Factors Affecting the Scientific Impact of Literature Reviews

A Scientometric Study

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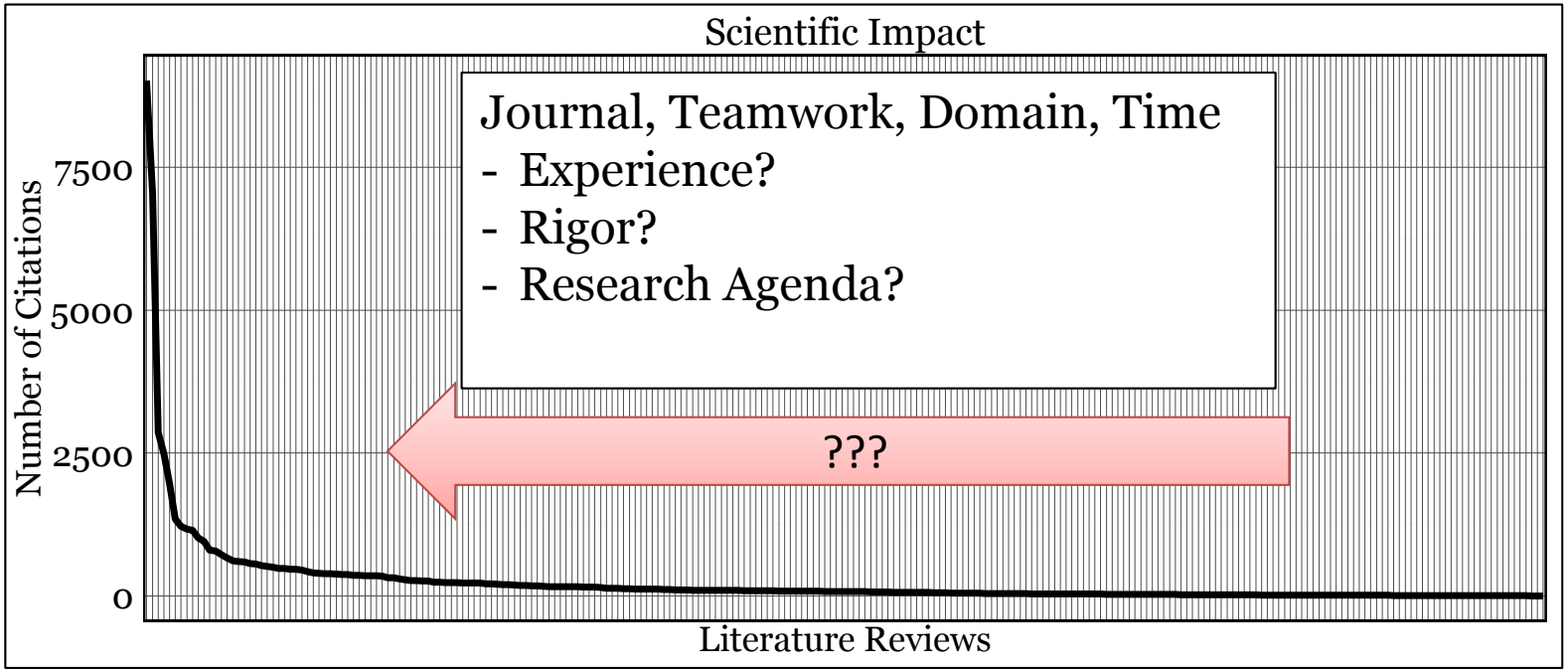
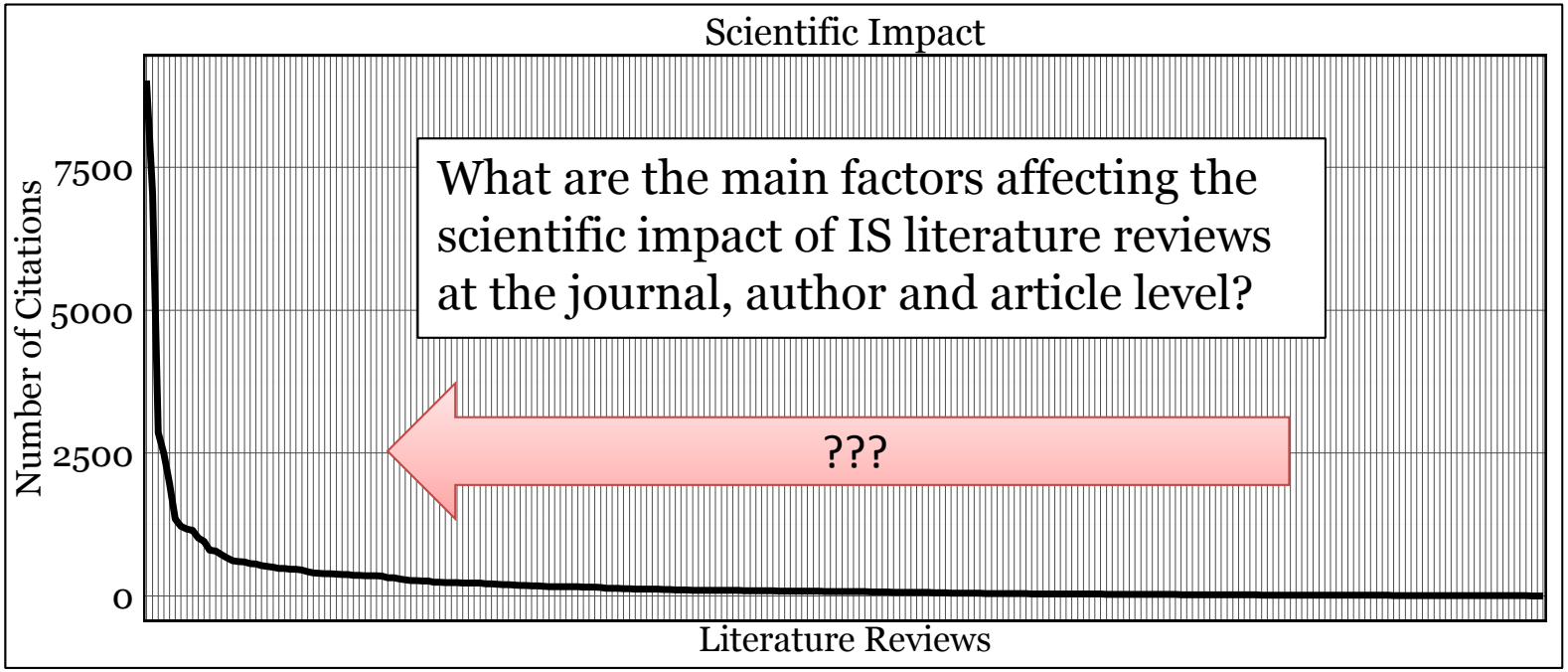
Scientific Impact of Literature Reviews



Scientific Impact of Literature Reviews



Citations and Scientific Impact

- Citations: a measure for scientific impact (Grover et al. 2014, Mingers and Xu 2010) , and quality (?) (Gilbert 1977, MacRoberts and MacRoberts 1989)

- Citations: used to evaluate papers, authors and journals (Hassan and Loebbecke 2010)

- Citation impact depends on the genre of paper
  - Differences in impact between genres (Mingers and Xu 2010)
  - Article level factors are genre-specific

The Impact of Literature Reviews

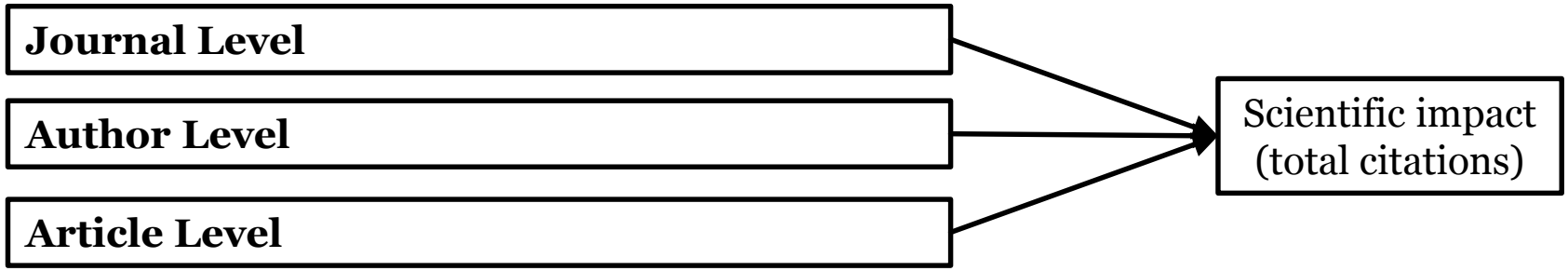
- High-impact overall (Mingers and Xu 2010), but there are many reviews with a limited impact (Garfield 2006)

- The value of a review is associated with its impact on the literature (Rowe 2014)

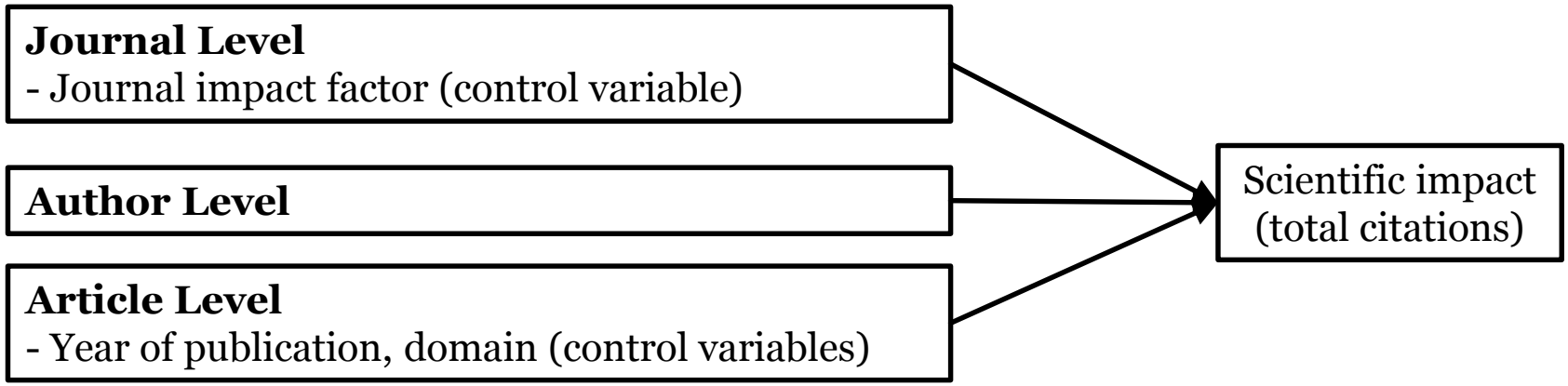
Definition

*A literature review provides a **synthesis** of the body of **knowledge of a specified domain**.*

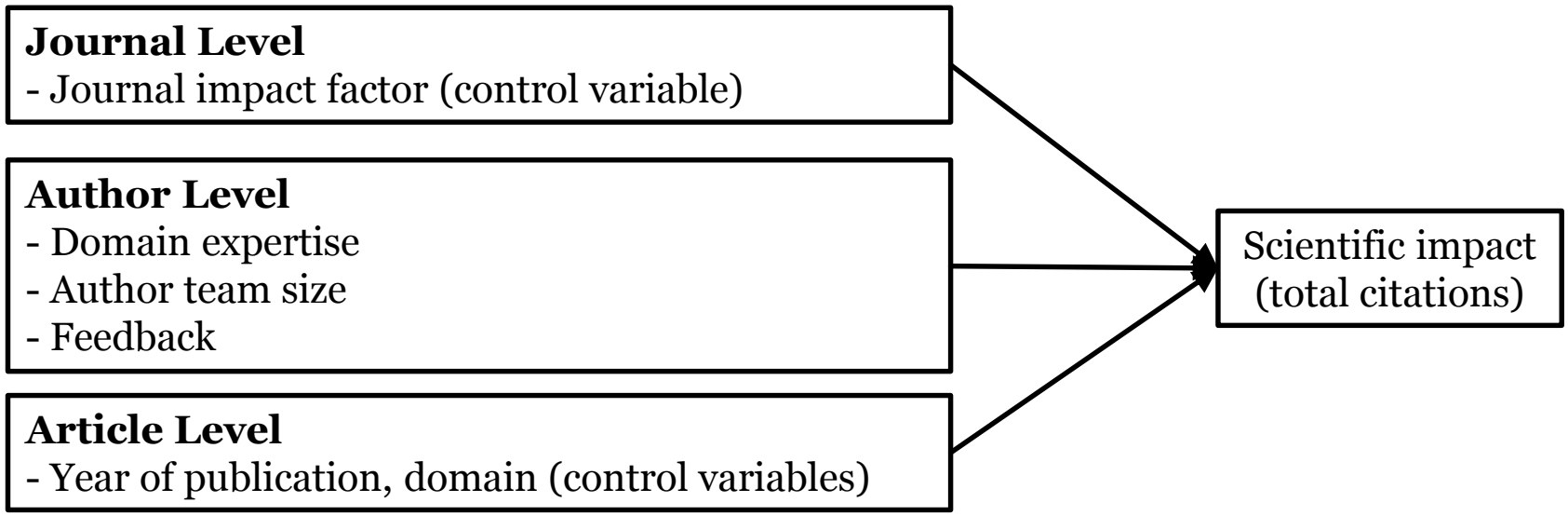
Research Model



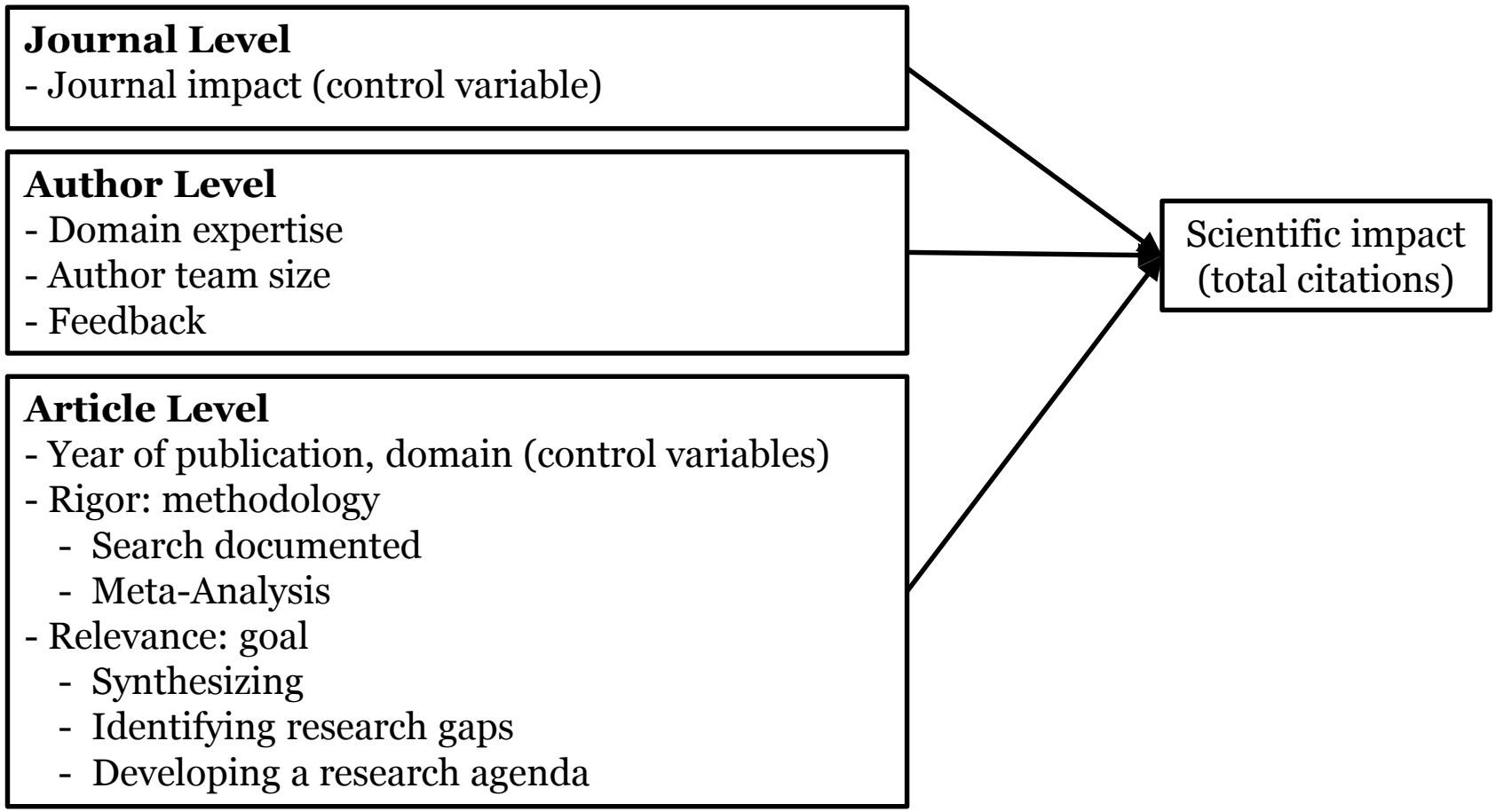
Research Model



Research Model



Research Model



Methodology

Identification of literature reviews (n=214)

- Top-40 IS journals (Lowry et al. 2013)
- between 2000 and 2014
- in English

Coding of measures

- Journal: Thomson Reuters Journal Impact Factor
- Authors and Article: PDFs

Methodology

Negative binomial generalized linear model (GLM)

$$\begin{aligned}\text{Log}(citations) = \ & \beta_0 + \beta_1 Journal\ Impact\ Factor + \\ & \beta_2 Domain\ Expertise + \sum_{i=1}^{3} \beta_3^i\ Author\ Team\ Size + \\ & \beta_4 Feedback + \\ & \beta_5 Time + \sum_{j=1}^{10} \beta_6^j\ Domain + \\ & \beta_7 Meta\ Analysis + \beta_8 Search\ Documented + \\ & \beta_9 Research\ Gaps + \beta_{10} Research\ Agenda + \epsilon\end{aligned}$$

Results

		Estimate (Std. Error)
Journal	Journal impact factor (control variable)	0.30*** (0.05)
Author	Domain expertise	0.29** (0.11)
	Team size (2-3 authors)	0.59** (0.19)
	Team size (4 or more authors)	0.01 (0.27)
	Feedback	0.24 (0.16)
Article	Time (control variable)	0.26*** (0.02)
	Rigor: search documented	0.63** (0.16)
	Rigor: meta-analysis	-0.50* (0.25)
	Relevance: research gaps	-0.12 (0.18)
	Relevance: research agenda	-0.12 (0.20)
Pseudo R^2		0.59

Significance levels: *** indicates p<0.001, ** indicates p<0.01, * indicates p<0.05.
The model includes an intercept and domain dummies.

Robustness Checks (Without Outliers)

		Original Model	Without Outliers
Journal	Journal impact factor (control variable)	0.30***	0.28 ***
Author	Domain expertise	0.29**	0.32 **
	Team size (2-3 authors)	0.59**	0.45 **
	Team size (4 or more authors)	0.01	-0.03
	Feedback	0.24	0.42 **
Article	Time (control variable)	0.26***	0.18 ***
	Rigor: search documented	0.63**	0.44 **
	Rigor: meta-analysis	-0.50*	-0.45 *
	Relevance: research gaps	-0.12	-0.11
	Relevance: research agenda	-0.12	0.09

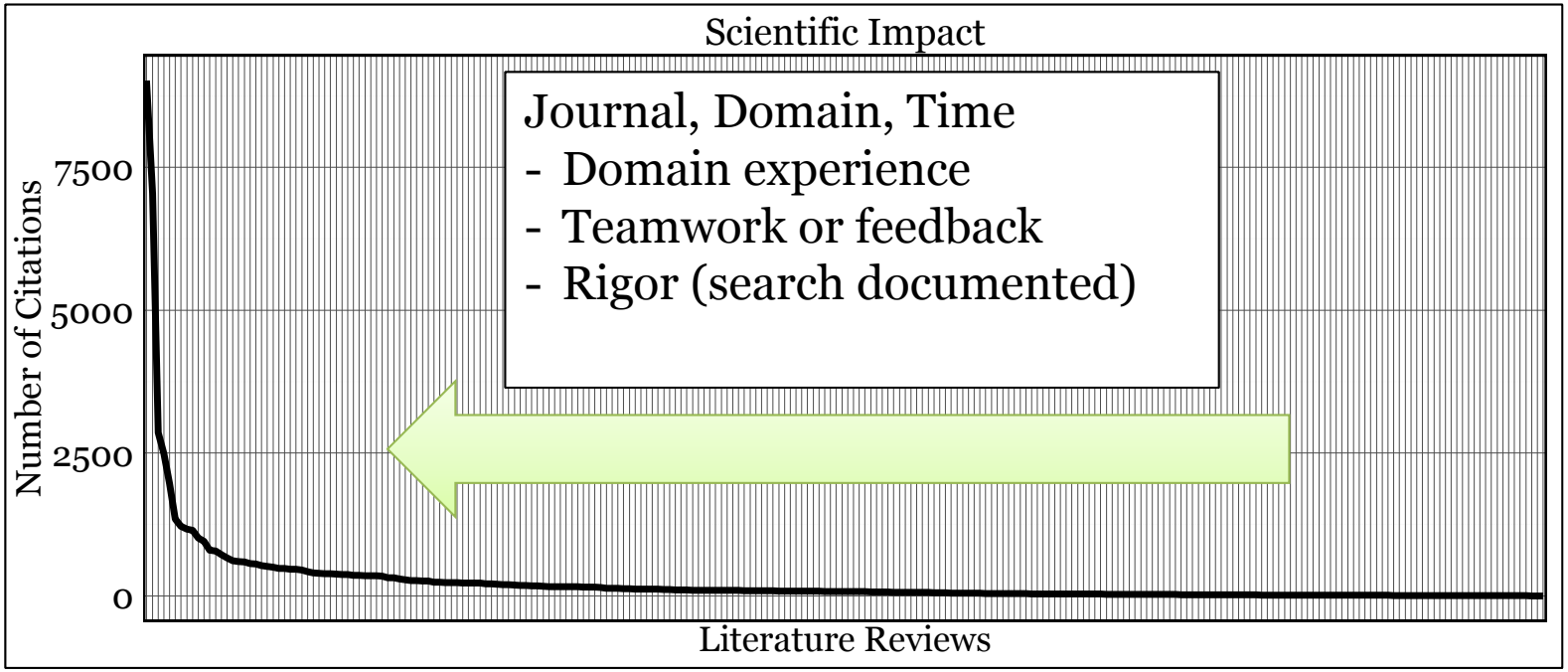
Significance levels: *** indicates p<0.001, ** indicates p<0.01, * indicates p<0.05.
The model includes an intercept and domain dummies.

Robustness Checks (Individual Authors)

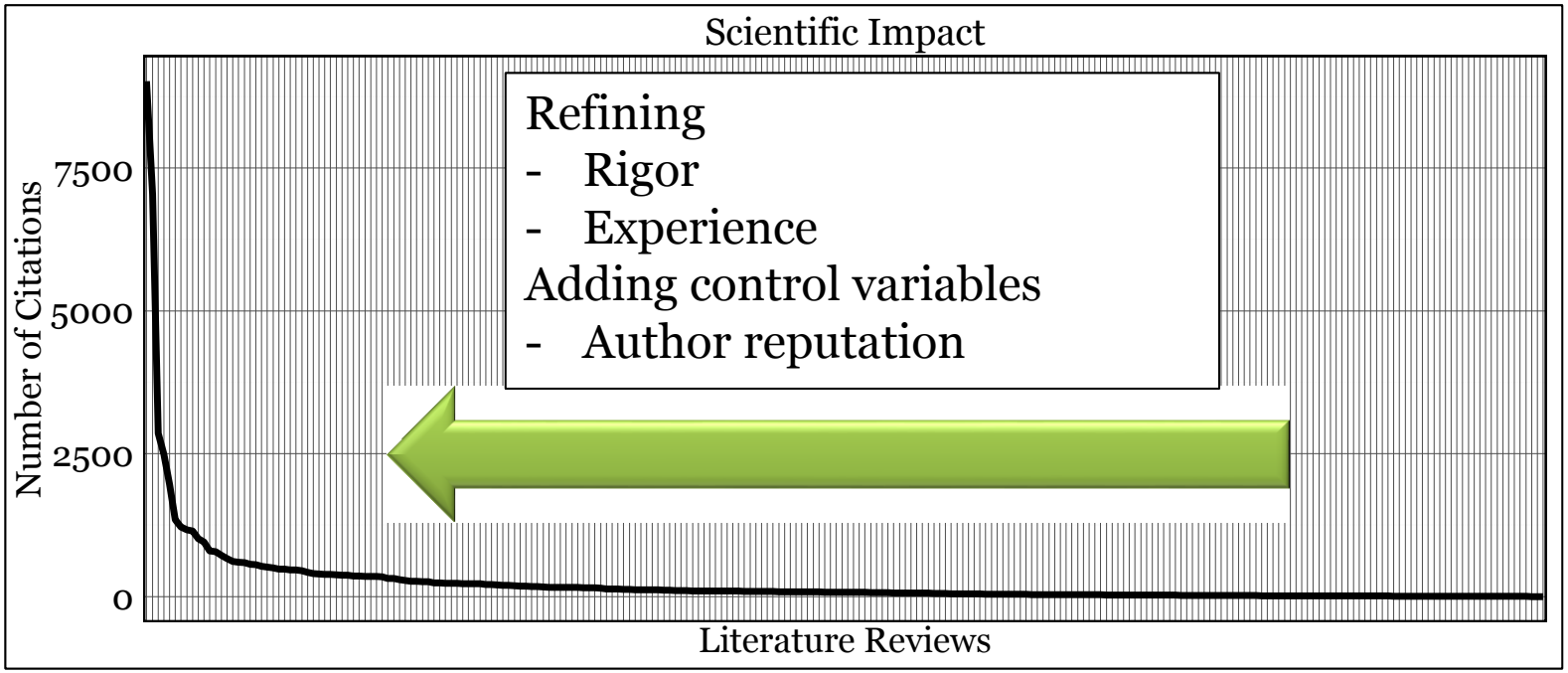
		Original Model	Individual Authors Only
Journal	Journal impact factor (control variable)	0.30***	0.28 **
Author	Domain expertise	0.29**	0.28
	Team size (2-3 authors)	0.59**	
	Team size (4 or more authors)	0.01	
	Feedback	0.24	1.21 ***
Article	Time (control variable)	0.26***	0.17 ***
	Rigor: search documented	0.63**	0.65 *
	Rigor: meta-analysis	-0.50*	-1.4 *
	Relevance: research gaps	-0.12	
	Relevance: research agenda	-0.12	

Significance levels: *** indicates p<0.001, ** indicates p<0.01, * indicates p<0.05.
The model includes an intercept and domain dummies.

Discussion


Scientific Impact
Journal, Domain, Time
- Domain experience
- Teamwork or feedback
- Rigor (search documented)
Number of Citations
7500
5000
2500
0
Literature Reviews

Further Research



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