of internationalization	Domestic (0%)	Minor foreign (1–50%)	Major foreign (51–99%)	Foreign (100%)	Total
International speed: 2014					
Early (up to 3 years)	33	4	2	3	42
Slow (more than 3 years)	27	8	2	2	39
Total	60	12	4	5	81
International speed: 2018					
Early (up to 3 years)	66	7	3	16	92
Slow (more than 3 years)	59	4	3	2	68
Total	125	11	6	18	160
TNI (transnationality index): 2014					
Very low (1–25%)	49	10	3	3	65
Rather low (26–50%)	10	2	1	0	13
Rather high (51–75%)	1	0	0	2	3
Total	60	12	4	5	81
TNI (transnationality index): 2018					
Very low (1–25%)	95	4	2	2	103
Rather low (26–50%)	29	7	1	6	43
Rather high (51–75%)	0	0	1	10	11
Very high (76–100%)	1	0	2	0	3
Total	125	11	6	18	160

Source: Own elaboration.

The investigated family firms internationalize faster than non-family businesses (t

= 2.1, df = 342, p = 0.03). The average pace of internationalization of family enter- prises is 4.6 years, while for non-family businesses it is 8.1 years on average (Wach, 2015). The results prove the hypothesis H3.

Foreign ownership also affects international speed of family firms (2018: $Chi^2 = 8.695$, df = 3, p = 0.033) and the firm's level of internationalization (TNI) of family firms (2014: $Chi^2 = 20.368$, df = 6, p = 0.002; 2018: $Chi^2 = 124.682$, df = 9, p = 0.000) (See Table .5).

The odds quotient indicates that the greater the share of foreign capital in the ownership structure of family firms, the greater the propensity of these firms to inter- nationalize rapidly being born globals (H4) and the higher the level of internationalization measured by TNI (H5). These statistical calculations confirm the hypotheses H4 and H5; however, the empirical results cannot be absolutized.

4.3 International Entry Modes

There are various ways or forms that firms can use to enter a foreign market. Usually, these entry modes are divided into three groups such as: (1) exporting modes including indirect exporting, direct exporting, and cooperative exporting; (2) contractual modes, including various cooperative operations (e.g. franchising, assembly operations, subcontracting); and (3) investment modes, including foreign branches and subsidiaries (FDI). International entry modes are one of the most investigated research areas for family firms (Arregle et al., 2021; Pongelli et al., 2016; Kao and Kuo, 2017; Stieg et al., 2017).

For the 2018 survey data, the Chi-square test of independence ($Chi^2 = 4.826$, df= 2, p = 0.089) and the odds ratio analysis showed that family firms are less likely than non-family firms to use indirect exporting as a form of foreign market activity (Table 6).

The size of family firms influences the exporting mode they choose (2018: $Chi^2 = 18.375$, p = 0.012). The smaller family firms are, the more inclined they are to choose direct exporting, which allows them to maintain control and close ties with trading partners (Table 7).

The size of family firms also proved to be statistically significant for the investment activity of family firms in foreign markets. This is true for both 2014 ($Chi^2 = 22.393$, df = 12, p = 0.0334) and 2018 ($Chi^2 = 20.441$, df = 12, p = 0.059) data.

The details of the choice of form of foreign investment are difficult to assess, given that there are very few family firms investing abroad. However, the odds quotient indicates that as the size of the family firm increases, its propensity to invest abroad increases (Table 16.7).

The size of the share of foreign capital in family firms has a statistically significant effect on the forms of their internationalization. This applies to both the choice of exporting mode (2018: $Chi^2 = 12.4001$, df = 6, p = 0.053) and investment mode (2014: $Chi^2 = 49.380$, df = 12, p = 0.000).

The higher the share of foreign capital, the lower the propensity of family firms to use direct exporting in the internationalization process. The share of foreign capital also has a stimulating effect on the decision to invest in foreign markets (Table 16.8). Generally, our empirical results align with previous research for much more developed economies of Western Europe and North America. Various researchers such as Casillas et al. (2010) or more recently Metsola et al. (2020) proved that family firms use less capital-intensive entry modes. What is more, Zaefarian et al. (2016) noticed that exporting is the most common form of international expansion among family firms. Kontinen and Ojala (2011) observed that family involvement in management might cause cautiousness in the internationalization process of family businesses.

Our empirical results are in line with Fernandez and Nieto (2006) as well as Cerrato and Piva (2012). In contrast, Zahra (2003) proved the positive impact of familiness of a firm on its internationalization scale (a research sample of 409 American manufacturing firms). Nonetheless, various researchers showed that such a relation is not absolute (Sciascia et al., 2012).

Table 6. Forms of exporting of non-family and family firms in 2014 and 2018

Forms of export	2014			2018		
	non-family	family	total	non-family	family	total
Indirect exporting	24	14	38	96	64	160
Other forms of exporting	75	60	135	93	85	178
No export	10	7	17	6	11	17
Total	109	81	190	195	160	355

Source: Own elaboration

Table 7. Forms of exporting and direct investment vs. size of family firms in 2014 and 2018

Forms of exporting and foreign investment	Micro	Small	Medium	Large	Total
Forms of exporting: 2014					
Direct exporting	17	22	23	8	70
Other forms of exporting	2	2	0	0	4
No export	3	2	1	1	7
Total	22	26	24	9	81
Forms of exporting: 2018					
Direct exporting	18	65	51	12	146
Other forms of exporting	1	1	0	1	3
No export	5	2	1	3	11
Total	24	68	52	16	160
Forms of foreign investments: 2014					
No investment	18	24	18	4	64
Foreign branch	2	0	3	1	6
Joint venture subsidiary	2	0	1	0	3
Wholly owned subsidiary	0	2	1	3	6
More than one	0	0	1	1	2
Total	22	26	24	9	81
Forms of foreign investments: 2018					
No investment	23	61	45	9	138
Foreign branch	0	2	3	2	7
Joint venture subsidiary	1	3	1	1	6
Wholly owned subsidiary	0	1	1	1	3
More than one	0	1	2	3	6
Total	24	52	68	16	160

Source: Own elaboration.

4.4 International Strategy

It seems that there is no difference between family and non-family firms concerning their international strategy. In general, one out of four businesses has its own formal strategy of internationalization. There is no statistical significance for calculations comparing family and non-family firms regarding internationalization. The extant empirical research results show that micro and small firms are lagging behind medium-sized and large firms, making it obvious that the larger the firm is, the more strategic thinking is implemented. Similarly, in the research sample, the size of the firm, in general, determines whether it has its own international strategy (2014: $Chi^2 = 25.9405$, $df = 6$, $p = 0.000$). What is more, the results show that almost one out of two large firms have an international strategy.

Only one-fifth of investigated family firms have a formal strategy for internationalization (18 % in 2014, compared with 21 % in 2018). The Chi-square test of independence and odds ratio analysis also showed that an increase in the size of family firms is a driver for the creation of internationalization strategies (2018: $Chi^2 = 16.047$, $df = 9$, $p = 0.066$). Larger family firms, therefore, internationalize according to a preconceived plan based on their resources and competencies (Table 16.9).

The empirical results prove that the size of the firm, but not the familiness (family vs. non-family firms), determines if the firm realizes its intended strategy.

We decided to ask family firms which of the four basic strategic approaches they use while going international. We allowed the investigated firms to select one of four options, namely: (1) one entry mode; (2) internationalization stages; (3) born region- als – early and fast internationalization within the neighbouring countries; and (4) born globals – early and fast internationalization in the globe. The statistical calculations ($Chi^2 = 14.5950$ $dr = 3$, $p = 0.002$) prove that there is a dependence between the applied strategies and the family and non-family firms (Wach, 2014). The traditional internationalization path is the most popular among family businesses, while born regionals and born globals are more often found among non-family businesses.

The empirical results prove the hypothesis H1 that family businesses from Poland internationalize according to the traditional – incremental internationalization path.

Our results are in line with Kontinen and Ojala (2011), who observe that family businesses are more likely to take a traditional internationalization path. These researchers reviewed various empirical findings concerning the internationalization process of family firms and found evidence that family businesses' internationalization process is gradual, consistent with the internationalization process described in the Uppsala model. Moreover, family businesses tend to choose psychically close countries and rather indirect than direct entry modes. In the foreign direct investment process, their behavior is less formal than in the case of non-family businesses. Very recently, Kryeziu et al. (2021) confirmed that family firms from transition economies internationalize gradually through an incremental learning process, which is in line with our empirical results.

Table 9 Internationalization strategy and the size of family firms in 2014 and 2018

Strategy for internationalization	Micro	Small	Medium	Large	Total
2014					
Formalized strategy	3	5	3	4	15 (18%)
Not formalized strategy	13	13	14	4	44 (54%)
No strategy	6	8	7	1	22 (28%)
Total	22	26	24	9	81 (100%)
2018					
Formalized strategy	1	12	12	8	33 (21%)
Not formalized strategy	8	17	19	3	47 (29%)
No strategy	15	39	21	5	80 (50%)
Total	**24**	**68**	**52**	**16**	**160 (100%)**

Source: Own elaboration.

5.CONCLUSIONS

For over two decades, researchers worldwide have been trying to explain the inter- national aspects of the family business (Kontinen and Ojala, 2011). Various scholars have provided mixed evidence on how different factors facilitate or constrain the internationalization process of family businesses (Arregle et al., 2012; Zahra, 2003; Sciascia et al., 2012).

Based on our empirical results from 2014 and 2018 among family businesses located in Poland we can draw the following conclusions:

- Family firms from Poland prefer to internationalize incrementally in stages, so they have a more traditional path towards internationalization than non-family businesses. The family born globals are not found as often in the population as among non-family firms.
- Family firms from Poland prefer to operate in closer markets rather than in distant markets. They most often select other markets within the European Union; however, they also operate in non-EU neighbouring countries (e.g., Ukraine, Belarus, Russia).
- Exporting is the dominant international entry mode for family firms registered in Poland. Smaller family firms from Poland prefer direct exporting, which is contrary to the previous international research results. The smaller the family firm from Poland is, the more it prefers direct exporting than diversified exporting forms.
- Foreign capital in family firms from Poland stimulates a greater scale of inter- nationalization, the speed of internationalization and to use more advanced international entry modes (investment modes). Family firms with a large share of domestic capital prefer more direct exporting than diversified exporting forms.
- Being a family firm or non-family firm does not determine the type of internationalization strategy prepared and implemented; rather it mainly depends on the size of the firm, regardless of the familiness of these businesses located in Poland.

A research limitation is the lack of data to conduct research in the long term according to the longitudinal perspective that is recommended today due to the use of more advanced and sophisticated statistical tools.

It would be worthwhile to focus on comparative research. On one hand, it is worth comparing family firms from Poland with other latecomers (especially from Central and Eastern Europe) to see if there are any

common internationalization patterns for such family firms. On the other hand, it is also worth comparing the internationalization patterns of latecomers with other family firms, for example from Western Europe. There is no doubt that digitalization has a significant impact on changes in internationalization patterns for Polish family firms, especially the post-pandemic. It is estimated that there is a generational change in the ownership of family firms in Poland (e.g., now the original owners are passing on their firms to a younger generation), which will have a significant impact on the internationalization patterns of Polish family firms in many respects.

There is a need for in-depth, both quantitative and qualitative, research on the internationalization of family firms based on theories of international business or, more narrowly, international entrepreneurship. It is essential to focus on the heterogeneity of family firms (in management, strategies, individual characteristics of the entrepreneur, firm structure, etc.). There is a lack of contemporary research on macroeconomic factors determining the internationalization of family firms.

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Christmas tree
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ENTREPRENEURIAL IMPLEMENTATION INTENTIONS AMONG BULGARIAN STEM STUDENTS: FACILITATORS AND CONSTRAINTS [1]

ABSTRACT

Despite the important role of entrepreneurial implementation intentions for closing the intention-behaviour gap, empirical evidence on their drivers and mechanisms is scant and inconclusive. In the case of college students' technology-driven entrepreneurship, the objective of the present study is to examine whether implementation intentions are contingent on the university environment in which the progression from entrepreneurial intentions to subsequent actions unfolds. The sample for this study is composed of 299 Bulgarian STEM students, who reported technology-based entrepreneurial intentions. A binary logistic regression is applied to examine four specific mechanisms that facilitate or impede the students' actual implementation intentions. Findings suggest that students enrolled in universities that provide greater concept development support are more likely to have formed specific implementation intentions, while students in more research- intensive universities are less likely to do so. Practitioner implications and recommendations for future research are provided.

Keywords: Technology-based entrepreneurship; implementation intentions; concept development support; research-intensive universities; STEM students; Bulgaria

JEL Classification: O15

1. INTRODUCTION

The literature on entrepreneurial intentions has increased significantly during the last decades. The premise of this literature is that entrepreneurial intentions are a good predictor of subsequent entrepreneurial action and that intentions can pro- vide an understanding of entrepreneurial behaviour without witnessing it. Thus, models of

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intentions and their antecedents are useful frameworks for studying entrepreneurial behaviour (Krueger & Carsrud, 1993; Krueger, Reilly, & Carsrud, 2000). However, several authors highlight that the link between entrepreneurial intentions and behaviour may not be so straightforward. For example, Krueger (2009) argues that there is no guarantee that a person's intentions for starting a business will be actually implemented, while Krueger et al. (2000) stress that even when intentionality is present, the timing of the creation of the new venture might be relatively unplanned and even sudden. Other authors point out that "it may be a relatively long or short time after intent develops before a new venture opportunity is even identified" (Shook, Priem, & McGee, 2003, p. 383). In fact, the meta-analytic study of Armitage and Conner (2001) reports that intentions account for only 27% of the variance in behaviour, and Schlaegel and Koenig (2014) put that number somewhat, but not much, higher, at 37%. Thus, it is critical to shed light on the mechanisms and contingencies that help (or impede) the translation of entrepreneurial intentions into entrepreneurial action.

To better understand the link between entrepreneurial intentions and entrepreneurial behavior, we leverage the body of knowledge on implementation intentions, more specifically the Rubicon model of action phases (Adam & Fayolle, 2015; Gollwitzer, 1999). Implementation intentions specify the sub-steps of how to achieve a goal (Frese, 2009; Gielnik et al., 2014; Gollwitzer, 1999). By detailing "when, where, and how to act" (Sniehotta et al., 2005, p. 567), implementation intentions facilitate goal attainment and thus provide a critical link between intentions and subsequent actions. A growing body of work has offered theoretical treatments and empirical accounts of the role of implementation intentions as a mediator or moderator of the intention-action link (Adam & Fayolle, 2015, 2016; Gielnik et al., 2014, 2015; Gollwitzer & Sheeran, 2006; van Gelderen, Kau tonen, Wincen, & Biniari, 2018). Less clear is whether implementation intentions themselves are contingent on the environment in which the progression from entrepreneurial intentions to subsequent actions unfolds. This is the research gap that our study addresses. We focus on the specific context of university students' technology-based entrepreneurship in transition economies, and ask, *Does the university environment in transition economies support students' entrepreneurial implementation intentions in technology-based entrepreneurship*?

Universities are important hubs in the development of entrepreneurship eco- systems (Audretsch, 2014; Isenberg, 2010), partners in the commercialization of university knowledge (Politis et al., 2012), enhancers of students' entrepreneurial intentions (Bae, Qian, Miao, & Fiet, 2014; Liñan et al., 2011), and supporters of nascent entrepreneurship thorough accelerator programs, mentoring, and network platforms (Nielsen & Lassen, 2012). Yet, when it comes to the role of universities as facilitators of their entrepreneurially minded students' transition from intention to action, empirical evidence is scant and inconclusive. While a large-scale study of over 70,000 students in 34 countries reported a significant positive effect (Shirokova, Osiyevskyy, & Bogatyreva, 2016), another large-scale study across 41 European universities reported that the actual establishment of a new firm is less dependent on the university context (Bergmann et al., 2016). The inconclusive findings warrant a closer look at the nature of the university environment, particularly in the context of technology-based entrepreneurship in the transition economies of Central and Eastern Europe. Under the social- ist regime, universities in these economies focused on the generation of funda- mental knowledge, staying away from technology commercialization. During the transition period, the economies were gradually integrated into the institutional framework of the European Union, and universities needed to step into new and unfamiliar roles. Recent research documents that the mechanisms of university research commercialization in transition economies do not mirror what has been found in developed economies (Belitski et al., 2019; Carayannis et al., 2016). We surmise that, similarly, universities in transition economies will operate in distinct ways in supporting their students' entrepreneurial initiatives.

The chapter is structured as follows. In the next section, we review the literature on goal and implementation intentions and the Rubicon model of action phases and formulate hypotheses on university-related facilitators

and constraints to students' technology-based entrepreneurial implementation intentions. We then report on our methods and empirical findings. We conclude by discussing our findings and outlining the practitioner implications of the study, as well as its boundaries, limitations and possible extensions for future research.

2. Background and Hypotheses

2.1. Goal and Implementation Intentions and the Rubicon Model of Action Phases

The Rubicon model of action phases takes a temporal view of the course of action and conceptualizes goal pursuit as a consequence of four different action phases (predecisional, postdecisional or preactional, actional, and postactional) (Gollwitzer, 1990, 2012). Each of these phases involves solving a distinct task and is linked to a different mindset (Gollwitzer, 1990, 2012). During the predecisional phase, some wishes are selected based on the criteria of feasibility and desirability and are transformed into goals. The formation of goal intentions involves "turning the selected wish or desire into a chosen goal" (Gollwitzer & Brandstätter, 1997, p. 186). Such intentions exhibit the structure of "I intend to pursue x," where x indicates a desired outcome or behaviour (Gollwitzer, 1993, p. 150; 1999, p. 494). In other words, "<g>oal intentions specify a certain end point that may be either a desired performance or an outcome" (Gollwitzer, 1999, p. 494). Although the formation of goal intentions favors goal pursuit and promotes goal achievement, goal realization may be delayed or hampered, as "<s>uccessful goal attainment requires that problems associated with getting started and persisting until the goal is reached are effectively solved" (Gollwitzer, 1999, p. 493). The transition from wishes to binding goals represents crossing the Rubicon (Gollwitzer, 1990).

Our study is situated in the second phase of the Rubicon model. The second phase (called postdecisional/preactional) poses the task of getting started with goal-directed behaviors (Gollwitzer, 2012). It involves effective planning about when, where and how to act aiming to promote the initiation of relevant actions. Implementation intentions are viewed as "subordinate to goal intentions" (Gollwitzer, 1999 witzer, 1999, p. 494) and their role is to solve conflicts between different potential routes to facilitators and constraints to students' technology-based entrepreneurial implementation intentions. We then report on our methods and empirical findings. We conclude by discussing our findings and outlining the practitioner implications of the study, as well as its boundaries, limitations and possible extensions for future research.

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Empirical research highlights the role of implementation intentions for goal attainment (Gollwitzer & Sheeran, 2006), focusing mainly on the link between implementation intentions, entrepreneurial action and business creation. This research has documented that action planning and implementation intentions contribute to the transformation of entrepreneurial intentions into actions (Adam & Fayolle, 2016; Gielnik et al., 2014, 2015; van Gelderen et al., 2018). For example, van Gelderen et al. (2018) showed that implementation intentions mediate the effects of goal intentions on entrepreneurial action and the mediation effect is stronger for individuals with strong entrepreneurial intentions. Other authors built and tested moderation models, in which action planning moderates the effect of entrepreneurial goal intentions on entrepreneurial action (Gielnik et al., 2015) and new venture creation (Gielnik et al., 2014). Adam and Fayolle (2016) found that the formation of implementation intentions increases the prob- ability and the speed of becoming an entrepreneur, while Delanoë-Gueguen and Fayolle (2019) demonstrated that after crossing the entrepreneurial Rubi- con, entrepreneurial intentions no longer matter. As the academic interest in the development of implementation intentions in the entrepreneurial process is relatively recent, it is not surprising that there is still a lack of understanding of the mechanisms that impede or facilitate implementation intentions. Therefore, in this study, we specifically focus on how university-related factors such as entrepreneurship education, concept development support, research intensity, and industry ties affect the likelihood of forming implementation intentions.

3.2. University Antecedents of Implementation Intentions

[AD1] megjegyzést írt:

3.2.1. Entrepreneurship Education. A large volume of empirical research investigates the entrepreneurship education – entrepreneurial intentions link. Several quantitative reviews of research on this topic find a significant correlation between entrepreneurship education and entrepreneurial intentions (Bae et al., 2014; Dickson, Solomon, & Weaver, 2008; Martin, McNally, & Kay, 2013). Mar- tin et al. (2013) reported that entrepreneurship education and training affect positively entrepreneurship-related knowledge and skills and entrepreneurial attitudes and perceptions. Further, Rideout and Gray (2013) identified several rigorous empirical studies confirming the link between entrepreneurship education and entrepreneurial behavior (Charney & Libecap, 2000; Kolvereid & Moen, 1997; Menzies & Paradi, 2002), entrepreneurial capabilities (Thursby, Fuller, & Thursby, 2009), entrepreneurial competencies (Sanchez, 2011), and opportunity identification (DeTienne & Chandler, 2004).

In the specific context of entrepreneurship education in the STEM field, entrepreneurship education allows STEM students to acquire entrepreneurship- related knowledge and skills, entrepreneurial competencies and capabilities, abilities to identify opportunities, and to plan and perform entrepreneurial activities. Previous research demonstrates that prior knowledge affects the recognition of entrepreneurial opportunities resulting from technological change (Shane, 2000). Specific knowledge about entrepreneurship gleaned from entrepreneurship education may thus enhance the opportunity-identification abilities of students (Souitaris, Zerbinati, & Al-Laham, 2007), while relevant information might allow for reducing risk and the barriers to the new firm formation (Mukhtar, Oakey, & Kippling, 1999). Entrepreneurship-related human capital such as knowledge and skills may be especially valuable for entrepreneurs in technology sectors where technology challenges in the environment are often on the technological frontier, and business survival and growth depend on the implementation of a reliable innovation strategy (Park, 2005).

Previous research has documented that entrepreneurship curricula and pedagogical methods used in entrepreneurship education have a significant effect on implementation intentions (Sherkat & Chenari, 2020). For example, Haddoud, Onjewu, Nowinski, and Alammari (2020) found that entrepreneurship education affects positively students' implementation intentions by regulating students' emotions such as inspiration, passion and optimism. Therefore, we argue that participation in entrepreneurship education may stimulate students to formulate implementation intentions:

H1. **Participation in entrepreneurship education increases the likelihood of entrepreneurial implementation intentions among STEM students.**

3.2.2. Concept Development Support for Entrepreneurship. Entrepreneurship support programs can increase students' awareness about self-employment and encourage them to become entrepreneurs by providing access to critical resources, extra-curricular training, counseling, financial support, contacts facilitating opportunity exploration, and access to experts (Walter, Parboteeah, & Walter, 2013). A positive university environment and support will provide both tangible (finance, know-how) and intangible resources (motivation, self-confidence, awareness) needed for an entrepreneurial career (Trivedi, 2016). Thus, contextual support factors influence significantly the entrepreneurial intentions of STEM students (Lüthje & Franke, 2003), both directly (Minola, Donina, & Meoli, 2016) and indirectly (Trivedi, 2017). Shirokova et al. (2016) reported that the university entrepreneurial environment reinforces the link between entrepreneurial intentions and the scope of start-up activities that student entrepreneurs are engaged in, while Arrighetti, Caricati, Landini, and Monacelli (2016) showed that perceptions of university support influence positively both the perceived likelihood of being an entrepreneur and the propensity to start a new venture among students. One important type of university support is concept development sup- port (Kraaijenbrink, Groen, & Bos, 2010). Concept development support may enhance students' awareness and motivation to choose an entrepreneurial career, especially during the early stages of the entrepreneurial process in which opportunity recognition and development occurs (Mustafa et al., 2016). Saeed, Yousafzai, Yani De Soriano, and Muffatto (2015) find that concept development support significantly influences students' entrepreneurial self-efficacy and entrepreneurial intentions. Students with technopreneurial goal intentions in universities providing concept development support may be more likely to gain confidence (Kraaijenbrink et al., 2010) and to overcome problems associated with getting started and problems associated with planning about when, where and how a new technology venture will be started. Therefore, we suggest that:

H2. **Concept development support increases the likelihood of entrepreneurial implementation intentions among STEM students.**

3.2.3. University Research Intensity. Universities provide a rich source of technological opportunities that can be exploited for creating new technology ventures (Rasmussen & Borch, 2010). Reynolds, Miller, and Maki (1995, p. 391) argue that "where information is readily available and innovation and creativity flourish, the formation rate of new firms is enhanced." More research-oriented universities may be more likely to provide students with superior knowledge and skills to create and commercialize complex ideas (Walter et al., 2013). This is because university research is seen as an important resource for aspiring entrepre- neurs resulting in new knowledge and technologies that can be eventually commercialized (Walter et al., 2013). Students with more knowledge about a domain or industry will be able to identify viable market openings to introduce new products and services, obtain resources, and recombine resources to create feasible and viable ventures (Hisrich & Ramadani, 2018; Jarvis, 2016). Beyhan and Findik (2018) argued that universities with high-quality research and better knowledge production provide a supportive environment for their students to acquire tacit knowledge about conducting research, to explore information gaps, to exploit new knowledge, and to develop technological innovations. Not surprisingly, the research excellence of universities is associated with higher entrepreneurial activity (Barbosa & Faria, 2020; Beyhan & Findik, 2018; Bonaccorsi, Colombo, Guerini, & Rossi-Lamastra, 2014; Di Gregorio & Shane, 2003; Van Looy et al., 2011). However, an alternative view suggests that because students at research-intensive universities may be more likely to have access to advanced knowledge, skills, latest advancements, innovations, and new technologies, they may be more likely to postpone entrepreneurial activities in the short run in order to pursue an academic research career or to get a highly paid STEM job at an existing company.

There is empirical evidence suggesting that the research orientation of the university is negatively associated with students' self-employment intentions (Walter et al., 2013). This may be particularly the case in transition economies, the context of our research, where universities are still redefining their role in supporting stu- dents' entrepreneurial endeavors. We surmise that students in research intensive universities will be presented with a host of promising opportunities other than entrepreneurship, which may delay their entrepreneurial implementation intentions. Therefore, we suggest that:

H3. **University research intensity decreases the likelihood of entrepreneurial implementation intentions among STEM students.**

3.2.4. Industry Ties. It has been acknowledged that networking and interaction with industry play an important role in university entrepreneurship by offering positive entrepreneurial role models and informal forums, both of which are important intangible factors for the development of technological entrepreneur- ship (Rothaermel, Agung, & Jiang, 2007). Positive entrepreneurial role models may help students perceive the entrepreneurial challenge as feasible, while informal forums provide opportunities for exchanging ideas and real entrepreneurial learning (Venkataraman, 2004).

Entrepreneurial role models are an important factor for the development of the entrepreneurial university (Guerrero & Urbano, 2012), while the lack of entrepreneurial role models within the university is identified as a key barrier to the establishment of an entrepreneurial university (Philpott, Dooley, O'Reilly, & Lupton, 2011). In addition, the commercialization of research and the entrepreneurial behavior of students and researchers is affected positively by the presence of entrepreneurial role models on campus (Cunningham & Harney, 2006).

Walter et al. (2013) found that industry ties positively influence the self- employment intentions among students and concluded that intensive connections between universities and industry partners inspire

potential entrepreneurs. Further, non-academic contacts among early-stage academic entrepreneurs are important for academic spin-off development (Hayter, Lubynsky, & Maroulis, 2016). In support of these arguments, Fischer, Schaeffer, Vonortas, and Queiroz (2018) demonstrated that the content of university-industry collaboration has a strong effect on academic entrepreneurial activity. Therefore, we suggest that

H4. **Industry ties increase the likelihood of entrepreneurial implementation intentions among STEM students.**

4. Research Methodology

This study utilizes proprietary data on technology-based entrepreneurship among STEM students collected through a survey administrated in 15 Bulgarian universities over the 2015–2016 period. STEM students were selected for the empirical analysis because they have the potential to start technology ventures (Souitaris et al., 2007). In this study, a technology-based business is defined as a business whose products or services depend largely on the application of scientific or technological knowledge (Allen, 1992). A quota sampling technique, based on the total number of STEM students enrolled in each university, was adopted for data collection. Enrollments were obtained from the Ministry of Education and Science. The sample for this study comprises 299 STEM students, who indicated their technology-based entrepreneurial intentions, in that they indicated they would start a technology business, but were at the time of the survey neither business owners, nor in the process of starting a business (Krueger, 1993; Peterman & Kennedy, 2003). More than 80% of the respondents in the sample were under- graduate students. Female students represented less than 41% of the sample. The great majority of the respondents (81.9%) were full-time students.

Rise, Thompson, and Verplanken (2003) emphasize that although most studies measuring implementation intentions have induced implementation intentions experimentally, it is worth exploring implementation intentions as a measured construct in a survey context. Previous studies of implementation intentions have focused on the "how," "when," and "where" aspects of implementation intentions (Gollwitzer & Brandstätter, 1997; Orbell, Hodgldns, & Sheeran, 1997; Rise et al., 2003; Sheeran & Orbell, 1999; Verplanken & Faes, 1999). Following Rise et al. (2003), we provided respondents with specific questions covering the "when," "where," and "how" of implementation intentions. As suggested by Rise et al. (2003), respondents were asked three different questions, that is, if they already know where, when, and how they will start a technology business. The respond- ents were requested to answer 'yes' or 'no' and the scores were summed (Rise et al., 2003). In the present study, the dependent variable is collapsed into a binary variable. The variable takes a value of "1" if the respondent has answered "yes" to at least two of the three questions above, and takes a value of "0" otherwise.

The study employs several independent variables. *Entrepreneurship educa- tion* takes a value of "1" if the respondent was/is enrolled in an entrepreneur- ship course within the university and a value of "0" otherwise. A perceptual measure of *concept development support* is adopted. It has been suggested that although universities can support concept development with objective measures, it is important to take into account the extent to which such objective measures can influence students by evaluating students' perceptions of concept development support provided by the university (Kraaijenbrink et al., 2010). The variable is measured by a four-item 7-point Likert-type scale developed by Kraaijenbrink et al. (2010), which reveals students' perceptions of the support for business concept development by the university beyond teaching. The scale exhibits high reliability (Cronbach's alpha = 0.925). *University research intensity* is measured with the Scopus *H-*

index of the university in the scientific field of study of the respondent. *Industry ties* are measured by a two-item 7-point Likert scale and indicate students' perceptions of the frequency of lectures and presentations held by industry partners at the university (Walter et al., 2013). Cronbach's alpha is 0.915. The study employs several control variables, which have been identified as significant predictors of entrepreneurial intentions in the literature (Krueger et al., 2000; Liñán & Fayolle, 2015). Perceived new technology venture *feasibility* captures how feasible technology entrepreneurship is for the respondents. It is measured by an index composed of four items measured on a 7-point Likert-type scale (Dren- nan, Kennedy, & Renfrow, 2005; Krueger, 1993; Krueger et al., 2000). Cronbach's alpha for feasibility is 0.616, which exceeds the minimum acceptable level of 0.6 (Hair, Anderson, Tathan, & Black, 1998). Perceived new technology venture *desirability* indicates how desirable technology entrepreneurship is for respondents. It is measured with an index composed of three items measured on a 7-point Likert- type scale (Drennan et al., 2005; Krueger, 1993; Krueger et al., 2000). Cronbach's alpha for desirability is 0.702, which exceeds the minimum acceptable level of 0.6 (Hair et al., 1998). The variable *willingness to take risks* (Risk) indicates students' willingness to take risks and is measured by four items adopted from Gomez- Mejia and Balkin (1989) (Cronbach's alpha = 0.736). Entrepreneurial *role models* (Role Models) take a value of "1" if the respondent has at least one entrepreneur among parents, relatives, friends, or acquaintances whose success gave her/him a positive impression of entrepreneurship (Walter et al., 2013) and value of "0" if otherwise. Support from *social networks* takes a value of "1" if the respondent can count on support from family, partner, friends, and acquaintances if s/he becomes entrepreneur after his/her studies (Walter et al., 2013), and "0" otherwise. *Gender* takes a value of "1" if the respondent is male and a value of "0" if the respondent is female. *Previous experience* in a technology company takes a value of "1" if the respondent has previous experience in a technology company and "0" otherwise. Age indicates the *age* of respondents in years.

Taking into account the objectives of this study and the properties of the data, we apply a binary logistic regression analysis (Greene, 1997). Logistic regression is a more robust method for several reasons (Greene, 1997). The dependent variable needs not to be normally distributed. There is no assumption about a linear relationship between the dependent and the independent variables. The dependent variable needs not to be homoskedastic for each level of the independent variable(s). Normally distributed error terms are not assumed. Independent variables can be categorical. Logistic regression does not require independent variables to be interval or unbounded. The application of non-parametric techniques is adequate when the independent variables are predominantly categorical. The use of the maximum likelihood approach is recommended when sample selection bias is possible (Nawata, 1994). The correlations between independent variables in the study are below 0.35, which indicates the absence of multicollinearity problems (Hair et al., 1998). For more details see the Appendix (Table A1).

5. Empirical Findings

The results of the study are reported in the Appendix (Table A2). The model is significant at the 99% confidence level according to Chi-square statistics. There- fore, the null hypothesis that all coefficients (except the constant) are zero can be rejected. The variance inflation factors for the variables in the regression indicate that there are no serious multicollinearity problems, as they are all well within the acceptable limits (less than 4). The overall predictive ability of the model to correctly classify students by their technology-based entrepreneurial implementaion intentions is 71.6%.

As reported in Table A2, entrepreneurship education is not statistically significant. Participation in entrepreneurship education is not related to the likelihood of technology-based entrepreneurial implementation intentions (0.251, *p*-value = 0.376). This result does not support *H1* that participation in

entrepreneurship education increases the likelihood of entrepreneurial implementation intentions among STEM students.

Concept development support affects positively the odds of technology-based entrepreneurial implementation intentions. STEM students with technology- based entrepreneurial goal intention enrolled in universities that provide greater concept development support are more likely to exhibit entrepreneurial implementation intentions (0.200, *p*-value = 0.020), in support of *H2*.

University research intensity negatively influences the odds of technology- based entrepreneurial implementation intentions. STEM students with technology-based entrepreneurial goal intention in research-oriented universities are less likely to exhibit entrepreneurial implementation intentions (−0.076, p = 0.002). This result supports *H3* in that that university research intensity decreases the likelihood of entrepreneurial implementation intentions among STEM students. Industry ties have no effect on the dependent variable (0.042, *p*-value = 0.578).

STEM students with technology-based entrepreneurial goal intentions in universities with better industry ties are not more likely to have entrepreneurial implementation intentions.

Of the control variables, role models, desirability and feasibility exert a significant influence on the likelihood of technology-based entrepreneurial implementation intentions. The likelihood of technology-based entrepreneurial implementation intentions is not associated with gender, age, risk, previous experience in a technology company, or support from social networks.

6. Discussion

A large number of studies have focused on students' entrepreneurial goal intentions to gain an understanding of their future entrepreneurial behavior. Drawing upon implementation intention theory (Gollwitzer, 1999), this study examines four specific mechanisms that facilitate or constrain technology-based entrepreneurial implementation intentions in a sample of 299 Bulgarian STEM students. As hypothesized, students perceiving greater concept development support are more likely to exhibit technology-based entrepreneurial implementation intentions. This finding provides support to previous empirical evidence about the role of universities for building entrepreneurial intentionality among students (Arrighetti et al., 2016; Kraaijenbrink et al., 2010; Mustafa et al., 2016; Saeed et al., 2015; Trivedi, 2016). It seems that students in universities providing greater con- cept development support may gain confidence (Kraaijenbrink et al., 2010) to overcome problems associated with getting started with a venture and problems associated with formulating simple plans about when, where, and how a new technology venture will be started.

As expected, students in more research-intensive universities are less likely to exhibit technology-based entrepreneurial implementation intentions. These results are in line with previous findings that university research orientation influences negatively students' self-employment intentions (Walter et al., 2013). Per-haps, students at such universities are encouraged to consider an academic career and may postpone their entrepreneurial careers (Walter et al., 2013). Although they may postpone making plans about when, where, and how to start a technology business, they may establish such plans in the future. Previous research demonstrates that technology entrepreneurs often have "research" background (Jones-Evans, 1995).

In our study, students' participation in entrepreneurship education is not related to the likelihood of technology-based entrepreneurial implementation intentions. This result supports the view that entrepreneurial intentions and knowledge generated by entrepreneurship education might not necessarily lead to entrepreneurial behavior, in our study context, which suggests the need for a specific framework to facilitate the transformation process (Manning, 2018). The results also raise the question about what content

and teaching methods are used in the entrepreneurship courses and to what extent they are conductive for the formation of entrepreneurial implementation intentions. Previous studies conceive entrepreneurial learning as an experiential process (Secundo, Del Vecchio, Schiuma, & Passiante, 2017). Hence, entrepreneurship education should go beyond promoting awareness and providing knowledge (Ahmed, Chandran, & Klobas, 2017) and should focus on experimentation and experiential learning (Joensuu-Salo, Varamäki, & Viljamaa, 2015) in order to enhance entrepreneurial implementation intentions and behavior.

Somewhat surprisingly, industry ties are not related to technology-based entrepreneurial implementation intentions of STEM students. These results are in line with the previous empirical evidence about the limited extent of collaboration between universities and industry in Central and Eastern Europe (Stojčić, 2021). In addition, students' perceptions of guest speakers referring to the difficulty of running a venture (Kirkwood, Dwyer, & Gray, 2014) may also influence negatively the development of technology-based entrepreneurial implementation intentions.

7. Contributions and Future Research Lines

Our study on the mechanisms that facilitate or impede technology-based entrepreneurial implementation intentions among Bulgarian STEM students extends the literature in several ways. First, our study makes a theoretical contribution to entrepreneurial intentionality models by specifying some of the boundaries of implementation intentions – concept development support and university research intensity – as critical factors affecting the links between entrepreneur- ial intentions and actions. Second, we contribute to the literature on technology entrepreneurship, by exploring the pre-venture process and identifying some of the significant determinants of implementation intentions in students' technology-based entrepreneurship (Gollwitzer, 1999). Finally, this study contributes to the literature on technology entrepreneurship, by offering a context-specific understanding of the pre venture processes, and by identifying significant determinants of entrepreneurial implementation intentions for STEM students in a post-transition economy.

The reported empirical findings open several new directions for future research. First, future research could provide a greater understanding of the impact of various educational variables related to entrepreneurship education such as teaching methods, learning outcomes, educator teaching beliefs, etc. on students' entrepreneurial implementation intentions. Second, future studies need to identify effective entrepreneurship support services and activities that stimulate the trans- formation of students' entrepreneurial goal intentions into implementation intentions. Third, future research should test theoretically justified determinants of the translation of entrepreneurial goal intentions into implementation intentions using different samples (not only students) from different countries and contexts. Future research with longitudinal design is necessary to provide insights into different levels of mechanisms that contribute or constrain the transformation of entrepreneurial goal intentions into implementation intentions.

This study has several limitations. The data were collected through a self- reported survey and thus may be subjected to cognitive biases and errors. The findings might also be influenced by specific features of the Bulgarian cultural and institutional environment and therefore may not be applicable to other contexts. The present research has practical implications for policymakers and higher education instructions. The insights from our study inform university leaders and public policymakers in transition economies on ways to promote technology- based entrepreneurship via support for concept development and more tightly linking basic research with feasible avenues for technology commercialization, including student-initiated new ventures.

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Christmas Market in Budapest at the Basilica Square
Photos © by Antal Szabó

Appendix

Table A1. Descriptive Statistics and Correlations (n = 299).

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12		
1	Technology-based implementation intentions	0.50	0.50	1												
2	Gender	0.60	0.49	0.03	1											
3	Age	22.64	4.58	0.05	0.18**	1										
4	Risk	3.49	1.30	−0.08	0.02	0.12*	1									
5	Previous experience in a technology company	0.33	0.47	0.08	0.27**	0.30*	0.09	1								
6	Role models	0.42	0.49	0.12	0.00	0.01	−0.05	−0.09	1							
7	Support from social networks	0.82	0.39	−0.03	0.05	0.02	0.06	0.02	−0.07	1						
8	Desirability	5.89	0.92	0.22**	−0.06	−0.1	−0.15**	0.01	0.05	0.08	1					
9	Feasibility	3.69	0.99	0.32**	0.01	0.03	0.00	−0.02	0.03	0.10	0.06	1				
10	Entrepreneurship education	0.44	0.50	0.12*	−0.19**	−0.19**	−0.10	0.03	0.00	0.07	0.03	0.16**	1			
11	Concept development support	3.84	1.70	0.24**	−0.12*	−0.11*	0.00	0.07	−0.03	0.01	0.13**	0.24**	0.16	1		
12	University research intensity	9.04	5.72	−0.21**	0.01	−0.12*	−0.12*	−0.05	0.09	0.05	0.04	−0.15*	−0.08	−0.09	1	
13	Industry ties	2.99	1.85	0.09	0.02	0.13*	−0.03	0.05	−0.05	0.02	0.06	0.13*	0.14*	0.22*	0.03	

**p < 0.01 and * p < 0.05.

Table A2. Results from a Binary Logistic Regression (Dependent Variable = Technology-based Implementation Intentions).

Variables	*B*	St. Error	Sig.
Control variables			
Gender	0.145	0.294	0.623
Age	0.029	0.032	0.377
Risk	−0.150	0.107	0.160
Previous experience in a technology company	0.481	0.308	0.119
Role models	0.553	0.273	0.043
Support from social networks	−0.351	0.352	0.318
Desirability	0.530	0.157	0.001
Feasibility	0.634	0.152	0.000
Main variables			
Entrepreneurship education	0.251	0.284	0.376
Concept development support	0.200	0.086	0.020
University research intensity	−0.076	0.025	0.002
Industry ties	0.042	0.075	0.578
Constant	−6.084	1.513	0.000
Model Chi-square	76.948***		
Nagelkerke *R* square	0.303		
−2 Log likelihood	337.550		
Percentage of correct predictions	71.6		

*** $p < 0.001$.

NEW EVENTS

SIX DISASTER RISK TIPPING POINTS

UNITED NATIONS UNIVERSITY - INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY (UNU-EHS) based in Bonn, Germany, conducts research on risks and adaptation related to environmental hazards and global change. The institute's research promotes policies and programmes to reduce these risks, while taking into account the interplay between environmental and societal factors. Research areas include climate change adaptation by incorporating insurance-related approaches, environmentally- induced migration and social vulnerability, ecosystem-based solutions to adaptation and disaster risk reduction, and models and tools to analyse vulnerability and risks linked to natural hazards, with a focus on urban space and rural-urban interfaces. See at https://interconnectedrisks.org/unu-ehs

The 2023 INTERCONNECTED DISASTER RISKS REPORT analyses six interconnected risk tipping points, representing immediate and increasing risks across the world.

There are different kinds of tipping points. Climate change has so called "climate tipping points" specific thresholds after which unstoppable changes occur, influencing the global climate. When the increasing temperature push vast systems around the world, like the Amazon rainforest or the Greenland Ice Sheet, past certain thresholds, they will enter a path towards collapse.

But tipping points are not always physical, and climate change is just one of the many drivers of risk. Many new risks emerge when and where our physical and natural worlds interconnect with human society. Some tipping points trigger abrupt changes in our life sustaining systems that can shake the foundations of our societies. This is why the 2023 edition of the Interconnected Disaster Risks report proposes a new category of tipping points. A risk tipping point is the moment at which a given socioecological system is no longer able to buffer risks and provide its expected functions, After which the risk of catastrophic impacts to these systems increases substantially.

A risk tipping point is reached when the systems that we rely on for our lives and societies cannot buffer risks and stop functioning like we expect it to.

The climate summit will be crucial, because the major carbon dioxide emitting countries that did not commit to the aspirations of the 2015 Paris conference should now be held accountable. Of these, it stood out that a THEY ARE KEEPING THE GLOBAL AVERAGE TEMPERATURE RISE AROUND PRE-INDUSTRIAL REVOLUTION LEVELS TO LESS THAN 2 CELSIUS AND STRIVING TO LIMIT WARMING TO 1.5 CELSIUS.

The UN report analyses **six interconnected risk tipping points**. Selected for their representation of large global issues that impact lives across the world they are:

1. Accelerating extinctions that trigger chain reaction to ecosystem collapse
2. Groundwater depletion that drains water risking food supply
3. Mountain glaciers melting
4. Space debris causing loss of multiple satellites, “our eyes in the sky”
5. Unbearable heat making it hard to live in some areas
6. Uninsurable future when rising risks make homes unaffordable

In detail, these points mean the following

1. **Extinction** is a natural evolutionary process, but human activity has accelerated it to hundreds of times the natural rate for certain species. 1 million species of plants and animals could die within decades, and the loss of key species could lead to cascading extinctions and the collapse of an entire ecosystem –
2. **Underground supplies of fresh water** are vital to agriculture and provide drinking water to more than 2 billion people, but researchers say more than half of the world's largest water supply is being used faster than it is being recharged. Drying wells threaten global food production.
3. **Glaciers** are a key source of fresh water around the world, and meltwater is often used to make up for the lack of rain during dry seasons. However, with global warming, the glaciers disappear, which has unpredictable consequence
4. **Space debries** - The waste from satellites and rockets orbiting the Earth can render the Earth's orbit unusable, because smaller space debris can also damage satellites used for communication, navigation and weather monitoring.
5. **Heat waves** due to global warming will become hotter and hotter, according to researchers, a tipping point is approaching when extreme heat poses a deadly threat even to healthy young people.
6. **Unforeseen dangers** Damage caused by weather-related disasters has multiplied, but may double by 2040. Last year, they already caused 313 billion in damages globally, which is why insurance companies raise premiums or refuse to insure certain areas, leaving people "without an economic safety net" in the event of a disaster.

Source: https://news.un.org/en/story/2023/10/1142807

INSTITUTIONAL PROFILE

KENTUCKY FRIED CHICKEN – KFC - CORPORATION

KFC Corporation, doing business as **Kentucky Fried Chicken** (**KFC**), is an American fast food restaurant chain headquartered in Louisville, Kentucky, that specializes in fried chicken. It is the world's second-largest restaurant chain (as measured by sales) after McDonald's, with 22,621 locations globally in 150 countries as of December 2019. The founder is **Harland Sander** born in 1890 and raised on a farm outside Henryville, Indiana

In July 1940, Sanders finalised what came to be known as his "Original Recipe" of 11 herbs and spices.[16] Although he never publicly revealed the recipe, he said the ingredients included salt and pepper and that the rest "stand on everybody's shelf"

Glenn Caldwell, the Vice President of the Corporate Development at Healthy Trucker/NAL Insurance Inc. in the LinkedIn wrote the following:

„The stigma surrounding hiring individuals in their 60s is evident in my friend's recent job search. Despite his incredible knowledge and skill set, he faces feedback like being labeled "overqualified" or not fitting the specific skill set sought by employers. One even unintentionally hinted at a preference for long-term development, seemingly overlooking the immediate value someone with his expertise could bring. At 60, he plans to work for another 6-7 years, drawing parallels to successful figures like Colonel Sanders who made significant contributions at 65.

“Age is just a number" as the cliche goes, and in trucking it couldn't be more true. The average age of professional truck drivers is currently around 49 years old, and it is not uncommon at all for people in their 50's and 60's to get their CDL and do very well.

If it works well in Trucking it can work well in any industry don’t ya think? Neglecting an exceptional candidate based on age could hinder a company's pursuit of its goals. Although having grey hair may not align with the profile of a long-term employee, their immediate contributions and expertise in the coming years have the potential to significantly benefit the company for decades to come.”

Source: https://www.linkedin.com/posts/glenn-caldwell-4815b512_the-stigma-surrounding-hiring-individuals-activity-7135616404476596224-CZze/?utm_source=share&utm_medium=member_android

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2 July – 5 July

Berling Germany

Berlin the trendsetter: Whether sightseeing or trendy nightlife, galleries or gastronomy, music, or fashion – the German capital always has something fresh to offer. So, what exactly is it that makes Berlin so appealing? The diversity, the wide variety of contrasts, and the sheer inexhaustible range of options keep visitors flocking to Berlin from all over the world.

Empowering Entrepreneurship for a Better Future

Join us in the dynamic core of Berlin, a city epitomizing innovation and liberty, to welcome, collaborate, and spark change at the 68th Annual ICSB Congress in 2024. Under the theme **"Empowering Entrepreneurship for a Better Future"** the forthcoming generation of entrepreneurs are invited to play a pivotal role in shaping an equilibrium of economic success and ethical duty.

Entrepreneurship, a robust mechanism for societal problem-solving and a catalyst for personal and professional development, stands at the helm of our collective voyage towards a future that meshes economic success with ethical responsibility. The upcoming generation of entrepreneurs is entrusted with harnessing innovative technologies and inventive strategies to carve new pathways in value creation, addressing stark global challenges such as climate change and poverty, and weaving a new global narrative that melds economic prosperity with peace.

As we navigate through unparalleled opportunities and challenges, we must embark on a journey that inspires and empowers the forthcoming entrepreneurial leaders to unleash their creativity and launch ventures that will sculpt our collective future. While heralding economic freedom, this journey should serve as a wellspring of inspiration, propelling individuals to launch their entrepreneurial ventures and unlock the transformative power of entrepreneurship for societal good.

Berlin, a city that has consistently been a beacon of innovation and freedom, invites the global entrepreneurial community to partake in this crucial event. Here, you will have a unique opportunity to share your innovative ideas, broaden your knowledge, and play a vital role in realizing entrepreneurship's social and economic benefits across nations.

The Organizer invites you to be a catalyst, to ignite the spark that will fuel the next generation of responsible and humane entrepreneurship, and to be part of a pivotal moment that shapes a brighter, more prosperous future for all. Let's forge ahead, unlocking potential, inspiring action, and nurturing a new wave of leaders who will steer our global society toward sustainable and inclusive growth.
Join the World Congress in Berlin in 2024, and let's empower a future of innovative, responsible, and impactful leadership together.

Source : **https://www.softconf.com/icsb/icsb2024/?_ga=2.24322938.1767931128.1701455856-1656342434.1701455856**

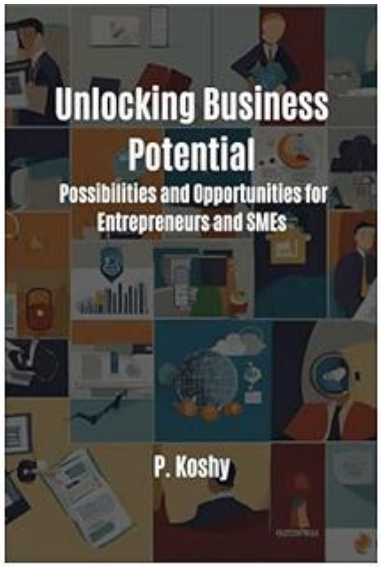
BOOKs

UNLOCKING BUSINESS POTENTIAL: POSSIBILITIES AND OPPORTUNITIES FOR ENTREPRENEURS AND SMEs

Dr Perumal Koshy

Publisher: Independently published (October 27, 2023)
Paperback: 42 pages
ISBN-13: 979-8865675198

Discover a world of opportunities for entrepreneurs and small and medium-sized enterprises (SMEs) in this insightful presentation. Delve into the evolution of India's business landscape, from historical challenges to transformative economic reforms, making business startup processes 80% faster and smoother. Explore how entrepreneurs can support rural communities and promote sustainable practices while contributing to the global Sustainable Development Goals. Uncover the impact of the Fourth Industrial Revolution and the role of digital transformation. The presentation highlights key sectors and markets, with a focus on agribusiness and rural empowerment. Case studies and actionable insights provide a roadmap for aspiring entrepreneurs.



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