

ONLINE APPENDIX

To Article:

External Interfaces or Internal Processes? Market Positioning and Divergent Professionalization Paths in Young Ventures

Alicia DeSantola

aliciads@uw.edu

Foster School of Business
University of Washington
Box: 353226
Seattle, WA 98195
USA

Ranjay Gulati

rgulati@hbs.edu

Harvard Business School
Morgan Hall 317
Soldiers Field
Boston, MA 02163
USA

Pavel I. Zhelyazkov

pzhelyazkov@ust.hk

Department of Management
Lee Shau Kee Business Building
The Hong Kong University of
Science and Technology
Clear Water Bay, Kowloon
Hong Kong

Contents:

- Appendix Table A1: List and Count of Twenty Most Common External Interface and Internal Process Titles in the Dataset
- Appendix Table A2a and A2b: Kolmogorov–Smirnov Outcome Comparisons
- Appendix Table A3: Ordered Logit
- Appendix Table A4: Random Effects GLS, Firms Founded After 2005
- Appendix Table A5: Random Effects GLS, Alternative Index
- Appendix Table A6: Random Effects GLS, Pre-IPO
- Appendix Table A7: Random Effects GLS, Peer Adoption Controls Removed
- Appendix Table A8: OLS Regression, No Controls, Fixed Effects, Random Effects, or Clustering
- Appendix Table A9: Random Effects GLS, Milestones Combined for Slope Test
- Appendix Table A10: Random Effects GLS, Alternative (A)typicality Measure

Appendix A1: List and Count of Twenty Most Common External Interface and Internal Process Titles in the Dataset ^a									
Marketing/Sales		Customer		Accounting		Human Resources		Finance	
Title	#	Title	#	Title	#	Title	#	Title	#
regional sales manager	2167	account executive	4022	controller	1838	human resources manager	477	cfo	2100
sales director	1507	account manager	3648	accounting manager	1195	hr manager	438	chief financial officer	1492
director of sales	1278	senior account exec.	1179	senior accountant	877	director, human resources	405	vp finance	471
marketing manager	1275	technical support engineer	977	staff accountant	795	director of human resources	271	director of finance	442
director of marketing	1212	senior account manager	907	accountant	643	hr director	232	financial analyst	359
sales engineer	1156	customer success manager	738	corporate controller	643	recruiter	232	finance manager	271
territory manager	906	community manager	531	assistant controller	337	hr generalist	225	chief revenue officer	233
sales	807	account director	526	sr. accountant	141	recruiting coordinator	203	vice president, finance	223
regional sales director	757	enterprise account executive	479	accounts payable specialist	132	vice president, human resources	194	senior financial analyst	202
sales manager	717	customer service rep.	477	senior accounting manager	122	human resources	163	finance director	142
senior sales engineer	696	client services manager	445	accounting specialist	101	human resources generalist	157	vp of finance	142
vp marketing	632	sr. account executive	406	senior staff accountant	99	technical recruiter	154	vice president of finance	140
marketing director	623	regional account manager	349	director of accounting	80	hr consultant	150	financial controller	130
sales development rep.	589	strategic account manager	318	accounts payable	69	vp human resources	121	sr. financial analyst	83
sales executive	571	director, client services	299	accounting	68	senior recruiter	97	revenue manager	70
vice president, sales	556	customer service manager	270	revenue accountant	68	hr coordinator	95	finance	66
marketing coordinator	528	technical support	268	junior accountant	65	training manager	95	director, financial planning & analysis	63
vice president of sales	525	engagement manager	237	accounts receivable specialist	64	recruiting manager	94	vp finance and administration	55
product marketing manager	512	customer support manager	230	accounting consultant	63	human resources consultant	90	senior director of finance	54
vp sales	506	customer support	217	billing specialist	63	corporate recruiter	87	finance intern	51

a. Counts are by person-firm-year

Appendix Table A2a: Kolmogorov–Smirnov Outcome Comparison Across Datasets for U.S. Ventures Founded 2005-2010^a

	Sample	Full Crunchbase	Full VentureXpert	Combined K-S p-value (Sample vs. Full CB)	Combined K-S p-value (Sample vs. Full VX)
IPO	4.30%	3.76%	4.67%	1.00	1.00
Acquired	28.30%	25.94%	28.91%	0.41	1.00
Closed (Database Determined) ^b	3.25%	4.78%	1.29%	0.90	0.62
Additional Closed (Resume Data)	9.64%	--	--	--	--
Firm n-size	1,816	6,404	7,777		

a. Outcomes measured as of 2017 b. Note that many researchers using the Crunchbase or VentureXpert databases also infer firm shutdowns based on time since last fundraising. We report the raw database numbers in order to facilitate direct comparison.

Appendix Table A2b: Kolmogorov–Smirnov Outcome Comparison Between Top 25% and Bottom 75% of Sampled Firms by Unconventionality Score^a

	Top 25% of Unconventionality	Bottom 75% of Unconventionality	Combined K-S p-value (Bottom 25% vs. Top 75% of Unconventionality)
IPO	2.67%	5.73%	0.53
Acquired	36.61%	36.61%	1.00
Closed (Database Determined)	2.67%	4.23%	1.00
Additional Closed (Resume Data)	2.13%	5.30%	0.48
Sample firm n-size	937	2,811	

a. Outcomes measured as of 2017

Appendix Table A3: Ordered Logit Predicting Extent of Role Development

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance
	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.
Growth (log)	0.66*** (0.03)	0.67*** (0.03)	0.67*** (0.03)	0.67*** (0.03)	0.45*** (0.04)	0.44*** (0.04)	0.81*** (0.04)	0.81*** (0.04)	0.38*** (0.04)	0.38*** (0.04)
Num. milestones completed	0.24*** (0.02)	0.23*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.27*** (0.02)	0.27*** (0.02)	0.14*** (0.02)	0.15*** (0.02)	0.15*** (0.02)	0.16*** (0.02)
Degree of unconventionality	0.25*** (0.02)	0.15*** (0.03)	0.18*** (0.02)	0.21*** (0.04)	-0.17*** (0.02)	-0.09** (0.03)	-0.12*** (0.02)	-0.01 (0.04)	-0.18*** (0.02)	-0.10*** (0.03)
Unconventionality x milestones		0.06*** (0.02)		-0.02 (0.02)		-0.05** (0.02)		-0.06** (0.02)		-0.05** (0.02)
Num. marketing/sales (log), t-1			0.93*** (0.02)	0.93*** (0.02)	0.32*** (0.02)	0.32*** (0.02)	0.17*** (0.02)	0.17*** (0.02)	0.18*** (0.02)	0.18*** (0.02)
Num. customer support (log), t-1	0.76*** (0.03)	0.75*** (0.03)			0.15*** (0.03)	0.15*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.21*** (0.03)	0.21*** (0.03)
Num. accounting (log), t-1	0.17*** (0.05)	0.18*** (0.05)	-0.07† (0.04)	-0.08† (0.04)			0.35*** (0.04)	0.35*** (0.04)	0.38*** (0.04)	0.37*** (0.04)
Num. human resources (log), t-1	-0.08 (0.05)	-0.07 (0.05)	-0.06 (0.04)	-0.06 (0.04)	0.27*** (0.04)	0.27*** (0.04)			0.14*** (0.04)	0.14*** (0.04)
Num. finance (log), t-1	0.22*** (0.05)	0.23*** (0.05)	0.03 (0.04)	0.02 (0.04)	0.29*** (0.04)	0.29*** (0.04)	0.11** (0.04)	0.11** (0.04)		
Num. admin. support (log), t-1	-0.11* (0.05)	-0.11* (0.05)	-0.15*** (0.04)	-0.15*** (0.04)	0.15** (0.05)	0.15** (0.05)	0.27*** (0.04)	0.27*** (0.04)	0.25*** (0.04)	0.25*** (0.04)
Num. business dev. (log), t-1	0.13** (0.04)	0.13** (0.04)	0.13*** (0.03)	0.13*** (0.03)	0.15*** (0.04)	0.14*** (0.04)	0.10** (0.04)	0.10** (0.04)	0.04 (0.04)	0.04 (0.04)
Num. design (log), t-1	0.09* (0.04)	0.09* (0.04)	0.01 (0.04)	0.01 (0.04)	0.00 (0.04)	0.00 (0.04)	0.10** (0.04)	0.10** (0.04)	-0.01 (0.04)	-0.01 (0.04)
Num. engineering/science (log), t-1	0.53*** (0.02)	0.53*** (0.02)	0.22*** (0.02)	0.22*** (0.02)	0.49*** (0.02)	0.49*** (0.02)	0.77*** (0.02)	0.77*** (0.02)	0.38*** (0.02)	0.38*** (0.02)
Num. infosys (log), t-1	0.06 (0.04)	0.06 (0.04)	0.42*** (0.03)	0.42*** (0.03)	-0.21*** (0.04)	-0.21*** (0.04)	0.05 (0.03)	0.05 (0.03)	0.08* (0.03)	0.08* (0.03)

Table A3 (continued)										
Num. media/publishing (log), t-1	0.15*** (0.03)	0.15*** (0.03)	0.13*** (0.03)	0.13*** (0.03)	-0.06† (0.03)	-0.06† (0.03)	-0.02 (0.03)	-0.03 (0.03)	-0.11*** (0.03)	-0.11*** (0.03)
Num. operations (log), t-1	0.14*** (0.03)	0.14*** (0.03)	0.07** (0.03)	0.07** (0.03)	0.29*** (0.03)	0.29*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.12*** (0.03)	0.12*** (0.03)
Num. product (log), t-1	0.42*** (0.04)	0.42*** (0.04)	0.47*** (0.03)	0.48*** (0.03)	-0.08* (0.04)	-0.08* (0.04)	0.16*** (0.04)	0.17*** (0.04)	0.01 (0.04)	0.01 (0.04)
Num. public relations (log), t-1	-0.20* (0.08)	-0.20* (0.08)	-0.06 (0.07)	-0.05 (0.07)	-0.01 (0.08)	-0.01 (0.08)	0.01 (0.07)	0.01 (0.07)	-0.00 (0.07)	-0.00 (0.07)
Num. unmatched (log), t-1	-0.03 (0.02)	-0.03 (0.02)	0.14*** (0.02)	0.14*** (0.02)	0.22*** (0.03)	0.22*** (0.03)	0.14*** (0.02)	0.14*** (0.02)	0.05† (0.02)	0.05† (0.02)
Percent turnover (log), t-1	2.25*** (0.09)	2.25*** (0.09)	2.00*** (0.10)	2.00*** (0.10)	1.19*** (0.13)	1.19*** (0.13)	1.65*** (0.12)	1.65*** (0.12)	1.05*** (0.11)	1.05*** (0.11)
Percent male (0 to 1)	0.15** (0.06)	0.16** (0.06)	-0.41*** (0.07)	-0.41*** (0.07)	-1.16*** (0.08)	-1.16*** (0.08)	-1.17*** (0.08)	-1.17*** (0.08)	-0.42*** (0.07)	-0.42*** (0.07)
Avg. member age	0.00 (0.00)	0.00 (0.00)	-0.05*** (0.00)	-0.05*** (0.00)	0.02*** (0.00)	0.02*** (0.00)	-0.01** (0.00)	-0.01** (0.00)	0.03*** (0.00)	0.03*** (0.00)
Founding team startup experience	-0.01 (0.04)	-0.01 (0.04)	0.02 (0.04)	0.02 (0.04)	-0.08† (0.05)	-0.08† (0.05)	-0.13** (0.05)	-0.13** (0.05)	0.22*** (0.04)	0.22*** (0.04)
Founding team size	0.12*** (0.01)	0.12*** (0.01)	0.06*** (0.01)	0.06*** (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.24*** (0.01)	0.24*** (0.01)
Num. market categories	-0.00 (0.01)	0.00 (0.01)	-0.06*** (0.01)	-0.06*** (0.01)	0.02 (0.01)	0.02 (0.01)	0.02* (0.01)	0.02* (0.01)	0.05*** (0.01)	0.05*** (0.01)
Peer firm adoption of focal role	-0.89** (0.27)	-0.85** (0.27)	-0.95*** (0.12)	-0.94*** (0.12)	-0.24* (0.12)	-0.23* (0.12)	0.09 (0.10)	0.10 (0.10)	-0.62*** (0.12)	-0.62*** (0.12)
cut1 Constant	17.88 (5912.43)	19.03 (10461.72)	37.27 (7777.25)	36.51 (9791.39)	39.33 (14793.95)	39.35 (14797.93)	35.95 (15042.72)	35.92 (14999.15)	19.99 (5354.18)	19.74 (4717.09)
cut2 Constant	18.25 (5912.43)	19.40 (10461.72)	38.26 (7777.25)	37.50 (9791.39)	39.79 (14793.95)	39.82 (14797.93)	36.59 (15042.72)	36.56 (14999.15)	20.24 (5354.18)	19.99 (4717.09)
cut3 Constant	19.46 (5912.43)	20.60 (10461.72)	41.29 (7777.25)	40.52 (9791.39)	44.21 (14793.95)	44.24 (14797.93)	39.49 (15042.72)	39.46 (14999.15)	20.89 (5354.18)	20.64 (4717.09)
Log likelihood	-28882.04	-28873.37	-25770.29	-25769.37	-18600.36	-18595.73	-20524.47	-20518.98	-23888.39	-23882.80
Pseudo R2	0.24	0.24	0.26	0.26	0.28	0.28	0.27	0.27	0.20	0.20
Observations	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595
Year, founding & regional dummies included.										
†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.										

**Appendix Table A4: Random Effects GLS Predicting
Extent of Role Development For Firms Founded After 2005**

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance
	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.
Growth (log)	0.29*** (0.02)	0.29*** (0.02)	0.22*** (0.01)	0.22*** (0.01)	0.12*** (0.01)	0.12*** (0.01)	0.19*** (0.01)	0.19*** (0.01)	0.14*** (0.02)	0.14*** (0.02)
Num. milestones completed	0.10*** (0.02)	0.10*** (0.02)	0.02† (0.01)	0.02† (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.09*** (0.02)	0.09*** (0.02)
Degree of unconventionality	0.10*** (0.03)	0.02 (0.03)	0.04** (0.02)	-0.00 (0.01)	-0.04** (0.01)	0.01 (0.01)	-0.03** (0.01)	-0.00 (0.01)	-0.04 (0.03)	-0.02 (0.02)
Unconventionality x milestones		0.06*** (0.01)		0.04** (0.01)		-0.04*** (0.01)		-0.02*** (0.01)		-0.01 (0.02)
Num. marketing/sales (log), t-1			0.30*** (0.02)	0.29*** (0.02)	0.09*** (0.02)	0.09*** (0.02)	0.05** (0.02)	0.06*** (0.02)	0.09*** (0.02)	0.10*** (0.02)
Num. customer support (log), t-1	0.13*** (0.02)	0.12*** (0.02)			0.07*** (0.02)	0.08*** (0.02)	0.13*** (0.02)	0.13*** (0.02)	0.12*** (0.03)	0.12*** (0.03)
Num. accounting (log), t-1	-0.14*** (0.04)	-0.13*** (0.04)	-0.04 (0.04)	-0.03 (0.04)			0.20*** (0.04)	0.20*** (0.04)	0.24*** (0.05)	0.24*** (0.05)
Num. human resources (log), t-1	-0.06 (0.04)	-0.05 (0.04)	-0.01 (0.03)	-0.00 (0.03)	0.15*** (0.03)	0.14*** (0.03)			0.12** (0.04)	0.12** (0.04)
Num. finance (log), t-1	-0.02 (0.04)	-0.01 (0.04)	-0.01 (0.03)	-0.00 (0.03)	0.15*** (0.03)	0.14*** (0.03)	0.04 (0.03)	0.04 (0.03)		
Num. admin. support (log), t-1	-0.01 (0.04)	-0.00 (0.04)	-0.00 (0.03)	-0.00 (0.03)	0.07* (0.03)	0.07* (0.03)	0.11*** (0.03)	0.11*** (0.03)	0.14** (0.04)	0.14** (0.04)
Num. business dev. (log), t-1	0.07* (0.03)	0.06* (0.03)	0.04† (0.03)	0.04† (0.03)	0.04† (0.03)	0.05† (0.03)	0.05† (0.03)	0.05† (0.03)	0.03 (0.03)	0.04 (0.03)
Num. design (log), t-1	0.05* (0.03)	0.06* (0.03)	0.11*** (0.03)	0.11*** (0.03)	0.01 (0.03)	0.01 (0.03)	0.08** (0.03)	0.08** (0.03)	-0.05 (0.03)	-0.05 (0.03)
Num. engineering/science (log), t-1	0.31*** (0.02)	0.31*** (0.02)	0.11*** (0.01)	0.11*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.14*** (0.01)	0.14*** (0.01)	0.12*** (0.02)	0.12*** (0.02)
Num. infosys (log), t-1	0.05† (0.03)	0.05† (0.03)	0.08** (0.03)	0.08** (0.03)	-0.02 (0.02)	-0.02 (0.02)	0.05* (0.03)	0.06* (0.03)	-0.04 (0.04)	-0.04 (0.04)

Num. media/publishing (log), t-1	0.06*	0.06*	0.05*	0.06**	0.01	0.01	0.05*	0.05*	-0.03	-0.03
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)
Num. operations (log), t-1	0.06*	0.06*	0.03	0.04†	0.09***	0.09***	0.09***	0.09***	0.09**	0.09**
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Num. product (log), t-1	0.13***	0.12***	0.11***	0.10***	-0.03	-0.03	0.09***	0.09***	0.02	0.02
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Num. public relations (log), t-1	-0.01	-0.02	-0.11*	-0.11**	-0.03	-0.03	-0.06	-0.06	0.02	0.03
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Num. unmatched (log), t-1	0.10***	0.10***	0.08***	0.08***	0.03*	0.03†	0.05**	0.05**	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Percent turnover (log), t-1	0.68***	0.68***	0.31***	0.31***	-0.02	-0.02	0.10**	0.10**	0.06	0.06
	(0.06)	(0.06)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)
Percent male (0 to 1)	-0.17***	-0.18***	-0.14***	-0.14***	-0.10***	-0.10**	-0.06†	-0.06†	-0.06	-0.06
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)
Avg. member age	0.00	0.00	-0.00*	-0.00*	0.00	0.00	0.00†	0.00†	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Founding team startup experience	0.07	0.07	0.04	0.04	-0.00	-0.00	-0.01	-0.01	0.10*	0.10*
	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Founding team size	0.04**	0.04**	0.02	0.02	0.01	0.01	0.01	0.01	0.09***	0.09***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Num. market categories	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Peer firm adoption of focal role	-1.87***	-1.87***	-0.43***	-0.44***	0.31***	0.31***	0.19*	0.19*	-0.09	-0.09
	(0.15)	(0.15)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.13)	(0.13)
Constant	0.00	0.00	-0.32	-0.32	-0.53***	-0.52***	-0.29***	-0.29***	-0.54***	0.06
	(1.00)	(1.00)	(0.27)	(0.26)	(0.15)	(0.15)	(0.09)	(0.09)	(0.13)	(1.00)
Within R ²	0.51	0.51	0.49	0.49	0.39	0.39	0.42	0.42	0.33	0.33
Between R ²	0.29	0.29	0.40	0.40	0.33	0.33	0.40	0.40	0.26	0.26
Overall R ²	0.39	0.39	0.44	0.44	0.35	0.36	0.41	0.41	0.29	0.29
Observations	12,701	12,701	12,701	12,701	12,701	12,701	12,701	12,701	12,701	12,701
Robust standard errors in parentheses, clustered by firm. Year, founding & regional dummies included.										
†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.										

**Appendix Table A5: Random Effects GLS Predicting
Extent of Role Development Using Alternative Index (0= No Role; 1= Role Outside TMT; 2= Role Within TMT)**

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance
	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.
Growth (log)	0.16*** (0.01)	0.16*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.07*** (0.01)	0.07*** (0.01)
Num. milestones completed	0.05*** (0.01)	0.05*** (0.01)	0.02*** (0.00)	0.02*** (0.00)	0.04*** (0.00)	0.04*** (0.00)	0.02*** (0.00)	0.03*** (0.00)	0.05*** (0.01)	0.05*** (0.01)
Degree of unconventionality	0.06*** (0.01)	0.05** (0.02)	0.03*** (0.01)	0.02** (0.01)	-0.03*** (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.00 (0.01)	-0.05** (0.02)	-0.02* (0.01)
Unconventionality x milestones		0.01 (0.01)		0.01* (0.00)		-0.01*** (0.00)		-0.01* (0.00)		-0.02* (0.01)
Num. marketing/sales (log), t-1			0.15*** (0.01)	0.15*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.06*** (0.01)	0.06*** (0.01)
Num. customer support (log), t-1	0.06*** (0.01)	0.06*** (0.01)			0.04*** (0.01)	0.04*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.08*** (0.01)	0.08*** (0.01)
Num. accounting (log), t-1	-0.05*** (0.02)	-0.05*** (0.02)	-0.02 (0.01)	-0.02 (0.01)			0.09*** (0.01)	0.09*** (0.01)	0.09*** (0.02)	0.08*** (0.02)
Num. human resources (log), t-1	-0.06*** (0.02)	-0.06*** (0.02)	-0.01 (0.01)	-0.01 (0.01)	0.05*** (0.01)	0.05*** (0.01)			0.07*** (0.02)	0.07*** (0.02)
Num. finance (log), t-1	-0.00 (0.02)	-0.00 (0.02)	-0.01 (0.01)	-0.01 (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.04** (0.01)	0.03** (0.01)		
Num. admin. support (log), t-1	-0.00 (0.02)	-0.00 (0.02)	-0.01 (0.01)	-0.01 (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.06** (0.02)	0.06** (0.02)
Num. business dev. (log), t-1	0.01 (0.01)	0.01 (0.01)	0.03* (0.01)	0.03* (0.01)	0.02† (0.01)	0.02† (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.02)	0.01 (0.02)
Num. design (log), t-1	0.02 (0.01)	0.02 (0.01)	0.01 (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	0.03* (0.01)	0.03* (0.01)	0.00 (0.02)	-0.00 (0.02)
Num. engineering/science (log), t-1	0.23*** (0.01)	0.23*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.07*** (0.01)	0.08*** (0.01)	0.08*** (0.01)	0.08*** (0.01)
Num. infosys (log), t-1	-0.01 (0.01)	-0.01 (0.01)	0.05*** (0.01)	0.05*** (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.04* (0.02)	0.04* (0.02)

Num. media/publishing (log), t-1	0.06*** (0.01)	0.06*** (0.01)	0.02* (0.01)	0.03* (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	-0.01 (0.02)	-0.02 (0.02)
Num. operations (log), t-1	0.05*** (0.01)	0.05*** (0.01)	0.02** (0.01)	0.02** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.04** (0.01)	0.04** (0.01)
Num. product (log), t-1	0.05*** (0.01)	0.05*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.01 (0.01)	0.01 (0.01)	0.03** (0.01)	0.03** (0.01)	0.01 (0.02)	0.01 (0.02)
Num. public relations (log), t-1	-0.03 (0.02)	-0.03 (0.02)	-0.04† (0.02)	-0.04† (0.02)	0.02 (0.02)	0.02 (0.02)	-0.03 (0.02)	-0.03 (0.02)	0.02 (0.03)	0.02 (0.03)
Num. unmatched (log), t-1	0.06*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.02† (0.01)	0.02† (0.01)
Percent turnover (log), t-1	0.48*** (0.03)	0.48*** (0.03)	0.20*** (0.02)	0.20*** (0.02)	0.02 (0.01)	0.02 (0.01)	0.07*** (0.02)	0.07*** (0.02)	0.07** (0.03)	0.07** (0.03)
Percent male (0 to 1)	-0.16*** (0.03)	-0.16*** (0.03)	-0.11*** (0.02)	-0.11*** (0.02)	-0.07*** (0.02)	-0.07*** (0.02)	-0.07*** (0.02)	-0.07*** (0.02)	-0.03 (0.03)	-0.03 (0.03)
Avg. member age	0.00 (0.00)	0.00 (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00* (0.00)	0.00* (0.00)
Founding team startup experience	0.01 (0.03)	0.01 (0.03)	0.01 (0.02)	0.01 (0.02)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.02 (0.02)	0.06* (0.03)	0.06* (0.03)
Founding team size	0.04*** (0.01)	0.04*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.00 (0.00)	0.00 (0.00)	0.01** (0.01)	0.01** (0.01)	0.09*** (0.01)	0.09*** (0.01)
Num. market categories	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01† (0.01)	0.01† (0.01)
Peer firm adoption of focal role	-0.95*** (0.05)	-0.96*** (0.05)	-0.29*** (0.03)	-0.30*** (0.03)	0.06* (0.03)	0.06* (0.03)	0.13*** (0.03)	0.13*** (0.03)	-0.08 (0.05)	-0.07 (0.05)
Constant	0.21 (0.14)	-0.12 (0.14)	1.00*** (0.08)	-0.09 (0.17)	-0.06 (1.00)	-0.12 (0.12)	0.01 (0.10)	-0.02 (0.19)	0.28 (0.76)	0.27 (0.77)
Within R ²	0.49	0.49	0.45	0.45	0.43	0.43	0.42	0.42	0.38	0.38
Between R ²	0.30	0.30	0.36	0.36	0.32	0.32	0.37	0.37	0.27	0.27
Overall R ²	0.39	0.39	0.39	0.39	0.36	0.36	0.39	0.39	0.32	0.32
Observations	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595

Robust standard errors in parentheses, clustered by firm. Year, founding & regional dummies included.

†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.

**Appendix Table A6: Random Effects GLS Predicting
Extent of Role Development Pre-IPO**

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance
	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.
Growth (log)	0.25*** (0.01)	0.25*** (0.01)	0.15*** (0.01)	0.15*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.15*** (0.01)	0.15*** (0.01)	0.11*** (0.01)	0.11*** (0.01)
Num. milestones completed	0.09*** (0.01)	0.08*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.07*** (0.01)	0.07*** (0.01)
Degree of unconventionality	0.09*** (0.02)	0.08** (0.03)	0.05*** (0.01)	0.03* (0.01)	-0.05*** (0.01)	-0.01 (0.01)	-0.03* (0.01)	-0.01 (0.01)	-0.06** (0.02)	-0.03† (0.02)
Unconventionality x milestones		0.01 (0.01)		0.02* (0.01)		-0.03*** (0.01)		-0.01† (0.01)		-0.02† (0.01)
Num. marketing/sales (log), t-1			0.28*** (0.01)	0.27*** (0.01)	0.10*** (0.01)	0.11*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.08*** (0.02)	0.08*** (0.02)
Num. customer support (log), t-1	0.09*** (0.02)	0.09*** (0.02)			0.08*** (0.01)	0.08*** (0.01)	0.13*** (0.01)	0.13*** (0.01)	0.12*** (0.02)	0.12*** (0.02)
Num. accounting (log), t-1	-0.09*** (0.02)	-0.09*** (0.02)	-0.01 (0.02)	-0.00 (0.02)			0.15*** (0.02)	0.15*** (0.02)	0.14*** (0.03)	0.14*** (0.03)
Num. human resources (log), t-1	-0.08** (0.02)	-0.07** (0.02)	0.01 (0.02)	0.01 (0.02)	0.13*** (0.02)	0.12*** (0.02)			0.12*** (0.03)	0.12*** (0.03)
Num. finance (log), t-1	0.00 (0.02)	0.00 (0.02)	0.01 (0.02)	0.01 (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.07*** (0.02)	0.07*** (0.02)		
Num. admin. support (log), t-1	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.02 (0.02)	0.06** (0.02)	0.06** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.10*** (0.03)	0.10*** (0.03)
Num. business dev. (log), t-1	0.03 (0.02)	0.03 (0.02)	0.04* (0.02)	0.04* (0.02)	0.03† (0.02)	0.03† (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Num. design (log), t-1	0.04* (0.02)	0.04* (0.02)	0.04* (0.02)	0.04* (0.02)	0.00 (0.02)	0.00 (0.02)	0.05** (0.02)	0.05* (0.02)	-0.01 (0.03)	-0.01 (0.03)
Num. engineering/science (log), t-1	0.36*** (0.01)	0.36*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.12*** (0.01)	0.12*** (0.01)	0.11*** (0.01)	0.11*** (0.01)
Num. infosys (log), t-1	-0.02 (0.02)	-0.02 (0.02)	0.09*** (0.02)	0.09*** (0.02)	-0.02 (0.02)	-0.02 (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07** (0.03)	0.07** (0.03)

Num. media/publishing (log), t-1	0.09*** (0.02)	0.09*** (0.02)	0.06*** (0.02)	0.07*** (0.02)	-0.01 (0.02)	-0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	-0.02 (0.02)	-0.03 (0.02)
Num. operations (log), t-1	0.07*** (0.02)	0.07*** (0.02)	0.03* (0.01)	0.03* (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.06** (0.02)	0.06** (0.02)
Num. product (log), t-1	0.10*** (0.02)	0.09*** (0.02)	0.11*** (0.02)	0.11*** (0.02)	0.01 (0.02)	0.01 (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.03 (0.02)	0.04 (0.02)
Num. public relations (log), t-1	-0.04 (0.04)	-0.04 (0.04)	-0.05 (0.03)	-0.05 (0.03)	0.02 (0.03)	0.02 (0.03)	-0.04 (0.04)	-0.04 (0.04)	0.03 (0.04)	0.03 (0.04)
Num. unmatched (log), t-1	0.10*** (0.01)	0.10*** (0.01)	0.06*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.03 (0.02)	0.03 (0.02)
Percent turnover (log), t-1	0.76*** (0.04)	0.76*** (0.04)	0.30*** (0.03)	0.30*** (0.03)	0.01 (0.03)	0.01 (0.03)	0.10*** (0.03)	0.10*** (0.03)	0.08* (0.04)	0.08* (0.04)
Percent male (0 to 1)	-0.26*** (0.04)	-0.26*** (0.04)	-0.16*** (0.03)	-0.16*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.02)	-0.12*** (0.02)	-0.03 (0.04)	-0.03 (0.04)
Avg. member age	0.00 (0.00)	0.00 (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00** (0.00)	0.00** (0.00)
Founding team startup experience	0.04 (0.04)	0.04 (0.04)	0.02 (0.03)	0.02 (0.03)	-0.01 (0.02)	-0.01 (0.02)	-0.02 (0.03)	-0.03 (0.03)	0.09* (0.04)	0.09* (0.04)
Founding team size	0.05*** (0.01)	0.05*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.01 (0.01)	0.01 (0.01)	0.02* (0.01)	0.02* (0.01)	0.12*** (0.01)	0.12*** (0.01)
Num. market categories	0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Peer firm adoption of focal role	-1.62*** (0.08)	-1.62*** (0.08)	-0.37*** (0.05)	-0.38*** (0.05)	0.18*** (0.05)	0.18*** (0.05)	0.27*** (0.05)	0.27*** (0.05)	-0.02 (0.07)	-0.02 (0.07)
Constant	-0.08 (0.21)	2.89*** (0.43)	1.58*** (0.27)	0.03 (47.46)	0.35 (0.22)	0.33 (0.22)	0.06 (0.16)	-0.01 (0.16)	0.40 (0.47)	0.62 (0.47)
Within R ²	0.52	0.52	0.50	0.50	0.44	0.44	0.44	0.44	0.39	0.39
Between R ²	0.32	0.32	0.41	0.41	0.32	0.32	0.39	0.39	0.27	0.27
Overall R ²	0.41	0.41	0.45	0.45	0.37	0.37	0.41	0.41	0.32	0.32
Observations	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089

Robust standard errors in parentheses, clustered by firm. Year, founding & regional dummies included.
†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.

**Appendix Table A7: Random Effects GLS Predicting
Extent of Role Development (Peer Adoption Controls Removed)**

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance
	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.
Growth (log)	0.23*** (0.01)	0.23*** (0.01)	0.14*** (0.01)	0.14*** (0.01)	0.08*** (0.01)	0.08*** (0.01)	0.15*** (0.01)	0.15*** (0.01)	0.10*** (0.01)	0.10*** (0.01)
Num. milestones completed	0.08*** (0.01)	0.08*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.07*** (0.01)	0.08*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.07*** (0.01)	0.07*** (0.01)
Degree of unconventionality	0.09*** (0.02)	0.08** (0.02)	0.05*** (0.01)	0.03* (0.01)	-0.05*** (0.01)	-0.01 (0.01)	-0.03** (0.01)	-0.01 (0.01)	-0.06** (0.02)	-0.03† (0.02)
Unconventionality x milestones		0.01 (0.01)		0.02* (0.01)		-0.03*** (0.01)		-0.02* (0.01)		-0.02† (0.01)
Num. marketing/sales (log), t-1			0.28*** (0.01)	0.28*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.06*** (0.01)	0.06*** (0.01)	0.08*** (0.02)	0.08*** (0.02)
Num. customer support (log), t-1	0.06*** (0.02)	0.05*** (0.02)			0.08*** (0.01)	0.09*** (0.01)	0.14*** (0.01)	0.14*** (0.01)	0.11*** (0.02)	0.12*** (0.02)
Num. accounting (log), t-1	-0.15*** (0.02)	-0.15*** (0.02)	-0.04† (0.02)	-0.03† (0.02)			0.18*** (0.02)	0.17*** (0.02)	0.13*** (0.03)	0.13*** (0.03)
Num. human resources (log), t-1	-0.14*** (0.02)	-0.14*** (0.02)	-0.02 (0.02)	-0.02 (0.02)	0.13*** (0.02)	0.13*** (0.02)			0.11*** (0.03)	0.11*** (0.03)
Num. finance (log), t-1	-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)	-0.01 (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.08*** (0.02)	0.08*** (0.02)		
Num. admin. support (log), t-1	-0.04† (0.02)	-0.04† (0.02)	-0.04† (0.02)	-0.04† (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.09*** (0.02)	0.09*** (0.02)	0.10*** (0.03)	0.10*** (0.03)
Num. business dev. (log), t-1	0.01 (0.02)	0.01 (0.02)	0.03* (0.02)	0.03† (0.02)	0.03† (0.02)	0.03† (0.02)	0.02 (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)
Num. design (log), t-1	0.01 (0.02)	0.01 (0.02)	0.03† (0.02)	0.03† (0.02)	-0.00 (0.02)	-0.00 (0.02)	0.06** (0.02)	0.06** (0.02)	-0.02 (0.03)	-0.02 (0.03)
Num. engineering/science (log), t-1	0.37*** (0.01)	0.37*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.12*** (0.01)	0.12*** (0.01)	0.11*** (0.01)	0.11*** (0.01)
Num. infosys (log), t-1	-0.06** (0.02)	-0.06** (0.02)	0.07*** (0.02)	0.07*** (0.02)	-0.01 (0.02)	-0.01 (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.07** (0.02)	0.07** (0.02)

Num. media/publishing (log), t-1	0.07*** (0.02)	0.07*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	-0.01 (0.02)	-0.01 (0.02)	0.03 (0.02)	0.02 (0.02)	-0.02 (0.02)	-0.03 (0.02)
Num. operations (log), t-1	0.05** (0.02)	0.05** (0.02)	0.02† (0.01)	0.02† (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.08*** (0.01)	0.08*** (0.01)	0.06** (0.02)	0.06** (0.02)
Num. product (log), t-1	0.06** (0.02)	0.06** (0.02)	0.11*** (0.02)	0.10*** (0.02)	0.01 (0.02)	0.02 (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.03 (0.02)	0.03 (0.02)
Num. public relations (log), t-1	-0.06† (0.04)	-0.06† (0.04)	-0.06† (0.03)	-0.06* (0.03)	0.02 (0.03)	0.03 (0.03)	-0.02 (0.03)	-0.02 (0.03)	0.03 (0.04)	0.03 (0.04)
Num. unmatched (log), t-1	0.07*** (0.01)	0.07*** (0.01)	0.05*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.06*** (0.01)	0.06*** (0.01)	0.03† (0.02)	0.03† (0.02)
Percent turnover (log), t-1	0.80*** (0.04)	0.80*** (0.04)	0.32*** (0.03)	0.32*** (0.03)	0.01 (0.03)	0.01 (0.03)	0.08** (0.03)	0.08** (0.03)	0.09* (0.04)	0.09* (0.04)
Percent male (0 to 1)	-0.28*** (0.04)	-0.28*** (0.04)	-0.17*** (0.03)	-0.17*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.11*** (0.02)	-0.11*** (0.03)	-0.03 (0.04)	-0.03 (0.04)
Avg. member age	0.00 (0.00)	0.00 (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00* (0.00)	0.00** (0.00)
Founding team startup experience	0.04 (0.04)	0.04 (0.04)	0.03 (0.03)	0.03 (0.03)	-0.01 (0.02)	-0.01 (0.02)	-0.03 (0.03)	-0.03 (0.03)	0.09* (0.04)	0.09* (0.04)
Founding team size	0.06*** (0.01)	0.06*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.01 (0.01)	0.01 (0.01)	0.02** (0.01)	0.02** (0.01)	0.12*** (0.01)	0.12*** (0.01)
Num. market categories	0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Constant	1.73*** (0.40)	-0.17 (2422.01)	-0.36 (0.29)	1.37*** (0.27)	0.02 (1.00)	-0.27 (0.20)	-0.11 (0.24)	0.18 (985.91)	0.08 (0.51)	0.31 (0.50)
Within R ²	0.51	0.51	0.50	0.50	0.44	0.44	0.44	0.44	0.39	0.39
Between R ²	0.31	0.31	0.41	0.41	0.33	0.33	0.40	0.40	0.28	0.28
Overall R ²	0.40	0.40	0.45	0.45	0.38	0.38	0.41	0.41	0.33	0.33
Observations	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595
Robust standard errors in parentheses, clustered by firm. Year, founding & regional dummies included.										
†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.										

**Appendix Table A8: OLS Regression predicting
Extent of Role Development: No Controls, Fixed Effects, Random Effects, or Clustering**

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance
	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.	b/ s.e.
Num. milestones completed	0.49*** (0.01)	0.49*** (0.01)	0.33*** (0.00)	0.33*** (0.00)	0.33*** (0.00)	0.34*** (0.00)	0.31*** (0.00)	0.31*** (0.00)	0.41*** (0.01)	0.42*** (0.01)
Degree of unconventionality	0.15*** (0.01)	0.12*** (0.01)	0.08*** (0.01)	0.05*** (0.01)	-0.03*** (0.01)	0.00 (0.01)	0.01 (0.01)	0.03** (0.01)	-0.03** (0.01)	0.00 (0.01)
Unconventionality x milestones		0.02** (0.01)		0.02*** (0.01)		-0.03*** (0.00)		-0.01** (0.01)		-0.02** (0.01)
Constant	1.05*** (0.01)	1.06*** (0.01)	0.37*** (0.01)	0.37*** (0.01)	0.15*** (0.01)	0.14*** (0.01)	0.18*** (0.01)	0.17*** (0.01)	0.35*** (0.01)	0.34*** (0.01)
R ²	0.20	0.20	0.16	0.16	0.20	0.20	0.15	0.15	0.15	0.15
Observations	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595	31,595
Standard errors in parentheses. †Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.										

**Appendix Table A9: Random Effects GLS Predicting Extent of
External Interface and Internal Process Role Development with Milestones Combined for Slope Test**

	Model 1	Model 2	Model 3	Model 4	Model 5
	Mktg/Sales	Customer	Acctng	HR	Finance
	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.	b/ robust s.e.
Growth (log)	0.23*** (0.01)	0.14*** (0.01)	0.08*** (0.01)	0.15*** (0.01)	0.11*** (0.01)
Milestones Completed: 1 & 2	0.34*** (0.02)	0.08*** (0.01)	0.00 (0.01)	-0.04** (0.01)	0.05* (0.02)
Milestones Completed: 3+	0.19*** (0.03)	0.10*** (0.02)	0.22*** (0.03)	0.10*** (0.02)	0.21*** (0.04)
Degree of unconventionality	0.07** (0.02)	0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.02)
Unconventionality x 1 & 2 milestones	0.04 (0.02)	0.04* (0.02)	-0.03† (0.02)	-0.01 (0.01)	-0.06** (0.02)
Unconventionality x 3+ milestones	0.02 (0.03)	0.05* (0.03)	-0.08*** (0.02)	-0.05* (0.02)	-0.07† (0.04)
Num. marketing/sales (log), t-1		0.28*** (0.01)	0.10*** (0.01)	0.05*** (0.01)	0.08*** (0.02)
Num. customer support (log), t-1	0.09*** (0.02)		0.08*** (0.01)	0.13*** (0.01)	0.11*** (0.02)
Num. accounting (log), t-1	-0.07** (0.02)	-0.01 (0.02)		0.15*** (0.02)	0.13*** (0.03)
Num. human resources (log), t-1	-0.06** (0.02)	0.00 (0.02)	0.10*** (0.02)		0.11*** (0.03)
Num. finance (log), t-1	0.01 (0.02)	-0.00 (0.02)	0.09*** (0.02)	0.06** (0.02)	
Num. admin. support (log), t-1	-0.00 (0.02)	-0.02 (0.02)	0.06** (0.02)	0.08*** (0.02)	0.10*** (0.03)
Num. business dev. (log), t-1	0.03 (0.02)	0.04* (0.02)	0.03† (0.02)	0.02 (0.02)	0.01 (0.02)
Num. design (log), t-1	0.03 (0.02)	0.04* (0.02)	-0.00 (0.02)	0.05* (0.02)	-0.01 (0.03)
Num. engineering/science (log), t-1	0.34*** (0.01)	0.09*** (0.01)	0.07*** (0.01)	0.13*** (0.01)	0.12*** (0.01)
Num. infosys (log), t-1	-0.01 (0.02)	0.09*** (0.02)	-0.02 (0.02)	0.06*** (0.02)	0.07** (0.03)

Appendix Table A9 (continued)							
Num. media/publishing (log), t-1	0.08*** (0.02)	0.07*** (0.02)	-0.02 (0.02)	0.02 (0.02)	-0.03 (0.02)		
Num. operations (log), t-1	0.08*** (0.02)	0.03* (0.01)	0.09*** (0.01)	0.07*** (0.01)	0.06** (0.02)		
Num. product (log), t-1	0.09*** (0.02)	0.12*** (0.02)	0.01 (0.02)	0.07*** (0.02)	0.03 (0.02)		
Num. public relations (log), t-1	-0.04 (0.04)	-0.05† (0.03)	0.02 (0.03)	-0.04 (0.04)	0.03 (0.04)		
Num. unmatched (log), t-1	0.08*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.03† (0.02)		
Percent turnover (log), t-1	0.67*** (0.04)	0.29*** (0.03)	0.05† (0.03)	0.13*** (0.03)	0.10** (0.04)		
Percent male (0 to 1)	-0.24*** (0.04)	-0.16*** (0.03)	-0.13*** (0.03)	-0.13*** (0.02)	-0.04 (0.04)		
Avg. member age	0.00 (0.00)	-0.00*** (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00** (0.00)		
Founding team startup experience	0.04 (0.04)	0.03 (0.03)	-0.00 (0.02)	-0.03 (0.03)	0.10* (0.04)		
Founding team size	0.06*** (0.01)	0.03*** (0.01)	0.01 (0.01)	0.02** (0.01)	0.12*** (0.01)		
Num. market categories	0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)		
Peer firm adoption of focal role	-1.44*** (0.08)	-0.36*** (0.05)	0.14** (0.05)	0.23*** (0.05)	-0.05 (0.07)		
Constant	-0.66** (0.22)	1.53*** (0.26)	0.62** (0.24)	0.14 (0.17)	0.02 (0.81)		
Within R ²	0.52	0.50	0.45	0.45	0.39		
Between R ²	0.31	0.41	0.34	0.40	0.28		
Overall R ²	0.41	0.45	0.39	0.42	0.33		
Observations	31,595	31,595	31,595	31,595	31,595	31,595	31,595
Robust standard errors in parentheses, clustered by firm. Year, founding & regional dummies included.							
†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.							

Appendix Table A10: Random Effects GLS Predicting Extent of Role Development Using Alternative (A)typicality Measure											
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b	
	Mktg/Sales	Mktg/Sales	Customer	Customer	Acctng	Acctng	HR	HR	Finance	Finance	
	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	
	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	robust s.e.	
Growth (log)	0.24*** (0.01)	0.24*** (0.01)	0.14*** (0.01)	0.14*** (0.01)	0.07*** (0.01)	0.07*** (0.01)	0.14*** (0.01)	0.14*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	
Num. milestones completed	0.08*** (0.01)	0.12*** (0.02)	0.04*** (0.01)	0.14*** (0.01)	0.08*** (0.01)	0.07*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.07*** (0.01)	0.07*** (0.02)	
(A)typicality (Lo & Kennedy, 2015)	1.25*** (0.09)	1.09*** (0.09)	0.56*** (0.06)	0.21*** (0.05)	-0.14* (0.06)	-0.12* (0.05)	-0.02 (0.05)	-0.04 (0.05)	-0.32*** (0.09)	-0.31*** (0.09)	
(A)typicality x milestones		0.13** (0.04)		0.30*** (0.03)		-0.02 (0.03)		0.02 (0.03)		-0.00 (0.05)	
Num. marketing/sales (log), t-1			0.28*** (0.01)	0.28*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.07*** (0.02)	0.07*** (0.02)	
Num. customer support (log), t-1	0.08*** (0.02)	0.07*** (0.02)			0.08*** (0.01)	0.09*** (0.01)	0.13*** (0.02)	0.13*** (0.02)	0.13*** (0.02)	0.13*** (0.02)	
Num. accounting (log), t-1	-0.10*** (0.02)	-0.10*** (0.02)	-0.01† (0.02)	-0.00† (0.02)			0.16*** (0.02)	0.16*** (0.02)	0.12*** (0.03)	0.12*** (0.03)	
Num. human resources (log), t-1	-0.09*** (0.02)	-0.09*** (0.02)	0.01 (0.02)	0.01 (0.02)	0.12*** (0.02)	0.12*** (0.02)			0.12*** (0.03)	0.12*** (0.03)	
Num. finance (log), t-1	-0.01 (0.02)	-0.00 (0.02)	-0.00 (0.02)	0.00 (0.02)	0.09*** (0.02)	0.09*** (0.02)	0.07*** (0.02)	0.07*** (0.02)			
Num. admin. support (log), t-1	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.02)	0.06** (0.02)	0.06** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.10*** (0.03)	0.10*** (0.03)	
Num. business dev. (log), t-1	0.02 (0.02)	0.02 (0.02)	0.04* (0.02)	0.04* (0.02)	0.03 (0.02)	0.03 (0.02)	0.02 (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)	
Num. design (log), t-1	0.03 (0.02)	0.03 (0.02)	0.04* (0.02)	0.02 (0.02)	-0.01 (0.02)	-0.01 (0.02)	0.04* (0.02)	0.04* (0.02)	-0.02 (0.03)	-0.02 (0.03)	
Num. engineering/science (log), t-1	0.38*** (0.01)	0.38*** (0.01)	0.09*** (0.01)	0.10*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.12*** (0.01)	0.12*** (0.01)	0.10*** (0.02)	0.10*** (0.02)	
Num. infosys (log), t-1	-0.02 (0.02)	-0.02 (0.02)	0.10*** (0.02)	0.09*** (0.02)	-0.02 (0.02)	-0.02 (0.02)	0.06** (0.02)	0.06** (0.02)	0.06* (0.03)	0.06* (0.03)	

Num. media/publishing (log), t-1	0.09*** (0.02)	0.09*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	-0.02 (0.02)	-0.02 (0.02)	0.01 (0.02)	0.01 (0.02)	-0.03 (0.02)	-0.03 (0.02)
Num. operations (log), t-1	0.06*** (0.02)	0.07*** (0.02)	0.03† (0.01)	0.03* (0.01)	0.08*** (0.02)	0.08*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.06** (0.02)	0.06** (0.02)
Num. product (log), t-1	0.08*** (0.02)	0.08*** (0.02)	0.11*** (0.02)	0.10*** (0.02)	0.01 (0.02)	0.01 (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.04 (0.02)	0.04 (0.02)
Num. public relations (log), t-1	-0.03 (0.04)	-0.03 (0.04)	-0.05† (0.03)	-0.05† (0.03)	0.02 (0.03)	0.02 (0.03)	-0.04 (0.04)	-0.04 (0.04)	0.03 (0.04)	0.03 (0.04)
Num. unmatched (log), t-1	0.08*** (0.02)	0.08*** (0.02)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.03† (0.02)	0.03† (0.02)
Percent turnover (log), t-1	0.74*** (0.04)	0.74*** (0.04)	0.28*** (0.03)	0.28*** (0.03)	0.01 (0.03)	0.01 (0.03)	0.09*** (0.03)	0.09*** (0.03)	0.09* (0.04)	0.09* (0.04)
Percent male (0 to 1)	-0.29*** (0.04)	-0.30*** (0.04)	-0.18*** (0.03)	-0.18*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.11*** (0.03)	-0.11*** (0.03)	-0.03 (0.04)	-0.03 (0.04)
Avg. member age	0.00** (0.00)	0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00† (0.00)	0.00† (0.00)
Founding team startup experience	0.05 (0.04)	0.05 (0.04)	0.03 (0.03)	0.03 (0.03)	-0.00 (0.03)	-0.00 (0.02)	-0.03 (0.03)	-0.03 (0.03)	0.08* (0.04)	0.08* (0.04)
Founding team size	0.05*** (0.01)	0.05*** (0.01)	0.03** (0.01)	0.03** (0.01)	0.01† (0.01)	0.01 (0.01)	0.02** (0.01)	0.02** (0.01)	0.13*** (0.01)	0.13*** (0.01)
Num. market categories	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Peer firm adoption of focal role	-1.54*** (0.08)	-1.54*** (0.08)	-0.39*** (0.05)	-0.40*** (0.05)	0.20*** (0.05)	0.20*** (0.05)	0.24*** (0.05)	0.24*** (0.05)	-0.02 (0.08)	-0.02 (0.08)
Constant	3.09*** (0.44)	0.51* (0.23)	1.79*** (0.26)	1.73*** (0.25)	0.56* (0.23)	-0.34 (0.21)	-0.01 (0.05)	-0.16 (0.26)	-0.08 (0.87)	0.11 (0.51)
Within R ²	0.52	0.52	0.51	0.51	0.44	0.44	0.45	0.45	0.39	0.39
Between R ²	0.35	0.35	0.42	0.42	0.33	0.33	0.40	0.40	0.28	0.28
Overall R ²	0.43	0.43	0.46	0.46	0.38	0.38	0.42	0.42	0.33	0.33
Observations	29,044	29,044	29,044	29,044	29,044	29,044	29,044	29,044	29,044	29,044

Robust standard errors in parentheses, clustered by firm. Year, founding & regional dummies included.
†Significant at p<.10 *Significant at p<.05. **Significant at p<.01. ***Significant at p<.001; significance levels based on two-tailed tests.