

What did Chinese managers know? A bibliometric analysis of management and accounting literature in China before 1949

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Abstract

Western ideas about management and organization influenced Chinese industrialists, industry officials and business academics before 1949, but we are uncertain which ideas were important and when these gained currency. The paper aims to identify the business knowledge that was in circulation and that might have been brought to bear on the management of firms. Periodicals and books have been combed to identify the type and frequency of ideas about accounting, office administration, personnel systems, and work organization. The focus is on the flow of ideas contained in publications rather than their transmission through academic channels, such as the business schools. Contrary to popular opinion that considers Chinese management backward before 1949, managers were in fact well served by translations and reporting on international innovations in accounting, management and organization.

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Introduction¹

The focus of this paper is about what Chinese managers before 1949 knew rather than what they might have done. In particular, the question that motivates this essay is: ‘what did Chinese managers know about ‘modern management’ or might be expected to have known?’ A peculiarity of China’s re-emergence in the global economy is an intellectual scrutiny of its economy and the business activities of Chinese and foreign firms coupled with an almost studied neglect of business and management history. This vacuum is not unique to China – others have noted the paradoxical neglect of the origins of management ideas and practices in a modern world where management has become a major academic discipline (Wilson and Thomson, 2006). The development of modern management in China is seen as a product of the economic reforms from the late 1970s. Few who research Chinese management realise that in the first half of the twentieth century such contemporary management ideas as Taylorism were current in government, business and business-linked academic circles (Morgan, 2006).

We can point to a range of ideas about management and organization that probably influenced Chinese industrialists, industry officials and business academics before 1949. However, we are uncertain which ideas were important and when these gained currency. The paper will describe the bibliometric approach to identify the business knowledge that was in circulation that might have informed the decisions of managers and others involved in running modern enterprises. Periodicals and books have been combed to identify the type and frequency of ideas about accounting, office administration, personnel systems, and work organization. The focus is on the flow of ideas contained in publications rather than their transmission through academic channels, such as the business schools, that have long been the focus of many studies of the history of management thought or knowledge. We calculate frequencies for the keywords and discipline areas by time period, which can give us an indication of the types of management and business topics that managers, officials and academics were being exposed to or thought were important for the Chinese to know. Largely the approach draws on the method used by Üsdiken and Çetin (2001) to examine the transfer of management ideas to Turkey before and after the Second World War.

The paper is organized in four sections. After a brief discussion of the context of Chinese business and the management of modern enterprises, I will describe the data and method, present a few results (the complete database is yet to be analysed) and make a few concluding remarks. Contrary to popular opinion that considers Chinese management backward before 1949, I will argue that Chinese managers were in fact well served by translations and reporting on international innovations in accounting, management and organization.

Background

A working hypothesis is that early twentieth century Chinese entrepreneurs and managers of modern enterprises were well-informed about trends in contemporary business practice and ideas. This may strike the reader as either self-evident or obviously false. That both views might be held reflects the difficulty of coming to

¹ This paper will summarise research in progress. While the data for books published on accounting, business practices and various aspects of management have been compiled, along with data from selected journals, only preliminary brief results of the analysis undertaken will be reported here.

grips with the modern transformation of China as it was increasingly dragged into the world capitalist system from the early nineteenth century. Modern industry did develop, but in colonial-like enclaves such as Shanghai and Tianjin or in cities near these enclaves. We might presume that those who began these enterprises would have had contact with the many foreign ideas in these enclaves, and some of those ideas would be about how best to run a factory, a shop or a government department. Would not competitive pressures and foreign models have encouraged adoption of new management? Nevertheless, these enclaves were islands in a sea of backward rural China teeming with poor farmers. We might therefore presume there were few incentives to adopt novel or strange foreign ways to run a business. Had not centuries of traditional Chinese accounting and firm management served its commercial elite well? In such circumstance, would not the adoption of new management be at best a novel curiosity?

Certainly there is little reason to suppose modern management ideas were pervasive in business and economic life across the nation. Few artisan workshops or small family-run commercial ventures were likely to have heard of innovations in workshop management or accounting controls. We know too that the modern sector, despite rapid growth from the 1910s, was indeed a very small part of the Chinese economy even on the eve of the Chinese communist rise to power. That sector, though relatively tiny in the scale of China, was comparatively large when placed next to competitors in the west. Shanghai, the most modern city and leading industrial centre in China, was the seventh largest port in the world in the 1930s, its Coca Cola bottling plant was the largest outside continental United States, and the electricity generation capacity was the equivalent of the combined output of Manchester and Leeds. In this world both Chinese and foreign firms competed vigorously for a share of the consumer markets of the larger cities. An inkling of the dynamic nature of the market and competition can be seen in the advertising that filled many of the pages of popular newspapers and magazines from c.1930, reproduced as Fig 1-4. Shanghai was of course the epitome of modern; to Chinese everywhere Shanghai was the by-word for 'modan' (modern) style. Chinese and western firms, Chinese and western ideas, were engaged in this competitive environment. Part of that engaged discourse was the exploration of new ideas about management organisation and practice.

INSERT FIG 1-5 HERE

Management learning and knowledge is a dynamic and iterative process. Ideas about management organisation and practice ideas emerge from many different sources. Sources of knowledge include formal schooling, including business schools or other study abroad; books, business journals and popular magazines; business and professional associations; and the observation of practices of competitors, suppliers of equipment, and business consultants. There are lags between 'knowing' and 'doing'. A manager may read of an innovation but pay little attention where there is no pressing business need to take on board an idea, an organisational form or acquire a new piece of technology. We are therefore in this paper discussing the quantification of the "reading domain" or "knowledge domain" rather than examining what ideas were taken on, tried and reject, accepted and adapted. The process of acquisition, practice and innovation of management know-how is complex. Diffusion and practice is not a linear relationship. There is an iterative cycle of knowing, doing, reflecting

and doing again, all of which takes place in a particular institutional and market environment that constrains the possibilities of individual managers.

Data description and methods

Bibliometrics (or scientometrics, an interchangeable term) is the statistical analysis of communication processes that has its origin in efforts to measure information flow in the sciences and quantify research productivity. Pritchard (1969) explained the term as encompassing “the application of mathematical and statistical methods to books and other media of communications.” The basic measures are simple counts of publications, co-authors, citations and references. Compound measures include measures such as the impact factor, which is a ratio of citations in a specified past timeframe to the number of articles in the immediately following timeframe.²

Counting schemes have frequently been abused or misused, especially by academic and bureaucratic bean counters. The initial approach here uses simple counting measures. Books and articles are classified according to disciplines (subjects) and keywords and in the first instance frequencies calculated for different periods. Later we will analyse the various subject domains and the ties between publishers, authors, translators and industry or business associations. The focus on the relationships or ties between the producers of managerial knowledge and the users will lead us into the complementary analytical framework of social network analysis (SNA), which analyses the social structures and networks (Scott, 2000). SNA will allow us to examine firstly the structural patterns of collaboration and competition in writing and publishing management literature. Secondly, SNA will enable use to examine the linkages within the community of ‘management intellectuals’ who wrote books and articles, who were often associated with prominent business people through common membership of associations, clubs and societies, and whose social capital stemming from their community of ties enabled them to influence the reception and adaptation of new management in China. Social capital and trust formed over a history of reciprocated ties underpin community and business networks among the Chinese (Chan, 2000; Hamilton, 1991; Lin, 2000; Lin et al, 2001; Morgan, 2004).

The focus is on the international flow of ideas as reported in publications rather than their transmission through academic channels, such as the business schools of the period (that is another paper). The initial data are drawn from selected business and popular journals, catalogues of books published before 1949, and the classified catalogue of the holdings at the Beijing Library (the National Library of China) and the Shanghai Municipal Library. These sources are summarized in Table 1. Although both the Beijing and Shanghai general catalogues are accessible electronically, the multi-volume classified catalogues published in the 1980s are invaluable for extended bibliographic details and cross-referencing earlier editions and related volumes in a book series. The Beijing Library catalogue is annotated and includes an abstract of the book. For translated works, the catalogue identifies not only the foreign author and the foreign text, but will also cross-reference the various editions of the foreign text.

INSERT TABLE 1 HERE

² The ISI journal impact factor (IF) is defined as a measure of the frequency with which the “average article” in a journal has been cited in a particular year. $IF(yr) = \text{cites}(yr-1) + \text{cites}(yr-2) / \text{articles}(yr)$.

While the Chinese news and periodic press was huge, business or management journals were few. Many of the better popular journals covered business and economics developments in detail, but coverage of business or managerial issues was quite scarce. The main journals identified for analysis are the *Gongshang ban yue kan* (Industry and Commerce Semi-Monthly, the official news bulletin of the Ministry of Industry and Commerce), *Gongshang guanli yuekan* (The Scientific Management Monthly, the vehicle of the Chinese Institute of Scientific Management in the 1930s), *Renshi guanli* (Personnel Management, the short-lived journal of the Chinese Personnel Management Association in the mid-1930s), and the *Dongfang Zazhi* (Eastern Miscellany, a Chinese version of *The Bulletin Magazine* from a century ago, containing literature, politics, economics and whatever was the fashion of the chattering and upper-middle classes of the time). Other journals that will be added include the *Yinhang zhoukan* (Bankers' Weekly, the authoritative journal of the Shanghai Bankers' Association), *Shen Bao* (Morning Daily, the leading Chinese daily newspaper of Shanghai) and the North China Herald (the leading English-language newspaper is more interesting for information about the foreign business community and its reading about management trends from outside China reported in China).

What has been done? The tables of content of several journals have been combed to identify articles that might be relevant to management and business organization. Basic bibliographic details of the title, author, date and pages are recorded. Based on the article title – and sometimes the first paragraph of an article if the title is obscure – a list of keywords is compiled for the content of the article. The work is classified into a particular discipline area and sub-fields. These keywords and classifications are coded for statistical analysis. The same approach is used for books, the difference being that the discipline sub-fields have been classified by the arrangement of the editors of the classified catalogue volumes. Some of these classifications are not necessarily helpful for analysis, but these have assisted the sorting into specific or accurate classifications. A methodological issue is that the keyword analysis is based on the translation from Chinese to English, which can introduce error. Since the data file was compiled in Chinese we are able to classify and analyse directly, I plan to use Chinese-compatible textual analysis software to corroborate results at some later stage. A screen snapshot of initial classification into keywords is shown in Fig 6.

INSERT FIG 6 HERE

Some early results

More details at the conference presentation ... Let's consider some broad statistics for three subject or discipline areas: accounting (kuaiji 会计), economics (jingji 经济) and management (guanli 管理) based on nearly 900 management-related books identified at the Shanghai Municipal Library published before 1949.

- Accounting: 130 titles on general accounting and book keeping; 30 titles on the general principles of cost accounting (and another dozen or more on cost accounting for railways or for specific industries); 14 on general auditing.
- Economics: in the sub-field of economic statistics related to price and commodity indices there were 18 titles. General economics titles well exceed 100 titles.
- Management: 52 titles on general management organisation and practices; about the same number again on the management of railway, mining and textile enterprises.

In terms of translations, we see many books translated from English into Chinese – mostly American and British works. We also find a large range of works from German and Japanese. Sometimes a work might be translated and published several times by different presses. For example, the first translation of F.W. Taylor's *Principles of Scientific Management* by Mu Ochu that appeared in 1916 was in its seventh edition in 1934, but it competed with several summary translations of Japanese translations of Taylor and a 1932 translation from French of the French edition of the *Principles* including a French critique (Morgan, 2006). Competition in the publishing business was intense, though all principal actors knew each other closely and had often worked together at one time in their career. The main publishing houses producing business works was Commercial Press, China Press, and New World, which competitive intensely and frequently produced book series devoted to topics in business, economics and management.

Conclusion

The aim of this paper is to describe a bibliometric approach to quantify the knowledge about modern management that Chinese entrepreneurs and managers were likely to have been exposed to in the first half of the twentieth century. Despite a common belief that management in China before 1949 was 'traditional', whatever that might mean, analysis management-related publications suggest the Chinese were well served. A manager who sought information of the latest accounting or shopfloor practices was as likely find it as was a counterpart in more developed economies.

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Fig 5: ‘Tradition’ and ‘Modernity’

This cigarette advertising poster girl is a wonderful example of the engaged discourse between the Chinese and Western worlds of c.1930.

Notice the imagery. The garden is a European garden, as you would find in the Chinese mansions of the Shanghai wealthy. The girl is wearing a ‘traditional’ Chinese dress – no, it was a Chinoiserie creation adopted by the Chinese. Above is an airplane. And the book she reads: “hang kong shu” 航空术 ... a book on aeronautics ... a very modern lass!

Why wouldn’t we expect sophisticated management ideas in a world that engages with this imagery?



code#	title 书名	kw1	kw2	kw3	kw4
SHL0001	工厂安全与卫生	factory	safety	hygiene	
SHL0002	工厂安全设备须知	factory	safety	equipment	need-to-know
SHL0003	工厂设计	factory	design		
SHL0004	工厂管理	factory	management		
SHL0005	工厂管理浅说	factory	management	outline	
SHL0006	工厂管理参考资料	factory	management	reference	
SHL0007	工业心理学浅说	industry	psychology	general view	
SHL0008	工业会计概要	industry	accounting	exposition	
SHL0008	工业会计概要	industry	accounting	outline	
SHL0010	工业安全与管理	industry	safety	management	
SHL0011	工业组织与管理	industry	organisation	management	
SHL0012	工业组织原理	industry	organisation	principles	
SHL0013	工业经济	industry	economics		
SHL0014	工业经济	industry	economics		
SHL0015	工业经济学ABC	industry	economics	ABC	
SHL0016	工业经济概要	industry	economics	outline	
SHL0017	工业经济概论	industry	economics	outline	
SHL0018	工业经济概论	industry	economics	outline	
SHL0019	工业政策	industry	policy		
SHL0020	工业政策	industry	policy		
SHL0021	工业政策	industry	policy		
SHL0022	工业教育	industry	education		
SHL0023	工业管理	industry	management		
SHL0024	工业簿记概要	industry	book keeping	outline	
SHL0025	工务管理	industry	management		
SHL0026	工作时间	work	time		
SHL0027	工资计算法浅说	wages	calculation		
SHL0028	工资劳动与资本	wages	labor	capital	
SHL0028	工资理论之发展	wages	theory	development	
SHL0030	工商组织与管理	industry-commerce	organisation	management	
SHL0031	工商政策与职工运动	industry-commerce	policy	labor movement	
SHL0032	工商贷款手册	industry-commerce	loans	handbook	
SHL0033	工商职工学习手册	industry-commerce	employee	education	handbook
SHL0034	工商管理ABC	industry-commerce	management	ABC	
SHL0035	工商管理一瞥	industry-commerce	management	at-a-glance	

Fig 6 A screen shoot of some items for the character ‘gong’ (work, labor, industry)