

Online social media: a knowledge resource for SMEs?

Emmanouil Tranos & Hannah Budnitz
University of Birmingham

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Introduction

- ▶ How small and medium enterprises (SMEs) in the UK utilise online social media (OSM)?
- ▶ OSM (Web 2.0) => individual interactions => knowledge creation and transfer
- ▶ Diverse sources of information and knowledge, which are not necessarily proximately located
- ▶ Innovative capacity
- ▶ SMEs (<250 employees)
 - ▶ SMEs: 60% of private sector employment, 50% turnover (BIS 2014)
 - ▶ no access to corporate knowledge
 - ▶ policy interest for business support

SMEs and Digital Technologies

- ▶ ICTs: innovative capacity of the firms
- ▶ ICTs: transaction costs, communication and coordination within the supply chain
- ▶ SMEs need to derive value from ICT investment such as OSM usage (Taylor 2015)
- ▶ Firm location and ICT usage (digital divides)
- ▶ Larger and older firms register higher rates of Internet and website adoption (Haugh and Robson 2005)
- ▶ Competitive pressure

SMEs and Digital Technologies

- ▶ Importance of OSM usage by enterprises (Stelzner 2013)
 - ▶ direct benefits: exposure, online traffic and lead generation
 - ▶ create online communities
 - ▶ share user-created content
 - ▶ interact with external actors (e.g. customers, public institutions, other businesses)
 - ▶ acquire and absorb external knowledge => innovation
 - ▶ OSM & external knowledge can support entrepreneurial activity (Palacios-Marques et al. 2015a, b)
- ▶ Most research focused on marketing. Little is known about knowledge and innovation
- ▶ OSM have a positive role in affecting both absorptive capacity and innovation performance of SMEs (Scuotto et al. 2017)

SMEs, Knowledge and Digital Technologies

- ▶ Knowledge as a key factor of production
- ▶ Knowledge intensive entrepreneurship framework
- ▶ Knowledge transfer is a collective activity embedded in social interactions within both economic and social contexts (Antonelli 2006).
- ▶ Knowledge creation happens in
 - ▶ professional and social networks (Neyer et al. 2009)
 - ▶ epistemic communities and communities of practise (Wenger 1998)
 - ▶ professional teams
 - ▶ within and between organisations (Amin and Cohendet 2004, Rutten 2016)
- ▶ Knowledge creation and transfer have a strong personal dimension because they involve experiences, interpretations and meanings

SMEs, Knowledge and Digital Technologies

- ▶ Knowledge resides with individuals => knowledge transfer is a geographical issue (Howells 2012)
- ▶ Joint learning: the most effective way of learning
- ▶ Knowledge from the internet?
- ▶ Tacit ~ explicit knowledge
- ▶ Continuum
- ▶ F2F media richness ~ digital technologies capacity to transfer non-verbal cues
- ▶ Digital technologies:
 - ▶ transfer of knowledge of moderate tacitness
 - ▶ support knowledge sharing of a high degree of tacitness (Panahi, Watson, and Partridge 2013)

SMEs, Knowledge and Digital Technologies

Online Social Media

- ▶ Decrease spatial transaction costs
- ▶ Weak ties, diverse non-local knowledge
- ▶ Urban buzz via 24.7 publication of our whereabouts
- ▶ Micro-foundations of agglomeration economies: *learning* and *matching* (Duranton and Puga 2004)

Geography and ICT: Substitution ~ Complementarity

- ▶ Gaspar and Glaeser (1998): complementarity between ICTs and agglomeration forces
- ▶ Complementary link between internet usage and city size (Kolko 2000)
- ▶ More local content is online for larger markets (Sinai and Waldfogel 2004)
- ▶ Similar patterns for internet adoption (e.g. Forman et al. 2005, Bekkerman and Gilpin 2013, Craig et al. 2016)

Methods

- ▶ Firm-level & contextual effects on OSM usage
- ▶ Multilevel modelling *aka* mixed effects
 - ▶ fixed effects: observed firm and regional characteristics
 - ▶ random effects: intra-region correlation between firms located in the same region
- ▶ Multilevel models mirror economic reality
- ▶ Entrepreneurs are not isolated from their direct environment
- ▶ Nested within complex economic and institutional contexts (Dahl & Sorenson, 2009; Hundt & Sternberg, 2016)

Methods

$$OSM_{ir}^* = \beta_{0r} + \beta_{1r}(Firm_{ir}) + e_{ir}$$

$$\beta_{0r} = \gamma_{00} + \gamma_{01}(Region_r) + e_{0r}$$

$$\beta_{1r} = \gamma_{10}$$

$$OSM_{ir}^* = \gamma_{00} + \gamma_{10}(Firm_{ir}) + \gamma_{01}(Region_r) + e_{0r} + e_{ir}$$

$$\Pr(OSM_{ir} = 1 | Firm_{ir}, Region_r, e_{0r}, e_{ir})$$

- ▶ Logit mixed effects models
- ▶ Maximum Likelihood

Data

- ▶ Small Business Survey 2015, England and Wales
- ▶ UK government survey by the Department for Business, Innovation and Skills (BIS)
- ▶ Sample stratified by sector, country and size of business.
- ▶ 15,500 responders
- ▶ Survey questions:
 - ▶ Participation in a *social media business network* such as LinkedIn
 - ▶ Your business has its own *social media profile*, e.g. on Facebook, LinkedIn or Twitter
 - ▶ For the SMEs which have received strategic advice, how was the information or advice mainly delivered
 - ▶ Face to face
 - ▶ Online

Data

Firm level variables:

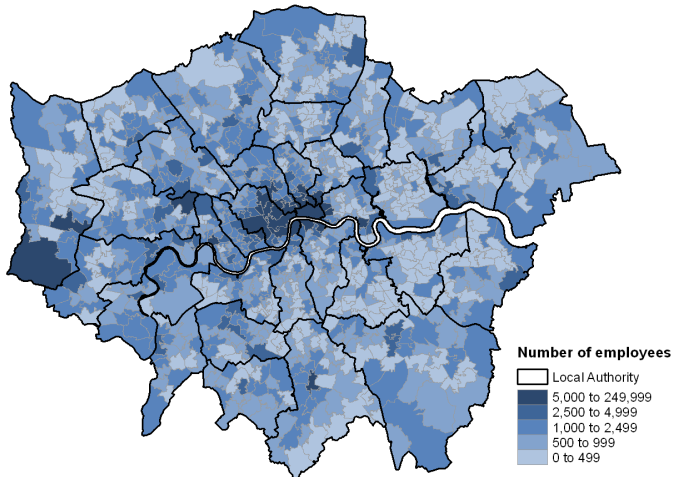
- ▶ Size
- ▶ Sector
- ▶ Innovation
- ▶ Exports oriented
- ▶ Ethnic led
- ▶ Female led
- ▶ Own premisses
- ▶ [age, customer location, formal business plan]

Geographical variables

- ▶ Distance to London
- ▶ Distance to the nearest metropolitan area
- ▶ MAR: LQ, Employment
- ▶ Jacobs: HHI, population density, population
- ▶ Controls: human capital, internet infrastructure, students

Middle Layer Super Output Areas (MSOA)

Number of employees working for SMEs in London, 2001



Source: Inter-Departmental Business Register, Office for National Statistics
Contains National Statistics data © Crown copyright and database right 2013
Contains Ordnance Survey data © Crown copyright and database right 2013

Figure 1:

Table 1: Summary statistics

Statistic	N	Mean	St. Dev.	Min	Max
SocialNetworkD	13,899	0.494	0.500	0	1
SocMedSiteD	13,899	0.565	0.496	0	1
digi	4,329	0.186	0.389	0	1
f2f	4,329	0.595	0.491	0	1

Dependent variable:

Business Social Networks

	(1)	(2)	(3)	(4)	(5)	(6)
Distance to London			-0.052** (0.021)	-0.052** (0.022)	-0.048** (0.022)	-0.047** (0.023)
Distance to metropolitan Aaeas			-0.075*** (0.021)	-0.075*** (0.021)	-0.073*** (0.021)	-0.072*** (0.022)
LQ				-0.047 (0.037)		-0.039 (0.045)
Employment				0.023 (0.041)		0.011 (0.055)
Diversity Index (HHI)					-0.010 (0.022)	-0.006 (0.023)
Population					0.014 (0.021)	0.009 (0.028)
Population density					0.008 (0.025)	0.016 (0.026)
Univ. Degrees per capita			0.100*** (0.023)	0.104*** (0.024)	0.100*** (0.023)	0.103*** (0.024)
Students per capita			0.016 (0.021)	0.007 (0.022)	0.013 (0.023)	0.002 (0.025)
Broadband internet speed			0.049** (0.021)	0.055** (0.021)	0.047** (0.022)	0.051** (0.022)
1-9 employees		-0.414*** (0.059)	-0.403*** (0.059)	-0.397*** (0.060)	-0.404*** (0.059)	-0.398*** (0.060)
No employees		-0.319*** (0.064)	-0.317*** (0.064)	-0.295*** (0.066)	-0.318*** (0.064)	-0.296*** (0.066)
10-49 employees		-0.287*** (0.056)	-0.278*** (0.056)	-0.281*** (0.057)	-0.279*** (0.056)	-0.285*** (0.057)
Manufacturing		0.445*** (0.130)	0.423*** (0.131)	0.345** (0.155)	0.423*** (0.131)	0.362** (0.169)
Construction		0.551*** (0.128)	0.491*** (0.129)	0.393*** (0.150)	0.491*** (0.129)	0.410** (0.161)
Wholesale/Retail		0.420*** (0.124)	0.361*** (0.124)	0.242 (0.178)	0.361*** (0.125)	0.274 (0.208)
Transport/Storage		0.483*** (0.150)	0.437*** (0.150)	0.358** (0.162)	0.437*** (0.150)	0.370** (0.167)
Food/Accommodation		0.507*** (0.135)	0.425*** (0.135)	0.357** (0.148)	0.425*** (0.135)	0.368** (0.155)
Information/Communication		1.761*** (0.144)	1.612*** (0.144)	1.552*** (0.153)	1.610*** (0.145)	1.558*** (0.157)
Finance/Real estate		0.987*** (0.146)	0.853*** (0.147)	0.790*** (0.160)	0.855*** (0.147)	0.804*** (0.168)
Professional services		1.736*** (0.124)	1.609*** (0.125)	1.529*** (0.144)	1.607*** (0.125)	1.544*** (0.155)
Administrative services		1.244*** (0.131)	1.137*** (0.132)	1.056*** (0.146)	1.137*** (0.132)	1.066*** (0.152)
Education		0.739*** (0.144)	0.631*** (0.145)	0.538*** (0.171)	0.633*** (0.145)	0.561*** (0.187)
Health		0.344*** (0.131)	0.273** (0.132)	0.165 (0.169)	0.272** (0.132)	0.189 (0.189)
Arts/Entertainment		0.834*** (0.154)	0.738*** (0.155)	0.659*** (0.167)	0.737*** (0.155)	0.669*** (0.172)
Other services		0.579*** (0.143)	0.463*** (0.144)		0.464*** (0.144)	
Innovation		0.467*** (0.039)	0.467*** (0.039)	0.458*** (0.040)	0.467*** (0.039)	0.457*** (0.040)
Own website		1.073*** (0.054)	1.061*** (0.054)	1.056*** (0.056)	1.061*** (0.054)	1.057*** (0.056)
Exports		0.501*** (0.052)	0.467*** (0.052)	0.445*** (0.053)	0.467*** (0.052)	0.445*** (0.053)
Female led		0.029 (0.048)	0.023 (0.048)	0.023 (0.050)	0.023 (0.048)	0.023 (0.050)
Ethnic		0.111 (0.085)	0.034 (0.085)	0.031 (0.087)	0.031 (0.086)	0.025 (0.087)
Premises		0.089* (0.049)	0.099** (0.049)	0.086* (0.050)	0.099** (0.049)	0.087* (0.050)
Constant	-0.063*** (0.020)	-1.775*** (0.130)	-1.670*** (0.131)	-1.576*** (0.154)	-1.668*** (0.131)	-1.593*** (0.166)
ICC	0.063	0.028	0.021	0.021	0.020	0.021
Observations	13,899	13,899	13,899	13,899	13,899	13,899
Log Likelihood	-9,575.984	-8,564.505	-8,517.267	-8,129.608	-8,516.903	-8,129.325
Akaike Inf. Crit.	19,155.970	17,177.010	17,092.530	16,319.220	17,097.810	16,324.650
Bayesian Inf. Crit.	19,171.050	17,357.960	17,311.160	16,543.970	17,339.040	16,571.880

Note:

*p<0.1; **p<0.05; ***p<0.01

Std. Errors in parenthesis

	<i>Dependent variable:</i>					
	Social Media Site					
	(1)	(2)	(3)	(4)	(5)	(6)
Distance to London			0.027 (0.022)	0.019 (0.022)	0.040* (0.023)	0.031 (0.023)
Distance to metropolitan Areas			0.021 (0.021)	0.021 (0.021)	0.030 (0.021)	0.029 (0.022)
LQ				-0.073* (0.038)		-0.081* (0.046)
Employment				0.007 (0.040)		0.019 (0.055)
Diversity Index (HHI)					-0.024 (0.021)	-0.013 (0.022)
Population					-0.007 (0.020)	-0.010 (0.028)
Population density					0.053** (0.025)	0.050* (0.026)
Univ. Degrees per capita			0.040* (0.022)	0.066*** (0.023)	0.037* (0.022)	0.062** (0.024)
Students per capita			0.052** (0.022)	0.046** (0.023)	0.047* (0.024)	0.040 (0.025)
Broadband internet speed			0.086*** (0.021)	0.085*** (0.021)	0.074*** (0.022)	0.073*** (0.023)
1-9 employees	-0.566*** (0.062)	-0.565*** (0.062)	-0.562*** (0.063)	-0.570*** (0.062)	-0.565*** (0.063)	-0.565*** (0.063)
No employees	-0.882*** (0.066)	-0.869*** (0.066)	-0.864*** (0.068)	-0.876*** (0.067)	-0.868*** (0.068)	-0.868*** (0.068)
10-49 employees	-0.343*** (0.060)	-0.340*** (0.060)	-0.337*** (0.060)	-0.343*** (0.060)	-0.339*** (0.060)	-0.339*** (0.060)
Manufacturing	0.151 (0.130)	0.122 (0.131)	0.023 (0.155)	0.121 (0.131)		-0.003 (0.169)
Construction	0.254* (0.130)	0.206 (0.130)	0.090 (0.151)	0.205 (0.131)		0.066 (0.163)
Wholesale/Retail	1.033*** (0.124)	0.984*** (0.125)	0.857*** (0.178)	0.981*** (0.125)		0.817*** (0.208)
Transport/Storage	0.537*** (0.151)	0.504*** (0.152)	0.396** (0.163)	0.505*** (0.152)		0.379** (0.168)
Food/Accommodation	1.832*** (0.142)	1.763*** (0.142)	1.674*** (0.154)	1.759*** (0.143)		1.653*** (0.161)
Information/Communication	1.147*** (0.141)	1.066*** (0.142)	0.969*** (0.150)	1.054*** (0.142)		0.945*** (0.154)
Finance/Real estate	0.434*** (0.146)	0.332** (0.148)	0.256 (0.160)	0.338** (0.148)		0.241 (0.168)
Professional services	0.791*** (0.124)	0.708*** (0.125)	0.609*** (0.144)	0.705*** (0.125)		0.585*** (0.154)
Administrative services	1.088*** (0.133)	1.023*** (0.134)	0.905*** (0.147)	1.017*** (0.134)		0.883*** (0.153)
Education	1.296*** (0.151)	1.225*** (0.152)	1.111*** (0.177)	1.225*** (0.152)		1.085*** (0.192)
Health	0.541*** (0.132)	0.477*** (0.133)	0.363** (0.169)	0.470*** (0.133)		0.327* (0.189)
Arts/Entertainment	1.919*** (0.173)	1.842*** (0.174)	1.731*** (0.184)	1.837*** (0.174)		1.711*** (0.189)
Other services	1.292*** (0.146)	1.210*** (0.148)		1.207*** (0.148)		
Innovation	0.521*** (0.040)	0.523*** (0.040)	0.523*** (0.041)	0.522*** (0.040)		0.523*** (0.041)
Own website	1.665*** (0.056)	1.662*** (0.055)	1.661*** (0.057)	1.664*** (0.055)		1.663*** (0.057)
Exports	0.094* (0.052)	0.085 (0.052)	0.092* (0.053)	0.087* (0.052)		0.092* (0.053)
Female led	0.250*** (0.050)	0.256*** (0.050)	0.240*** (0.052)	0.256*** (0.050)		0.239*** (0.052)
Ethnic	-0.131 (0.086)	-0.157* (0.087)	-0.168* (0.088)	-0.171** (0.087)		-0.181** (0.089)
Premises	-0.053 (0.049)	-0.040 (0.050)	-0.023 (0.051)	-0.039 (0.050)		-0.022 (0.051)
Constant	0.250*** (0.019)	-1.672*** (0.133)	-1.615*** (0.133)	-1.516*** (0.156)	-1.608*** (0.133)	-1.489*** (0.168)
ICC	0.037	0.002	0.000	0.000	0.000	0.000
Observations	13,899	13,899	13,899	13,899	13,899	13,899
Log Likelihood	-9,497.647	-7,968.733	-7,942.191	-7,589.246	-7,939.468	-7,587.260
Akaike Inf. Crit.	18,999.290	15,985.470	15,942.380	15,238.490	15,942.930	15,240.520
Bayesian Inf. Crit.	19,014.370	16,166.420	16,161.000	15,463.250	16,184.170	15,487.750

Note:

*p<0.1; **p<0.05; ***p<0.01

Std. Errors in parenthesis

Dependent variable:

Face to face interactions

	(1)	(2)	(3)	(4)	(5)	(6)
Distance to London			0.140*** (0.036)	0.147*** (0.037)	0.140*** (0.038)	0.149*** (0.039)
Distance to metropolitan Areas			-0.002 (0.035)	-0.012 (0.035)	-0.002 (0.036)	-0.012 (0.036)
LQ				0.044 (0.059)		0.074 (0.074)
Employment				-0.101 (0.065)		-0.135 (0.089)
Diversity Index (HHI)					-0.034 (0.034)	-0.025 (0.036)
Population					-0.017 (0.033)	0.029 (0.046)
Population density					-0.008 (0.040)	-0.007 (0.041)
Univ. Degrees per capita			0.010 (0.036)	0.043 (0.038)	0.011 (0.037)	0.049 (0.039)
Students per capita			0.043 (0.033)	0.036 (0.034)	0.061 (0.037)	0.038 (0.040)
Broadband internet speed			0.086** (0.035)	0.094*** (0.036)	0.092** (0.037)	0.097** (0.038)
1-9 employees	-0.230** (0.095)	-0.241** (0.094)	-0.266*** (0.097)	-0.250*** (0.095)	-0.271*** (0.097)	-0.271*** (0.097)
No employees	-0.516*** (0.112)	-0.500*** (0.112)	-0.548*** (0.114)	-0.509*** (0.112)	-0.554*** (0.115)	-0.554*** (0.115)
10-49 employees	-0.257*** (0.084)	-0.266*** (0.084)	-0.289*** (0.086)	-0.271*** (0.084)	-0.291*** (0.086)	-0.291*** (0.086)
Manufacturing	-0.829*** (0.215)	-0.882*** (0.216)	-0.719*** (0.258)	-0.876*** (0.217)	-0.642** (0.281)	-0.642** (0.281)
Construction	-1.207*** (0.214)	-1.261*** (0.215)	-1.143*** (0.251)	-1.257*** (0.216)	-1.072*** (0.271)	-1.072*** (0.271)
Wholesale/Retail	-0.900*** (0.204)	-0.945*** (0.205)	-0.693** (0.293)	-0.940*** (0.206)	-0.580* (0.343)	-0.580* (0.343)
Transport/Storage	-1.284*** (0.268)	-1.311*** (0.269)	-1.241*** (0.287)	-1.303*** (0.270)	-1.189*** (0.295)	-1.189*** (0.295)
Food/Accommodation	-1.127*** (0.225)	-1.202*** (0.226)	-1.126*** (0.248)	-1.200*** (0.226)	-1.074*** (0.259)	-1.074*** (0.259)
Information/Communication	-0.917*** (0.223)	-0.943*** (0.224)	-0.880*** (0.240)	-0.936*** (0.226)	-0.838*** (0.247)	-0.838*** (0.247)
Finance/Real estate	-1.206*** (0.225)	-1.243*** (0.228)	-1.135*** (0.251)	-1.232*** (0.229)	-1.074*** (0.265)	-1.074*** (0.265)
Professional services	-0.887*** (0.198)	-0.937*** (0.200)	-0.813*** (0.234)	-0.934*** (0.201)	-0.749*** (0.253)	-0.749*** (0.253)
Administrative services	-1.047*** (0.211)	-1.088*** (0.212)	-1.037*** (0.238)	-1.083*** (0.213)	-0.979*** (0.249)	-0.979*** (0.249)
Education	-1.328*** (0.231)	-1.373*** (0.232)	-1.238*** (0.276)	-1.370*** (0.233)	-1.154*** (0.304)	-1.154*** (0.304)
Health	-1.348*** (0.210)	-1.418*** (0.211)	-1.242*** (0.274)	-1.416*** (0.211)	-1.150*** (0.310)	-1.150*** (0.310)
Arts/Entertainment	-0.945*** (0.261)	-1.002*** (0.263)	-0.937*** (0.283)	-1.000*** (0.264)	-0.886*** (0.292)	-0.886*** (0.292)
Other services	-1.082*** (0.243)	-1.150*** (0.245)		-1.148*** (0.246)		
Innovation	0.233*** (0.066)	0.228*** (0.066)	0.217*** (0.067)	0.229*** (0.066)	0.216*** (0.067)	0.216*** (0.067)
Own website	0.196* (0.105)	0.201* (0.105)	0.201* (0.107)	0.200* (0.105)	0.202* (0.107)	0.202* (0.107)
Exports	0.179** (0.081)	0.201** (0.081)	0.195** (0.084)	0.206** (0.082)	0.197** (0.084)	0.197** (0.084)
Female led	-0.058 (0.082)	-0.059 (0.082)	-0.009 (0.084)	-0.057 (0.082)	-0.010 (0.085)	-0.010 (0.085)
Ethnic	-0.040 (0.149)	-0.010 (0.150)	0.002 (0.153)	-0.005 (0.151)	0.002 (0.153)	0.002 (0.153)
Premises	0.003 (0.089)	0.017 (0.089)	0.038 (0.090)	0.017 (0.089)	0.036 (0.090)	0.036 (0.090)
Constant	0.388*** (0.032)	1.288*** (0.199)	1.327*** (0.200)	1.213*** (0.242)	1.328*** (0.201)	1.145*** (0.264)
ICC	0.010	0.010	0.003	0.003	0.006	0.006
Observations	13,899	13,899	13,899	13,899	13,899	13,899
Log Likelihood	-2,921.756	-2,856.648	-2,842.930	-2,730.152	-2,842.244	-2,729.654
Akaike Inf. Crit.	5,847.511	5,761.296	5,743.861	5,520.304	5,748.489	5,525.308
Bayesian Inf. Crit.	5,860.257	5,914.250	5,928.660	5,710.309	5,952.406	5,734.314

Note:

*p<0.1; **p<0.05; ***p<0.01

Std. Errors in parenthesis

Dependent variable:

Digital interactions

	(1)	(2)	(3)	(4)	(5)	(6)
Distance to London			-0.125*** (0.046)	-0.141*** (0.048)	-0.100** (0.048)	-0.116** (0.049)
Distance to metropolitan Areas			0.047 (0.044)	0.058 (0.044)	0.065 (0.044)	0.078* (0.045)
LQ				-0.024 (0.074)		-0.092 (0.092)
Employment				0.058 (0.080)		0.156 (0.111)
Diversity Index (HHI)					-0.026 (0.040)	-0.037 (0.043)
Population					-0.009 (0.041)	-0.079 (0.058)
Population density					0.092* (0.047)	0.097** (0.049)
Univ. Degrees per capita			0.011 (0.044)	-0.019 (0.047)	0.010 (0.045)	-0.035 (0.049)
Students per capita			0.023 (0.039)	0.024 (0.041)	0.011 (0.044)	0.035 (0.048)
Broadband internet speed			-0.052 (0.044)	-0.057 (0.045)	-0.077* (0.046)	-0.081* (0.047)
1-9 employees		0.177 (0.122)	0.191 (0.122)	0.224* (0.126)	0.181 (0.123)	0.212* (0.126)
No employees		0.700*** (0.134)	0.698*** (0.135)	0.733*** (0.138)	0.691*** (0.135)	0.728*** (0.139)
10-49 employees		0.280*** (0.108)	0.293*** (0.109)	0.311*** (0.111)	0.289*** (0.109)	0.303*** (0.111)
Manufacturing		0.231 (0.277)	0.286 (0.279)	0.199 (0.331)	0.279 (0.280)	0.012 (0.358)
Construction		0.661** (0.266)	0.700*** (0.268)	0.640** (0.314)	0.698*** (0.268)	0.478 (0.336)
Wholesale/Retail		0.188 (0.263)	0.221 (0.266)	0.087 (0.374)	0.210 (0.266)	-0.210 (0.435)
Transport/Storage		0.845*** (0.326)	0.874*** (0.328)	0.844** (0.352)	0.883*** (0.329)	0.745** (0.361)
Food/Accommodation		0.926*** (0.275)	0.955*** (0.277)	0.931*** (0.306)	0.938*** (0.277)	0.793** (0.318)
Information/Communication		0.682** (0.274)	0.679** (0.277)	0.655** (0.297)	0.646** (0.279)	0.536* (0.304)
Finance/Real estate		0.551* (0.284)	0.544* (0.289)	0.495 (0.318)	0.546* (0.289)	0.362 (0.334)
Professional services		0.652*** (0.247)	0.662*** (0.250)	0.605** (0.293)	0.648*** (0.251)	0.435 (0.315)
Administrative services		0.616** (0.264)	0.628** (0.267)	0.616** (0.299)	0.611** (0.267)	0.484 (0.312)
Education		0.890*** (0.284)	0.888*** (0.287)	0.832** (0.344)	0.888*** (0.287)	0.634* (0.376)
Health		0.649** (0.263)	0.690*** (0.266)	0.614* (0.345)	0.668** (0.266)	0.358 (0.388)
Arts/Entertainment		0.486 (0.329)	0.529 (0.332)	0.512 (0.357)	0.505 (0.332)	0.370 (0.368)
Other services		0.814*** (0.297)	0.831*** (0.301)		0.818*** (0.301)	
Innovation		-0.149* (0.082)	-0.142* (0.082)	-0.144* (0.084)	-0.140* (0.082)	-0.138 (0.084)
Own website		-0.069 (0.126)	-0.080 (0.127)	-0.092 (0.129)	-0.080 (0.127)	-0.095 (0.129)
Exports		0.031 (0.101)	-0.002 (0.102)	0.013 (0.105)	0.002 (0.102)	0.013 (0.105)
Female led		0.094 (0.100)	0.096 (0.100)	0.050 (0.104)	0.101 (0.101)	0.061 (0.105)
Ethnic		0.251 (0.176)	0.209 (0.178)	0.160 (0.183)	0.188 (0.178)	0.144 (0.183)
Premises		-0.004 (0.107)	-0.012 (0.107)	-0.027 (0.109)	-0.009 (0.107)	-0.025 (0.109)
Constant	-1.477*** (0.039)	-2.214*** (0.251)	-2.235*** (0.254)	-2.175*** (0.307)	-2.222*** (0.254)	-1.992*** (0.332)

ICC	0.000	0.000	0.000	0.000	0.000	0.000
Observations	13,899	13,899	13,899	13,899	13,899	13,899
Log Likelihood	-2,079.238	-2,036.873	-2,031.217	-1,942.955	-2,029.163	-1,939.976
Akaike Inf. Crit.	4,162.476	4,121.745	4,120.433	3,945.910	4,122.327	3,945.952
Bayesian Inf. Crit.	4,175.223	4,274.699	4,305.233	4,135.915	4,326.243	4,154.958

Results

- ▶ Clear distance decay effect in business networking usage of OSM
- ▶ Marshallian/Jacobian agglomeration are non-significant
- ▶ More innovative/export oriented/already web presence use online business networks
- ▶ Social media usage: no distance effects, evidence Jacobian externalities
- ▶ Clear gender effect
- ▶ Further away from London: increased likelihood for face to face business support
- ▶ Closer to London: increased likelihood for online business support

Conclusions

- ▶ Londoners do not talk to each other any more!
- ▶ Distinct patterns between business networking and more casual use of OSM
- ▶ Proximity to London and not agglomeration characteristics is the main driving force

Policy recommendations for business support:

- ▶ Invest on face to face business advice provision outside London
- ▶ Enhance online business support presence in London