Clarivate Analytics

上海理工大學 管理学院
University of Shanghai for Science & Technology | Business School

Web of Science -SSCI A&HCI助力创新性人文社科研究

上海理工大学 霍良安

23 NOV, 2020

Schedule

- 研究方向介绍
- 论文写作过程
- 论文写作中的一些问题探讨
- 讨论环节

研究方向介绍

网络舆情传播

应急管理实践

应急管理建言

突发事件应急管理理论与实践相关问题研究

网络舆情传播

◆模糊层次分析法权重研究， 系统工程理论与实践，他引198次

◆Rumor spreading model considering the activity of spreaders in the homogeneous network， 2017, Physica A: Statistical Mechanics and its Applications， 他引53次

◆Analyzing the dynamics of a rumor transmission model with incubation, 2013, Discrete Dynamics in Nature and Society， 他引53次

◆科普教育及媒体报道对于不实信息传播的影响, 系统工程理论与实践

◆Dynamical Analysis of Dual Product Information Diffusion considering Preference in Complex Networks, Complexity 2020

◆Dynamical analysis of rumor spreading model considering node activity in complex networks, Complexity 2018

◆Dynamical behaviors and control measures of rumor-spreading model with consideration of the infected media and time delay, Information Science 2020

网络舆情传播

国家自然科学基金结题后期评估

"优"

通　　知

上海理工大学 科研处：

兹有贵单位 霍良安 承担的国家自然科学基金项目《新媒介影响下的突发事件不实信息传播机理与动态控制策略研究》（批准号：71303157），在国家自然科学基金委员会管理科学部组织的结题项目绩效评估会上，被评为 优 。

请将评议结果通知项目承担人。

特此通知！

国家自然科学基金委员会

管理科学部

2019.03.10

输电网络连锁故障的应急处置系统

现场监控装置 → **后台监控中心**

前置式预警平台对监控视频智能分析与处理，当风筝、雨布或塑料布等挂在输电线上，自动检测跟踪。

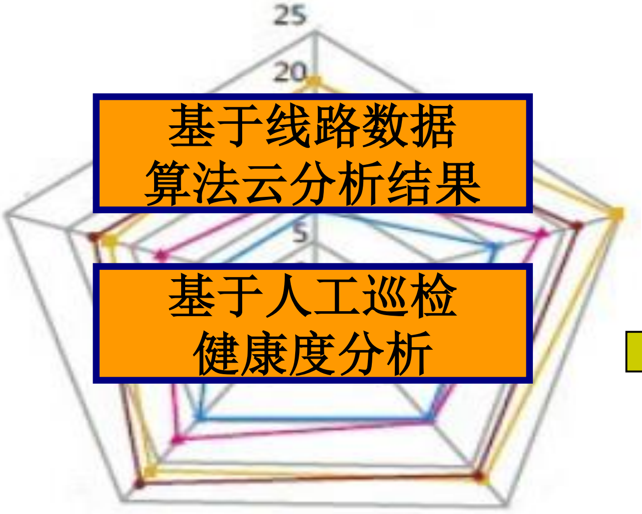
报警信息与实时视频传回监控中心显示出来。

基于外力破坏导致输电网络连锁故障的应急处置系统

上海理工大学管理学院
University of Shanghai for Science & Technology | Business School

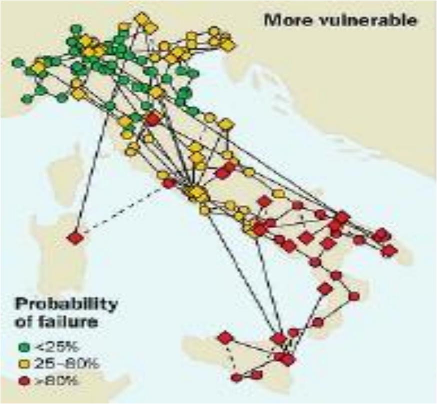
特高压输电线塔完整的健康度动态评估体系

单级杆塔健康度评估



基于线路数据算法云分析结果

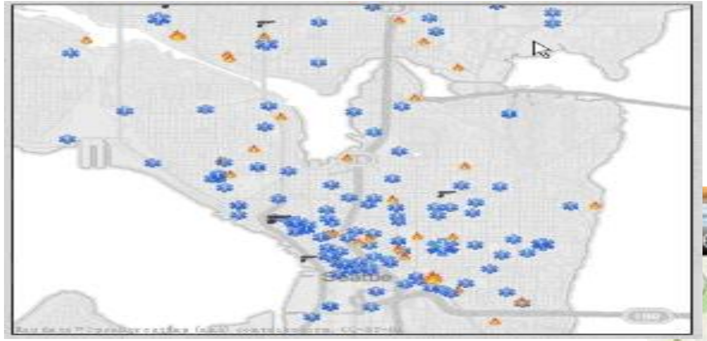
基于人工巡检健康度分析



特高压输电网络

健康度动态评估体系

特高压输电线路数字化预警系统



资政建言

全面提升上海城市**应**急管理体系和能力**现**代化水平

资政建言

2篇**关**于**应**急管理的咨**询报**告被中**办**/市委采**纳**

上海**应**急局咨**询课题**

技 术 服 务 合 同

项目名称：世界主要国家及超大型城市应急管理实践及可借鉴经验研究

委托人：上海市应急管理局
（甲方）

受托人：上海理工大学
（乙方）

签订地点：上海 省（市） 黄浦 区（县）

签订日期：2020 年 8 月 日

论文写作过程

- 经典论文 **Theory of rumour spreading in complex social networks**

  M. Nekovee , Y. Moreno , G. Bianconi and M. Marsili

  Physica A: Statistical Mechanics and its Applications, 2007, 374(1): 457-470.

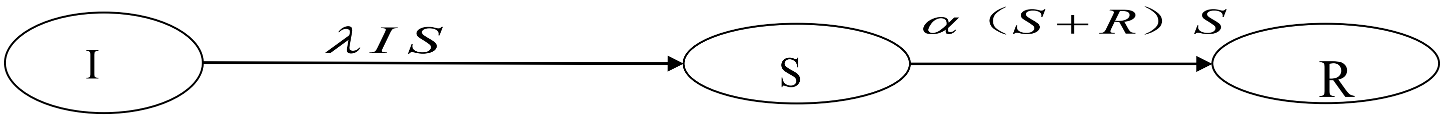
They introduced a general stochastic model for the spread of rumours, and derived mean-field equations to describe the dynamics of the model on complex social networks.

- Daley and Kendall [7,8]

Ignorants: who are ignorant of the rumour;

Spreaders: who have heard it and actively spread it;

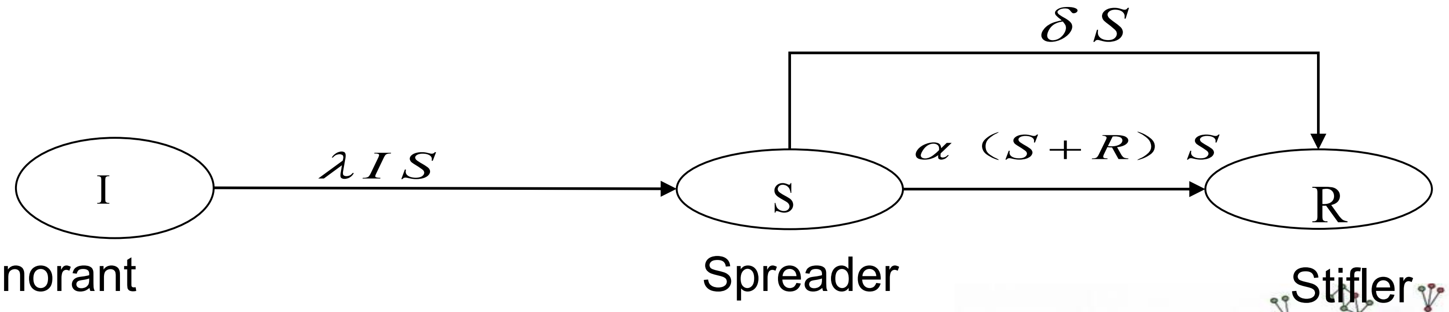
Stiflers: who have heard the rumour but have ceased to spread it.



The contacts between the spreaders and the rest of the population are governed by the following set of rules:

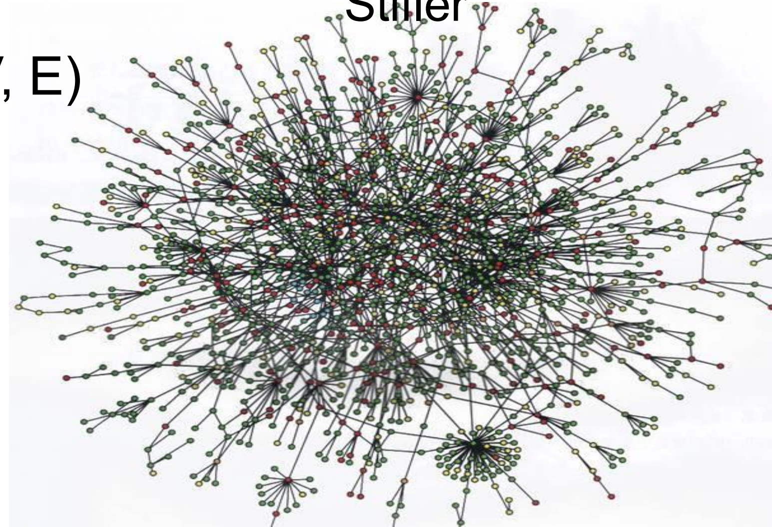
- Whenever a spreader contacts an ignorant, the ignorant becomes an spreader at a rate λ.
- When a spreader contacts another spreader or a stifler the initiating spreader becomes a stifler at a rate α.

A general model for rumour dynamics on social networks



Undirected social interaction network： G = (V, E)

V： vertices； E： edges



Whenever a spreader contacts an ignorant,

the ignorant becomes an spreader at a rate λ.

Interactive Markov chain mean-field equations

$$I(k,t+\Delta t) - I(k,t) = -I(k,t)\left(1-\left[1-\lambda\Delta t\sum_{k'}P(k'\mid k)\rho^{s}(k',t)\right]^{k}\right)$$

$$= -I(k,t)k\lambda\Delta t\sum_{k'}P(k'\mid k)\rho^{s}(k',t) + O(\Delta t^{2})$$

$$\frac{\partial\rho^{i}(k,t)}{\partial t} = -\rho^{i}(k,t)k\lambda\sum_{k'}P(k'\mid k)\rho^{s}(k',t)$$

The non-trivial solution of this equation is given by:

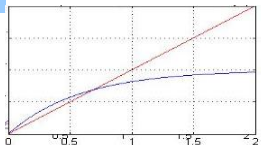
$$\phi_\infty = \frac{\lambda\langle\langle k\rangle\rangle - \delta}{\lambda^2\langle\langle k^2\rangle\rangle(\frac{1}{2} + \alpha I\langle\langle k\rangle\rangle)}. \qquad (28)$$

Noting that $\langle\langle k\rangle\rangle = \langle k^2\rangle/\langle k\rangle$ and $\langle\langle k^2\rangle\rangle = \langle k^3\rangle/\langle k\rangle$ we obtain:

$$\phi_\infty = \frac{2\langle k\rangle(\frac{\langle k^2\rangle}{\langle k\rangle}\lambda - \delta)}{\lambda^2\langle k^3\rangle(1 + 2\alpha I\frac{\langle k^2\rangle}{\langle k\rangle})}.$$

$\phi_\infty > 0$

$$\frac{\lambda}{\delta} \geq \frac{\langle k\rangle}{\langle k^2\rangle}$$



R is given by

$$R = \sum_k P(k)(1 - e^{-\lambda k \phi_\infty}), \quad (32)$$

In particular, for homogeneous networks where all the moments of the degree distribution are bounded, we can expand the exponential in Eq. (32) to obtain

$$R \approx \sum_k P(k)\lambda k \phi_\infty = \frac{2\langle k\rangle^2(\lambda - \lambda_c)}{\lambda\langle k^3\rangle(\lambda_c + 2\alpha I)}$$

Numerical reults

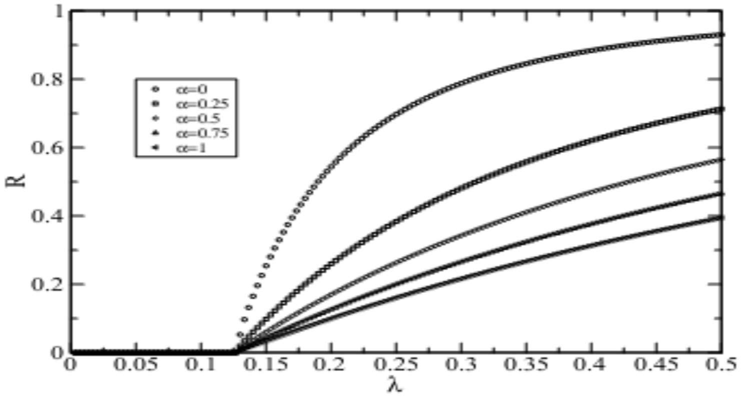


Fig. 1 ER network

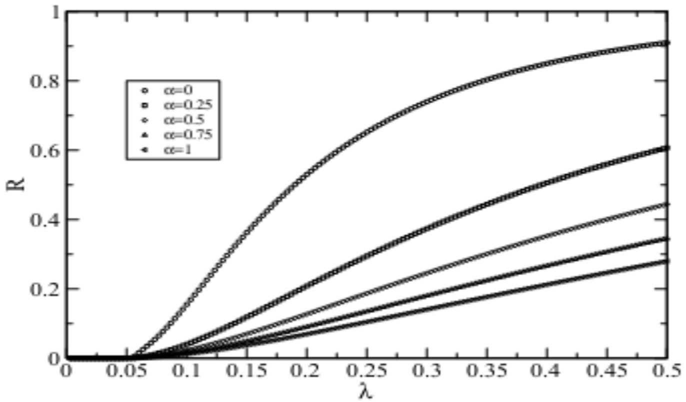


Fig. 3 **scale-free networks**

The final size of the rumor, R is shown as a function of the spreading rateλ.

Conclusions

We used an Interactive Markov Chain formulation of the model to derive deterministic mean-field equations for the dynamics of the model on complex networks.

Our results show the presence of a critical threshold in the rumour spreading rate below which a rumour cannot spread in ER networks.

Our results show that the impact of assortative degree correlations on the speed of rumour spreading on SF networks.

- 我们论文： Activity of nodes reshapes the process of the spreading dynamics in complex networks
- Liu C, Zhou L, Fan C,Huo L et al. Physica A: Statistical Mechanics and its Applications, 2015, 432: 269-278 .
- We investigate spreading dynamics on complex networks with active nodes based on SIR (Susceptible–Infected–Removed) model.

上海理工大学 管理学院
University of Shanghai for Science & Technology
Business School

Schedule

- Introduction
- A model
- Theoretical analysis
- Numerical results
- Conclusions

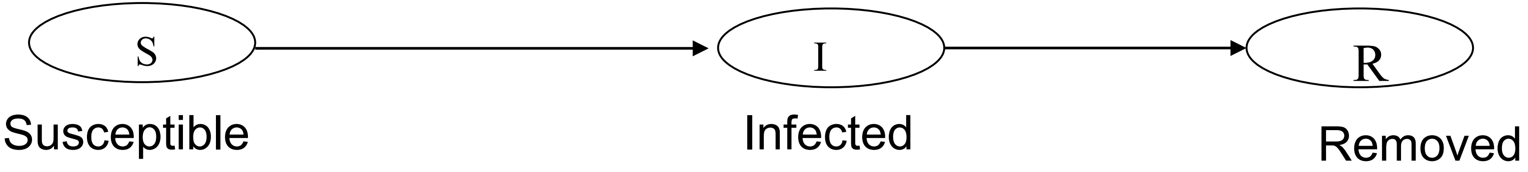
1 Introduction

- Many natural or social phenomena can be explained by spreading dynamics, such as spreading of infection diseases, computer virus, rumors, scientific ideas, human behaviors, etc

- Studies on spreading dynamics originated from investigations of epidemic of infection disease, in which disease is transmitted from one individual to another through interactions between them.

1 Introduction

- Kermack and McKendrick first proposed a mathematical model [7]



$$\begin{cases} \dfrac{\mathrm{d}S(t)}{\mathrm{d}t} = -\lambda S(t)I(t) \\ \dfrac{\mathrm{d}I(t)}{\mathrm{d}t} = \lambda S(t)I(t) - \delta I(t) \\ \dfrac{\mathrm{d}R(t)}{\mathrm{d}t} = \delta I(t) \end{cases}$$

1 Introduction

Rules:

A susceptible node change into an infected one when items (infectious disease, messages or rumors) are transmitted from other infected nodes through links between them with infection rate λ, and an infected node become removed with rate δ as it no longer has transmission ability

1 Introduction

Others studies of epidemic infection

- [8] R. Pastor-Satorras

  Epidemic processes in complex networks, arXiv:1408.2701. URL: http://arxiv.org/abs/1408.2701.

- [9] R. Pastor-Satorras

  Epidemic spreading in scale-free networks, Phys. Rev. Lett. 86 (2001) 3200–3203. http://dx.doi.org/10.1103/ PhysRevLett.86.3200.

  。。。。。。

- [22] S. Boccaletti, G. Bianconi, R. Criado,

  The structure and dynamics of multilayer networks, Phys. Rep. 544 (1) (2014) 1–122. http://dx.doi.org/10.1016/j.physrep.2014.07.001.

1 Introduction

A limit of these models lies in the neglect of individual activity in networks.

- [28] N. Perra, B. Gonalves, R. Pastor-Satorras,
  Activity driven modeling of time varying networks, Sci. Rep. 2 (2012) 469.
  http://dx.doi.org/ 10.1038/srep00469.
- [29] S. Liu, N. Perra, M. Karsai, A. Vespignani,
  Controlling contagion processes in activity driven networks, Phys. Rev. Lett.
  112 (2014) 118702. http://dx. doi.org/10.1103/PhysRevLett.112.118702.

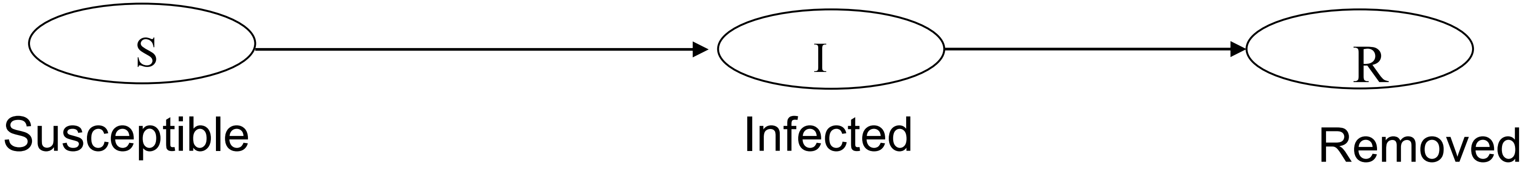
1 Introduction

- **Contributions**
- We utilize a simple model to investigate the impact of node activity on spreading dynamics.
- We introduce an activity rate to characterize the interaction pattern of individuals.
- During each time step, an active node interacts with all its neighbors, while an inactive node can only be interacted by its active neighbors.
- By using a mean-field approach and numerical simulations of SIR model on scale-free networks.
- It shows that activity rate reshapes the critical threshold of spreading dynamics, and bring a nonlinear impact on spreading speed and final size of the spreading.

1 Introduction

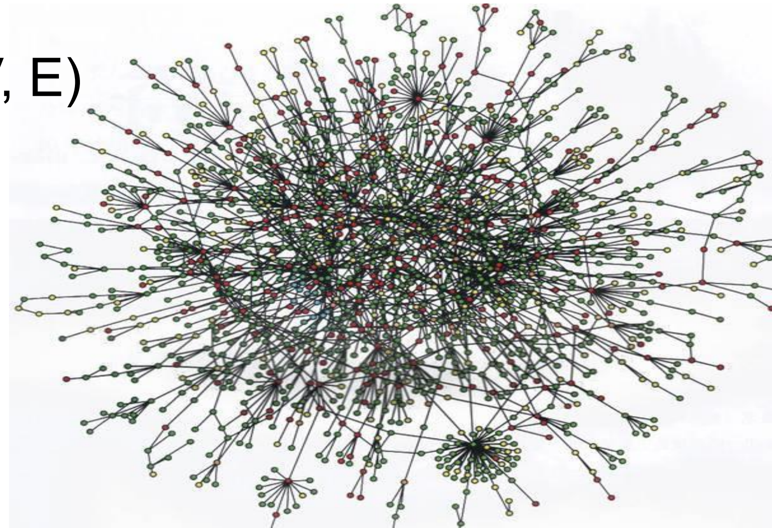
- **The rest of this paper is organized as follows.**
- **In Section 2** we describe our model of spreading dynamics on networks with active nodes.
- **In Section 3**, a mean-field analysis of this model is given, and the corresponding equations are derived to explain the impact of node activity on critical threshold and spreading scale.
- This is followed in **Section 4** by numerical investigations to validate the theoretical findings in Section 3.
- We conclude this paper in **Section 5.**

2 A Model



Undirected social interaction network： G = (V, E)

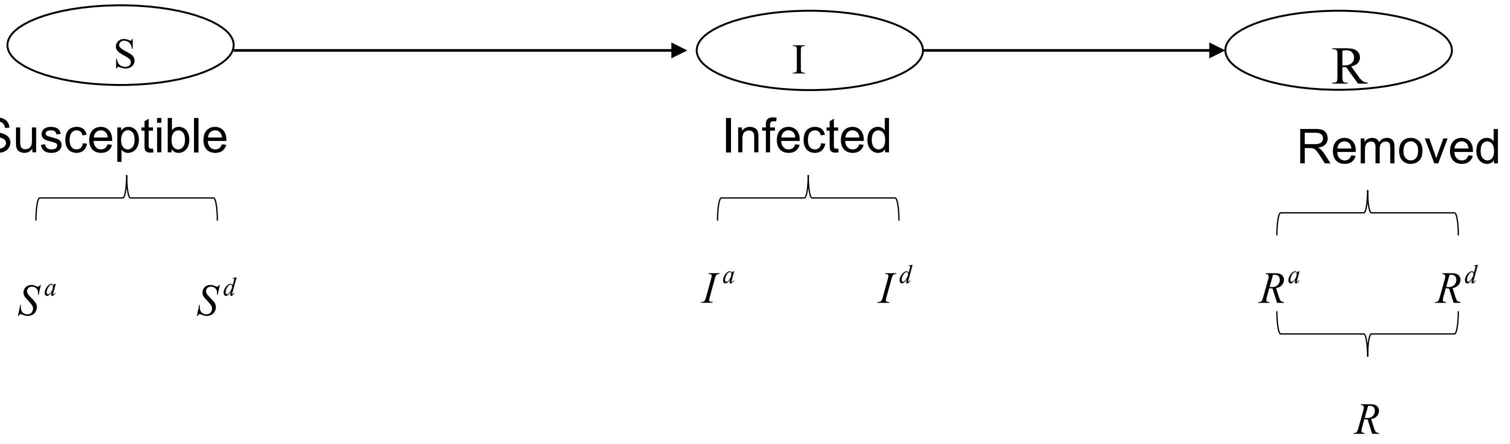
V： vertices ； E ： edges



Whenever a spreader contacts an ignorant, the ignorant becomes an spreader at a rate λ.

2 A Model

A node could be in active state with rate α and in inactive state with rate 1 − α

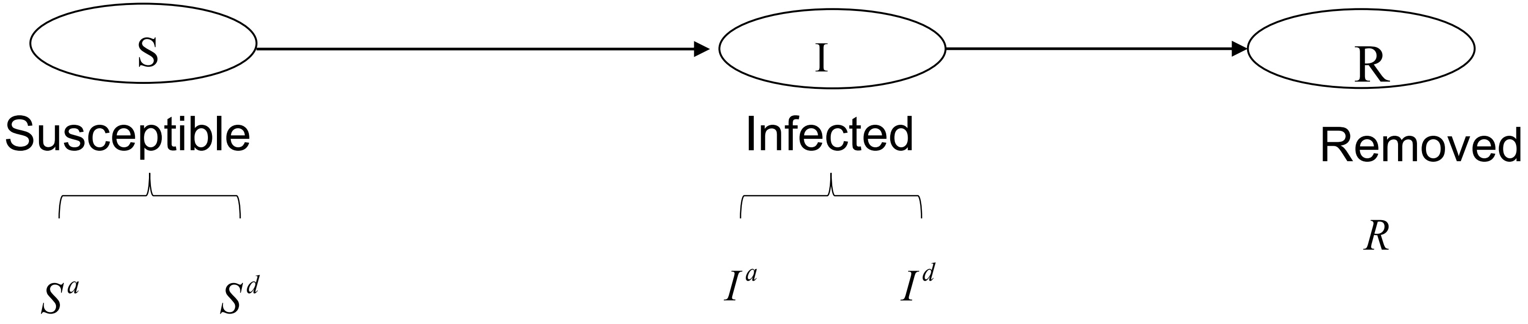


2 A Model

Rules: (About the activity)

An active susceptible node interacts with all its neighbors, and become an active infected one with probability λ when connect with infected neighbors whether they are active or not. Yet, an inactive susceptible node can only be interacted by its active neighbors, and become an inactive infected one with same probability λ.

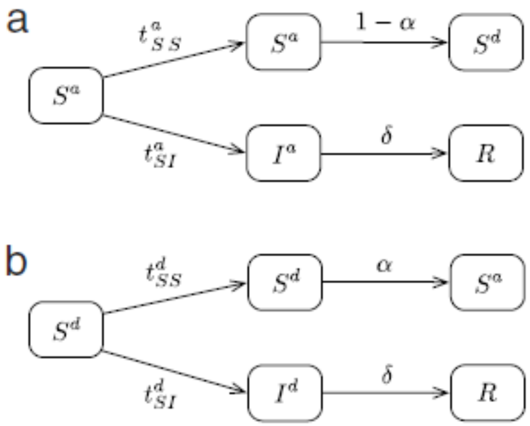
2 A Model



Rules: (Transmission +activity)

$$S^a \xrightarrow{1-\alpha} S^d, \qquad S^d \xrightarrow{\alpha} S^a,$$
$$I^a \xrightarrow{1-\alpha} I^d, \qquad I^d \xrightarrow{\alpha} I^a,$$
$$S^a + I^a \xrightarrow{\lambda} 2I^a,$$
$$S^a + I^d \xrightarrow{\lambda} I^a + I^d,$$
$$S^d + I^a \xrightarrow{\lambda} I^d + I^a,$$
$$I^a \xrightarrow{\delta} R, \qquad I^d \xrightarrow{\delta} R.$$

2 A Model



t^a_{SS} the probability of a node to stay in active susceptible state;

t^a_{SI} Transition probability from active susceptible state to active infected state

t^d_{SS} the probability of a node to stay in inactive susceptible state;

t^d_{SI} transition probability from inactive susceptible state to inactive infected state

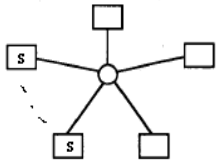
2 A Model

Rules: (About the activity)

An active susceptible node interacts with all its neighbors, and become an active infected one with probability λ when connect with infected neighbors whether they are active or not. Yet, an inactive susceptible node can only be interacted by its active neighbors, and become an inactive infected one with same probability λ.

3 Theoretical analysis

In active susceptible state, node i can be infected by any infected neighbor with probability λ



$$t_{SS}^{i} = (1-\lambda\Delta t)....(1-\lambda\Delta t) = (1-\lambda\Delta t)^{g}$$

t_{SS}^{i} the probability that this node *i* stays in the susceptible state in the time interval $[t, \quad t+\Delta t]$.

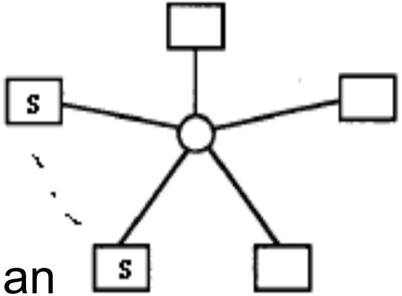
t_{SI}^{i} the probability that it makes a transition to the infected state. .

$g = g(t)$ the number of neighbors of node *j* which are in the infected state at time *t*

Where $$t_{SI}^{i} = 1 - t_{SS}^{i} = 1-(1-\lambda\Delta t)^{g}$$

3 Theoretical analysis

A node *i* has *k* links, *g* can be considered as an stochastic variable which has the following binomial distribution:



$$P(X=g)=\Pi(g,t)=C_k^g\theta^g(1-\theta)^{k-g}$$

$\theta=\theta(k,t)$ the probability at time *t* that an edge emanating from an susceptible node with *k* links points to a infected node.

$$\theta(k,t)=\sum_{k'}P(k'|k)P(I_{k'}|S_k)\approx\sum_{k'}P(k'|k)\rho^I(k',t)$$

3 Theoretical analysis

Probabilities of an active susceptible node i with degree k at time t for arbitrary g are

$$t_{SS}^{a} = \sum_{g=0}^{k} t_{SS}^{i} P(X = g)$$

$$= \sum_{g=0}^{k} C_{k}^{g} \theta^{g} (1-\theta)^{k-g} (1-\lambda\Delta t)^{g}$$

$$t_{SI}^{a} = 1 - t_{SS}^{a}$$

3 Theoretical analysis

In inactive susceptible state, node i can be infected by its active infected neighbors

$$P(X=h)=\sum_{g=0}^{k} C_k^h (\theta')^h (1-\theta')^{k-h}$$

$$\theta'(k,t)=\sum_{k'} P(k'|k)P(I^a{}_{k'}|S_k) \approx \sum_{k'} P(k'|k)\rho^{I^a}(k',t)=\sum_{k'} P(k'|k)\alpha\rho^{I}(k',t)$$

$$\theta'(k,t)=\alpha\theta$$

3 Theoretical analysis

Probabilities of an inactive node i with degree k at time t for arbitrary h are

$$t_{SS}^{d}=\sum_{h=0}^{k}t_{S^dS^d}^{i}P(X=h)$$

$$=\sum_{h=0}^{k}C_k^h(\alpha\theta)^h(1-\alpha\theta)^{k-h}(1-\lambda\Delta t)^h$$

$$t_{SI}^{d}=1-t_{SS}^{d}$$

3 Theoretical analysis

The probability of a susceptible node i with degree k to stay in susceptible state at time t is

$$
\begin{aligned}
t_{SS} &= \alpha t_{SS}^{a} + (1-\alpha) t_{SS}^{d} \\
&= \alpha \sum_{g=0}^{k} C_k^g (\theta)^g (1-\alpha\theta)^{k-g} (1-\lambda\Delta t)^g + (1-\alpha) \sum_{h=0}^{k} C_k^h (\alpha\theta)^h (1-\alpha\theta)^{k-h} (1-\lambda\Delta t)^h \\
&= \alpha [1-\lambda\Delta t \sum_{k'} P(k'|k)\rho^I(k',t)]^k + (1-\alpha)[1-\lambda\alpha\Delta t \sum_{k'} P(k'|k)\rho^I(k',t)]^k
\end{aligned}
$$

3 Theoretical analysis

It is easily to derive the changing rate of susceptible nodes of k-degree class during [t, t + Δt] as

$$
\begin{aligned}
S(k, t+\Delta t) &= S(k,t) - S(k,t)(1 - t_{SS}) \\
&= S(k,t) - \alpha S(k,t)\left[1 - \left(1 - \lambda \Delta t \sum_{k'} P(k'|k)\rho^{I}(k',t)\right)^{k}\right] \\
&\quad - (1-\alpha) S(k,t)\left[1 - \left(1 - \alpha\lambda \Delta t \sum_{k'} P(k'|k)\rho^{I}(k',t)\right)^{k}\right].
\end{aligned}
$$

3 Theoretical analysis

We can get corresponding changing rates of infected nodes and removed nodes during [t, t + Δt] respectively

$$
\begin{aligned}
I(k, t+\Delta t) &= I(k,t) + \alpha S(k,t)\Big[1 - \Big(1 - \lambda \Delta t \sum_{k'} P(k'|k)\rho^{I}(k',t)\Big)^{k}\Big] \\
&\quad + (1-\alpha)S(k,t)\Big[1 - \Big(1 - \alpha\lambda \Delta t \sum_{k'} P(k'|k)\rho^{I}(k',t)\Big)^{k}\Big] - \delta \Delta t I(k,t)
\end{aligned}
$$

$$
R(k, t+\Delta t) = R(k,t) + \delta \Delta t I(k,t).
$$

Where $t_{II} = 1 - \delta\Delta t$

3 Theoretical analysis

We can obtain

$$\frac{\partial \rho^S(k,t)}{dt} = -(2\alpha - \alpha^2)\lambda k \rho^S(k,t) \sum_{k'} \rho^I(k',t) P(k'|k).$$

$$\frac{\partial \rho^I(k,t)}{dt} = (2\alpha - \alpha^2)\lambda k \rho^S(k,t) \sum_{k'} \rho^I(k',t) P(k'|k) - \delta \rho^I(k,t)$$

$$\frac{\partial \rho^R(k,t)}{dt} = \delta \rho^I(k,t).$$

3 Theoretical analysis

3.2. **Inhomogeneous networks：** Critical thresholds of spreading dynamics on heterogeneous networks with active nodes

The degree-degree correlations can be written as:

$$P\left(k^{'} \mid k\right)=q\left(k^{'}\right)=\frac{k^{'}P(k^{'})}{<k>}$$

$$\frac{\partial \rho^{S}(k,t)}{dt}=-(2\alpha-\alpha^{2})\lambda k\rho^{S}(k,t)\sum_{k'}\rho^{I}(k',t)P(k'|k).$$ can be integrated exactly to yield:

$$\rho^{S}(k,t)=e^{-\frac{(2\alpha-\alpha^{2})\lambda k}{\langle k\rangle}\phi(t)}$$, where $\phi(t)=\sum_{k}kP(k)\int_{0}^{t}\rho^{I}(k,t')dt'$

3 Theoretical analysis

By multiplying Eq. (12) with kP(k) and summing over k, we can get

$$\frac{d\phi(t)}{dt} = \sum_k kP(k)\left(1 - \rho^S(k,t)\right) - \delta\phi(t)$$
$$= \langle k \rangle - \sum_k kP(k)\, e^{-\frac{(2\alpha-\alpha^2)\lambda k}{\langle k \rangle}\phi(t)} - \delta\phi(t). \qquad (16)$$

In the limit t → ∞we have dφ/dt = 0, and Eq. (16) becomes

$$\langle k \rangle - \delta\phi(\infty) = \sum_k kP(k)\, e^{-\frac{(2\alpha-\alpha^2)\lambda k}{\langle k \rangle}\phi(\infty)} \qquad (17)$$

3 Theoretical analysis

$$\langle k\rangle - \delta\phi(\infty) = \sum_k kP(k)\,\mathrm{e}^{-\frac{(2\alpha-\alpha^2)\lambda k}{\langle k\rangle}\phi(\infty)} \qquad (17)$$

The φ(∞) in Eq. (17) cannot be solve exactly, but existence condition of non-zero solution for φ(∞) is

$$\frac{d}{d\phi(\infty)} \sum_k kP(k)\,\mathrm{e}^{-\frac{(2\alpha-\alpha^2)\lambda k}{\langle k\rangle}\phi(\infty)}\bigg|_0 > -\delta \quad \Longleftrightarrow \quad \frac{\lambda}{\delta} > \frac{1}{2\alpha-\alpha^2}\frac{\langle k\rangle}{\langle k^2\rangle}.$$

Let δ = 1, we can get the critical threshold of infection rate of the spreading dynamics

$$\lambda_c = \frac{1}{2\alpha-\alpha^2}\frac{\langle k\rangle}{\langle k^2\rangle}$$

or

$$\alpha_c = 1-\sqrt{1-\frac{\langle k\rangle}{\lambda\langle k^2\rangle}}$$

3 Theoretical analysis

The final size of spreading dynamics with critical infection rate and activity rate. By expanding exponential function of Eq. (17) to second order, we can get the approximate value of φ(∞),

$$\phi(\infty) \approx \frac{2\langle k^2\rangle^2}{\langle k^3\rangle}\frac{\lambda_c(\lambda-\lambda_c)}{\lambda^2}$$

$$= \frac{2\langle k^2\rangle^2}{\langle k^3\rangle}\frac{1-(1-\alpha_c)^2}{2\alpha-\alpha^2}\left(1-\frac{1-(1-\alpha_c)^2}{2\alpha-\alpha^2}\right)$$

3 Theoretical analysis

Consider that $\rho^I(k,\infty) \to 0$, the final size of the spreading dynamic $R = \rho^R(\infty)$ can be represented as

$$R = 1 - \rho^S(\infty) = \sum_k \left(1 - \rho^S(k,\infty)\right)P(k).$$

$$R \approx \frac{2\langle k^2\rangle^2}{\langle k^3\rangle}(2\alpha - \alpha^2)\lambda_c\left(1 - \frac{\lambda_c}{\lambda}\right) = \frac{2\langle k^2\rangle^2}{\langle k^3\rangle}\lambda[1-(1-\alpha_c)^2]\left(1 - \frac{1-(1-\alpha_c)^2}{2\alpha - \alpha^2}\right)$$

4. Numerical simulations

Generalized scale-free network

$P(k) = (1+\gamma)m^{1+\gamma}k^{-2-\gamma}$ where we fix $\gamma = 1$ and $m = 1$

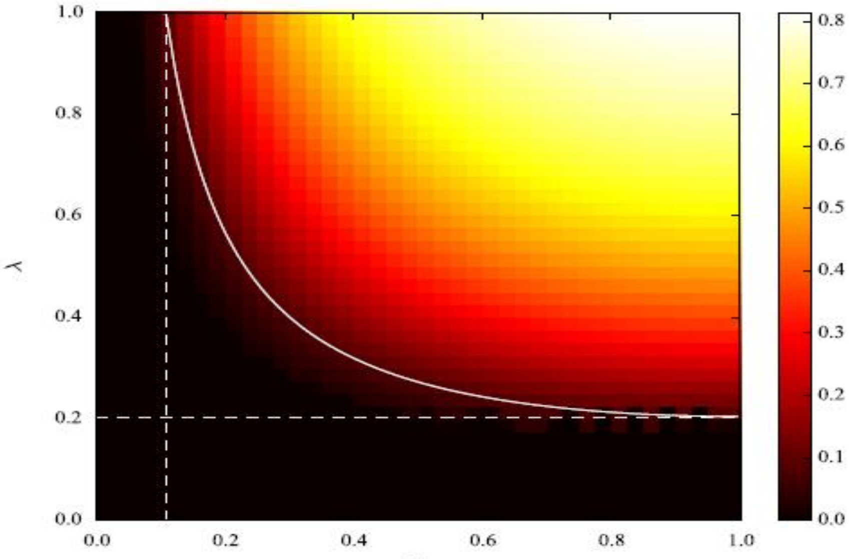


Fig. 2. Critical phenomenon of final size of spreading dynamic R with different λ and α (colors represent final size of the spreading dynamics). Solid line corresponds the critical curve $\lambda = \langle k\rangle/\langle k^2\rangle \cdot 1/(2\alpha - \alpha^2)$. Horizontal dashed line corresponds $\lambda = \langle k\rangle/\langle k^2\rangle$, and vertical dashed line corresponds $\alpha = \sqrt{1 - \langle k\rangle/\langle k^2\rangle}$. The figure is obtained by averaging 50 numerical simulations for each point in the grid 40 × 40. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

4. Numerical simulations

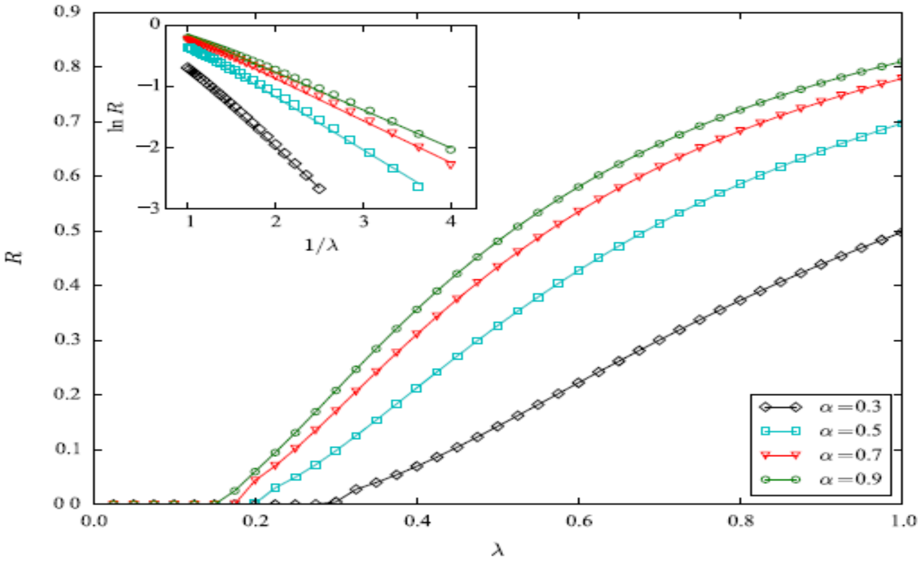


Fig. 3. The final size of spreading dynamics R is shown as function of infection rate λ for several values of activity rate α. Inset shows the exponential correlation of R and $1/\lambda$ when α is greater than critical threshold α_c.

4. Numerical simulations

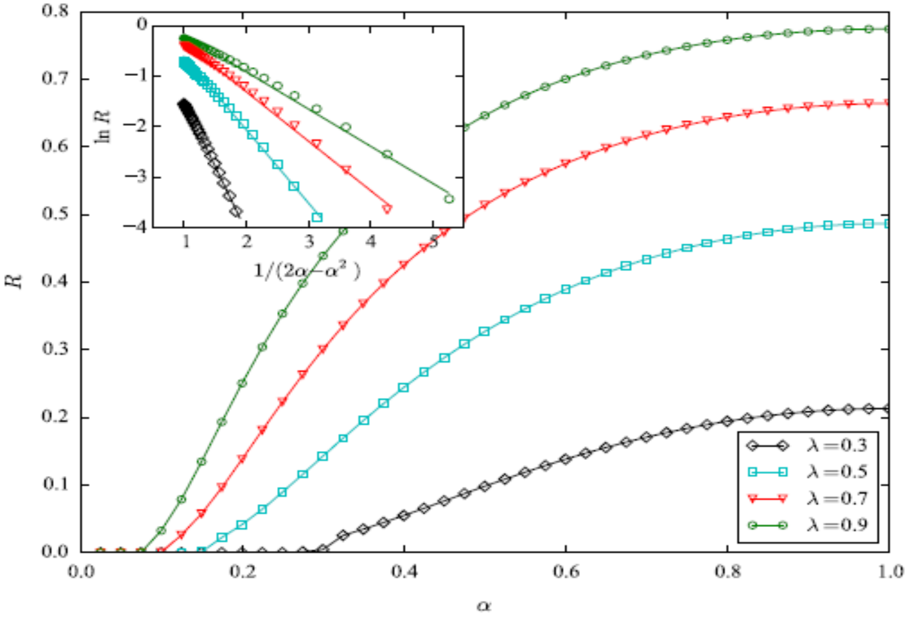


Fig. 4. The final size of spreading dynamics R is shown as function of activity rate α for several values of infection rate λ. Inset shows the exponential correlation of R and $1/(2\alpha - \alpha^2)$ when λ is greater than critical threshold λ_c.

4. Numerical simulations

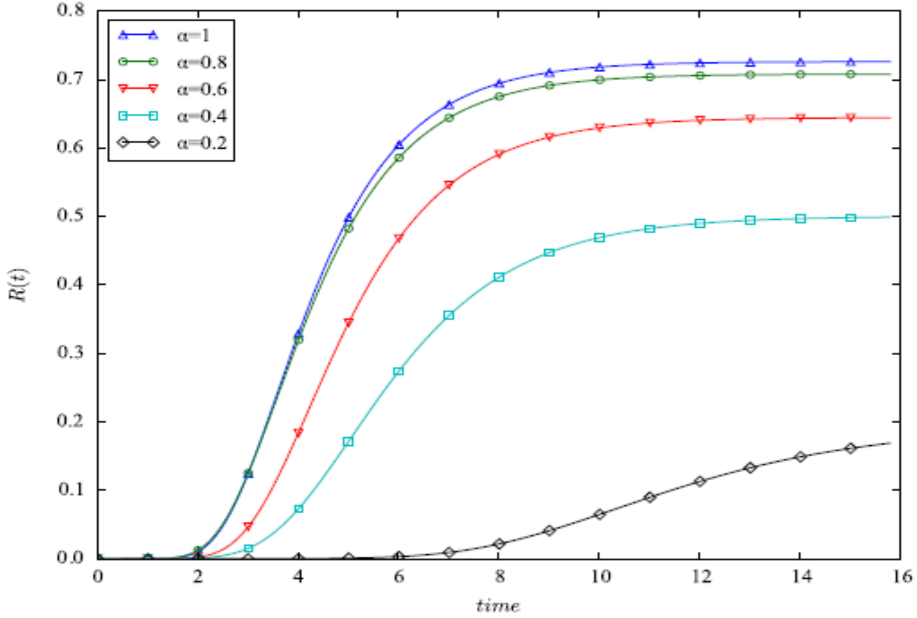


Fig. 5. Time evolution of the fraction of removed nodes when the dynamics starts with a random infected node for several values of activity rate α. The infection rate is fixed with $\lambda = 0.8$.

4. Numerical simulations

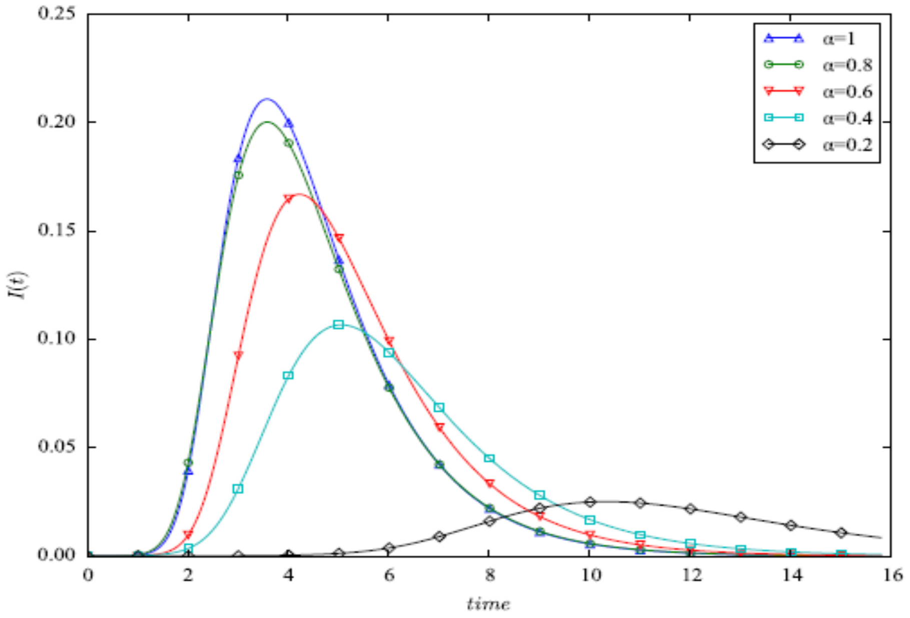


Fig. 6. Time evolution of the fraction of infected node for same network, model parameters and initial conditions as in Fig. 5.

5 Conclusions

Our model incorporates an activity rate for each node of the network. With this activity rate, a susceptible node can be infected through interactions with infected neighbors under two kinds of situations.

The critical threshold of infection rate is increased by node activity.

The final size and increment speed of the spreading dynamics are significantly impacted by activity rate.

论文写作中的一些问题探讨

- 以论文为导向
- 八股文式写作
- 巧妙设计内容
- 掌握拿手软件
- 追求卓越

Clarivate Analytics

上海理工大学管理学院

University of Shanghai for Science & Technology | Business School

- 以论文为导向
- 当前国内社会热点“一带一路”

主流期刊

管理科学学报

经济研究

Clarivate Analytics

上海理工大学管理学院
University of Shanghai for Science & Technology Business School

在Web of Science中检索“内生增长理论”

www.webofscience.com

- 以论文为导向

主流期刊

管理科学学报

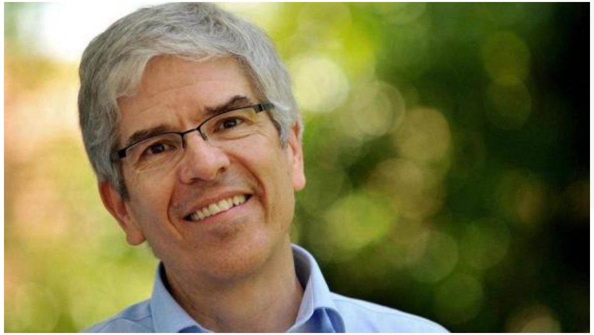
经济研究

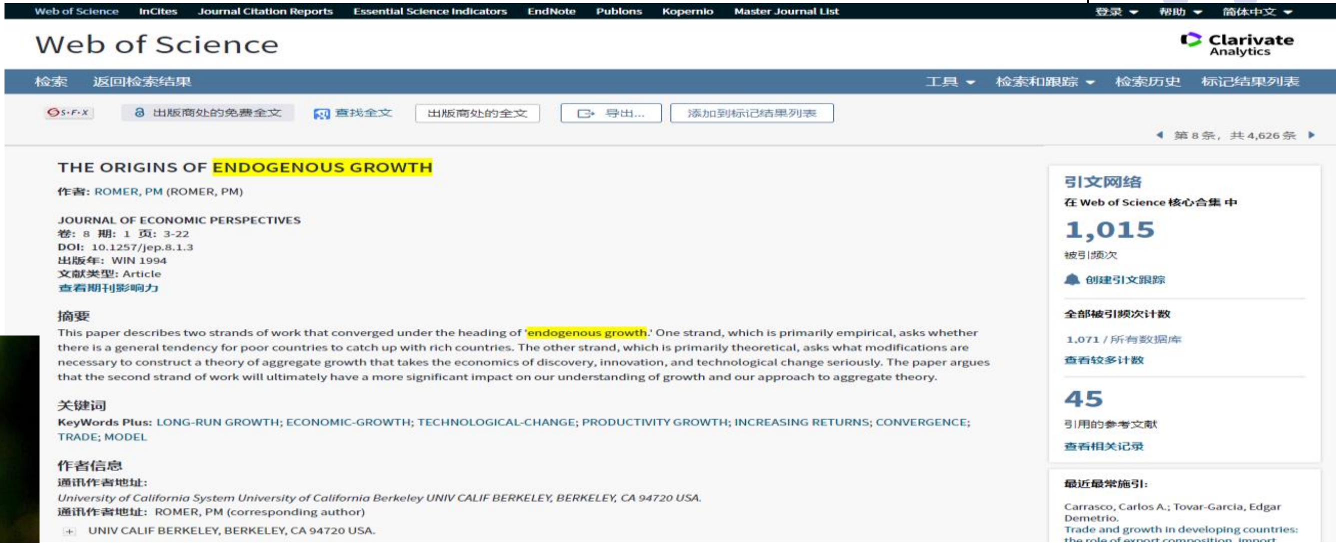
- 以论文为导向

圈内大牛

2018年诺贝尔生经济学奖

得主保罗·罗默





- 八股文式写作

构思模型/假设—数学建模/设计实验—仿真验证—成稿

1 语言：

英语写作，模仿着top期刊上一些文章的句式写，写成自己的话

- 八股文式写作

2 文章结构

题目：题目要有吸引力，突出理论视角，突出核心

****的影响因素研究

基于###理论的****影响因素研究

基于性别差异的****影响因素研究

劳动力社会资本/社会关系网络对****影响研究等

- 八股文式写作

3 摘要

第一句交代一下学术上的意义；

第二句交代利用什么数据和方法做了什么；

第三句交代研究结果；

第四句交代政策建议/研究启示等。

4 引言

问题导向，是一个引子，是为了引出文章拟解决的关键科学问题。

第一段 交代一下学术上的研究意义；

第二段 一般性的研究回顾，国内外的学者在文章这方面的研究做了些什么，大方向性；

第三段 往你所研究的内容上引入， 现在做到什么程度，最重要的是还有哪些方面做得不足，

而本文又正好多多少少能弥补一些这方面的不足；

第四段 本文的创新/研究内容；

第五段 本文的框架。

5 研究设计/模型假设

这部分交代研究区域、数据来源、研究假设等。

根据文献综述结合自身对研究区实际感性认识而来，要做到有理有据。如做微观实证研究的，研究区域介绍和数据来源一定要交代清楚。即我是以什么标准来抽样的，我的样本框是怎样（即我是从什么样的一个总体中抽样的），如何保证我的样本能很好的代表我的总体。

6 研究结果/模型

模型推导借鉴已有研究思路

看看数据的变化趋势和研究假设是否相符；

看看数据是否做了相应的处理（eg，没有处理极端异常值，SD>>Mean，这明显是有问题的，在构建的模型中，偏回归系数因为极端异常值的影响方向改变）

Table 2. Descriptive statistics and correlations.

	Mean	SD	1	2	3	4
1. Work intensification	3.64	0.95				
2. Work addiction	2.85	0.86	0.24 **			
3. Seeking resources	3.70	0.65	−0.07	0.14 **		
4. Crafting towards strengths	3.75	0.66	−0.08	0.13 *	0.61 **	
5. Workplace well-being	3.52	0.83	−0.20 **	0.29 **	0.49 **	0.46 **

Note: * $p < 0.05$, ** $p < 0.01$ (two-tailed tests).

7.研究结论/政策启示/结论与讨论：

简要概括前面实证部分得到的结果，然后着重指出本研究可能存在的不足和对将来研究的一些启示/政策建议/政策启示。

8 参考文献

强烈建议使用Endnote管理参考文献。方便，实用，快捷。Web of science 数据库检索文献的学习及Endnote的学习视频可从以下网址找到并下载。

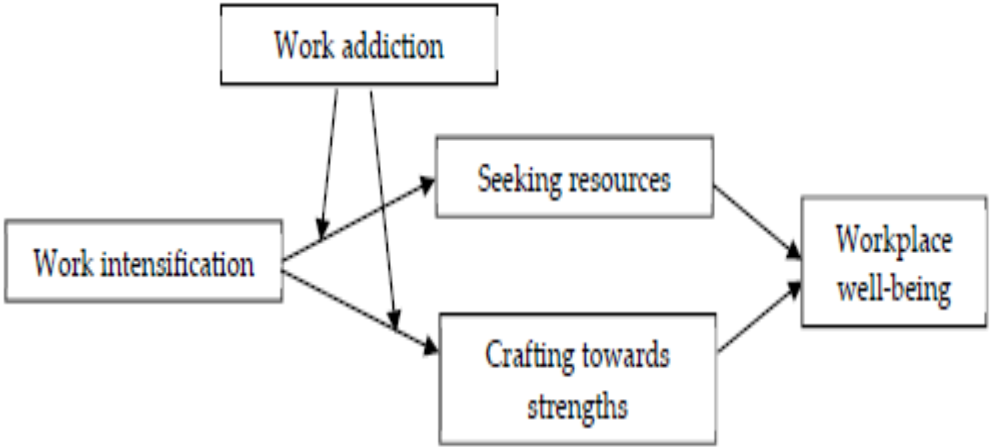
关于论文写作中的注意的问题

- 巧妙设计内容

How Can Work Addiction Buer the Influence of Work Intensification on Workplace Well-Being? The Mediating Role of Job Crafting

International Journal of ***Environmental Research and Public Health 2020***

Yue Li 1 , Wei Xie 1,* and Liang'an Huo



- **Work Intensification**

- Work intensification was measured with 4 items derived from the scale of intensification of job demands [1]. These items attempt to assess the degree to which the amount of eort one needs to put into in daily work increases, such as the need to work with accelerated speed or perform diverse tasks concurrently. A 5-point Likert-type scale was used (1 = strongly disagree to 5 = strongly agree), reliability coecient = 93. The sample items include ‘it is increasingly rare to have enough time for work tasks’ and ‘it is increasingly harder to take time for breaks’.

- **Work Addiction**

- Work addiction was measured using 7 items from the Bergen Work Addiction Scale [41] as an indication of the degree to which one feels compelled or an uncontrollable urge to work without relief.

- A 5-point Likert-type scale was used (1 = strongly disagree to 5 = strongly agree), reliability coecient = 0.89. The sample items include ‘Spent much more time working than initially intended’ and ‘Become stressed if you have been prohibited from working’.

- Workplace Well-Being
- Workplace well-being was measured using 5 items from Zhang et al. [57]. A 5-point Likert-type scale was used (1 = strongly disagree to 5 = strongly agree), reliability coecient = 0.86. The sample items include ‘I find real enjoyment in my work’ and ‘Work is a meaningful experience for me’.
- **Seeking Resources**
- This measure was made up of 4 items from the short version scale of job crafting [17], and this scale was also used and validated in the study of Petrou et al. [47]. A 5-point Likert-type scale was used (1 = strongly disagree to 5 = strongly agree), reliability coecient = 0.82. The sample items include ‘I ask colleagues for advice’ and ‘I ask my supervisor for advice’.

- **Crafting Towards Strengths**
- This measure consisted of 3 items from the scale developed by Kooij et al. [22]. The answering categories ranged from 1 (strongly disagree) to 5 (strongly agree), reliability coecient = 0.87. The sample items include ‘In my work tasks I try to take advantage of my strengths as much as possible’ and ‘I look for possibilities to do my tasks in such a way that it matches my strengths’.
-

关于论文写作中的注意的问题

- 掌握拿手软件
- **Python/Matlab**
- 计量经济学 Stata, Sas, Eviews, SPSS(简单数据)

关于论文写作中的注意的问题

- **追求卓越**

戒骄戒躁。学术不是一天两天就能做好的，真的要做好坐冷板凳的准备。得失心不要太重，该来的自然就来了。

Clarivate Analytics

上海理工大學 管理学院
University of Shanghai for Science & Technology
| Business School

相关问题讨论

- **Q&A**

上海理工大學 管理学院
University of Shanghai for Science & Technology
Business School

Thank You !