

# Status Effects in Technological Communities

Dave Waguespack (Maryland)\*

Tim Simcoe (Toronto)

Lee Fleming (HBS)

Paper available by emailing [dwaguesp@rhsmith.umd.edu](mailto:dwaguesp@rhsmith.umd.edu)

## Overview

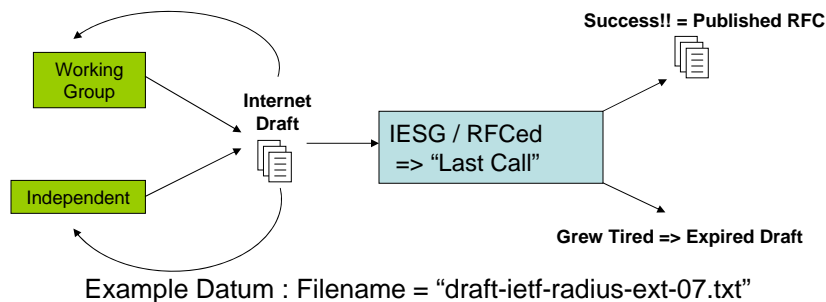
- Situation : much research suggesting increasing returns to status
  - When quality uncertain, status an information shortcut
  - Rewards from a privileged social position, not just individual attributes
  - Merton's "Matthew Effect"
- Complication : Hard to measure "status" when unobserved quality is present
  - Typical approach : plow ahead
- Question : How much of the status effect is independent from quality?

# Hypotheses

- H1: higher author status improves the likelihood of a technical manuscript being published
  - independently of quality effects – natural experiment
  - Merton, Podolny, Stuart et al., Podolny et al.
- H2: as crowding increases status increasingly improves the likelihood of a technical manuscript being published
  - Status matters more when information volume is greater
  - Spence, King, Lenox
- H3: as paradigm strength increases status decreasingly improves the likelihood of a technical manuscript being published
  - Status matters less when quality easier to judge
  - Gould, Kuhn

# Setting

- Internet Engineering Task Force (IETF)
  - Standards that run the Internet
  - Simple “community review” publication process
  - 11581 manuscripts from 1994-2005
  - 19% eventually published
  - Status measures:
    - authors' prior publication success
    - Authors are prior working group chairs



## Experiment: random name suppression

- Proposals distributed via “ietf-announce” mailing list
  - Title, WG, Authors, Version and Dates
- “Natural Experiment”
  - Authors: Waguespack, Fleming, **ET AL**
  - Where “et al” is a former Working Group chair
- What’s behind variation in “et al”?
  - Workload of IETF administrative staff in Reston, VA
  - Specifically, is there a meeting coming up...

## Experiment: random name suppression example

A New Internet-Draft is available from the on-line Internet-Drafts directories.  
This draft is a work item of the Extended Incident Handling Working Group of the IETF.

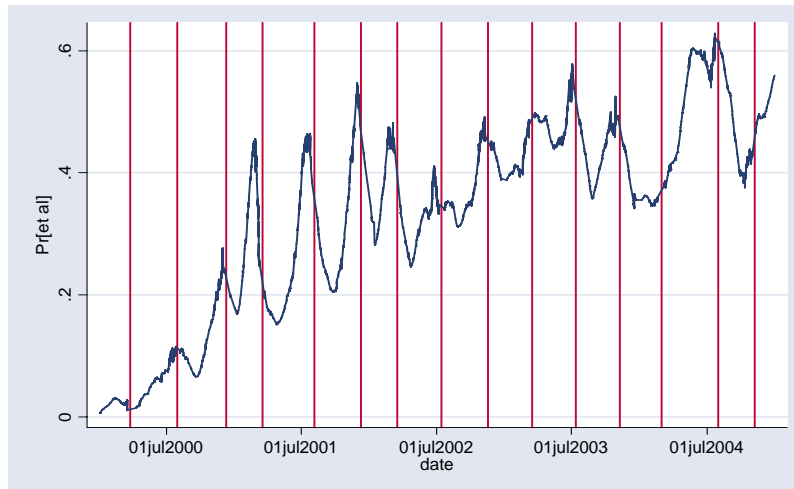
```
Title       : The Incident Data Exchange Format Data Model and XML
Implementation Document Type Definition
Author(s)   : J. Meijer et al.
Filename    : draft-ietf-inch-iodef-02.txt
Pages      : 85
Date       : 2003-9-30
```

The purpose of the Incident Data Exchange Format (IODEF) is to define data formats for information related to computer security incidents typically exchanged between collaborating Computer Security Incident Response Teams (CSIRTs). The IODEF satisfies the requirements specified in RFCXXX [1] This Internet-Draft describes a data model for representing commonly exchanged incident information exported from incident handling systems managed by CSIRTs. An implementation of the data model in the Extensible Markup Language (XML) is presented, an XML Document Type Definition is developed, and examples are provided.

An email announcement for an ID with a suppressed WG chair name. This ID has three authors. The 2nd author, R. DANYLIW, is a working group chair.

# “Et Al” and IETF Meeting Dates

Nonparametric Regression of “etal” on Publication Date



Red Lines are IETF Meeting Dates

## H1: (revealed) status matters

Author Types	N	Publication rate
No WG Chair Authors	7,888	0.14
WG Chair Authors	3,898	0.15
Listed WG Chair Authors	3,279	0.33

Author Types	N	Publication rate
No Published Authors	6,563	0.12
Published Authors	5,018	0.12
Listed Published Authors	4,608	0.30

- Publishing success rates by author characteristics
- Effects hold in logit estimation with broad set of controls

	4.1	4.2	4.3	4.4	4.5	4.6
Working group	1.477 (0.059)**	1.516 (0.058)**	1.473 (0.059)**	1.477 (0.059)**	1.525 (0.059)**	1.480 (0.059)**
US Author	0.167 (0.078)*	0.150 (0.078)+	0.097 (0.079)	0.160 (0.078)*	0.144 (0.078)+	0.089 (0.078)
n authors	-0.218 (0.043)**	-0.224 (0.042)**	-0.228 (0.043)**	-0.224 (0.043)**	-0.226 (0.042)**	-0.232 (0.043)**
n affiliations	0.293 (0.049)**	0.291 (0.048)**	0.265 (0.049)**	0.300 (0.049)**	0.296 (0.048)**	0.272 (0.049)**
n_Gov affiliations	0.124 (0.138)	0.139 (0.138)	0.127 (0.139)	0.118 (0.139)	0.132 (0.139)	0.119 (0.140)
n_Edu affiliations	0.067 (0.059)	0.034 (0.059)	0.037 (0.060)	0.066 (0.058)	0.024 (0.059)	0.029 (0.059)
n_Org affiliations	0.444 (0.085)**	0.435 (0.085)**	0.421 (0.086)**	0.453 (0.084)**	0.445 (0.085)**	0.433 (0.085)**
et al. Author list	-0.348 (0.110)**	-0.330 (0.109)**	-0.323 (0.110)**	-0.330 (0.109)**	-0.309 (0.108)**	-0.300 (0.109)**
Draft Queue	-0.424 (0.063)**	-0.455 (0.065)**	-0.462 (0.067)**	-0.361 (0.055)**	-0.354 (0.054)**	-0.359 (0.055)**
Tech Subfield	-0.009 (0.118)	-0.025 (0.118)	-0.023 (0.118)	0.149 (0.142)	0.233 (0.152)	0.249 (0.157)
WG chairs	-0.099 (0.204)		0.003 (0.237)	0.493 (0.103)**		0.256 (0.123)*
Queue X WG chair	0.070 (0.036)*		0.033 (0.042)			
Subfield X WG chair				-0.211 (0.106)*		-0.067 (0.126)
Prior pubs		-0.345 (0.329)	-0.266 (0.382)		0.917 (0.160)**	0.708 (0.185)**
Queue X Prior pubs		0.152 (0.058)**	0.111 (0.067)**			
Subfield X Prior pubs					-0.447 (0.164)**	-0.383 (0.191)*
Constant	-2.449 (0.420)**	-2.277 (0.430)**	-2.225 (0.441)**	-2.946 (0.390)**	-3.079 (0.392)**	-3.053 (0.395)**
Year Cohorts (12)	Y**	Y**	Y**	Y**	Y**	Y**
Log Likelihood	-4272.49	-4266.35	-4244.52	-4271.88	-4265.62	-4243.42
Observations	11581	11581	11581	11581	11581	11581

Robust standard errors in parentheses

H2: mixed support for positive interaction of status and crowding.

H3: mixed support for negative interaction of status and paradigm strength

## Conclusions

- Individual status matters, independently of quality, for technology adoption
- Status matters more when noise is greater, less when problems more well defined
- Individual status influences the direction of technology development