

Index

- Acs, Z. 12, 17–19, 22–3, 28–9, 34, 39
- Amezcuca, A.S. 129, 131, 136
- anchor companies 6, 43, 60–61, 78, 83
- Application Developers Alliance 99
- Arch Grants
- aim to promote and celebrate entrepreneurship 61, 131, 136
 - background to 63–4
 - business plan competition 114
 - connectivity at multiple levels 134
 - as “great environment” for startups 122
 - interactions
 - beyond industrial sector 66
 - proximity to enhance 66–7, 90
 - knowledge exchange 115–16
 - as major support organization 62
 - number of participants
 - interviewed 132
 - peer-based learning 64–5, 90, 116–17
 - performance of firms 114–15
 - recipients and supports
 - location of 68
 - network map of 70
 - scaling up companies 120
 - seed money 120, 131
 - support
 - collaboration and co-ordination between organizations of 71–2, 124
 - multiple layers of 67–71, 123
 - psychological 65–6
 - Twitter accounts 99, 111, 123
- Association for University Technology Managers (AUTM) 127, 138–9
- Audretsch, D.B. 12–13, 17, 19, 23, 31, 34, 39
- “big business” city 60
- BioGenerator 62, 71
- BioSTL 61–2, 69–70, 106, 109
- bootstrapping 3, 87–91, 120, 129, 131
- Business Dynamics Statistics (BDS)
- limitations of data 29
 - longevity of new firms 134
 - metropolitan areas 35
 - in regression analysis 35, 144
 - reliability of data 29
 - revealing sharp rise of startup activities in St. Louis 61
 - startup rates in all industries 30, 144
- business mentors 81–4, 91, 111–12, 117
- business plan competition 6, 63–5, 114, 130, 139
- business plans 115, 130–31, 138
- business service companies 77–85, 114, 117–18
- Cambridge Innovation Center (CIC) 1, 62, 121, 136
- Capital Innovators 61–2, 67–8, 71–2, 99, 106, 111, 123–4
- Center for Emerging Technologies 62, 69, 99, 106, 111, 123
- City of Fountains *see* Kansas City
- co-ordination
 - between ESOs 124–5

- between support organizations 71–2, 90
- collaboration
 - at local level 55–6
 - between support organizations 71–2
 - vertical 13
- communities of Twitter accounts
 - Kansas City 103–7, 110–11, 123
 - St. Louis 106–12, 123
- connectivity
 - Arch Grants as locus of 64
 - embed in entrepreneurial context
 - recommendation 134–5
 - universities' ability to 139
 - between entrepreneurs and support organizations as crucial 137
 - facilitating local 55–6
 - increase within regions
 - recommendation 134
 - universities' ability to 139
 - organized at regional level 42
 - as primary source of
 - entrepreneurship development 140
 - as process activity 140
 - social media and content analysis
 - enriching 141
- continuous learning 4–5
- CORTEX 61–2, 67, 90
- Cultivation Capital 61–2, 71–2, 109, 111, 123

- data for entrepreneurship 139–41
- Defense Advanced Research Projects Agency (DARPA) 128
- Drucker, P.F. 9–10, 19

- Economic Development Administration (EDA) 127–8
- ecosystem catalysis 56–7, 58
- ecosystem studies 24–5
- Edquist, C. 8–9, 11–12
- entrepreneurs
 - captivating 136–7
 - classic versus casual styles 1–4, 113
 - cultivating variety of sources 123–4, 129, 132
 - defining 9–10
 - developing and using new technologies 13, 131
- ESOs
 - benefitting from co-ordination
 - between 124–5
 - importance of 121–2
 - go-to place for 56, 58, 95, 135
 - importance of learning 4–5, 115–16, 136
 - importance of peer- and mentor-based feedback and support organizations 116–18
- interviews
 - 1 Million Cups 52–8, 116, 132
 - Arch Grants 63–92, 132, 134
 - local learning system 122–3
 - multiple layers of support for lone 67–71
 - as people who create inventions 20
 - as people who execute business plans 130
 - as people who start new companies 20–21
 - power of incremental and internal growth 120–21, 131
 - role to identify market niche 118–20, 130
 - Twitter accounts 94–7, 103–8, 111–12
 - universities increasing connectivity of 139
- entrepreneurship
 - 5-50 rule 3–4, 114
 - as buzzword 9–10
 - caveats and analogy 132–4
 - commercialization opportunities 13
 - concept 8–10
 - data for 139–41
 - definition 9

- differentiating with innovation
 - 9–10, 20, 22, 125
- as driven by human-based activities 41–2
- as driver of economic development 21–2
- ecosystem studies 24–5
- future research avenues 141
- iceberg analogy 133–4
- just-in-time production system
 - and 137–8
- as largely local phenomenon 22
- local system of 25–6, 110, 123–4, 141
- measures of
 - areas covered 35
 - correlation with purchasing power 34
 - establishment-based 28–9
 - Inc.* firms 31, 33
 - new firm creation in all industries 29–30
 - new firm creation in high-tech industries 29, 31–2
 - regression analysis 35–41, 142–4
 - research activities 34
 - self-employment 27–8
- as output and process 20–26
- policy recommendations
 - avoiding provision of full services 136–7
 - avoiding public venture funds and incubators 136
 - creating go-to place for entrepreneurs 135
 - embedding connectivity 134–5
 - increasing connectivity within regions 134
- regional factors associated with 22–3, 41, 48
- as risky business with major reorientation 114–15
- role of universities 139
- Twitter accounts related to
 - information sources followed 95–103
 - Kansas City 103–7, 110–11, 123
 - possibility of hidden 112
 - St. Louis 106–12, 123
- entrepreneurship model
 - comparison with innovation model 129–32
 - summary of 129
- entrepreneurship support organizations (ESOs)
 - co-ordination between 124–5
 - importance of 121–2
 - Kansas City 104–7, 110, 123
 - network connections 70
 - St. Louis 62, 106, 109, 111, 123
 - Twitter accounts 96–8, 100, 104–7, 109–11, 123
 - see also* support organizations
- establishment-based measure
 - 28–9
- 5-50 rule 3–4, 114
- Feldman, M.P. 12–13, 16–17, 19–20, 22, 24, 31
- Freeman, C. 9, 11, 16
- Gateway City *see* St. Louis
- “go-getters” 84, 91
- go-to place for entrepreneurs 56, 58, 95, 135
- Godin, B. 7, 14, 126, 140
- government
 - role of 7, 128
 - Twitter accounts 96–7, 100–107, 109–11
- government support
 - Inc.* firms 89
 - ineffectiveness 128–9
 - linear model in 127–8
 - provision of seed money 129
 - research funding 34, 38, 40, 66, 133, 139
- growth
 - based on market niche 75–8, 90–91, 119
 - incremental 87, 91, 120–21, 129, 131

- in innovation and entrepreneurship models 129, 131
- waves of 10
- health companies 76–8, 81, 84–6, 119, 132
- Helzberg Entrepreneurship Mentorship Program (HEMP) 82–3, 117
- “hidden industrial policy” 128
- high-growth companies
 - definition 31
 - facing pivots 114
 - hyper growth and survival 133–4
 - interviews in Kansas City and St. Louis 72–92, 145
 - model
 - college completion rate 39
 - map of firm ratios 33
 - regression analysis 35–7, 142–4
 - significance of SBIR 38
 - similarity to high-tech startup model 37
 - VC-type investment 38–9, 120
 - prior studies on 25
 - valuing business mentors 117
- high-tech
 - as not driving economy through entrepreneurship 40
 - synonymy with innovation 19–20
- high-tech companies
 - bias towards as cause of ineffectiveness 128–9
 - Kansas City
 - as home to 43–4
 - survey of 45–51, 57–8, 119
- high-tech industries
 - as innovation measure 15–16, 18
 - new firm creation, as measure of entrepreneurship 29, 31–2
- high-tech model
 - college completion rate 39
 - population flux 39–40
 - regression analysis 35–7, 142–4
 - similarity to high-growth firm model 37
- universities 38
- use of variables 34
- VC-type investment 38
- human capital
 - education level and population flux as factors of 40
 - as element of local entrepreneurship ecosystem 24
 - importance of 39
 - innovation as function of 34
 - startup activities and 35
- human transfer 138–9
- iceberg analogy 133–4
- Inc.* firms
 - as entrepreneurship measure 31, 33
 - financial sources 89
 - as high-growth firms 31
 - interviews
 - advantages 73
 - bootstrapping and self-finance 87–91, 120
 - business mentors 81–4, 91, 117
 - changes and pivots 78–81, 91, 114–15
 - cities conducted in 73–5, 122–3
 - descriptive statistics 74
 - growth based on market niche 75–8, 90–91, 119
 - locally recruited and trained talent 84–7, 91–2
 - number of participants 132
 - target firms 73
 - map of firm ratios 33
 - regression analysis 35–7, 142–4
 - results 38–42
- incremental growth 87, 91, 120–21, 129, 131
- incubators
 - aim to provide comprehensive service 131–2
 - recommendation to re-tailor operations 136
 - role of public sector 131
 - in St. Louis 62

- survival during incubated period 129
- T-Rex functioning as 61, 66–7, 121
- individual company level
 - entrepreneurs having to learn 115–16
 - entrepreneurship as risky 114–15
 - identifying market niche 118–20
 - importance of peer- and mentor-based feedback and support organizations 116–18
 - power of incremental and internal growth 120–21
- Innovate VMS 61, 71
- innovation
 - as buzzword 9–10
 - as coming from something other than research 47
 - definition 8–9, 74
 - differentiating with entrepreneurship 9–10, 20, 22, 125
 - dominant approach to promoting 7
 - Kansas City having right assets for 41, 44
 - measures and limitations 14–20, 140
 - in relation to knowledge spillover 12–14, 38
 - synonymy with high-tech 19–20
 - systems of innovation theory 10–12
 - see also* linear model of innovation
- “innovative entrepreneurship” sectors 28
- interaction
 - beyond industrial sector 66
 - with business mentors 81–2
 - connectivity and 134–5
 - importance of embedding 136
 - local nature of 122–3
 - peer-based learning 53–4, 64–5, 115, 117
 - proximity to enhance 66–7, 90
 - psychological support 65–6
 - with specific universities 48–50, 57
- internal growth 120–21
- interviews
 - of 1 Million Cups entrepreneurs 52–8
 - advantages and drawbacks 141
 - of high-growth firms 72–92, 145
 - possibly having selection bias 119, 132
- invention 8–9, 16, 119–20, 125–7
- IT companies 75–6, 78, 80, 83–8, 117–18, 120–21
- ITEN 61–2, 67–8, 71, 93, 109, 111, 121, 123, 135
- Jaffe, A.B. 12, 16, 31
- job creation 21–2, 27, 60–61, 89
- just-in-time production system 137–8
- Kansas City
 - background to 43–5, 59
 - having right assets for innovation and entrepreneurship activities 41
 - interviews of high-growth firms 72–92, 118, 120–22, 125, 135
 - as metropolitan area 43
 - multiple circles of mentorships 117
 - startup rates in 41–2
 - survey of high-tech firms 45–51, 57–8, 119
- Twitter accounts
 - communities 103–7, 110–11, 123
 - most followed academic accounts 102
 - most followed association accounts 99
 - most followed ESO accounts 97–9
 - most followed government accounts 100–102

- most followed service providers 100
- number of entries 94
- number of followers 95
- number of sources 94–5
- types of 96–7, 123
- see also* 1 Million Cups (IMC)
- Kauffman, E.M. 6, 82–3, 117, 123, 136
- Kauffman Foundation 6, 45, 52–3, 82, 94–5, 97, 99, 106, 110–11
- KCSOURCELink 94, 123
- knowledge
 - “new” 14, 125
 - sharing 65
 - stock of 25–6
 - types to acquire 115–16
- knowledge spillover
 - dependent variable 34
 - literature on 12–13, 20, 31, 34
 - taking place between entrepreneurs 4
- knowledge spillover theory 14, 23, 25, 38–9, 48
- KU Med 48–9
 - see also* University of Kansas (KU)
- Lab 1500 62, 69, 98–9, 109, 111
- learning
 - continuous 4–5
 - experimental 116
 - importance for entrepreneurs 4–5, 115–16, 136
 - interviews for portraying nature and level of 141
 - local system of 122–3
 - as process activity 116, 140
 - see also* peer-based learning
- linear model of innovation
 - assumed processes of 7, 125–6
 - caveats and analogy 132–4
 - comparison with entrepreneurship model 129–32
 - current policy following 125, 129
 - in government support 127–8
 - ineffectiveness in 128–9
 - revisited and applied to entrepreneurship 139–41
 - summary of 129
 - in technology commercialization offices by universities 126–7
- local connections, facilitation of 55–6
- local learning system 122–3
- locally recruited and trained talent 84–7
- market niche
 - growth based on 75–8, 90–91, 119
 - identifying 118–20, 130
- Marshall, A. 22
- Mayer, H. 41, 43, 46, 50–51
- measures
 - of entrepreneurship 27–35
 - of innovation 14–20
- mentor-based feedback 116–18
- mentors
 - contrasted to Twitter-based relationship 111–12
 - presence of 81–4
 - as source of new ideas 48–50, 56
 - St. Louis 62, 68–9, 71
- metropolitan areas
 - divided between two states 44
 - Kansas City as 30th largest US 43
 - number and definition of 35
 - regression results at level of 44–5, 92, 120
 - right assets for innovation activities 41
 - startup rates 42
 - universities 38, 92
 - used as unit of analysis 29
- Michael Jordan analogy 133
- MIT 79, 119–20
- Mosaic Project 61
- National Establishment Time-Series (NETS)
 - provision of detailed industry information 29
 - in regression analysis 35–6, 144

- startup rates in high-tech sectors 32, 144
- National Institute of Standards and Technology (NIST) 25, 128
- National Institutes of Health (NIH) 34, 38, 40, 70, 144
- National Nanotechnology Initiative 128, 140
- National Science Foundation (NSF) 14, 140
- National Venture Capital Association (NVCA) 88–9
- network analysis
 - for community detection 103–8
 - general Twitter following patterns 96–103
 - methodology 93–5
 - missing data due to non-response as problematic 95
 - summary of results 108–11
- new firm creation
 - in all industries 29–30
 - establishment-based data limitation 28
 - in high-tech industries 29, 31–2
- niche market *see* market niche
- 1 Million Cups (IMC)
 - background to 52–3
 - demographic attracted to 141
 - difficulties of developing networks prior to attending 57–8, 122
 - entrepreneur interviews
 - ecosystem catalysis 56–7
 - facilitating local connections 55–6, 58
 - value of peer-to-peer learning 53–4, 57, 90, 116
 - example of embedding connectivity 134–5
 - as major support organization 62, 70
 - number of participants interviewed 132
 - serving as go-to place for entrepreneurs 56, 58, 95, 135
- open innovation systems 13
- output
 - blurring with innovation input 19–20
 - entrepreneurship as 20–26
 - patents as measure of innovation 12, 17–18, 140
 - of scientific and technological activities 14
- patents
 - entrepreneurship and 140
 - as innovation measure 16–19
 - innovation model 130, 132–3
 - knowledge spillover and 12
 - startup activities 35–9, 40, 42, 44–5, 144
 - technology transfer office 126–7
 - top US patent granted organizations 19
- peer-based feedback 116–18
- peer-based learning
 - importance of
 - IMC 53–4, 57, 90, 116
 - Arch Grants 64–5, 90, 116–17
 - interaction 53–4, 64–5, 115, 117
 - psychological support 65–6
 - value of 53–4, 57, 90, 116
- peer-to-peer learning *see* peer-based learning
- pivots and changes 78–81, 91, 114–15, 123, 131
- policy and practice, current
 - comparison of models 129–34
 - linear model
 - assumed processes of 7, 125–6
 - in government support 127–8
 - ineffectiveness in 128–9
 - in technology
 - commercialization offices by universities 126–7
 - summary of models 129
- policy implications
 - data for entrepreneurship 139–41
 - entrepreneurship and just-in-time production system 137–8
 - future research avenues 141

- from technology transfer to human transfer 138–9
- policy recommendations
 - avoid captivating entrepreneurs or providing full services 136–7
 - avoid public venture funds and incubators 136
 - connectivity
 - embed in entrepreneurial context 134–5
 - increase within regions 134
 - create go-to place for entrepreneurs 135
- Porter, M.E. 11, 15–16, 22, 24, 110, 116
- process
 - entrepreneurship as 20–26
 - learning as 116, 140
- Prosper 61–2
- proximity 66–7, 90
- psychological support 65–6
- public venture funds 136
- R&D
 - entrepreneurship rates and 23
 - in high-tech sectors 45, 48–9
 - as innovation measure
 - activities 14–15, 19–20
 - intensity 15–16, 18–19
 - personnel and expenditure 14, 18
 - in life cycle of technology transfer 127
- regional case studies *see* Kansas City; St. Louis
- regional clusters 40
- regional divergence example 39
- regional factors
 - associated with entrepreneurship 23, 41
 - for firms' development 47–8, 51, 57
- regional industrial structure 22–3
- Regional Innovation Strategies (RIS) program 128
- regional level
 - connectivity of entrepreneurs organized at 42
 - cultivation of variety of sources 123–4
 - entrepreneurship support organizations
 - co-ordination between 124–5
 - importance of 121–2
 - importance of role model entrepreneurs 25
 - local learning system 122–3
 - recommendation to increase connectivity 134
 - regional innovation system 11–12
 - stock of knowledge 25–6
 - Twitter accounts 97, 99, 110
 - where production and innovation system is organized 11
- regression analysis 35–37, 142–4
 - results 38–42
- San Jose 41–2, 142
- Sandia National Laboratories 128
- Schumpeter, J.A. 8–10, 20–21, 74
- seed money 128–9, 131–2
- self-employment 27–8, 31
- self-finance 87–90, 120
- Silicon Valley 22, 29, 41, 60, 75
- SixThirty 61–2
- Skandalaris Center 62, 71–2, 93, 102–3, 106, 108–9, 111, 121, 124
- Small Business Administration (SBA) 13, 17–18, 100–101, 103, 105, 114, 128, 135
- Small Business Innovation Research (SBIR) 1–2, 35–8, 40, 66, 115–16, 144
- St. Louis
 - Arch Grants
 - interaction beyond industrial sector 66
 - multiple layers of support 67–71
 - peer-based learning 64–5

- proximity to enhance
 - interactions 66–7
- psychological support 65–6
- seed money 131
- and startup ecosystem 63–4
- background to 6, 59–61
- having right assets for innovation and entrepreneurship activities 41
- interviews of high-growth firms 72–92, 117, 120–22
- level of entrepreneurship 6, 29
- major support organizations in co-ordination between 71–2, 124–5
- location 68
- names 62
- network 70
- overlapping functions 124
- Twitter accounts
 - communities 106–12, 123
 - most followed academic accounts 102–3
 - most followed association accounts 99
 - most followed ESO accounts 97–9
 - most followed government accounts 100–102
 - most followed service providers 100
 - number of entries 94
 - number of followers 95
 - number of sources 94–5
 - types of 96–7, 123
- St. Louis Regional Chamber 61, 99, 106, 109
- startup companies
 - in all industries 30, 35, 39, 144
 - effects of little population growth of low flow of people 40
 - in high-tech sectors 32, 35–6, 39, 40, 144
 - as net job creators in US 21
 - rates in metro areas and US 41–2
 - in St. Louis 63–72, 122
 - university-based 129, 138–9
- startup ecosystem 63–72
- startup-related Twitter accounts 94–9, 103, 105, 110–11
- STL VentureWorks 71
- support organizations
 - collaboration and co-ordination between 71–2
 - importance of 116–18
 - see also* entrepreneurship support organizations (ESOs)
- surveys
 - advantages and drawbacks 141
 - of financial sources of *Inc.* firms 89, 120
 - of high-tech companies 45–51, 57–8, 93, 132–3
 - as innovation measure 17–18
 - possibly having selection bias 119, 132
- systems of innovation theory 10–12, 14
- T-Rex 3, 61–2, 66–7, 90, 111, 121, 136
- talent
 - locally recruited and trained 84–7, 91–2
 - technology 47–8, 50
- Taylor, F.W. 137–8
- technological infrastructure 20
- technology commercialization offices
 - bridging efforts 139–40
 - ineffectiveness 128–9
 - linear model in 126–7
 - Twitter accounts 102
- technology talent 47–8, 50
- technology transfer 138–9
 - see also* technology commercialization offices
- Twitter
 - analysis
 - advantages and drawbacks 141
 - caution 110
 - methodology of 93–5
 - as novel 110
 - community detection

- Kansas City 103–6, 110–11, 123
- St Louis 106–12, 123
- following patterns 96–103
- local nature of interaction reflected by 123
- summary of results 108–12
- universities
 - different roles in entrepreneurship 139
 - generation of startups 129, 138–9
 - interaction with 48–50, 57
 - linear model in technology commercialization offices 126–8
 - local 79, 85, 91–2
 - patents or licenses from regional 132
 - research 24–5, 34, 35–8, 40, 44, 46, 51, 92, 139
 - Twitter accounts 96, 102–3, 108, 110
 - University of Kansas (KU) 44, 48–50, 85, 92, 102, 107, 110
 - University of Missouri – Kansas City (UMKC) 44, 48–50, 85, 102
 - US Patent and Trademark Office (USPTO) 1, 16, 19
 - “valley of death” 7, 128, 139
 - venture capital (VC)
 - essential for entrepreneurial culture 24
 - government role to provide 128
 - not prerequisite for firm growth 25
 - as significant research factor 35–6 in St. Louis 62
 - venture capitalists (VCs)
 - business plans and 130
 - as financial source of *Inc.* firms 89
 - interviewed firms using finance from 88, 90
 - known to invest in high-tech sectors and high-growth companies 38
 - role of 88–9, 91, 120–21
 - Washington University (WashU) 61–2, 72, 85, 92–3, 102–3, 106, 108–9, 111, 121, 124
 - work ethic 86–7