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# Knowledge sharing through face-to-face communication and labour productivity in UK trading workplaces

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# Research question: do workplaces enjoy higher productivity as a result of face-to-face communication (FTFC) among employees?

- Employees' physical proximity and verbal interaction (i.e., face-to-face communication) facilitate knowledge sharing (Nonaka and Takeuchi, 1995; Koskinen *et al.*, 2003; Meherabian, 1971)
  - Intensifying knowledge flows among employees is viewed as the key to achieve competitive advantage (Jackson *et al.*, 2003; Lepak and Snell, 2007)
  - Workplaces adopting HRM practices that enhance face-to-face communication are therefore expected to show higher productivity
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# Contribution: we investigate this research question for UK trading workplaces in the WERS 2004

- Objective measures of labour productivity (i.e., value-added per worker) are available
- Knowledge sharing through FTFC is operationalised

Effective KS practices – Merely formal KS practices = FTFC effect

Effective KS practices = existence of FTFC among employees

Merely formal KS practices = absence of FTFC among employees

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# Data description

Two sources of data:

- WERS 2004 Cross Section Survey of Managers:

Information on HRM practices, workplace, organisation and market characteristics is available for 1,757 UK workplaces in the trading sector

- Merged FPQ of the WERS 2004 and ARD:

Information on value-added per worker is available for 570 UK trading workplaces (see Forth and McNabb, 2007a)

Non-missing observations available for around 500 workplaces

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# Empirical results

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# Adoption of KS practices (no time dimension)

**Table 1: The association between face-to-face KS practices and labour productivity**

	Potential KS practices		Merely formal KS practices and FTFC effect	
	Coeff.	Std. err.	Coeff.	Std. err.
PS groups (1-19%)	-0.008	0.071	-0.025	0.068
PS groups (20-39%)	-0.091	0.057	-0.085	0.056
PS groups (40-59%)	0.016	0.067	0.009	0.069
PS groups (60-79%)	0.182	0.137	0.171	0.117
PS groups (80-99%)	-0.073	0.080	-0.052	0.077
PS groups (100%)	-0.094	0.069	-0.076	0.074
Teams (1-19%)	0.017	0.070	0.019	0.068
Teams (20-39%)	-0.029	0.047	0.039	0.087
Teams (40-59%)	-0.052	0.118	-0.243 ***	0.086
Teams (60-79%)	-0.034	0.045	-0.025	0.088
Teams (80-99%)	-0.065	0.054	-0.007	0.048
Teams (100%)	0.066	0.052	0.042	0.061
FTFC in teams (1-19%)			0.062	0.135
FTFC in teams (20-39%)			-0.083	0.090
FTFC in teams (40-59%)			0.520 ***	0.175
FTFC in teams (60-79%)			-0.021	0.093
FTFC in teams (80-99%)			-0.074	0.071
FTFC in teams (100%)			0.028	0.083
Meetings	0.014	0.033	-0.029	0.040
FTFC in meetings			0.046	0.042
Briefings	0.062	0.040	0.001	0.040
FTFC in briefings			0.043	0.045
Committees	0.066	0.050	0.067 *	0.038
R-squared	0.400		0.427	
Number of observations	513		504	

NOTES: Coefficients are weighted to account for match bias and standard errors are adjusted to account for the complex survey design in the WERS 2004. Eleven industry dummies (SIC 2003 section level) are included. The regressions control for workplace, organisation and market characteristics; \*\*\*, \*: significant at the 1 and 10% level.

- Potential KS practices show no positive association with labour productivity
- The adoption of committees and teams of medium size whose employees engage in FTFC is positively associated (■)
- No positive association for problem-solving (PS) groups, meetings and briefings, even in the presence of FTFC

# Adoption of permanent KS practices

- Some potential KS practices now show a positive association with labour productivity but this association either disappears when FTFC is introduced (■) or is pertinent only to FTFC (■)
- The simple adoption of merely formal KS practices does not automatically result in productivity gains
- PS groups and teams of medium size, briefings, meetings and committees all show a positively association in the presence of FTFC (■)

Table 2: Permanent face-to-face KS practices and labour productivity

	Potential KS practices		Merely formal KS practices and FTFC effect	
	Coeff.	Std. err.	Coeff.	Std. err.
PS groups (1-19%)	0.015	0.130	-0.029	0.142
PS groups (20-39%)	-0.288 **	0.122	-0.224 *	0.119
PS groups (40-59%)	0.000	0.087	0.010	0.088
PS groups (60-79%)	0.111	0.085	0.202 **	0.081
PS groups (80-99%)	-0.127	0.107	-0.158	0.122
PS groups (100%)	-0.115 *	0.066	-0.091	0.072
Teams (1-19%)	0.067	0.075	0.054	0.067
Teams (20-39%)	-0.023	0.046	0.072	0.090
Teams (40-59%)	-0.032	0.109	-0.258 ***	0.074
Teams (60-79%)	-0.032	0.042	-0.009	0.084
Teams (80-99%)	-0.058	0.057	0.007	0.055
Teams (100%)	0.079 *	0.046	0.039	0.063
FTFC in teams (1-19%)			0.023	0.141
FTFC in teams (20-39%)			-0.120	0.094
FTFC in teams (40-59%)			0.550 ***	0.187
FTFC in teams (60-79%)			-0.052	0.088
FTFC in teams (80-99%)			-0.067	0.074
FTFC in teams (100%)			0.026	0.075
Meetings	0.024	0.049	-0.038	0.051
FTFC in meetings			0.155 *	0.091
Briefings	0.095 **	0.040	0.017	0.042
FTFC in briefings			0.124 **	0.057
Committees	0.107 ***	0.039	0.080 **	0.039
R-squared	0.442		0.467	
Number of observations	498		493	

NOTES: Coefficients are weighted to account for match bias and standard errors are adjusted to account for the complex survey design in the WERS 2004. Eleven industry dummies (SIC 2003 section level) are included. The regressions control for workplace, organisation and market characteristics; \*\*\*, \*\*, \*: significant at the 1, 5 and 10% level.

# Effects of increasing the time of adoption

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FTFC in briefings			0.124 **	0.057
Committees	0.107 ***	0.039	0.080 **	0.039
R-squared	0.442		0.467	
Number of observations	498		493	

NOTES: Coefficients are weighted to account for match bias and standard errors are adjusted to account for the complex survey design in the WERS 2004. Eleven industry dummies (SIC 2003 section level) are included. The regressions control for workplace, organisation and market characteristics; \*\*\*, \*\*, \*: significant at the 1, 5 and 10% level.

# Controlling for other HRM practices

**Table 3: Association of permanent face-to-face KS practices and other HRM practices with labour productivity**

	Merely formal KS practices and FTFC effect	
	Coeff.	Std. err.
PS groups (1-19%)	-0.011	0.148
PS groups (20-39%)	-0.214 *	0.116
PS groups (40-59%)	-0.031	0.101
PS groups (60-79%)	0.238 ***	0.092
PS groups (80-99%)	-0.152	0.110
PS groups (100%)	-0.099	0.070
Teams (1-19%)	0.046	0.071
Teams (20-39%)	0.081	0.099
Teams (40-59%)	-0.243 ***	0.079
Teams (60-79%)	-0.021	0.123
Teams (80-99%)	0.027	0.057
Teams (100%)	0.038	0.060
FTFC in teams (1-19%)	0.036	0.145
FTFC in teams (20-39%)	-0.112	0.103
FTFC in teams (40-59%)	0.517 ***	0.163
FTFC in teams (60-79%)	-0.040	0.129
FTFC in teams (80-99%)	-0.042	0.072
FTFC in teams (100%)	0.023	0.070
Meetings	-0.050	0.055
FTFC in meetings	0.188 **	0.086
Briefings	0.054	0.043
FTFC in briefings	0.063	0.052
Committees	0.084 **	0.042
R-squared	0.503	
Number of observations	481	

NOTES: Coefficients are weighted to account for match bias and standard errors are adjusted to account for the complex survey design in the WERS 2004. Eleven industry dummies (SIC 2003 section level) are included. The regressions control for workplace, organisation, market characteristics and other HRM variables; \*\*\*, \*\*, \*: significant at the 1, 5 and 10% level.

The results are robust to the inclusion of the following HRM controls:

- Employment security
- Induction programme
- Off-the-job training
- Performance-related pay (\*\*)
- Internal recruitment
- Recruitment test
- Performance appraisal
- Information disclosure
- Core employees' autonomy
- Multiskilling

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# Conclusions

- Face-to-face communication is associated with productivity gains for UK trading workplaces: sharing knowledge through verbal interactions does make a difference
  - The time length for which KS communities are in existence is crucial to increase the number and magnitude of productivity gains
  - The size of KS communities seems to matter too but needs to be explored in more depth
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*Thank you for your attention*

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