

Entrepreneurship Ecosystems: A Comparison of the United States and Germany

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Within recent years, entrepreneurship has been an emerging area of interest in policy discussions. Entrepreneurship is an output of three concurrent factors: (1) the environment or context, (2) the individuals' abilities to generate or identify and execute an opportunity, and (3) the ability for an opportunity to materialize, demonstrate its results, and find its market (Martin & Osberg, 2007). In this regard, culture plays a significant role in the propensity of entrepreneurial intention and activity, both at a societal level and an individual level.

This paper seeks to accomplish three things. Within the first section, the status of entrepreneurship within the United States and Germany are discussed. The second section presents a comparative status report on entrepreneurial ecosystems in the United States and Germany, with a focus on comparing the present cultural dimensions of each country. The final section discusses recommendations for how the American and German entrepreneurship ecosystems can improve in providing access to high-quality entrepreneurship education.

Before detailing the status of entrepreneurship within these two environments, there are a few limitations of the paper to be addressed. Firstly, access and ability to read German language texts on entrepreneurship were limited by ability (e.g., lack of technical language in this area). This was a significant challenge, as many excellent resources on German entrepreneurship and ecosystems are only available in German. Second, the study represents an opportunity to explore the cultural environments of the entrepreneurial ecosystems; therefore, the discussion of other facets of ecosystem (e.g., finance, markets, policy) has been limited in order to provide a descriptive country-level comparison of broad culture. Third, the paper briefly discusses local ecosystems, but this is done only for a cursory overview, rather than a detailed topic for analysis. Local cultures are distinct in their own right, but due to the lack of comparable data at the city level, this topic serves to enhance the national-level perspective, rather than add another level for analysis.

As a final consideration, Aldrich (2012) notes that the study of entrepreneurship is limited by three patterns. The first centers on the "institutionalization of entrepreneurship as a scientific field" (p.1258), which presents a disconnect between (1) the cautious and time-consuming nature of scientific study and analysis and (2) the need of industry to keep to a swift pace. Studies with significant gap periods from data collection to publication or presentation often better serve the academic community more than entrepreneurship as a practice. Aldrich's second limitation connects to the dominance of American voices and perspectives within the field. Such seeming hegemony in the area can cause misleading conclusions for practice that may neglect the nuances of culture. The third is the reluctance for theoretical innovation in order to maintain scientific integrity and comparability. Aldrich presents this as an "ironic" outcome for a field of study centered on such behavior as a creative value. Entrepreneurship, like creativity, is often attributed to personal characteristics, indicating an innate trait composition or a formulaic combination for an ideal entrepreneurial disposition (e.g., Driessen & Zwart, 2007). This distinction is one that differs between working definitions (e.g., trait-based entrepreneurship versus socialized entrepreneurship).

The Status of Entrepreneurship

The study of entrepreneurship has garnered extensive attention for its ability to contribute towards economic development and growth. Because of this, entrepreneurship has influenced discourse on policy and reform. Entrepreneurial activity pushes forward innovation (Audretsch & Thurik, 2001), new product development (Acs et al., 2009), and knowledge (Audretsch & Keilbach, 2004). To this end, entrepreneurship is considered to be an economic driver that serves to develop (1) national competitiveness (Griffith et al., 2004) and (2) the competitiveness of its companies, founders, and employees (Cuervo et al., 2008).

Audretsch (2007) and Audretsch and Thurik (2000) frame an emerging entrepreneurial economy through defining the market process logic and business startup dynamics and determining the commercial role of knowledge, the impact of innovation, and the role of policy. These elements shape how an economy understands and frames entrepreneurial activity and regulation.

In comparing the United States and Germany as national contexts for entrepreneurship, the figure below presents a general overview of key facts from which to understand two nations' populations, GDP, and technology usage (see Figure 1). More specific to the focus of this paper, there are clear differences in national innovation systems and orientations. The following two subsections outline the entrepreneurial environment of each country, with an emphasis on national-level tendencies.

	Germany	USA
Size (CIA 2014)	357,022 km ²	9,826,675 km ²
Population (World Bank 2014a)	80.62 million	316.1 million
GDP (absolute, 2013) (OECD 2014)	\$3.504 trillion	\$16.800 trillion
GDP growth (2013) (OECD 2014)	0.4%	1.9%
GDP per capita (current, 2012) (OECD 2014)	\$41,098	\$51,689
Smartphone penetration ^a	40%	62%

^aCitizen older than 14 years. Source for Germany: Bitkom: Presseinformation 'Neuer Rekord bei Smartphones,' http://www.bitkom.org/de/markt_statistik/64042_77345.aspx. Source for USA: <https://www.comscore.com/Insights/Press-Releases/2013/11/comScore-Reports-September-2013-U.S.-Smartphone-Subscriber-Market-Share>.

Figure 1: Key Facts of Germany and the U.S. (Fuerlinger et al., 2015)

United States

The United States is considered an innovation-based, liberal market economy. The United States is among a handful of countries that lead by market coordination and radical innovations. This myopic innovation system has a short-term market orientation, which means investing in higher risk, higher technology innovations and startups with transferrable assets (Patel & Pavitt, 1994). Liberal market economies value "company finance, deregulated labour markets, general education, and strong inter-company competition" (Ebner, 2010, p. 322).

In looking at the entrepreneurship industry and its activities within the United States, the country is unique in the prevalence of new innovations, technology orientation, and

Table 1 Varieties of capitalism (Hall and Soskice 2001)

Subsystems	Liberal market economies	Coordinated market economies
Corporate governance	Short-term financial resources with publicly assessable market monitoring	Long-term financial resources with relational and reputational monitoring
Industrial relations	Market-oriented capital-labour relations with competitive wage setting	Cooperative capital-labour relations with bargained moderation in wage setting
Education and training	Investment in general skills and human capital	Sunk investment in firm- and industry-specific skills and human capital
Intercompany relations	Competitive standardisation and market-based technology transfer	Commonly promoted standards and cooperative technology transfer
Country example	United States	Germany

Source: Adapted from Hall and Soskice (2001)

Figure 2: Hall and Soskice's (2001) Varieties of Capitalism (Ebner, 2010)

market representation. The country has a higher rate of new product or service market actors, reported at 37 % as compared to the 31 % average amongst other innovation-based economies (Kelley et al., 2015). The U.S. ranked high amongst the OECD countries in the percentage of entrepreneurs participating within high- and medium-technology entrepreneurship (9.36 %). Despite the higher orientation of technology within its orientation, the U.S. has less of a representation of international consumer markets of American entrepreneurship (15 %) compared to other innovation-driven economies; this is due in great part to the ease of business within the Eurozone (Kelley et al., 2015).

Public perceptions of entrepreneurship. Americans have an overall very healthy perspective on the potential personal value of entrepreneurship and with good reason. Despite most new ventures failing (Nobel, 2011), startups contribute significantly to the American economy, with most of the new job creation between 2000 and 2010 coming from fast-growing, technology startups (Kauffman Foundation, 2012). Americans hold high rates of entrepreneurship intention, nascent activity, and total entrepreneurship activity (TEA) at 12 %, 10 %, and 6 % respectively (Kelley et al., 2016). Entrepreneurship as a profession is back on the rise, representing 14 % of the American working-age population, with approximately 14 million individuals running established firms and 24 million starting or running new ventures (Kelley et al., 2015). These figures all serve as strong indicators of the continuation of relatively high rates of entrepreneurship in the coming years.

Personal connections to entrepreneurs and entrepreneurship also serve as indicators of the health of the future of entrepreneurship activity. 76 % of Americans report that there are mainly positive media depictions of entrepreneurship (Kelley et al., 2015). The United States has a higher rate of the population, 42 %, who view self-employment as either very desirable or rather desirable (see Figure 3) (European Commission, 2007b). Despite its positive perceptions, less of the population is reporting a personal connection to entrepreneurship, with only 29 % of Americans reporting personally knowing an entrepreneur in 2014, as compared to 46 % in 2005 (Kelley et al., 2015). This is significant, as a personal connection to entrepreneurship can help to encourage entrepreneurial intention and activity.

When approaching personal perceptions of entrepreneurship, it is critical to look at the perceived role and expectations of the state. Fuerlinger et al. (2015) notes that Americans tend to perceive the role of the state should be ideally minimized, but this is changing with the youngest generation. In total, only 35 % of Americans believe the state has the responsibility

United States			Germany		
Self-Perceptions About Entrepreneurship			Self-Perceptions About Entrepreneurship		
	Value %	Rank/60		Value %	Rank/60
Perceived opportunities	46.6	25	Perceived opportunities	38.3	40
Perceived capabilities	55.7	21	Perceived capabilities	36.2	52
+Fear of failure	29.4	15	+Fear of failure	42.3	48
*Entrepreneurial intentions	12.4	41	*Entrepreneurial intentions	7.2	54
Activity			Activity		
	Value %	Rank/60		Value %	Rank/60
Total Early-stage Entrepreneurial Activity			Total Early-stage Entrepreneurial Activity		
TEA 2015	11.9	27	TEA 2015	4.7	57
TEA 2014	13.8	n/a	TEA 2014	5.3	n/a
TEA 2013	12.7	n/a	TEA 2013	5.0	n/a
Established business ownership rate	7.3	26T	Established business ownership rate	4.8	45T
Entrepreneurial Employee Activity - EEA	7.0	4	Entrepreneurial Employee Activity - EEA	4.5	18
Motivational Index			Motivational Index		
	Value	Rank/60		Value	Rank/60
Improvement-Driven Opportunity/Necessity Motive	4.8	7	Improvement-Driven Opportunity/Necessity Motive	3.7	14T
Gender Equity			Gender Equity		
	Value	Rank/60		Value	Rank/60
Female/Male TEA Ratio	0.6	31T	Female/Male TEA Ratio	0.5	38T
Female/Male Opportunity Ratio	0.9	24T	Female/Male Opportunity Ratio	0.9	24T
Entrepreneurship Impact			Entrepreneurship Impact		
	Value %	Rank/60		Value %	Rank/60
Job expectations (6+)	31.7	9T	Job expectations (6+)	21.0	25T
Innovation	4.3	12	Innovation	1.6	47T
Industry (% in Business Services Sector)	31.2	9	Industry (% in Business Services Sector)	24.8	16
Societal Value %s About Entrepreneurship			Societal Value %s About Entrepreneurship		
	Value %	Rank/60		Value %	Rank/60
High status to entrepreneurs	n/a	n/a	High status to entrepreneurs	75.7	17
Entrepreneurship a good career choice	n/a	n/a	Entrepreneurship a good career choice	50.8	44T

Figure 3: Country Profiles, U.S.-Germany (Kelley et al., 2016)

	Self-employment very/rather desirable	Self-employment undesirable/ not desirable at all	Not available
EU-25	30	66	4
Germany	19	77	3
France	28	68	4
UK	29	69	2
USA	42	55	3

Figure 4: Desirability of self-employment (in %) (European Commission, 2007b)

of playing an active role to provide for those in need, compared to 46 % of younger Americans. The American sense of personal responsibility and control sources from a majority belief that individuals hold the ability to control their own success, sentiments held by 59 % of Americans without a college degree and 88 % of college graduates (Fuerlinger et al., 2015). Because of the lower interest in and expectation of the state to provide a robust

social safety net and regulate the labor market, Americans have the tendency to look out for their own interests, which can fuel an interest in entrepreneurship.

Local entrepreneurship ecosystems. Looking at the local context of entrepreneurship and entrepreneurial ecosystems, cities within the United States make up six of the top ten ranked cities/geographic areas for the overall quality of the entrepreneurial ecosystem (see Figure 6): Silicon Valley (1st), New York City (2nd), Los Angeles (3rd), Boston (4th), Chicago (7th), and Seattle (8th) (Compass, 2015).

Germany

In contrast, Germany is an innovation-based, coordinated market economy, which specializes in incremental innovations within the larger business sector. Coordinated market economies are less market-driven and feature a long-range orientation. Germany is a dynamic innovation system, which refers to the market's ability to innovate according to existing technologies (Patel & Pavitt, 1994). Germany tends to invest in specific assets, such as "long-term company finance, cooperative industrial relations, high levels of firm-specific vocational training, and inter-firm cooperation in technology and standardization, framed by industry associations" (Ebner, 2010, p. 322).

According to Kontolaimou et al. (2016), Germany is amongst Europe's innovation leaders with strong access and use of technology. Like the United States, the German context shows higher rates of opportunity entrepreneurship and less necessity entrepreneurship, which is found in higher rates in the growing and developing economies with higher rates of unemployment. To this end, developed economies with higher opportunity entrepreneurship rates also rank highly in their use of technology to produce new innovations.

Despite having a robust small- and medium-sized business industry ("Mittelstand"), Germany ranks amongst the lowest OECD countries in startup activity. Entrepreneurs represented only 7 % and 9 % of the labor force in the 1970s to 80s and the 1990s to 2000s, respectively (Freitag & Thurik, 2007). Instead, Germany has a strong and mature manufacturing sector, particularly for automobile and tool productions; startup activity within these fields are not common as this type of high R&D, producer-driven manufacturing sector

United States	Germany
Population: 319.0 million (2014)	Population: 81.1 million (2014)
GDP: \$17,418.9 billion (2014)	GDP: \$3,859.5 trillion (2014)
GDP per capita: \$54,597 (2014)	GDP per capita: \$47,590 (2014)
SME contribution to GDP: 54% (2014)	SME contribution to GDP: 53% (2014)
World Bank Doing Business Rating: 82/100; Rank: 7/189	World Bank Doing Business Rating: 80/100; Rank: 15/189
World Bank Starting a Business Rating: 91/100; Rank: 49/189	World Bank Starting a Business Rating: 83/100; Rank: 107/189
World Economic Forum Global Competitiveness Rating: 5.6/7; Rank: 3/140	World Economic Forum Global Competitiveness Rating: 5.5/7; Rank: 4/140
Economic Development Phase: Innovation-Driven	Economic Development Phase: Innovation-Driven

Figure 5: Country Snapshots, U.S.-Germany (Kelley et al., 2016)

represents a high barrier-to-entry field. Nevertheless, technology still plays an important role in German entrepreneurship, with 6.82 % of startups classified high- and medium technology entrepreneurship.

In 2014, World Bank reported Germany as 15th for “doing business,” whereas its ranking for “starting a business” is 107th (2015), which connects to the cost, time, and procedures associated in starting a business (2014b). These rankings have improved by six and four places, respectively, since the 2014 rankings (2014a) (see Figure 5).

Public perceptions of entrepreneurship. When looking at Germans’ perceptions of the role of the state, it contrasts greatly with the sentiments prevalent in the United States. In 2007, only 19 % of Germans classified self-employment as being a desirable option, as compared to 30 % within the 25 E.U. countries at the time (see Figure 3) (European Commission, 2007b).

Regarding the perceptions of the role of the state in the labor market, 62 % of Germans believe the state has a responsibility to provide public social supports, with no difference across generations; this sentiment carries over in the public perception of entrepreneurial supports from the state (Fuerlinger et al., 2015). 72 % of Germans view success as being outside the control of the individual, with a split evident between the university educated population (55 %) and those without a university degree (74 %) (Fuerlinger et al., 2015). To this end, Germany ranks among the countries with the highest public support, political engagement, and subsidies for new and growing businesses (Ebner, 2010).

The German government also provides significant engagement in growing the economy and regulating the labor market. Germans value the social safety net and pro-employee work regulations (e.g., limited working hours, vacation allowances), so entrepreneurship as a career option is a higher-risk pathway that does not offer the benefits offered to those employed by others.

Local entrepreneurship ecosystems. According to the 2015 Startup Ecosystem Ranking, Berlin (9th) is the only German city that is among the top 20 cities, but it holds the highest growth index assigned in the ranking (+ 10) (Compass, 2015). The ranking also indicates that by 2020, Berlin could project to create up to 40,000 new jobs. Currently, Berlin’s start-up employees are diverse, with 27 % female being female and 49 % being from outside Germany, and its top policy-level challenges for supporting entrepreneurship are framing favorable local regulations, national laws, and taxes (Compass, 2015).

Berlin’s local networks for entrepreneurship provide support for fostering an entrepreneurial ecosystem. For example, Berlin’s B! Gründet is an EXIST Entrepreneurship Network founded in 2005, in order to build collaborations between universities and entrepreneurs, support university supports of entrepreneurship, and advocate for a strong local entrepreneurship ecosystem.

In order to develop local pockets of entrepreneurial activity, entrepreneurial training and funding schemes have become more prevalent (see Figure 5). At the youth level, one program of note is the JUNIOR Project. Established in 1994, the JUNIOR Project offers entrepreneurship experience to those aged 15-20, with students working towards a certificate for a year of work within one of the following areas of finance, marketing,

accounting, and procurement. Despite its strength in tying value to the connection of education and economy, Germany ranks lower amongst innovation-driven economies for in-school entrepreneurship education (Coduraz Martinez, et al., 2010).

For young adults, the EXIST program, established by the Federal Ministry of Economic Affairs and Energy with further financial support from the European Social Fund (€111 million distributed between 2007–22), aims to foster more (and more successful) high-tech start-ups, distribute research with high potential economic potential, and enhance follow-up financing

opportunities and chances. In order to support these aims, EXIST supports three approaches, EXIST Culture of Entrepreneurship (structural supports), EXIST Business Start-up Grant (incentives), and EXIST Transfer of Research (supporting best practices).

The EXIST Culture

of Entrepreneurship supports universities to foster entrepreneurial motivation, intention, and outcomes, and since its start in 1998, the approach has funded 127 universities, with further partners at over 200 university entrepreneurship networks. More than 190,000 individuals have participated in EXIST-sponsored training, 12,600 projects have been started; of those, 3,500 turned into companies, with 1,800 of those being directly funded by EXIST start-up grants. EXIST program start-ups have strong results in the rates of start-up sustainability, with 70–80% of founded companies still existing after 3–5 years. When factoring in all of these grant schemes, the top five most awarded EXIST grant institutions are in Berlin and Munich: TU Munich (88), TU Berlin (77), FU Berlin (73), LMU Munich (60), and HU Berlin (58). Within the top ten, institutions in Aachen (46), Dresden (46), Karlsruhe (41), Potsdam (36), and Stuttgart (27) are represented (Drews, 2016).

Developmental supports, including incubator and accelerator programs both within and external to the university system have been strong within the modern German entrepreneurship landscape (see Figure 5), yet challenges exist within these programs to effectively support aspiring entrepreneurs from ideation to the acceleration phase. Faculty report providing seed funding is a challenge relative to the environments like the U.S. and U.K., as the private donations, alumni giving, and angel investing are much less prevalent.

In summary, despite their differences in innovation orientation, entrepreneurship is considered an important strategic value within both countries. Both countries have positioned entrepreneurial activity as a pathway for both national and regional level

<i>Policy Analysis Framework</i>		Science-based Innovation Process		
		Research & Invention	Early Stage Technology Development	Product & Business Development
Policy Means and Instruments	Regulatory Environment	- Amendment to the German Employed Inventor's Act - Pact for Research and Innovation	- University-Freedom-Law	- UG - Second Chance - Reduced time for discharge of residual debt - Bankruptcy resilience
	Entrepreneurship Education & Awareness	- University Excellence Initiative - More chairs of entrepreneurship		
	Access to finance	- Aim of 3% Public R&D financing	- Hightech Gruenderfond	- New Venture Capital Law - BVK - KfW
	Tech Exchange, Innovation & Networking		- EXIST - Fraunhofer Society	- State-level agencies - GSVA - German House of Research and Innovation

Figure 6: Germany's Policy Analysis Framework (Fuerlinger et al., 2015)

development and growth, and Germany also benefits from European-wide initiatives to bolster entrepreneurial activity. The following section dives deeper into the cultural elements of each country in order to uncover how the elements reinforce the entrepreneurial environment.

Comparative Cultural Perspectives of Entrepreneurship

The second section presents a comparative status report on the state of entrepreneurship in the United States and Germany using Hofstede and colleagues' (2010) Cultural Compass Compare Countries feature. According to Hofstede et al. (2010), there are six areas of measuring culture that can aid in comparative understandings between countries, with each factor being rated a 0 for no existence of the factor within that society to 100 being a strong cultural expectation in that society.

The following six subsections on culture (i.e., power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence) closely follow the Hofstede and colleagues' reports and examples of cultural measurements and outputs, respectively. The primary analysis of this section follows the United States and Germany, with an emphasis on how that facet of the country's culture contributes towards the entrepreneurial ecosystem. In order to have a point of comparison, a secondary analysis was done looking at Israel, the United Kingdom, and Singapore, which, like Germany, each also have one city placed within the top 10 of the 2015 Global Startup Ecosystem Rankings (see Figure 4). As is the case with both the U.S. and Germany, the three secondary analysis countries all represent innovation-driven entrepreneurship environments. Within the six subsections on cultural dimension, presented scores were all retrieved from the use of Hofstede et al.'s (2010) Cultural Compass tool, unless stated otherwise.



Before presenting the analysis, the following subsection introduces a brief background of entrepreneurial ecosystems, with an emphasis on the two primary and two of the three secondary countries within the analysis. Please note, the Global Entrepreneurship Monitor's 2015/16 Global Report does not provide comparable data on Singapore.

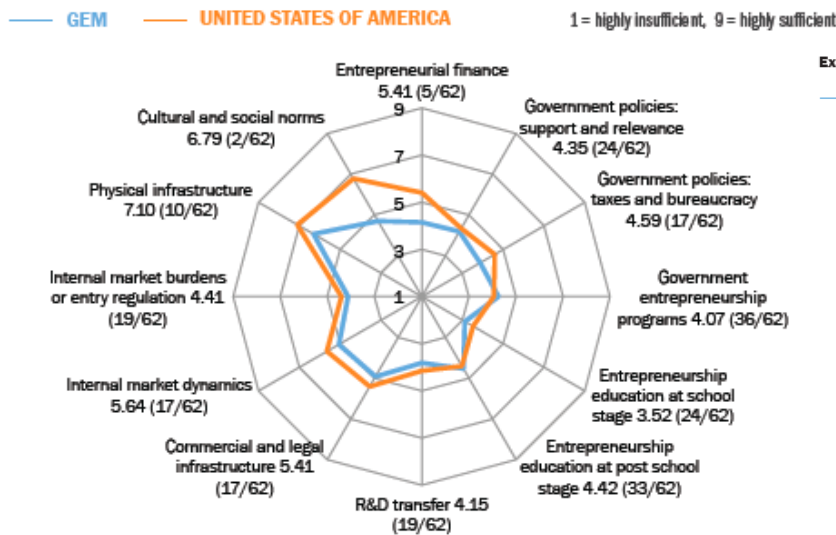
Entrepreneurship Ecosystems

Entrepreneurship ecosystems are the complex drivers shaping the perspectives on entrepreneurship that allow for entrepreneurial activity. Entrepreneurship ecosystems can be understood as representing an intersection of six domains: markets, policy, finance, human capital, supports, and culture (see Figure 6). These broad categories influence the ease and overall health of entrepreneurial activity within a particular environment. Entrepreneurship ecosystems can be assessed at any level, but tend to be the most prevalent at the national, regional, city, and organizational level (e.g., within universities as seen in Maritz et al., 2015 among others).

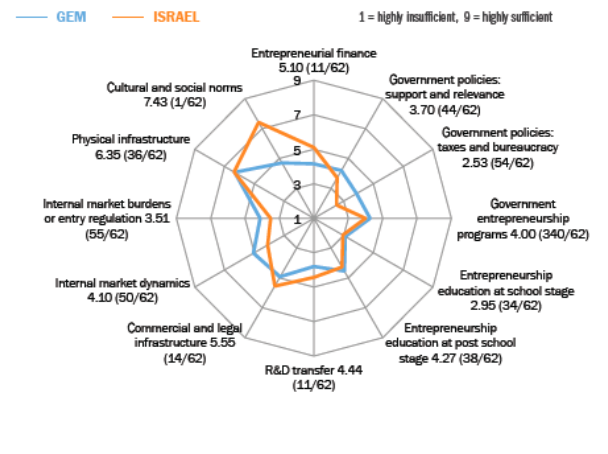
Figure 6: Isenberg's (2011) Six Domains of an Entrepreneurship Ecosystem (Fuerlinger et al., 2015)

Figure 7 depicts a modified version of the six domains in their current application within the United States and Germany (larger visuals) and Israel and the United Kingdom. Orange lines represent the country's entrepreneurship ecosystem (by area) as reported for the Global Entrepreneurship Monitor's (GEM) 2015/16 Global Report. The blue lines are norm referenced among all participating countries within the 2015/16 Global Report.

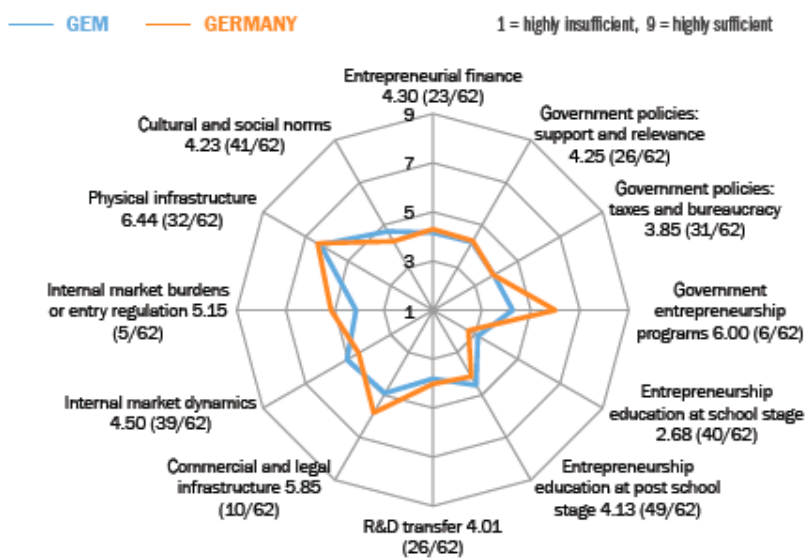
Expert Ratings of the Entrepreneurial Eco-system (rank out of 62 recorded in brackets)



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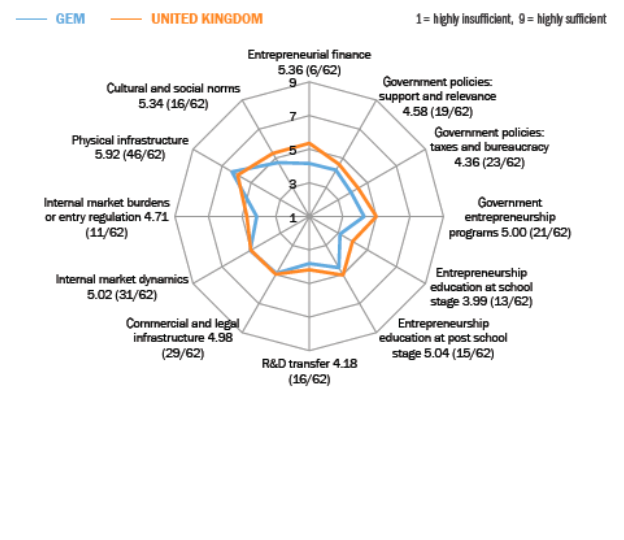


Figure 7: Norm-referenced Entrepreneurial Ecosystem Ratings – The United States, Germany, Israel, and the United Kingdom (Kelley et al., 2016)

Based on the figures above from Kelley and colleagues (2016), the expert ratings of the United States show an overall strength to the country's entrepreneurship ecosystem, apart from, predictably, government-supported programs in entrepreneurship. Its entrepreneurship education programming at the post-compulsory level also ranks slightly lower than the GEM average. The United States has strength in its physical infrastructure, favorable cultural and social supports of entrepreneurship as a profession, and

entrepreneurial finance sector. In contrast, Germany’s government entrepreneurship programs, as outlined in the last section, are its strength. However, its internal market dynamics, cultural and social norms, and entrepreneurship education programming leave room for improvement.

In focusing on the local levels of entrepreneurship ecosystems, as addressed in the last section, the 2015 Global Startup Ecosystem Ranking (GSER) shows a dominance of American cities within the top ten places of those cities who have supportive ecosystems for entrepreneurship. As seen in Figure 6, rankings weigh entrepreneurial performance, funding, market reach, talent, and startup experience. Another measurement, shown in the far right of the figure, measures growth index. Although this ranking does not directly utilize Isenberg’s (2011) six domains, it has many parallel areas (e.g., GSER’s funding and Isenberg’s finance, GSER’s market reach and Isenberg’s markets).

	Ranking		Performance	Funding	Market Reach	Talent	Startup Exp.	Growth Index
Silicon Valley	1	◀	1	1	4	1	1	2.1
New York City	2	▲ 3	2	2	1	9	4	1.8
Los Angeles	3	◀	4	4	2	10	5	1.8
Boston	4	▲ 2	3	3	7	12	7	2.7
Tel Aviv	5	▼ 3	6	5	13	3	6	2.9
London	6	▲ 1	5	10	3	7	13	3.3
Chicago	7	▲ 3	8	12	5	11	14	2.8
Seattle	8	▼ 4	12	11	12	4	3	2.1
Berlin	9	▲ 6	7	8	19	8	8	10
Singapore	10	▲ 7	11	9	9	20	9	1.9
Paris	11	◀	13	13	6	16	15	1.3
Sao Paulo	12	▲ 1	9	7	11	19	19	3.5
Moscow	13	▲ 1	17	15	8	2	20	1.0
Austin	14	NEW	16	14	18	5	2	1.9
Bangalore	15	▲ 4	10	6	20	17	12	4.9
Sydney	16	▼ 4	20	16	17	6	10	1.1
Toronto	17	▼ 9	14	18	14	15	18	1.3
Vancouver	18	▼ 9	18	19	15	14	11	1.2
Amsterdam	19	NEW	15	20	10	18	16	3.0
Montreal	20	NEW	19	17	16	13	17	1.5

Figure 8: Global Startup Ecosystem Ranking (Compass, 2015)

Power Distance

The first measurement of power distance represents the comfort to accept (1) power being distributed unevenly and (2) an individual being able to influence over others’ ideas, decisions, and behaviors. Within the context of the U.S., ranking 40 out of 100, Americans are willing to accept some power distance and inequality but, generally, expect to be treated fairly and well by those at all levels within an organization and society more broadly. German power distance is slightly lower ranking at 35. This ranking is evidenced by a highly decentralized society with strong power within the Länder and a strong middle class. When comparing Germany and the U.S., the power distance between the countries is not

drastically different. However, when looking at the other countries with cities ranking in the top ten, there is a greater spread between countries. Israel holds a 13, the U.K. holds a 35, and Singapore holds a 74.

Individualism

The next measure of individuality measures interdependence between individuals of the society (i.e., the prevalence of “I” compared to collectivist “we” operative understandings.) In this factor, the United States shows as very individualistic with a rating of 91, with most operative orientations being about the individual and his or her family unit. The German sense of individualism is significantly lower at 67, which still shows an individualistic society,

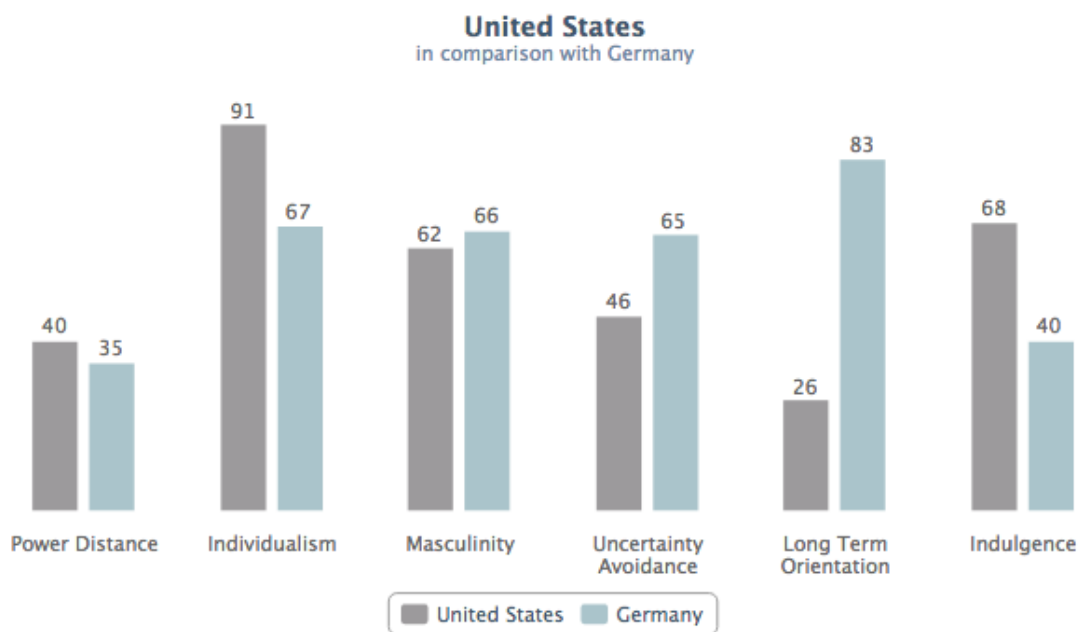


Figure 9: Model of National Culture (Hofstede et al., 2010)

but with a greater consideration to the common collective society as compared to the United States. This can be seen in the German loyalty to one’s employer and more robust social welfare system. When bridging in the other countries in the analysis, Israel and the U.K. represent two more individualistic societies with ratings of 54 and 89, respectively. Like many Western societies, individualism and independence are prevalent cultural values that can influence individual achievement and goal setting (Brandl & Bullinger, 2009). The trend breaks with Singapore, which is a collectivist country with a scoring of 20. Despite new venture creation being associated with individualism, collectivism may encourage enterprising strength in other ways (e.g., through joint efforts to mobilize resources) (Tiessen, 1997).

Masculinity

The third measure is a masculinity index, which ranks competitiveness (i.e., being the best) versus quality of life. The U.S.’s 62 rating can be seen in the strong American ethic of living to work. In this measurement, the United States and Germany rank close to each other, with Germany at only four points higher at 66. Germans are also known to value performance and value their work as representing their talents and as informing their self-

esteem. The three other countries also scored towards the middle of the ratings with Israel, the U.K., and Singapore scoring 47, 66, and 48, respectively.

Uncertainty Avoidance

Risk taking is electing to choose an uncertain option based on its anticipated and postulated likely outcome (Elston & Audretsch, 2010). By nature, entrepreneurship is both a role and activity that assumes a substantial amount of risk (Kirby, 2006). In the uncertainty avoidance measure, the U.S. ranks below average at 46, which means that Americans are generally accepting of new ideas, expressions of thought, innovations, products, and activities. Germans have a ranking of 65 out of 100, which shows a relative aversion to new ideas and innovations relative to the overall American population. There is an orientation to being deductive rather than inductive, being systematic rather than spontaneous, and detail oriented rather than holistic. This orientation can also be seen within the German tendency to value expertise as a method to systematically lower uncertainty. When looking at the other countries that hold top cities of entrepreneurship, Israel and the United Kingdom, we see large variance. Israel has a rating of 81, U.K. holds a rating of 35, and Singapore has an 8 out of 100.

Long-term Orientation

A long-term orientation relates to a society's attention to preserve history and traditions compared to balancing this with the society's present and future challenges. The U.S.'s low ranking of 26 indicates Americans' (1) willingness to adapt and change based on perceived present and future needs and (2) evaluate their performance and success within a short-term period, such as a quarterly basis, as compared to a longer-term perspective. The long-term orientation measurement shows the starkest contrasts between the U.S. and Germany, with Germany holding an 83 ranking, 57 points higher than that of the U.S. Germans tend to be pragmatic and thrifty, with a longer-term orientation on what shows the reality of the situation at hand. Sitting between the two countries stand the other three within the secondary analysis, Israel, U.K., and Singapore, each rated as 38, 51, and 72, respectively.

Indulgence

The final measure of indulgence shows Americans as rating above average at 68, which is emblematic of the expression, "work hard, play hard." Germany ranks 28 points lower at 40 out of 100, which indicates the more conservative orientation and tendency of Germans to hold off on impulsive behaviors. This strained behavior can also be a sign of pessimism and conservatism. Within indulgence, there is no reported rating for Israel, but the U.K. has a rating of 69 and Singapore has a 46.

Recommendations: Developing Entrepreneurship Education

The final section discusses recommendations on how the American and German contexts can improve their entrepreneurial ecosystems through improving access to high-quality entrepreneurship education. Entrepreneurship education serves as a critical piece to developing the supports and culture of an entrepreneurial ecosystem, critical for all ages and demographics because it serves as "one of the most important foundations for economic development...[and] a major driver of innovation and economic growth" (World Economic Forum, 2011, p. 7).

Within both the U.S. and Germany, standardizing any aspect of entrepreneurship education across states is a challenge. Compulsory education in both instances is subject to significant state-level control, which limits the ability to introduce entrepreneurship education measures at the national level. Despite the regionally controlled educational curriculum, both countries have recommended offering entrepreneurship education.

United States

The United States is in a strong position in terms of how the six cultural dimensions support a culture, overall, that seems to foster a strong entrepreneurship ecosystem, yet there are still persisting challenges and opportunities for development when it comes to policies and practice for entrepreneurship education.

When looking at some of the trends from the 2015 Global Entrepreneurship Monitor report for the United States, education needs to be able to reach those of all ages, ethnicities, and genders. Within the American context, entrepreneurship and entrepreneurship education are considered attractive and valuable, yet the access to this type of learning in compulsory education is limited. There are many online repositories geared towards educators across age levels, but more effort to instruct teachers on how to teach entrepreneurship and use the materials available would benefit future generations.

Americans generally report being confident in their abilities to become entrepreneurs, particularly relative to other countries. However, this confidence does not necessarily connect to skills. Having low-cost, accessible online learning opportunities for adults could help provide a more equitable way for aspiring entrepreneurs to have access to the information they need. This is particularly critical as the number of Americans reporting knowing an entrepreneur has been declining (Kelley et al., 2015).

Furthermore, the United States currently lacks a common credential framework between states for vocational education and the recognition of informal and nonformal forms of education. Such credentials could help universally validate the learning and achievements of those who chose to continue their learning. Such frameworks have been proposed for development (Ganzglass et al., 2011).

Some of the greatest hurdles within American entrepreneurship relate to matters of diversity, access, and ecosystem consistency. African Americans represent some of the highest entrepreneurial activity rates, but have significantly less representation in having established businesses. This is signaling a potential opportunity for the education sector to provide support for American business owners to be able to maintain, sustain, and grow their businesses. With the Latino and Asian populations, there is a need to promote even early-stage entrepreneurial activity. The education sector should locally seek to support Latino and Asian communities by looking into the perceived barriers for these populations (e.g., attitude, perceived skill levels, having difficulty accessing information, language barriers).

The representation of women entrepreneurs is also a critical area in need of support. 39 % of the total entrepreneurial activity in the United States comes from women, with high representation within social entrepreneurship activity (accounting for 49 %). Women are also often becoming entrepreneurs with less funds. This signals to the education sector to expand the field and ethnic diversity of female entrepreneurs, while providing supports to women on grant writing and fund raising. Across all American entrepreneurs, bank loans and

financing are the most popular forms of funding; however, women are significantly less likely to report this than their male counterparts. This might indicate the need to educate women on approaching financial institutions. Alternatively, this might note that women are coming up with less commercial business ideas (e.g., social sector positions).

Germany

Within Germany, challenges exist both structurally and culturally. The national level provides frameworks and guidance, but the Länder are responsible for the implementation. Because of this, some Länder are more progressive in their addition of entrepreneurship education than others (European Commission, 2007). This can present significant challenges for regions less experienced with entrepreneurship education. In many Länder, entrepreneurship education is not frequently offered within compulsory education. Despite the ability to reasonably introduce national level policies on entrepreneurship education, bringing entrepreneurship education into the schools needs to be a priority because developing this space can help mobilize and engage Germany's next generation of entrepreneurs (Block, 2011).

Across all levels, Germany is well positioned to structure entrepreneurship education within its institutions. As of December 2015, Germany, along with 25 other countries, mapped their national qualifications frameworks to the European Qualifications Framework (EQF) (UNESCO ILL, 2015). This creates a unique benefit for Germany to engage in student exchanges, particularly at the vocational and higher education levels. Besides being able to access quality education and training internationally, the uniformity in credit and credential transferability within the Eurozone can help students access already existing high-quality entrepreneurship education programming abroad, with many exchanges being eligible for funding support from the European Commission.

Technology as a medium of access to entrepreneurship education (e.g., hybrid incubator programs, MOOCs) and information exchange (e.g., educator networks) are a great option to facilitate entrepreneurial learning in areas without formalized programs (especially challenging in rural environments) and to help inexperienced teachers gain access to materials and expertise. However, the validity of online learning, especially through not-for-academic-credit courses, might be a challenge for the German context due to its highly structured and credential-oriented environment. As for teacher networks, such initiatives are already in the works at the higher education level (e.g., Coneect Network's online platform).

As a further point to training faculty within entrepreneurship education, many programs claiming to teach entrepreneurship, particularly at the university level, are relics from a former management and business faculty, even using faculty who formerly taught in these subjects. In interacting with academic staff across Germany, the preparedness of university staff to effectively teach in entrepreneurship at some universities has been positioned as being questionable. Furthermore, Günther & Ritter (2007) note that the representation of female professors in entrepreneurship is low, with female Chairs representing only 9 % in 2007. This is especially challenging, as Germany has a stronger gender gap in entrepreneurship. Providing continuing education and development opportunities for aspiring entrepreneurship educators with access to funding and additional supports to encourage female academic staff to participate would provide momentum for the development and expansion of high-growth entrepreneurship education within German universities.

A significant and lasting cultural challenge within the German context is attempting to soften the cultural dimension of uncertainty avoidance. This will need concerted effort both at the individual and organizational levels. For many educational institutions, entrepreneurship education is a new territory that presents uncertainty and risk along with its opportunities. This will need to be a focal area of both leader and teacher training as well, as these individuals will serve as the examples for the students.

With this all in mind, recommendations to advance Germany's entrepreneurship education development should manifest in a more comprehensive strategy directive, highlighting local programs of excellence to serve as models, offering technology-facilitated access to entrepreneurship education (especially outside of urban hubs), offering public funds for teacher training and program support, and developing an entrepreneurship pipeline for women that encourages them to study, teach, and practice entrepreneurship:

“Germany is already positioned to become the birthplace of new technology-based, fast-growing, and globally acting companies. The government recognizes the importance of entrepreneurship and acts on many levels to build a sustainable ecosystem. The crucial question is if Germany will also succeed to ignite the entrepreneurial spirit in its universities and among its citizen overall to transform itself from a ‘land of ideas’ into a ‘land of entrepreneurs’” (Fuerlinger et al., 2015, p. 21).

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