

A Systematic Review of University Internationalization Strategies Research

Wang Liang & Roselan Baki

Abstract-The internationalization of universities is an inevitable trend of the reform and development of higher education in the world. How to better grasp the educational philosophy of internationalization, accurately position the development strategy of internationalization, and formulate effective internationalization strategy are important means to promote the internationalization of China's higher education. The research of university internationalization strategy is a hot topic in the academic circle. In accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, Search key literature of university internationalization strategy research from Web of Science (WOS) and China National Knowledge Infrastructure (CNKI) databases to clarify the historical context of university internationalization. CiteSpace is used to draw the knowledge co-citation mapping, analyze the current frontier hot spots of university internationalization strategy research, and study university internationalization strategy from five dimensions: internationalization academic activities, characteristics of internationalization managers, influential factors of internationalization, internationalization process path, and sociology theory of internationalization organization. At present, the research field of internationalization of higher education is still lacking of methods and theoretical basis. It is necessary to further strengthen the research on internationalization strategies of colleges and universities through empirical and normative research paradigm starting from theories of organizational sociology and management, which will constitute an important research orientation and trend in this field in the future. This study provides reference for Chinese universities to formulate internationalization strategies.

Key words: University internationalization ; Strategy ; PRISMA ; Systematic review

I. INTRODUCTION

Internationalization is an important part of the construction of a world-class university. It is an important measure to develop an internationalization strategy suitable for its own development. The research on internationalization strategy of higher education has gradually become a key point in the field of higher education research. In her article Internationalization: Factors and Key Points, Jane Knight pointed out that "universities must develop internationalization strategies to effectively realize internationalization" and "internationalization strategies can point out the direction, clarify responsibilities and set goals for universities"(Knight,2004). Liu Yan according to (Dominique,2015) and Doria Abdullah's research divided

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the study of university internationalization strategy into 10 dimensions according to the construction connotation of internationalization, including the system domain, the teaching domain, the theory domain and the culture domain (Abdullah,2014; Liu,2018).

Based on the search of international and domestic mainstream databases such as WOS and CNKI, this study searched the historical context of university internationalization strategy research, analyzed the current research trends and hot spots, and provided the basis for the internationalization strategy formulation of Chinese universities by learning the mature methods of internationalization strategy formulation of world-class universities.

II. PROBLEM STATEMENT

With the acceleration of economic informatization, networking and globalization, more and more scholars begin to pay attention to the important field of education internationalization. Internationalization of education has gradually become the focus of attention and hot topic of international organizations. So what are the hot spots and frontiers in the research field of internationalization of higher education worldwide? What is the development direction of higher education internationalization in the post-COVID 19 era? This study mainly discusses the following issues:

1. What is the historical evolution of university internationalization strategy?
2. What are the dimensions of university internationalization strategy formulation?
3. Does university internationalization strategy make rise to the level of theory?

III. METHOD

Systematic Review method was used in this study. Following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher, Liberati, Tetzlaff, Altman, & Group, 2009), (1) Clarify the research question; (2) Determine the literature database and search strategy; (3) Formulation of inclusion and exclusion criteria; (4) Data retrieval and exclusion analysis; (5) To analyze the included literature; (6) Present and display research results.

In this study, the journal literature related to education internationalization strategy in CNKI and WOS database was selected as the research object, with "internationalization of universities", "internationalization of higher education", "strategy" and "motivation" as the search keywords, and the search period was set as "2002-2023". After the inclusion and exclusion criteria, 118 literatures

were selected for the initial search. Finally, 19 effective results were selected, and the map of co-cited literature was drawn with the help of statistical software such as Cite Space. Visually display the research trends and cutting-edge information in the field of education internationalization strategy, and summarize the characteristics and limitations of the research.

Search strategy

The literature search and determination process follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). In this study, WOS database and CNKI were used as literature data sources. Take "higher education international*", "university international*", "Development strategy" and "motivation" as keywords to conduct topic search. At the same time, the relevant literature is obtained through the references in the literature.

TABLE 1: DATABASES, SEARCH STRINGS, SEARCH OPTIONS AND N. OF ARTICLES FOUND.

Databases	Search string and search options	N.
WOS	(TI=("higher education" OR "university") OR AB=("international strategy" OR "Internationalization motivation") AND (TI=(survey* OR scale* OR questionnaire* OR measur*) OR AB=(survey* OR scale* OR questionnaire* OR measur*)) AND AND (PY= 2002-2023) Refined by: Databases: (WOS) AND DOCUMENT TYPES: (ARTICLE) Search language = Auto	7 5
CNKI	KY=("higher education" "university")*KY=("strategy")*KY=("motivation")* YE BETWEEN(2015,2023)	+ 4 3

Inclusion criteria

- The study focused on internationalization strategies of high-level universities
- The research type must be empirical research, including clear research questions, research objects, research methods, and clear research conclusions;
- The publication period of the literature is limited to January 2002 to January 2023.
- Academic studies were written in English and Chinese, such as journal articles, book chapters, and conference papers.

Exclusion criteria

- The formulation of internationalization strategy mainly comes from within universities rather than external factors such as governments or international organizations
- This study does not include internationalization strategies such as teacher internationalization, international students, curriculum internationalization, and cooperative education.
- Higher education Internationalization was only a minor aspect of the study;
- The study was published as an abstract (paper or poster abstract), a dissertation abstracts, an editorial, a letter, a book review, a literature review or a paper or abstract in proceedings of a conference.

Data extraction

Based on the literature search strategy and the inclusion and exclusion criteria, 118 peer-reviewed journal articles were preliminary retrieved. To remove the cross-library database repeated inclusion of literature. By reading the title and abstract, the literature that is not relevant to the research purpose and is not empirical research was removed. After preliminary screening of the title and abstract, 62 literature were obtained. Then, through an overview of the full text, a total of 19 literature meeting the evaluation criteria were finally determined, including 11 foreign literature and 8 Chinese literature.

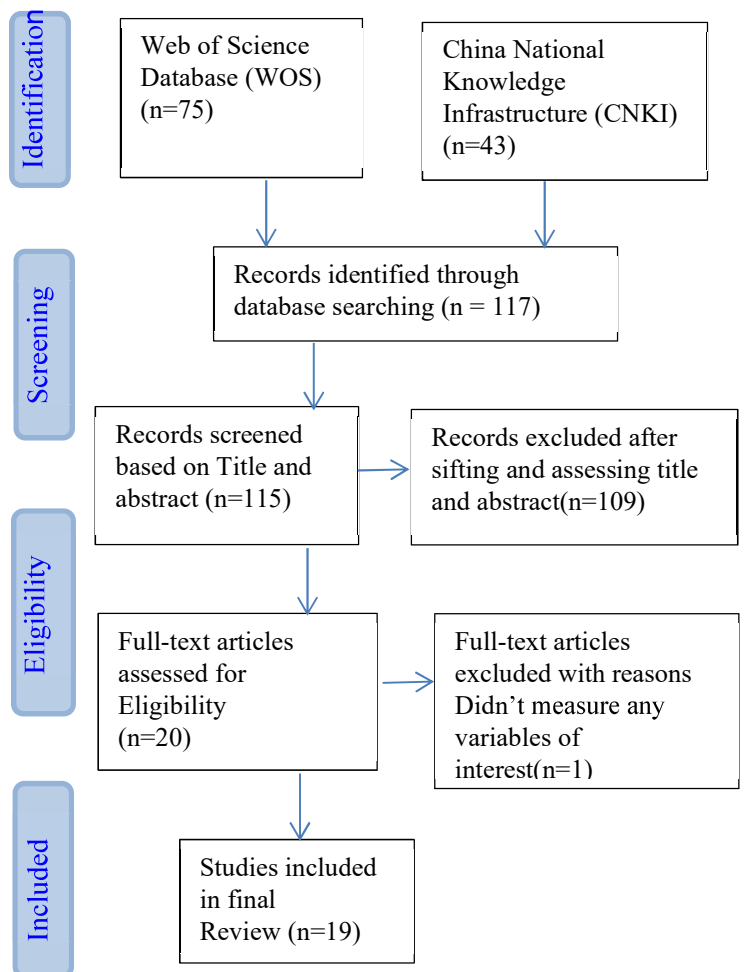


Figure. 1. PRISMA Chart For The Present Systematic Review

IV. RESULTS

CiteSpace software was used to analyze the cited literature and draw the co-cited map. As shown in Figure 6, The largest node is Internationalization Remodeled, published in 2004 by Professor Jane Knight of the Centre for International and Development Education at the Ontario Institute for Education Studies at the University of Toronto: Definition, Approaches, and Rationales. (Knight,2004) This is followed by Philip G. Altbach, director of The Center for the Study of International Higher Education at Boston College, USA, published with Professor Jane Knight in the Journal of International Education Research in 2007 of

Higher Education: Motivations and Realities (Altbach,2007). And The Changing Debate on Higher Education Internationalization of Higher Education (Teichler, 2004).

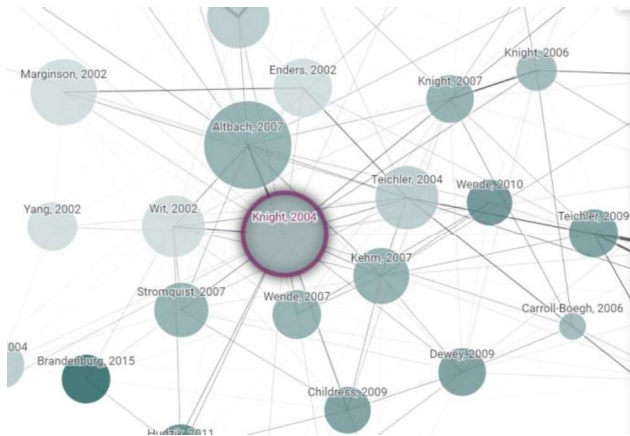


Figure.2 Citespace Co-citation Map

Our initial electronic search yielded 118 records. After removal of 56 duplicates and screening the titles and abstracts of the remaining 62 records, 43 records were eligible for full-text screening. 19 articles met the inclusion criteria and were included in the review. A search of the reference lists of the included studies yielded no additional studies. After reviewing articles concerning University internationalization strategy, we categorize them into five types:

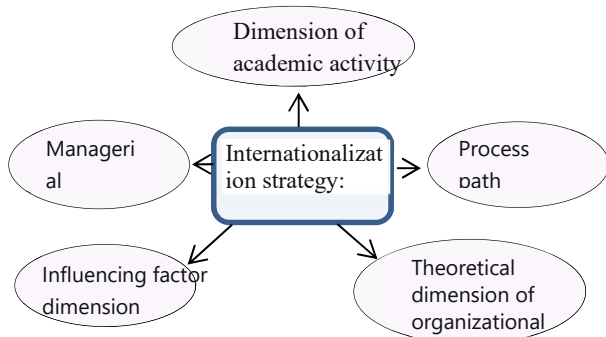


Figure.3 Analysis Framework Of Higher Education International Strategy Research

Dimensions of international academic activities

In 1995, Jane Knight and Hans de Wit proposed four university-level internationalization strategies (Knight&Wit,2004) through their research on the internationalization strategies of higher education in Australia, Canada, Europe and the United States, as shown in the table below.

TABLE 2 JANE KNIGHT INTERNATIONAL ACADEMIC STRATEGY CLASSIFICATION

Academic strategy	Academic project	Student exchange, international courses, joint double degree, teacher exchange, cross-cultural training, etc
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Scientific research and academic cooperation	Regional/issue research centers, international research cooperation, international conferences, etc
External collaboration	Cooperation with ngos, overseas branch schools, overseas alumni programs, etc
Extracurricular activities	International and cross-cultural campus activities, ethnic group exchanges and cooperation

This is the earliest international strategy classification based on academic activities. Since then, Jane Knight has made several adjustments to this strategy classification, but it is not a strict internationalization strategy classification. It reflects the characteristics of The Times when people used specific activities or projects to understand and describe internationalization in the early days, and the internationalization strategy under the guidance of this concept and understanding is incomplete. The interrelationships, interactions and mutual benefits of the various activities have not been taken into account (Zha,2002). The internationalization strategy guided by this concept lacks the integration mechanism in actual implementation. Jane Knight herself is clearly aware of this problem, which is why she argues that international development needs to move from simple, all-encompassing international activities to the culture, policies, programs and organizational procedures of institutions.

Dimensions of Characteristics of education internationalization management

It is one of the important approaches in this field to study internationalization strategies from the perspective of management characteristics. Guy Neave, a British scholar, pioneered the binary division of managerialism - academism, active - passive, centralization and decentralization, which are completely opposite, to study university cooperation. Two strategies, "leadership driven" and "base unit driven", are proposed. Influenced by Neave, Romuald E.J. Rudzki proposed "the fractal process model". This model includes: (1) the university management incorporates internationalization into the decision-making process; (2) Develop policies covering organizational change, curriculum innovation, staff development and student mobility; (3) The international management department evaluates and revises the implementation effect regularly (Rudzki,1998). Based on the academic strategy theory of George Keller, John L. Davies proposed the core dimensions of college internationalization strategy: University internationalization strategies are thus divided into four strategies, namely, the famous Davis four-quadrant internationalization development strategy, namely, ad hoc -- edge, casualization -- core, systematization -- edge and systematization -- core (John,1995). Under the influence of Davis, two scholars H. van Dijk and K. Meijer proposed a strategic model called "international cube"(Van; Meijer,1997) based on the analysis of the internationalization of Dutch higher education in 1997. This pattern adds the dimension of "support type" to the two core dimensions proposed by Davis.

The classification of college internationalization strategies proposed by scholars led by Neave mainly focuses on the characteristics of management factors in the implementation of internationalization. On the basis of Neave, Rudzky further proposed two internationalization strategy modes: active and passive. The "internationalization model" proposed by Davis, Van Dijk and Major continues this line, taking the management characteristics of colleges and universities in the implementation of internationalization as indicators, and classifying the internationalization strategies of colleges and universities into more detailed types. However, this research approach mainly describes the international management and organizational characteristics of colleges and universities qualitatively, which is not practical enough. Davis took the lead in introducing the concept of "planning" into the research of this field, which actually provided a new way of thinking for the later research of internationalization strategy.

Dimensions of Internationalization process path

With more and more scholars seeking the definition of internationalization from "process path" (1), the focus of internationalization strategy research has gradually shifted to the organizational elements of internationalization such as policy and process. Jane Knight put forward her "internationalization cycle" (Knight, 2004) by analyzing the elements of the university internationalization process. DeWitt combined the internationalization cycle model proposed by Jane Knight and the three-factor internationalization model proposed by Wende (Van; Meijer, 1997) (namely, the internationalization strategy model of goal and strategy factor, executive factor and outcome factor respectively), integrated the analysis of the development background of the internationalization of the department, and took into account the impact of internationalization on the overall function of universities. L.E. Rumbley took the internationalization cycle model proposed by Jane Knight as the theoretical framework. Through case studies, he discussed the applicability of the development model of internationalization cycle proposed by Jane Knight, and added the external background composed of opportunity, urgency and obstacles and the internal background factor of college resources. The process of internationalization is divided into three parts: motivation, strategy and result: (1) Pay attention to the importance of internal and external factors to the development and implementation of internationalization strategies; (2) Pay attention to the operation mode of internationalization promoted and implemented at the university level through the formulation of strategies and plans, and try to establish the strategic mode of internationalization development through a series of rational management path theories such as planning-implement-evaluation; (3) In addition to internationalization activities, incorporate organizational factors into the internationalization strategy model; (4) Realized the interaction between universities and departments in the implementation of internationalization, as well as the differences between departments in the implementation of internationalization strategies. These are obviously very valuable.

However, the above strategies are all strategic models guided by rational organizational views. In fact, university internationalization strategies are often formulated by university leaders or "top managers", but they are only one of many interest groups in universities. The internationalization process of a university requires the participation of many other groups and the game of various interests, so it is often changeable. Therefore, the implementation process of internationalization strategy is also the process of policy formulation. This perfectly rational pattern of internationalization strategy clearly does not take these issues into account.

Dimensions of influencing factors of internationalization

It is always one of the important approaches in this field to obtain the factors that promote and hinder the internationalization of universities through the empirical case study and put forward the strategies for the development of the internationalization of universities on this basis. Ellingboe (Brenda J. Ellingboe), through in-depth qualitative research on the University of Minnesota, proposed a conceptual model for successful implementation of internationalization, including six elements: university leadership, international participation of scholars, international courses, study abroad programs, participation of foreign scholars and international extracurricular activities group (Mestenhauser; Ellingboe, 1998). John Taylor pointed out through empirical research that the formulation of internationalization strategic planning is the key to the development of internationalization of universities, and leadership is crucial to the development and formulation of internationalization strategies. International cooperation in scientific research is a common feature of first-class research universities. Therefore, the development of scientific research is at the core of a university's internationalization strategy (Taylor, 2004). Amelia D. Courts, based on the system theory and through the qualitative grounded theory, conducted a case study of three highly internationalized universities in the United States and established a micro theory on the implementation of internationalization, which regarded internationalization as a process of organizational change, including: (1) historic leadership, launching plans for international education programs. (2) Strategic infrastructure of the university, which refers to structures and organizational procedures that are useful for the implementation of international programs and programs; (3) College culture, representing the cultural factors that promote internationalization efforts (Courts, 2004). Although this approach has been a common strategy in this field of research. Although the author puts forward the factors related to the attitude of teachers and administrators, there is no further analysis of these factors. The valuable points of Cotter's research lie in: (1) he always maintains a consistent conceptual understanding in his research, and understands the internationalization of universities from the perspective of organizational change theory; (2) Using the grounded theory method, the author maintains an open and rigorous attitude towards cross-case comparative analysis, and puts forward a localized "Influencing factor model of college internationalization".

Cotter's research points out the direction for the future development of this research route.

Dimensions of organizational sociology theory

The weakness of theory and method is an important problem in the field of internationalization of higher education. Luijten-Lub has made a beneficial attempt to establish a theoretical perspective of higher education internationalization research. With institutional theory as the theoretical basis, he takes the actions and changes of university internationalization and the external environment as the core of his research. Using the method of case study, he studies how universities respond to internationalization, Europeanization and globalization, and what internal and external factors these different responses are based on (Luijten,2007), qwest (John Minna S & derqvist) pointed out that since the 1990 S the research of the lack of international management research, and international research theory does not exist (Minna,2007). Based on the concept of internationalization and the conceptual framework of internationalization process from the perspective of managers obtained through interviews, the researchers analyzed the content of internationalization planning of 44 universities in Finland and studied the internationalization planning of universities. Duncan L.Hurd adopted the perspective of organizational change and regarded internationalization as the transformation process of university organization. He used the eight-stage university transformation theory proposed by Kotter and the reform model of higher education institutions proposed by Eckel et al. Through the internationalization case study of three local public universities, the general model for the successful internationalization of universities is constructed. Its core concern is, what process of change leads to the successful internationalization of public universities (Hurd,2007)? Through the analysis of a single case and cross-case comparative analysis, the author proposes a new model of internationalization change at the level of institutions based on Erkor's higher education reform model. More scholars turn their attention to universities with higher internationalization level and try to obtain successful strategies to promote the implementation of internationalization through case studies. This is exactly the original intention of the latter two types of internationalization strategy studies in this study. Compared with the analysis of the factors influencing the implementation of internationalization, although the factors of successful implementation of internationalization proposed by the studies of organizational sociology and other theories, such as Hurd's study and Court's study, have a lot in common, Hurd made a big step forward in exploring the factors of successful internationalization, and further proposed the process framework of internationalization change on the basis of abstracting and improving the factors. This attempt can further promote our in-depth interpretation of internationalization issues, but also promote the understanding of the practical practice of higher education internationalization.

V. SUMMARY

Since the 1980s, the rapid development of the internationalization of higher education has been the common background for Chinese and foreign scholars to pay attention to the study of the internationalization of higher education. In the past 40 years, foreign scholars have studied international strategies in a variety of ways and methods. From the early 1990s, through the summary of internationalization activities, a number of activity strategies were proposed, and organizational strategies were proposed in addition to the activity strategies to complete the initial internationalization strategy design. Subsequently, some scholars put forward the type pattern of internationalization strategy from the perspective of internationalization management characteristics. By the end of the 20th century and the beginning of the 21st century, the research center of internationalization strategy turned to organizational research. According to the understanding of internationalization connotation of "process path", the development of internationalization was understood as the connection of several organizational and management links, and the corresponding circular strategy model, three-factor or five-factor strategy model of internationalization was proposed. Establish policy patterns with greater interpretability and operability. However, due to too much emphasis on management issues, these studies ignore the subjective consciousness of various international participants and their interactions under the management link. Since the 21st century, more and more scholars have realized the lack of theories in the field of internationalization research, and at the same time, they regard universities as the transformation of the whole university organization. Some scholars have tried to study internationalization strategies from the perspective of organizational sociology theory through institutional theory or organizational change theory, and have made some preliminary achievements.

VI. LIMITATION

On the whole, the research field of internationalization of higher education in foreign countries still lacks methods and theoretical basis. As in other research fields, there are still very few researches that try to use a multidisciplinary theoretical perspective to construct research and explain findings. The formulation of domestic education internationalization strategy is related to the national development strategy. The concept of "One Belt, One Road" and "Community with a shared future for mankind" will definitely promote the domestic academic community to actively participate in international education affairs. From the perspective of risk society theory, COVID-19 has a practical impact on cross-border internationalization, but it does not affect the connotation of internationalization. Altbach is generally optimistic about the possible impact of COVID-19 on internationalization. He believes that the current challenges facing the internationalization of higher education can be partially resolved through "local internationalization" and other approaches. The epidemic also provides an opportunity for Australia and other countries with excessively commercialized higher education

to reflect and transform. In the post-COVID-19 era, the global pattern of higher education internationalization will likely change, and Asian countries represented by China will likely occupy a more important position in the global higher education internationalization (Liu, Gao, Altbach, & Wit, 2020).

Therefore, it is very necessary to further strengthen the research on the internationalization strategy of colleges and universities through empirical and normative research paradigm starting from the theories of organizational sociology and management, which will constitute an important research orientation and trend in this field in the future.

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