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MANAGEMENT OF MARKETING COMMUNICATIONS SYSTEM
OF HIGHER EDUCATION INSTITUTIONS IN CHINA

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ABSTRACT

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Building an educational power is the primary project of national rejuvenation, and education must prioritize development. Currently, China's higher education is in a historical transformation process from scale expansion to connotation development. At the same time, it is also in a new historical stage of significant adjustment of educational resources and market patterns.

Under the market economy system, Chinese HEIs have the right and interest to run schools independently, with self-management and self-restraint. College students pay fees to go to school and choose their jobs, which changes the national enrollment and employment system; the diversification of school-running subjects and multi-channels of school-running funds change the situation that the government takes charge of running schools. In recent years, with the increasing number of private HEIs in China, the competition for excellent teacher resources, excellent student resources, and social relations resources among Chinese HEIs has become fierce. On the other hand, the structural contradiction between the supply and demand market of college graduates also promotes fierce competition in the student employment market.

At the same time, we also see that with the transformation of Chinese higher education from "elite education" to "mass education," the expenditure of higher education consumption has increasingly become an essential part of people's daily life consumption. Most families will weigh the pros and cons, budget input, and output in various influencing factors of higher education consumption and seek the ideal point of fit between personal needs and educational choices. In reality, the structure, quality, and scale of all kinds of higher education at all levels cannot fully meet the multiple needs of the public. High-quality, characteristic, and good brand education is becoming a scarce resource. How to better provide educational services that meet the public's needs and the diversified educational needs of consumers (including students, parents,

and employers.) according to the continuous development of the market economy? It has become a problem that must be considered for every university to maintain its survival and development.

In addition, after the popularization of higher education in western countries, with the birth rate declining, there is a surplus of educational resources, significantly higher education resources. They began to look overseas to compete in the global education market by studying abroad and cooperating in running schools. These initiatives have attracted many excellent human resources and private higher education funds in developing countries. These all require that Chinese HEIs be more open to the world, more actively carry out international exchanges and cooperation, and participate in international competition.

To sum up, it is indisputable that Chinese HEIs face increasingly fierce competition. In the current environment, HEIs must establish a correct brand concept, build a university brand with core competitiveness, implement practical brand construction and communication channels, and enhance their strength in future competition. These measures have become necessary for HEIs to occupy a favorable position in the current highly competitive higher education market. The construction and management of brand communication systems in HEIs directly reflects the level of educational administrators and the degree of sustainable development of the school, which is not only the external expression of core competitiveness but also a kind of management philosophy about how to accumulate, obtain and allocate educational resources. At present, brand communication strategy has been paid more and more attention by HEIs. However, in implementing the construction of brand communication in HEIs, the current situation is not optimistic. Transplanting the brand communication strategy used in the business community for a long time to the higher education industry and adapting to it is a new topic that theorists and university administrators urgently need to study.

This paper is committed to studying the marketing communication management model of higher education, which adapts to China's national conditions so that Chinese HEIs can attach importance to school brand construction and marketing

communication and benefit from the formulation and implementation of marketing communication strategy. This paper comprehensively uses various research methods, including literature, realistic observation, empirical, and inductive and deductive research. This study is interdisciplinary research involving marketing, communication, management, and other related disciplines.

The introduction comprehensively analyzes the topic research rationale, reflects its connection with scientific programs and topics, defines the purpose and objectives of the research, object, subject, and critical techniques, indicates the novelty and practical significance of the results, and determines the personal contribution of the candidate in research, the approbation of the results and gives the publications on the topic of thesis paper, structure and load.

The first chapter defines the basic concepts of this study, analyzes the current research situation, theoretical research basis, and methods, and defines the scope, direction, and focus of this research. First, this paper discusses the concept and type of marketing communication as the object of economic management and focuses on the definition and development process of integrated marketing communication. Secondly, it comprehensively consults and collects the relevant literature, combs the relevant marketing communication research in HEIs, and defines the current research direction. Finally, we explained the basis of related theories and methods. This paper focuses on the classical theoretical models closely related to this study, such as marketing, communication, advertising, brand, and integrated marketing communication. The results show that the advanced and specialized development of marketing communication theory and practice provides a solid theoretical basis for establishing a marketing communication system and mechanism in Chinese HEIs. Currently, the research on marketing communication in Chinese HEIs is less in-depth, mainly at the theoretical level of ideas and concepts, and lacks systematic definition and summary, especially the exploration of practical application effect. Currently, Chinese HEIs have realized to varying degrees the importance of marketing communication in enhancing the popularity of HEIs and strengthening the brand construction of HEIs, but the attention to marketing communication in HEIs is still not enough. Moreover, in practice,

there is insufficient combination with marketing communication theory, can not effectively integrate various marketing media and other phenomena, and can not guarantee and test the effect of marketing communication.

The second chapter analyzes the current management situation of marketing communication systems in Chinese HEIs, tests the effect of marketing communication in Chinese HEIs, and finds out the problems existing in the construction and management of marketing communication systems in Chinese HEIs. First of all, from the aspects of the management organization and responsibility of marketing communication in HEIs, the team and composition of marketing communication personnel, the rules and regulations and workflow of marketing communication, the composition of marketing communication media, the content and channels of marketing communication, this paper makes a comprehensive analysis of the current situation of the construction and management of marketing communication system in HEIs in China. Then, the empirical test of the effect of marketing communication in HEIs is completed by determining the scale, forming a questionnaire, collecting data, using descriptive statistics, reliability and validity test, and structural equation model construction. Finally, based on the current situation analysis and empirical test results, the paper summarizes the problems in constructing and managing marketing communication systems in Chinese HEIs. The research shows that: in marketing communication, the richness of information significantly influences the formation of users' cognition and emotions about HEIs, but the public's Intention about HEI is not significant; Information credibility has a significant influence on the formation of public emotions about HEIs and has no significant influence on the cognition and intention of HEIs; information interesting and sharing have both no significant effect on the public's cognition and emotion about HEIs and have a significant effect on the intention of HEIs; the function of information significantly influences the formation of users' cognition, emotion, and intention about the chosen HEI; there is a step-by-step positive relationship between the public's cognition, emotion, and intention of HEIs. At present, the problems existing in the construction and management of marketing communication in Chinese HEIs mainly include a lack of awareness of marketing

communication, low level of management of marketing communication, the unclear market orientation of marketing communication, the uncertain target market of marketing communication, disunity of expression of marketing communication information, a single mode of marketing communication, lack of effective integration of marketing communication media, lack of adequate evaluation of marketing communication effect.

The third chapter constructs the marketing communication system model of Chinese HEIs and tries to optimize the management of the current marketing communication system of Chinese HEIs, to help them improve the effect of marketing communication. First, because of the problems existing in the marketing communication system of Chinese HEIs, this paper gives the corresponding scheme and construction ideas, constructs the framework model, and puts forward a clear implementation path. Then, given the formulation of marketing communication strategy in Chinese HEIs, the paper puts forward the basic principles that we should follow, and how to innovate the current subject of marketing communication, determine the goal of marketing communication, and then point out the formation path of marketing communication strategy. Finally, we give the strategy of implementing the marketing communication strategy of Chinese HEIs, and the effect of marketing communication should be ensured through market analysis, selection of specific marketing communication strategies, and evaluation of the marketing communication effect.

As a tentative application of marketing and management theory in higher education, this paper is still in the exploratory stage in many aspects. Due to the limitations of the author's own knowledge and energy, there are still many deficiencies in the research. For example, this paper mainly chooses Chinese HEIs as the research object, does not compare Chinese HEIs with those of other countries, and does not systematically summarize the achievements and problems of HEIs in other countries in the practice of marketing communication. Secondly, this paper publishes the questionnaire through the network "questionnaire star" and collects the data. Although the efficiency is very high, the interviewees are separated from the investigators in time

and space, and the attitude in filling out the questionnaire is difficult to grasp, which makes the data have subjective bias. We expect that in the future, we will continue to carry out relevant theoretical exploration and practical accumulation to make some innovations and achieve better research results in constructing and managing marketing communication systems in HEIs.

Keywords: marketing, communication, Higher Education Institutions, education, university, brand, system management, China, Ukraine.

АНОТАЦІЯ

У ЛіньЛінь **Управління системою маркетингових комунікацій закладів вищої освіти в Китаї.** – Рукопис.

Дисертація на здобуття наукового ступеня доктора філософії (PhD) за спеціальністю 073 − Менеджмент. − Сумський національний аграрний університет, м. Суми, 2022.

Формування власної моделі управління освітою є первинним проектом національного омолодження, оскільки освіта є пріоритетним чинником розвитку держави. На даному етапі вища освіта Китайської народної Республіки знаходиться в процесі історичної трансформації від розширення масштабів до розвитку сутнісного наповнення. Водночас вона перебуває на новому історичному етапі суттєвого коригування освітніх ресурсів з врахуванням ринкових закономірностей.

Встановлено, що в умовах побудови системи ринкової економіки, китайські заклади вищої освіти змушені самостійно управляти власним розвитком на основі самоуправління та самообмеження. Студенти коледжу сплачуючи за навчання та самостійно обираючи професію, змінюють національну систему зарахування та працевлаштування. Диверсифікація шкільних предметів та багатоначальність шкільних фондів змінюють ситуацію, коли уряд бере на себе відповідальність за управління закладами освіти. Дослідження показали, що за останні роки, зі збільшенням кількості приватних ЗВО у Китаї, посилилася конкурентна боротьба за якість освітнього процесу, матеріальної бази та

соціальних відносин серед китайських університетів. З іншого боку, структурне протиріччя між ринком попиту і пропозиції випускників коледжів також сприяє жорсткій конкуренції на ринку працевлаштування студентів.

У той же час визначено, що на етапі трансформації китайської вищої освіти з «елітної освіти» в «масову освіту» витрати на вищу освіту (знання) все більше стають невід'ємною частиною повсякденного життя людей. Дослідження показали, що більшість сімей будуть враховувати усі переваги та недоліки, зокрема бюджетне фінансування та інші чинники макросередовища, що впливають на споживання вищої освіти, і шукати ідеальну точку відповідності між особистими потребами та пропозицією освіти. Необхідно констатувати, що структура, якість і масштаби всіх видів вищої освіти на всіх рівнях не можуть повністю задовольнити численні потреби населення. Якісна освіта, що має власний сформований бренд стає дефіцитним ресурсом. Ключова гіпотеза полягає в тому, як надавати освітні послуги більш якісно, у відповідності до потреб населення та диверсифікованим освітнім потребам споживачів (у тому числі учнів, батьків та роботодавців) з врахуванням безперервного розвитку ринкової економіки? Це стало завдання управління вищою освітою, яке необхідно враховувати, щоб забезпечити кожному університету достатній рівень конкурентоспроможності та розвитку.

Дослідження показують високий рівень популяризації вищої освіти в західних країнах, при зниженні народжуваності. Спостерігається профіцит освітніх ресурсів. Відповідно, йде залучення іноземних студентів, щоб конкурувати на світовому ринку освіти, навчаючись за кордоном. Ці ініціативи призвели до притоку людських ресурсів та приватних фондів у сфері вищої освіти в країнах, що розвиваються. Таким чином, актуалізується питання відкритості китайських закладів вищої освіти бути більш відкритими для світу, активніше здійснювати міжнародні обміни та співпрацю, брати участь у міжнародній конкуренції на ринку освітніх послуг.

Враховуючи, що китайські ЗВО стикаються з дедалі жорсткішою конкуренцією, вони повинні встановити правильну концепцію бренду,

побудувати університетський бренд з врахування чинників конкурентоспроможності, реалізувати практичну побудову бренду та канали комунікації, а також забезпечити конкурентні переваги на перспективу. Ці заходи стали необхідними для того, щоб ЗВО займали домінуюче положення на сучасному висококонкурентному ринку вищої освіти. Побудова та управління системою комунікації та формуванням брендів у закладах вищої освіти безпосередньо відображає рівень менеджменту закладу освіти та ступінь його сталого розвитку, що є не лише зовнішнім вираженням основної конкурентоспроможності, а й своєрідною філософією управління щодо того, як накопичувати, отримувати та розподіляти освітні ресурси. Результати досліджень вказують на те, що наразі формуванню комунікаційної стратегії бренду приділяється все більше уваги з боку закладів вищої освіти. Однак необхідно констатувати, що у впровадженні маркетингових систем комунікацій закладів освіти нинішня ситуація не є оптимістичною. Адаптація стратегій маркетингових комунікацій, які тривалий час використовувалися в бізнес-спільноті, на індустрію вищої освіти та адаптація до неї – нова тема, яку терміново потрібно вивчати теоретикам та менеджменту університетів.

Дисертаційна робота присвячена вивченню моделі управління маркетинговими комунікаціями закладів вищої освіти, яка адаптується до національних умов Китаю. Практичне значення полягає в тому, щоб китайські ЗВО могли формувати власні освітні бренди та отримувати вигоду від формулювання та реалізації стратегії маркетингових комунікацій. У даній роботі всебічно використовуються різні методи дослідження, проаналізовано значну кількість літературних джерел, проведено реалістичне спостереження, емпіричне, а також індуктивне і дедуктивне дослідження. Це дослідження є міждисциплінарним дослідженням, що включає менеджмент, маркетинг та інші суміжні дисципліни.

У вступі всебічно аналізується обґрунтування теми дослідження, відображається її зв'язок з науковими програмами і темами, визначаються мета і завдання дослідження, об'єкт, предмет і критичні прийоми, вказується новизна і

практична значимість отриманих результатів, визначається особистий внесок здобувача в дослідження, апробація результатів і наводяться публікації за темою роботи, структура і обсяг.

У першому розділі досліджено понятійно-категорільний апарата дисертаційної роботи, аналізується поточна дослідницька ситуація, теоретичні основи і методика дослідження, а також визначаються обсяги, напрямки і спрямованість даного дослідження. Зокрема, в роботі розглядаються поняття і вид маркетингової комунікації як об'єкта управління в системі менеджменту і акцентується увага на визначенні і розвитку процесу інтегрованої маркетингової комунікації. На основі комплексного аналізу відповідної наукової літератури, проведено відповідні дослідження теоретичних аспектів розвитку маркетингових комунікацій у закладах вищої освіти Китаю та інших країн. Робота зосереджена на класичних теоретичних моделях, тісно пов'язаних з цим дослідженням, таких як маркетинг, комунікація, реклама, бренд та інтегрована маркетингова комунікація. Результати показують, що адаптивна розробка теорії і практики маркетингових комунікацій забезпечує міцну теоретичну базу для створення системи і механізму маркетингових комунікацій у китайських закладах вищої освіти. В даний час дослідження маркетингових комунікацій у китайських ЗВО є менш поглибленими і ґрунтуються головним чином на теоретичному рівні ідей та концепцій та не мають систематичного визначення та узагальнення. Особливо це стосується дослідження ефекту практичного застосування. Таким чином актуалізується важливість маркетингових комунікацій для підвищення популярності ЗВО та зміцнення його бренд-конструювання. Встановлено, що відсутні практичні інструменти які б забезпечили впровадження організаційно-економічних механізмів управління системою маркетингових комунікацій. Зокрема запропоновані шляхи ефективної інтеграції сучасних маркетингових засобів масової інформації та інших явищ з орієнтацією на отримання маркетингового ефекту.

У другому розділі аналізується поточна ситуація управління системами маркетингових комунікацій у закладах вищої освіти Китаю. Зокрема,

проаналізовано вплив маркетингових комунікацій на розвиток системи маркетингу китайських ЗВО та визначені недоліки і проблемні питання, що мають місце у побудові та управлінні системами маркетингових комунікацій. В першу чергу це стосується аспектів управлінської організації та відповідальності маркетингових комунікацій, організаційного та кадрового забезпечення маркетингових комунікацій, законодавчого регулювання та документообігу маркетингової комунікації, складу засобів масової інформації маркетингової комунікації, змісту та каналів маркетингової комунікації. Проведена емпірична перевірка ефекту маркетингової комунікації у закладах вищої освіти шляхом визначення масштабу, формування анкети, збору даних, використання описової статистики, перевірки надійності та валідності, побудови моделі структурних рівнянь. На основі аналізу поточної ситуації та результатів емпіричних тестів узагальнено проблеми побудови та управління системами маркетингових комунікацій у китайських закладах вищої освіти. Дослідження показує, що в маркетингових комунікаціях обсяг інформації суттєво впливає на формування у користувачів сприйняття та емоцій щодо освітнього закладу, проте наразі наміри громадськості не є суттєвими. Обґрунтовано, що достовірність інформації має значний вплив на формування суспільних емоцій відносно освітніх закладів та не має суттєвого впливу на пізнаваність та наміри щодо ЗВО. Крім того, дослідження показали наявність поетапного позитивного зв'язку між пізнанням, емоціями та намірами громадськості щодо ЗВО.

Визначено, що до ризикових чинників побудови та управлінні маркетинговими комунікаціями в китайських закладах вищої освіти, відносять недостатню поінформованість про маркетингову комунікацію, низький рівень управління маркетинговою комунікацією, неясність ринкової орієнтації маркетингової комунікації, невизначеність цільового ринку маркетингових комунікацій, роз'єднаність вираження маркетингової комунікаційної інформації, єдиний спосіб маркетингової комунікації, відсутність ефективної інтеграції засобів масової інформації маркетингової комунікації, відсутність адекватної оцінки ефекту маркетингової комунікації.

Третій розділ присвячений побудові моделі управління системою маркетингових комунікацій китайських закладів вищої освіти. Запропоновано організаційно-управлінський механізм оптимізації управління поточною системою маркетингових комунікацій китайських ЗВО, щоб допомогти їм покращити ефект від маркетингових комунікацій. В роботі запропонована відповідна схема та ідеї побудови, конструюється рамкова модель, висувається чіткий шлях реалізації. З огляду на формулювання стратегії маркетингових комунікацій у китайських закладах вищої освіти, розроблені основні принципи, яких повинен дотримуватися менеджмент підприємств під час впровадження інновації в поточній маркетинговій комунікації, визначати мету маркетингової комунікації, а потім вказувати на шлях формування. Запропоновано концептуальну модель реалізації стратегії маркетингових комунікацій китайських закладів освіти, де ефект від маркетингової комунікації має бути забезпечений через аналіз ринку, впровадження конкретних адаптивних стратегій маркетингових комунікацій та оцінку її ефективності.

Ключові слова: менеджмент, маркетинг, комунікації, заклади вищої освіти, освіта, університет, бренд, система управління, конкуренція, механізм, Китай, Україна.

LIST OF THE PUBLICATIONS

Articles in scientific publications included in the list of specialized scientific publications of Ukraine

1.   **Wu Lingling** (2021). Progress And Prospects of Research on Brand Building and Communication Effectiveness of Local Universities in China. *International scientific journal «Internauka». Series: «Economic sciences»*. 6 (50), vol. 2, 15-19. **https://doi.org/10.25313/2520-2294-2021-6-7312**

2.   **Wu Lingling** & Fuli, C. (2021). Role of AI Technology in Brand Building of Chinese Higher Education Institution–Thought Based on Integrated Marketing Communication. *Маркетинг і цифрові технології,* 5(2), 7-13. **https://doi.org/10.15276/mdt.5.2.2021.1**

3.   **Wu Lingling,** Fuli, C., & Fenghe, Z. (2021). The dual margin of Chinese agricultural products export to Japan. *Management and Entrepreneurship: Trends of Development*, 2(16), 42-53. https://doi.org/10.26661/2522-1566/2021-1/16-04

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4.   **Wu Lingling**, Yuriy Danko, Fuli Chen, Xuefeng Yao and Fenghe Zhang (2022). Mapping the literature of integrated marketing communications: A scientometric analysis using CiteSpace. *Innovative Marketing*, 18(1), 152-167. **https://doi.org/10.21511/im.18(1).2022.13 (Scopus)**

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CONTENT

INTRODUCTION

The actuality of the research topic. With the continuous deepening of China's social and economic system reform and the rapid development of the socialist market economy, profound changes have occurred to the operation mechanism of higher education in China. The traditional management concept of higher education institutions (HEIs) cannot adapt to the new requirements of social development for higher education [1]. Marketing thought originated from the enterprise management field, but marketing communication is not the patent of enterprises. In recent years, the marketing communication awareness of HEIs in China has been increasing. The situation-based appropriate adjustment of and response to the marketing communication mechanism which HEIs establish to monitor the changes in the requirements of customers (students, faculty, parents, and employers) contribute to fundamentally improving the effective allocation of educational resources of HEIs, enhancing the overall competitive strength, and promoting the rapid development of HEIs. The reason is that the marketing communication of HEIs aims to meet the needs of students better, parents, society, and various stakeholders for higher education and better perform the function of talent training in HEIs. Effective marketing communication can better regulate the orderly competition in the higher education market and promote the sustainable development of HEIs. Through brand building and management, HEIs can establish a good social image and improve their competitiveness. Therefore, marketing communication can fundamentally promote the rapid development of HEIs and better completion of the social mission. For example, how to adapt to the harsh market competition environment, change the concept of development, and introduce the concept of marketing communication into the actual operation of colleges and universities as enterprises. By establishing an effective marketing communication mechanism to adapt to market changes, we can maximize the function of marketing communication and effectively market ourselves in a competitive atmosphere. In order to promote the overall competitiveness of colleges and universities, strive for the maximum favorable resources[2]. However, current studies on exploring marketing communication laws that adapt to environmental changes and conform to the reality of HEIs and establishing an effective marketing communication system, and

effectively manage the system based on the reality of higher education in China and the requirements of higher education customers are still sporadic and unsystematic, and still in the preliminary exploration stage. This paper is devoted to studying the marketing communication management model of HEIs adapting to China's national conditions to provide valuable references for HEIs in China and around the world.

Connection of work with scientific programs, plans, topics. The dissertation research was conducted within the framework of the scientific research plan of the Department of Marketing and Logistics of the Sumy National Agrarian University «Management of the competitiveness of enterprises on the basis of innovative marketing» (0119U100250). Part of the research was carried out within the framework of the projects Henan Province Social Science Planning Project No. 2021BZZ004; Henan Provincial University Humanities and Social Sciences Research Project No.2022-ZDJH-0099; Henan Provincial University Humanities and Social Sciences Research Project No.2022-ZZJH-158; Xinxiang Social Science Federation Research Project No.2021-167.

The aim and objectives of the study. *Aim of the research* is the development of theoretical, methodical, and applied principles of management of the marketing communication system of higher education institutions.

Research tasks that were considered:

- to investigate the system of marketing communications as an object of management in the economy;

- to analyze the current trends of marketing communications in educational institutions;

- to justify the methodical basis of evaluating the effectiveness of marketing communications management;

- to analyze the state and dynamics of development of marketing communication systems in Chinese universities;

- to monitor the university's marketing communications systems;

- to propose ways of improving the marketing communications system;

- to develop an algorithm for building an effective system of marketing communications in Chinese universities;

-      to develop marketing communications strategies for Chinese institutions of higher education;

The object of the research is the process of managing the marketing communication system in institutions of higher education.

The subject of the research is the scientific-theoretical, methodical, and practical foundations of marketing communication system management in institutions of higher education of the People's Republic of China.

Research methods. The aim and task of the research is achieved using a system of general scientific and special methods: dialectical - understanding the concept of "marketing communication system" of subjects of economic relations in the system of scientific categories; theoretical generalization, analysis and synthesis - classification of factors affecting formation and use; decomposition - to determine the components of the integral assessment; formalization method - for the development of a management mechanism for the marketing communications system of higher education institutions; scientific abstraction - to determine marketing communications based on the concept of marketing mix; change management - for the development of organizational support for strategy implementation. Literature analysis: search relevant network literature, professional books, magazines and periodicals, dissertations, and statistical yearbooks, analyze, compare and summarize as the basis of this study. Questionnaire survey. Based on literature research, this study puts forward a theoretical model and research hypotheses, determines the scale, forms a questionnaire, and obtains the data through online questionnaire collection. Empirical research. Statistical software is used to analyze the collected data. The proposed theoretical model of marketing communication effect in HEIs is empirically tested through descriptive statistics, reliability and validity test, and structural equation model construction.

The information base of the study was the scientific works of domestic and foreign scientists on economic theory, systems theory, labor potential management of subjects of economic relations, personnel management, management of intellectual and social capital, marketing, change management, project approach, current legislation and regulations.

The scientific novelty of the obtained results. The most important scientific results that contain scientific novelty are:

the results obtained for the first time:

— scientific approach of integrating the marketing communication system`s management into the practice of higher education institutions development with subsequent formation of its own brand is proposed. This scientific approach includes research, positioning, design, creation, expansion, evaluation and the full set of integrated higher education and teaching, including knowledge transfer, scientific research, social services, cultural formation, internal management, which collectively provide the synergetic effect.

there improved

— methodical approach to literature mapping on integrated marketing communications based on scientometric analysis using CiteSpace. The feature of this method is to present the development process, current hotspots and future trends of United territorial community research. In addition, it explores the characteristics and patterns of United territorial community research. Firstly, this document shows the annual volume of literature, leading countries, journals and authors in United territorial community research using bibliometrics. Five hot research topics, namely United territorial community theory and models, brand communication, mass media research, customer research and marketing strategy, are identified through keyword sharing analysis.

— the concept of brand building for higher education institutions in forming their image and increasing competitiveness based on integrated marketing communication and involves the integration of the communication content of the brand image, the communication channel, and the communication process. As for negative information monitoring, natural language processing technology can provide high efficiency, full coverage and 24/7 monitoring of negative information.

there developed:

— categorical apparatus of "Management of the marketing communication system", which, unlike the existing ones, is adapted to the peculiarities of the information environment of the People's Republic of China and considers the activities of new media.

— scientific regulations for the formation of effective marketing communications system, which, unlike the existing ones, take into account information flows, regional features and provide systematic analysis and control of interaction with the main

stakeholders.

The practical significance of the obtained results lies in their further use by institutions of higher education and education management bodies of various levels. The proposed practical and methodological recommendations are implemented in the activities of the Sumy National Agrarian University and the Henan Institute of Science and Technology. Employees of promotion departments use them to establish a system of communications with the main stakeholders.

Personal contribution of the applicant. The Ph.D. student has searched and analyzed literature sources on the topic of the work, selected methods and techniques, experimental and laboratory research, statistical processing, and analysis of the results. Interpreter and generalize the obtained results, draw the dissertation's conclusions, and make practical recommendations under the supervisor's guidance.

Approbation of dissertation results. The main provisions and results of the research were reported and received general scientific approval at the annual scientific reports and conferences of faculty and graduate students at Sumy National Agrarian University (Sumy, Ukraine, 2018-2021); International Scientific Conference «Development of the country's economic system in the context of international cooperation», (Odesa, Ukraine, 2019); II International Scientific Conference "Development of Socio-Economic Systems in A Global Competitive Environment" (Le Mans, France, 2019); I Correspondence International Scientific and Practical Conference "Scientific Researches And Methods Of Their Carrying Out: World Experience And Domestic Realities" (Vinnytsia, Ukraine, 2021); International Scientific and Practical Internet-Conference "Synergetic Drivers of Development of Accounting, Tax Audit and Business Analytics" (Kyiv, Ukraine, 2021); The First International Scientific and Practical Internet Conference Proceedings "Modern Tendencies of Students' Foreign Language Training In The Multicultural Academic Environment" (Sumy, Ukraine, 2021).

Publications. The main results of scientific research were published in 13 scientific articles: 3 articles in specialized publications of Ukraine, 2 articles in journals included in the scientometric databases Scopus and Web of Science, the rest - in other journals and conference proceedings.

Structure and scope. The dissertation consists of an introduction, three chapters, conclusions, a list of references and appendices. The total volume of work is 210 pages. The work contains 22 tables and 26 figures. The references consist 213 publications.

SECTION 1 THEORETICAL AND METHODOLOGICAL APPROACHES TO MANAGING THE MARKETING COMMUNICATIONS SYSTEM

1.1 The marketing communications system as an object of management in economics

From the perspective of discipline attribute, marketing communication is a branch of applied communication, which was born in the United States in the middle 1960s. It is an interdisciplinary discipline that combines communication and marketing, or more accurately, it is an interdisciplinary discipline that applies the fundamental viewpoint, basic principle, and theoretical communication system to observe marketing campaigns.

This discipline has experienced a tortuous development course since its establishment. In 1965, the publication of Marketing Communications: A Behavioral Approach to Men, Messages, and Media, authored by Professor Edega Crane of the University of Notre Dame, marked the discipline's establishment. In the book, Crane put forward an important concept: multi-layer combination, including Communication Mix, which laid the fundamental marketing communication theory. In 1993, Don E. Schultz, a scholar of Northwestern University, cooperated with Stanley L. Tannenbaum and Robert F. Lauterborn to publish Integrated Marketing Communications, marking the formal emergence of the theory of "integrated marketing communication," which later had a significant impact on the field of marketing communication. The proposal of this theory caused considerable controversy while significantly enhancing the influence of marketing communication theory. In the integrated marketing communication theory dispute, brand communication gradually attracted people's attention. Relevant theories such as Integrated Brand Communications and Integrated Brand Promotion were proposed in succession, indicating the brand is becoming the core of marketing communication. With the advent of the digital era in the new century, the primary marketing communication environment has undergone revolutionary or even essential changes, posing profound challenges to all theories of the discipline since Crane established it.

In the development course of marketing communication, many scholars worldwide carried out research, interpretation, exploration, and discussion published numerous

academic papers, and introduced the practice of marketing communication in different fields, making this discipline gradually enriched. For the study of marketing communication, American scholars are the leading forces in the American and European countries, and the studies are relatively affluent. In the United States, the research on marketing communication mainly focuses on the study of integrated marketing communication. In the meantime, the research of individual scholars from European countries is also worthy of attention. In the whole Asian region, Chinese scholars have abundant studies in this field. We also have found that some Asian scholars in Japan and the Philippines also show a strong interest in marketing communication research and have a broader view of theoretical development. Some even put forward clear stages of marketing communication development.

To better carry out the research, this section provides a focused review of the integrated marketing communications (IMC) research literature in the field of marketing communications based on understanding the essential background above.

The concept of IMC was first developed in the late 1980s. Schultz [3] formally put forward the theory of integrated marketing communication, which advocates the multiple aspects of marketing and multiple means of communication, multi-channel communication, to establish a good customer relationship. Duncan et al. [4] suggest that brand relationships should be central to IMC and that the essential elements of IMC should all revolve around brand relationships.

IMC differs from traditional marketing communications approaches in many ways. The most revolutionary is that the consumer has become the focus of marketing [5] rather than the product, channel, price, or promotion. The traditional Four-P theory of marketing communication (product, price, place, and promotion) assumes that sales can be achieved if a company produces a reliable quality product, determines the right price, and uses the appropriate channels, complemented by specific promotions. The Four-P theory is a product-oriented marketing theory from the company's perspective. In order to achieve the consumer-oriented purpose, Schultz [6] proposed the Five-R theory, namely "Relevance, Receptivity, Responsive, Relationship, Recognition." Five-R theory emphasizes that marketing activities should be designed consumer-centric, building customer relationships,

valuing customer perceptions, improving market responsiveness, valuing relationship marketing, and valuing rewards. Another vital difference between IMC and traditional marketing communications is the importance of relationship marketing [7]. Traditional marketing communication aims to close the sale, and the end of the transaction means the end of the relationship between the company and the consumer.

Although there is no universally accepted conceptual definition of IMC[8-11], its connotations have been enriched with the development of marketing communication technologies[12; 13]. Undoubtedly, it is becoming increasingly popular and widely recognized among researchers, institutions, and users [14; 15].

Although IMC is a practical approach, including definition, conceptual underpinnings, and measurement, some ambiguity and uncertainty are present[9; 11; 16]. Many scholars have also criticized IMC, arguing that it does not change traditional thinking and practice, which marketing, advertising, and public relations practitioners were doing long before the term IMC became widespread [17]. Other scholars have questioned IMC's theoretical robustness and practical implications [18].

The American Association of Advertising Agencies[19] defines IMC as a concept emphasizing the need for synergy in marketing communications programs. Duncan and Caywood [20] identify the brand value as the core of IMC and the importance of perception. In addition, Duncan and Caywood [20] emphasize the purposeful nature of integration, focusing on maintaining good relationships. On the other hand, Schultz and Schultz [21] emphasize IMC as a business process and define the actions, objects, and goals of IMC, which is a more comprehensive definition. Klitschko's [11] definition emphasizes IMC as both a concept and a process and stresses the importance of brand communication and long-term strategy. Subsequently, Kliatchko [22] removes the conceptual formulation, emphasizes the audience-oriented character, and specifies IMC's target, content, medium, and outcome. We summarize the definition of IMC by scholars in different periods in Table1.1.

Table 1.1 – Definitions of IMC in different periods

Proposer	Year	Content of the definition
The American Association of Advertising Agencies	1989	IMC is a concept of marketing communications planning. It recognizes the added value of a comprehensive plan that evaluates the strategic roles of various communication disciplines – general advertising, direct response, sales promotion, and public relations – and combines these disciplines to provide clarity, consistency, and maximum communication impact [19].
Schultz	1992	IMC manages all sources of information about a product/service to which a customer or prospect is exposed, which behaviorally moves the consumer toward a sale and maintains customer loyalty [6].
Duncan	1992	IMC is the strategic coordination of all messages and media used by an organization to influence its perceived brand value [3].
Duncan and Caywood	1996	IMC is the process of strategically controlling or influencing all messages and encouraging purposeful dialogue to create and nourish profitable relationships with customers and other stakeholders [20].
Schultz and Schultz	1998	IMC is a strategic business process to plan, develop, execute, and evaluate coordinated, measurable, persuasive brand communication programs with consumers, customers, prospects, and other targeted, relevant external and internal audiences [21].
Kliatchko	2005	IMC is the concept and process of strategically managing audience-focused, channel-centered, and results-driven brand communication programs over time [11].
Kliatchko	2008	IMC is an audience-driven business process of strategically managing stakeholders, content, channels, and results of brand communication programs [22].

The data in this paper were retrieved from Web of Science (WoS) and Scopus databases for IMC literature citation information. First, a preliminary literature search was performed. Preliminary searches of the WoS and Scopus databases revealed that the keywords "integrated marketing communication," "integrated marketing communications," and "IMC" could be used. In addition, a review of preliminary search results found that "IMC" has specific meanings across multiple disciplines. In the end, "integrated marketing communication*" was used as the search term, and the search range was from January 1,

1991, to December 31, 2020. On May 16, 2021, the search process was performed separately in the WoS and Scopus databases. When searching the WoS database, the search field was "Topic," the search year was 1900–2020, and the indexes included "SCI-EXPANDED, SSCI, A&HCI, CPCI-S, ESCI." The search keyword was "integrated marketing communication.*" 218 articles were identified. Results of the search were exported into text and spreadsheet formats for analysis, statistics, and mapping. When searching the Scopus database, the search field is "TITLE-ABS-KEY," the search keyword is "integrated marketing communication,*" and the time range is "earlier than 2021." The search results were 465 articles. The paper counts the number of literature by year, using statistical graphs to show the distribution and trends of the literature. Subsequently, a series of keyword co-occurrence graphs were drawn using CiteSpace to show the top contributing countries, journals, and authors in the IMC research area. Finally, the keyword co-occurrence mapping was used to extract burst keywords, identify the evolution of IMC research, and explore future research trends.

The co-occurrence map of countries shows each country's contribution to the research field. It can be seen from Figure 1.1 that the United States is the most documented and influential country, followed by Spain and the United Kingdom (labeled ENGLAND). It is worth noting that the Spanish node has a warmer color, indicating that the Spanish literature was published later.
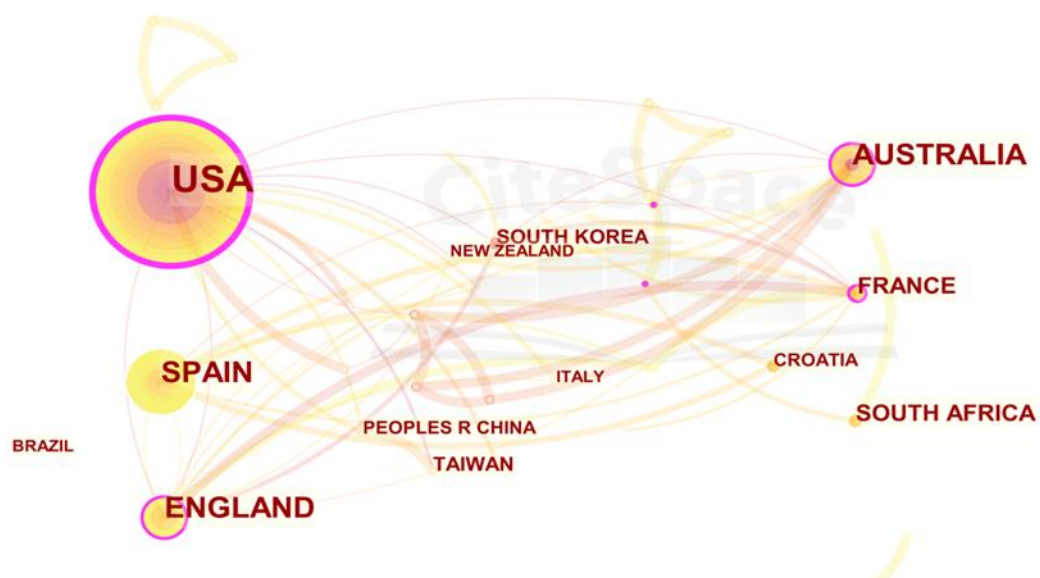

Figure 1.1 – Country co-occurrence map for IMC literature (WoS database)

Similar parameters were used in the country co-occurrence analysis of the Scopus data (from 1991). After adjustment, the country co-occurrence map (Scopus database) is shown in Figure 1.2. Again, the number of documents from the United States ranked first in the Scopus database, followed by the United Kingdom and Australia. Figure 3 shows that the USA has the most significant number of publications in the Scopus database and the most significant influence, followed by Spain and China.

Figure 1.2 – Country co-occurrence map of IMC research (Scopus database)

The centrality indicator represents the size of the country's influence in this research area. Table 1.2 lists the top 10 countries in both databases. The United States is the most influential country in IMC research in terms of rankings in both databases. Table 1.2 shows seven countries in the top 10 positions in both databases, but the positions vary widely. For example, France is ranked 3rd in the WoS database but does not appear in the Scopus database, reflecting the apparent differences between the two databases. Another noteworthy point is that China has only 19 publications in the Scopus database but is ranked 3rd in impact, indicating that China has high impact literature.

Table 1.2 – Country contributions to IMC research

Web of Science				Scopus Data			
Rank	Number	Country	Centrality	Rank	Number	Country	Centrality
1	66	USA	0.26	1	157	USA	0.19
2	24	AUSTRALIA	0.19	2	25	SPAIN	0.04
3	10	FRANCE	0.17	3	19	CHINA	0.01
4	26	UK	0.14	4	39	UK	0
5	27	SPAIN	0.06	5	38	AUSTRALIA	0
6	10	SOUTH AFRICA	0.05	6	24	INDIA	0
7	8	SOUTH KOREA	0.05	7	18	SOUTH AFRICA	0
8	13	CHINA	0	8	16	INDONESIA	0
9	6	CROATIA	0	9	7	THAILAND	0
10	5	NEW ZEALAND	0	10	7	NEW ZEALAND	0

Note: 1. The two databases used different abbreviations for individual country names, and the tables made equivalent changes to maintain consistency. 2. the UK includes England, Scotland, Wales, and Northern Ireland.

Bursting keywords are research hotspots that appear suddenly at a particular stage, which can help us understand the evolution of research hotspots in IMC research. IMC has different concerns and dynamic changes in different periods (Figure 1.3 and Table 1.3). The evolution of IMC research topics is related to the rapid advances in information technology and media and can be divided into five stages, each characterized by the following.

Figure 1.3 – Keyword co-occurrence map in IMC research

Table 1.3 – Top 12 bursting keywords

Keywords	Strength	Begin	End	1991–2020
advertising	4.22	1996	2010	
marketing communication	4.04	1996	2005	
brand	3.18	1996	2010	
perception	5.07	2001	2010	
sponsorship	3.52	2006	2010	
promotion	3.12	2006	2015	
communication	3.91	2011	2015	
brand loyalty	2.91	2011	2015	
innovation	3.37	2016	2020	
social media marketing	3.08	2016	2020	
customer satisfaction	2.77	2016	2020	
word of mouth	2.76	2016	2020	

Start-up phase (1989–2000). The first definition of IMC appeared in 1989, and

scholars and practitioners began to discuss the concept and scope of IMC and develop a preliminary understanding. However, there was minor relevant literature in this period [16], and no bursting keywords emerged. The landmark was the publication of Schultz's Integrated Marketing Communications in 1993, from which IMC began to be widely disseminated and peaked in 1996. From 1996 to 2000, the keywords that burst were "advertising," "marketing communications," and "branding." "Marketing communications: then lasted ten years, while "advertising" and "branding" lasted 15 years.

Web 1.0 phase (2001–2005). From 2001–2005, a new emergent keyword, "perception," appeared and lasted for ten years. Notably, it was the strongest of all the bursting keywords (intensity = 5.07). This new burst keyword implies that users began to have new interactive experiences through interactive technologies. After 2001, interactive website technologies matured, and web video-on-demand technologies became practical.

Web 2.0 phase (2006–2010). Between 2006 and 2010, five bursting keywords existed simultaneously, with the highest number of keywords. These five keywords were "advertising," "branding," "awareness," "sponsorship," and "promotion." This five-year period coincided with the rapid growth of Web 2.0: an explosion in the number of user-generated content (UGC) model sites and personal blogs, and the mainstreaming of a broad, near real-time interactive experience. During this phase, marketing practitioners recognized the importance of brand image built through event marketing and the tremendous power of web traffic to drive brand communication, prompting researchers to rethink the model and definition of IMC in the new environment.

Social communication phase (2011–2015). The bursting keywords during 2011–2015 were "promotion," "communication," and "brand loyalty." Along with the development of communication technologies, the number of social media users began to explode, and companies could communicate directly with users through social media. At this time, increasing brand loyalty through brand building became the focus of attention in the literature at this stage[23; 24]. This communication phase is characterized by companies generating content for communication, developing issues, and pushing them to users through social media.

Social marketing phase (2016–2020). For 2016–2020, bursting keywords include

"innovation," "social media marketing," "customer satisfaction," and "word of mouth." These keywords reflect that social marketing is starting to become a new trend. At this stage, highly influential online celebrities began to participate in social media marketing activities, and marketing communication was greatly expanded. At this stage, social media users are growing in spurts. Social media platforms use extensive data analysis and user profiling to achieve accurate content pushing to users and generating content for each user in real-time. At the same time, the fractured spread of social media is widely used, and companies use "word of mouth" as a crucial way to improve integrated brand marketing[25-27].

IMC's concept, connotation, and implementation will be updated with the popularization of new technologies, new communication tools, and new communication concepts [6]. IMC research hotspots have been focusing on the latest communication tools and constantly updating their connotations [28]. IMC research topics and bursting keywords can be used to anticipate future IMC research trends. Social marketing is the mainstream marketing tool, and live streaming with real-time interaction as the main feature is gradually becoming a popular marketing tool. Brand image building is still the top priority of IMC. The research of improving brand awareness and continuously creating marketing triggers in the new environment remains the focus of IMC. The metaverse, which incorporates technologies such as XR (AR/VR/MR), blockchain, artificial intelligence, and big data, is a new track for well-known companies to compete and will become a new platform for advertising and marketing in the future [29].

1.2 Current trends of marketing communications of HEIs

The "marketing revolution" [30] is reflected in the increasing importance of marketing in the 20th and 21st centuries [31-33]. In theory, it is manifested as the expansion of marketing scope. In practice, it is manifested that some organizations that have never applied or are not familiar with marketing principles, strategies, and activities begin to try to accept and implement marketing [34]. As one of such organizations, higher education began to provide education services for students as customers and established higher education marketing until the 1970s to cope with the significant changes in the global market.

The period of the 1970s was characterized by the significant growth of higher

education worldwide, and an increasing number of Chinese and international students wanted better higher education, thus generating a lot of demand [35]. In response, some emerging HEIs were continuously established to meet the market demand for education [36-38]. To guide the development of this organization with important strategic significance, governments around the world launched the initiative to ensure and improve the service quality of HEIs. The increase in the quantity and quality of higher education departments caused fiercer competition among HEIs. Then, higher education departments in various countries began to try to attract and retain as many students as possible through marketing means and attempted to increase the market share and income to compensate for the decrease in funding sources of higher education departments after deregulation [39; 40].

The increasingly fierce competition required a deeper application of marketing means [41]. With the rapid globalization and internationalization of the higher education market [42], the demand for HEIs for international marketing kept expanding [43]. The mobility of international students was increasing day by day [44]; students' demand was expanding [45]; people had more and more channels to obtain information [46]; the amount and channels through which HEIs obtained fees and funds changed [47]; social population structure changed [48]; people's attention to education changed a lot [49]. These changes made HEIs realize they needed new business methods and marketing means to promote themselves in the international competitive environment to ensure their survival and development in the market. Higher education marketing was initially introduced in practice, and then gradually, a theoretical concept was formed. With the gradual change in the marketization paradigm of higher education worldwide, the research on higher education marketing has increased rapidly, and many influential research results have been produced in this field.

In the practice process of higher education institution marketing, the early development stage is almost entirely related to applying marketing communication campaigns. To be more exact, HEIs use higher education marketing communication to handle the following applications: persuasive advertising and personal sales (direct contact with prospective students) as the type of marketing communication; making posters, brochures, and printed notices. as marketing communication means; or advertising of HEIs [41]. Thus, higher education marketing communication development began with publishing

the first manuals on applying various marketing communication types and means in HEIs [50-53]. In the meantime, we also see that although higher education marketing has been developing, including an increasing number of campaigns developing to a comprehensive and strategic direction, marketing communication remains one of the major research fields of the discipline [54]. Contemporary higher education marketing recognizes all types and means in "mainstream" marketing [54]: including direct means, namely personal sales and direct marketing; indirect means, namely advertising, promotion, public relations, publicity, event marketing, and Internet marketing; and printed materials such as newspapers, magazines and brochures, electronic technologies such as radio, television, and Internet, and other marketing communication means (such as billboard). Like mainstream marketing, the trend of higher education marketing is integrated marketing communication [55; 56], including integrating all marketing communication types and means to achieve the expected result [57]. Integrated marketing communication delivers messages coherently and consistently to all interest groups related to HEIs, ensuring good feedback.

According to the research of Gribanova [58], the themes of marketing communication include advertising, public relations, direct marketing, personal sales, and promotion in both online and offline environments. Scholars try to reveal the problems in the marketing communication process, including the types of communication, organizational factors, and the influence of higher education background. Scholars from Serbia probed into the types of marketing communications used by 131 HEIs and found they lacked effective integration. Besides, they found that this problem may be related to the leadership decisions of the HEIs [59]. Edmiston-Strasser [60] investigated integrated marketing communication strategies of 42 American public universities. The results show the importance of leadership and communication mechanism and prove that IMC can enhance the brand building of HEIs. Schüller et al. [61] discussed the management of university marketing communication campaigns and the influence of relevant organizations and incentive measures on the effect of marketing communication in universities. They interviewed 20 managers in the Marketing Department of HEIs in the Czech Republic, found some problems in universities, such as unclear organizational structure of marketing communication, unclear autonomous right of faculty and staff, and inadequate use of incentive mechanism, and put forward

appropriate solutions.

More scholars expanded the marketing communication concept and explored its relationship with the image of an organization in their studies. Some scholars conducted a large-scale survey among college students and studied the symbolic image content in different types of publicity materials of HEIs to determine whether the marketing information released by HEIs should be different for each market segment [62]. The research of Royo-Vela [63] aims to determine how universities build and improve their images through social media tools. It is found that advertising, word of mouth, content, and information about higher education are the main factors influencing the decision-making of marketing communication in HEIs. When studying Canadian public universities, some scholars tend to emphasize the achievements and rankings of the institutions in their marketing communication process [64].

Moreover, some scholars explored utilizing virtual network technology for marketing communication. Gribanova [58] elaborated on the development of mobile marketing communication technologies and tools and how universities utilize these modern methods of marketing communication interaction to communicate effectively with students and potential students. Vuori [65] discussed how 68 HEIs in Finland publicize their features and advantages on their recruitment websites of international business and technology courses to form market differentiation when trying to attract potential students and differentiate themselves from other institutions. When studying 150 universities in the United States, Adams [66] et al. classified the university websites into three groups: accredited boarding schools, regionally accredited online schools, and unaccredited online schools. The results show that the accredited boarding schools do not take advantage of apparent advantages to differentiate themselves from online accredited and unaccredited schools, so they do not establish clear competitive advantages in Internet marketing communication.

Some scholars explored marketing communication information of HEIs in advertising campaigns. Kotler [67] et al. believed that advertising is a form of mass communication by advertisers or companies to specific readers and audiences, and it is paid and used to achieve specific goals. Clayton [68] revealed 115 public service advertisements released by American HEIs and found five themes used in the advertisements: campus features,

academics, extracurricular activities, school reputation, and university mission. In the view of researchers, these advertisements convey specific messages that HEIs want to convey and use creative methods that are common in TV advertisements. The marketing communication processes of these HEIs are very similar, and none of them create unique messages. Papadimitriou [69] et al. revealed advertising campaigns for HEIs in five cities, including the United States. Researches show that although the types of HEIs vary a lot, the contents of the communication are similar, and the similarity is based on students, identifications, global view, and open campus. Based on the investigation of 350 potential college students in Malaysia, Jan and Ammari [70] studied the influence of online advertising on students' decision-making (selection of HEIs). The results show that social media and websites positively impact students' decision-making, which significantly impacts students' selection of a university. It is also found that although online advertising plays an essential role in students' decision-making process, intrusive or intensive advertising and campaigns have a negative impact on students' positive attitude and college choice.

Marketing communication on social media is currently a popular research topic in the marketing communication major of HEIs. Regarding marketing communication on social media, Brech et al. [71] believe that marketing communication on social media is communication and marketing based on the Internet, especially on social networking sites. The author developed a theoretical model to explain the factors influencing participation in social media marketing. Some scholars believe that social media is a communication tool that helps enterprises and HEIs achieve their business goals. Meanwhile, the study determined the popularity of social media sites in Wszechnica Polska [72]. Clark et al. [73] studied and explored how social media involvement affects the relationship between universities and one of their key stakeholders, i.e., students. Research has shown that students following a university through social media and believing they have a high-quality relationship with the university are positively correlated. Therefore, higher education marketers should invest resources in marketing communication on social media to form high-quality relationships with their stakeholders. Some researchers have established a social media communication model and tested the effect of the model in 14 Lithuanian HEIs [74]. In Lithuania, Facebook is the most common social media website used in universities.

This study found that universities with a good reputation tend to have more Facebook fans. The author points out that HEIs need to conduct marketing communication on social media because active participation in social media communication can help future students choose the university they want. Research on the marketing communication of Lithuanian HEIs on social media shows that the marketing communication model of commercial organizations on social media can be successfully applied to the marketing communication of universities on social media. Peruta and Shields [83] conducted the content analysis for specific social media platforms, such as Twitter and Facebook. They studied the Facebook posts of 66 top HEIs in the United States and found that the level of engagement received by posts from different types of institutions varied greatly. In addition, the media type and the posting frequency are also the factors that promote participation. This research provides directions for university social media managers to better manage their social media content to increase engagement and the coverage of posts. Based on a study of 106 prestigious universities in Canada, Bélanger et al. [75] collected and analyzed relevant data on Facebook and Twitter.

The research believes that Twitter is the most commonly used platform for communication among users, but Facebook remains the preferred website for universities to post. Whether on Twitter or Facebook, these university-led posts are related to campus news, events, or students. The research points out that HEIs are just one of many information generators, while students and many third parties have become the dominant power. In the study of six Australian universities, Palmer [76] obtained an in-depth understanding of how Australian universities are active on Twitter and how universities can use the platform more effectively to achieve their goals for marketing communication on social media. Linvill et al. [77] discussed how HEIs use the social media platform Pinterest. The research shows that institutions do not effectively use Pinterest, and its use does not meet users' expectations. They claimed that using Pinterest to share news and pictures of past events cannot show its best quality and characteristics.

Meanwhile, scholars have found that when HEIs define and implement marketing communications, their common motivation is to trigger and make use of the initiative of the customers (i.e., students) because rational and well-informed customers (i.e., students) tend to choose appropriate majors to study in institutions that can provide high-quality education

[78; 79]. Considering that the choice of major can affect one's career path and future life, this becomes very understandable and important. Another feature of higher education is that most students only play the role of a customer once (the vast majority of students will only study once in a higher education institution). However, in the business world, most products and services are purchased and used repeatedly (individuals or organizations can play the role of consumers or corporate customers multiple times and cultivate loyalty) [80]. The details mentioned above determine students' behaviors as users of higher education services and influence the formulation and implementation of marketing communication strategies for HEIs. In other words, in a sense, the choice of HEIs and majors represents a type of purchase, which is characterized by the intensive participation of consumers or customers, that is, potential students. Under these circumstances, customers (students or potential students) will attach great importance to and consider obtaining relevant information through marketing communications [54]. Therefore, it is essential to provide relevant and credible information so potential students can make appropriate decisions. The lack of sufficient information to reflect the actual characteristics of HEIs and majors leads to a higher risk of the wrong choice, which is even worse for international students [81]. That is to say, due to the distinctiveness of higher education, in most cases, potential students cannot easily "correct" the wrong choice by simply choosing another higher education institution or major again as they do when buying goods (They can often change the unsatisfactory products or services, or even simply buy a new one). Changing majors or transferring to another higher education institution can be very costly in higher education. In addition to the loss of money, it also includes postponement, waiting (for example, waiting for the start of the next school year), and psychological construction (for example, carrying out a new round of information collection and analysis of HEIs, make new decisions, and make preparations after making choices, etc.).

Regarding all the subtle issues related to this field, scholars have conducted much research to determine guidelines for developing appropriate marketing communication strategies for HEIs [81-83]. The general conclusion is that the marketing communication of HEIs needs a strategic approach based on systematic marketing research, and the strategy should aim to find out the needs and preferences of potential students for information. The

ultimate goal is to provide students with sufficient and relevant information about the institution's characteristics necessary for decision-making [81; 84-88]. Moreover, the information must be accurate because any horrible experience potential students have with insufficient and deceptive information will negatively impact the image and reputation of the higher education institution [54].

The continuous deepening of China's higher education system reform, the expansion of the autonomy of HEIs, and the gradual formation of the higher education market have prompted Chinese scholars to conduct in-depth research on the marketing communication of HEIs in China. Scholars believe that the current application of marketing theories in the management of HEIs in China is mainly based on the needs of various competitions faced by HEIs. China's higher education market can bring development opportunities and severe challenges to HEIs [89; 90]). Under this circumstance, HEIs in China must study and choose a suitable marketing strategy.

Regarding the study of marketing strategies based on customer satisfaction, researchers have incorporated the idea of satisfying customers throughout the marketing campaigns of HEIs [91]. They believe these marketing campaigns are as follows: First, identify target customers and clarify the customers HEIs need to satisfy. Second, set up a customer demand and satisfaction survey analysis system to accurately grasp target customers' needs. Third, formulate marketing strategies to satisfy customers, i.e., setting majors, determining charging standards, delivering educational services to consumers (students) and employers, and formulating promotion strategies; HEIs must be customer-centric. Fourth, resort to integrated marketing to comprehensively improve customer satisfaction. Such a marketing strategy emphasizes that all marketing campaigns must be carried out and integrated based on satisfying customers.

Regarding the marketing strategy based on the front end and the back end, researchers [92]) refer to the external strategies as the front-end marketing strategies of HEIs, which mainly include competition strategy, promotion strategy, relationship marketing strategy, and brand strategy. The internal strategies that guarantee the implementation of the front-end strategies are called the back-end strategies, which mainly include organizational structure, discipline construction, and human resource. They believe that for the front-end

strategies, HEIs can, base on clarifying their target market and positioning, comprehensively integrate several strategies according to their strategic objectives, development status, and conditions to form a suitable marketing strategy. Although the four front-end strategies provide more options for HEIs to formulate marketing strategies from different perspectives, further discussions are needed on how to integrate them better. In addition, since the primary function of the back-end strategies is to guarantee the implementation of the front-end strategies, if they are elevated to be as important as front-end strategies, the primary-secondary relationship between the two will inevitably be confusing.

Regarding the application of marketing theories in enrollment, researchers used the concept of determining products according to user needs in marketing to guide enrollment [93], "When setting up majors for enrollment, HEIs must consider their conditions, but also pay attention to social development and the demand for graduates from the job market." The researchers proposed that the marketing manager for higher education institution enrollment should be the admission department that provides information on the supply-demand status of talents, studies the changes in the supply and demand of talents, and cooperates with the relevant departments to jointly determine the majors for enrollment and carry out external publicity and promotion. However, some scholars believe that it is better to determine the majors based on the information on the demand for talents in the job market provided by the Career Center. Because the attraction to the potential student market ultimately lies in the employment status [94]. In addition, some scholars [95] believe that enrollment promotion has many characteristics in terms of planning and operation, such as reciprocity, targeting, timing, and planning, and they believe that among many HEI enrollment promotion strategies, the one that is most closely related is the persuasive promotion strategy. These discussions give people an in-depth understanding of the nature of enrollment promotions.

Regarding the application of marketing theories in teaching management, researchers regarded students as the target consumers of HEIs and pointed out that schools need to mobilize various marketing mixes to serve students. In the marketing portfolio, " product" refers to a course. Course lectures should grasp the characteristics of young students and attract and satisfy students; " promotion " means creating a favorite teaching team. Through the faculty brand, education influences the promotion of student quality; " price " indicates

the development of a flexible price system. For students who need to enroll and select classes halfway, by enforcing the relevant regulations, school incomes can be increased while student needs are being met; " channel " mainly refers to opening up the practice base. Let students improve their understanding of book knowledge through practice, promote learning positivity, and enhance professional confidence. This approach can address many issues that disconnect theory from practice. [96]. Other researchers [93] believe that establishing marketing management in teaching requires that the curriculum, teaching staff, teaching mode, and teaching practice be centered on meeting the needs of students and future career development. These appropriate analogies are essential for applying marketing strategies and theories in teaching management.

Regarding the application of marketing theories in employment guidance, researchers [93] believe that the main task of employment marketing management in HEIs is to exchange information between graduates and employers, draw employers' attention to graduates, stimulate their desire to introduce talents, and accelerate their introduction of talented graduates. Such as holding a two-way selection meeting for graduates, direct recommendation by HEIs to employers, and "selling" graduates through advertising and public relations. In addition, some people pointed out [97] that introducing scientific marketing concepts into the employment index system achieves the maximum market share under the premise of the maximum employee satisfaction rate at the minimum employment cost. To this end, it is necessary to study and develop the talent market, introduce relationship marketing, establish, maintain and develop a harmonious and mutually beneficial relationship with various employers, and form an employment marketing network.

Researchers divided their marketing mix strategy into two major parts, i.e., external marketing mix strategy and internal marketing mix strategy. Regarding the external marketing mix strategy, the researchers believe that the object of the study is mainly the marketing mix strategy formulated for the external potential student market and the job market. Its product mix strategy is mainly a combination of different disciplines and majors of the same discipline in HEIs [98]. Researchers such as Liu J. [89] believe that as far as marketing is concerned, Chinese HEIs should adopt the following combined strategic measures: vigorously develop the international education market; continuously improve the

significant setting, strive to improve teaching quality, and implement the brand strategy; apply price strategy, promotion strategy and channel strategy flexibly in enrollment promotion, post-graduation job assignment, government public relations. Moreover, choose integration, graft, and lose models to promote and strengthen Sino-foreign cooperation in running schools. Actively use both Chinese and foreign resources, strive to open up two markets, and continuously improve the international reputation and competitiveness of Chinese HEIs. Regarding internal marketing mix strategy, Some researchers believe that the marketing mix strategy used in teaching management is mainly the internal marketing mix strategy for students. Generally speaking, whether it is an internal or external marketing mix strategy, the basic theoretical framework of the researchers is still based on the basic theory of corporate marketing.

Nong, W. D. et al. [93] divide the marketing process of HEIs into three steps: discover the structure of social demand through market surveys and forecasts, and then determine the talent training program. The second is to consider the social needs in multiple aspects, specifications, and levels and conduct market segmentation based on the status quo of teaching resources and cultural traditions of different HEIs. The third is to highlight characteristics and determine accurate market positioning. These researchers positioned HEIs to satisfy specific target customers, which is the ultimate result of higher education institution marketing. These researches highlight the target positioning of HEIs. Researchers such as Wang, B. L. [99] regarded improving the popularity and reputation of HEIs and establishing the public's trust and admiration for the school as the ultimate goal of the marketing process. They highlighted the results of the brand establishment of HEIs. They believe that the marketing process of HEIs can be divided into three steps: analysis of the marketing environment, market segmentation and target market selection, and formulation of development strategies and brand establishment. Researchers such as Yan, B. P. [100]believe that HEIs should always carry out graduate-centric activities in the entire marketing process, mainly including market research and demand analysis, graduate adaptability analysis, determining business strategies, expanding product mix, and organizing and implementing graduate promotion. The main task is to communicate and convey information, attract the attention of employers to graduates, stimulate their business

of talent enrollment, and accelerate their introduction of talented graduates. This marketing process aims at the employment of graduates. What the above views have in common is that the basic process of for-profit companies for carrying out marketing for products or services is introduced. This explains how to carry out marketing campaigns according to the market's demand for talents. They are more concerned about whether the "exported" products (graduates) are "marketable".

Researcher Song, X. L. [101] believes that given the special status of Chinese HEIs in the social economy, apart from the characteristics of general organizational marketing, it also has three other characteristics: One is that the marketing of HEIs is two-way marketing. The second is that the marketing of HEIs is not-for-profit marketing. The third is that the marketing of HEIs is social, and factors such as social progress, public interest, and efficiency of running a school must be considered. Researchers such as Zheng, G. H. [102] believe that the dual role of HEIs under market-oriented economy conditions has determined their characteristic of dual marketing campaigns. HEIs face two markets: the on-campus student market, the potential student market, and the employer market. Therefore, they face two types of marketing: one is internal marketing and the other is external marketing. Although people interpret internal marketing in different ways, its essence should be that before HEIs can successfully achieve their goals in the external market, they must use marketing to realize internal exchanges between HEIs and students so that students can become talents who can better adapt to the needs of the external market. To this end, various marketing methods and tools can be used to carry out internal marketing.

In summary, our research found that Chinese scholars' research on the marketing of Chinese HEIs mainly focuses on three aspects: The first is the research method. They mainly start with the similarities between HEIs and enterprises and use the marketing theories of enterprises to guide the marketing campaigns of HEIs. Researchers believe that the similarity between enterprises and HEIs lies in that the main activities of both enterprises and HEIs are composed of input, conversion, and output. Therefore, they all face the market transactions and the problem of how to implement transactions effectively. The second is the marketing objects under research. Marketing campaigns mainly aim at the potential student market, school students, and job market, which correspond to input, conversion, and

output. As a result, "dual marketing" has been formed those mentioned above. The third is the research content. There are researches on marketing strategies and tactics of HEIs; there are researches on applying traditional and modern marketing theories in HEIs. However, at the same time, we have also noticed that the current research on the marketing of Chinese HEIs lacks completeness. These researches are mainly manifested in the fact that scholars mostly use the marketing theories of enterprises to study those of HEIs. Inevitably, this method quickly neglects some of the characteristics of HEIs, such as not-for-profit, and for-public welfare, making it difficult for HEIs to form their necessary and complete marketing theory system.

Meanwhile, we have found that there is still a lack of empirical research on the marketing of Chinese HEIs. Generally, the current research on marketing in China's HEIs mainly discusses and researches theories such as ideas, concepts, basic methods, and principles. However, there is not enough research on the effect of the theory in practice. In other words, there is still insufficient research on summarizing the marketing practice in China's HEIs and expanding and refining it to the theoretical level to enrich the marketing theory system of HEIs. These deficiencies are what this study wants to focus on.

Through induction and organization, we have found that scholars' research on brand communication of Chinese HEIs mainly focuses on four aspects: theoretical direction, subject perspective, application, and hot issue research.

Lin, H. [103] used communication principles to sort out the status quo of brand communication in China's HEIs in Paths and Basic Strategies for Brand Communication of HEIs. In addition, she focused on the overall external education environment and deeply explored the problems existing in the brand communication process of HEIs. By seeking the internal laws and characteristics of brand communication of HEIs, she provided a reference for the innovation and development of HEIs. She believes that brand communication of HEIs includes the core demands of school brand communication, i.e., school development goals, university culture, and so on. The principals and teachers are the main body of the brand communication of HEIs. The multiple target audiences for brand communication of HEIs are students, parents, employers, and communities. HEIs should focus on the media mix strategy and placement of brand communication, as well as the evaluation and feedback

of brand communication effects. Zhang, R. [104] systematically reviewed the research on higher education institution brands at home and abroad, especially in Chinese academia, in the article "Research on Higher Education Institution Brands: Review and Prospects." He believes that China's existing research on higher education institution brands is not empirical, contemporary, and constructive enough and proposed that such research should mainly be pragmatic and focus on empirically exploring the current problems in China's major HEIs. He pointed out that using feasible survey methods and valuable statistical data is necessary to provide research results for HEIs to refer to when shaping and developing high-quality brand images. Luo, S. [105] put forward in the article "Application of UIS in Brand Building of HEIs" that the shaping and communication of higher education institution brands require the introduction of UIS. He believes that applying UIS theory to the brand building of HEIs reflects the changes in the marketing communication thinking of HEIs, shows the importance that HEIs attach to brand building, and is the specific practice of UIS theory in brand communication strategy. HEIs use the image recognition system to concisely reflect their iconic symbols of unique cultural concept and image. HEIs shape their brand image and increase their recognition and popularity among the public through an effective communication process. This will greatly improve their competitiveness.

Wu [106] proposed in the article "Research on the Strategic Planning of Higher Education Institution Brands--Based on the Perspective of Marketing Theory" that in the face of fierce competition in the education market, the theoretical concepts such as brand positioning, market positioning, audience positioning, brand communication channel selection, brand effect evaluation and feedback in Marketing Theory play an essential role in HEIs' establishment of a unique brand image for effectively grasping their target audience and cultivating loyal followers. Based on marketing theories, the author constructed a strategic plan for brand communication in HEIs. HEIs should determine the brand vision, positioning, and structure based on clarifying their characteristics and advantages and establish and maintain the brand through multi-channel promotion and evaluation to win the competition. Jiang and Dou [107], based on the perspective of Public Relations, emphasized that the communication mode in Public Relations is an effective way for HEIs to build an excellent social image and increase their popularity in the "Public Relations Communication

Model for Brand Building of HEIs." They believe that with the continuous expansion of enrollment and scale of Chinese HEIs and in the face of a complex information society, brand communication has become a necessary condition and inevitable choice for the sustainable development of HEIs. Wu, J. J. et al. [108]pointed out in "Brand Building of Private HEIs from the Perspective of Service Marketing" that service encounter is one of the most intuitive standards to measure service quality and consumer satisfaction. Private HEIs need to guide purchasers to make reasonable judgments based on the school's equipment, environment, tuition, architecture, and teachers through educational encounters and continue to follow up on service marketing elements to improve service quality and customer satisfaction. At the same time, private HEIs should avoid homogenous competition with public HEIs, and improve their competitiveness in the education market by looking for their own advantages and characteristics.

Zhao [109] put forward in the article "Research on Brand Building Strategies of HEIs - Taking Kunming University of Science and Technology as an Example" that building a high-quality brand image and formulating effective brand communication strategies are necessary for HEIs to improve their overall quality and competitiveness. The author took Kunming University of Science and Technology as an example, conducted an empirical study on the problems in brand building and communication at Kunming University of Science and Technology, and put forward suggestions and strategies for brand building and effective communication for HEIs. Zheng et al. [110]pointed out in the article "Research on Brand Marketing Strategy of HEIs" that when HEIs conduct brand communication, they should pay attention to three aspects, i.e., the main body of communication, the communication audience, and the means of communication. The main body of communication refers to all aspects of the explicit and implicit factors of schools and attracts target customers through the communication of "brand principals," "brand culture," "brand professors," "brand courses," and "brand products" and other factors. The communication audience mainly refers to students, parents, and employers. The means of communication is the carrier of brand communication of HEIs. The communication tools used in the brand communication process of HEIs can be summarized into three categories: advertising, public relations, and publications. HEIs should comprehensively use these three

communication tools for integrated communication to ensure that their branding smoothly reaches the communication audience. Liu [111] paid attention to the importance of brand communication effects of HEIs in her doctoral dissertation "Brand Management of HEIs." She believes higher education law determines that HEIs pursue more than just optimizing the short-term communication effect through brand communication, but the long-term brand effect. Therefore, in the process of brand communication, HEIs must pay attention to the measurement of the brand communication effect, determine the validity and deviation of the communication strategy in a timely manner, and calibrate the future direction to ensure the long-term communication effect. She also pointed out that in the brand communication process, HEIs should pay attention to the integration and coordination of various information sources, and the organization of various channels so as to pass the unified brand information of the school to the public on and off-campus. At the same time, she believes that in the past, HEIs often lacked unified command and careful planning in the process of publicity and that the communication of brands was not systematic, which could not help with coordination and efficiency enhancement and even led to counteraction.

In the context of the rapid development of the Internet, brand communication based on the Internet, mobile media, and digital media technology are gradually being effectively applied in HEIs. Some Chinese scholars have carried out research in related fields. Xiao et al. [112] pointed out in the "Discussion on School Media Brand Building and Communication Strategies of HEIs in the Era of New Media" that, in the era of new media, it has become a trend for HEIs to use the means and advantages of integrated communication to promote school media brand building and communication. The author believes HEIs should fully integrate media resources based on the broad target audience of school media and use new media to build and spread the school media brand to increase their popularity, reputation, and social influence. Wang, N. K. [113] proposed in "Application of Database Marketing Technology in Brand Communication of HEIs" that database marketing is now one of the most effective ways of brand marketing and has unlimited potential. The author elaborated and analyzed the beneficial effects of the introduction of database marketing technology in Chinese HEIs.

Regarding the problems such as poor marketing and communication thinking and

insufficient brand building, based on their empirical research on the brand marketing communication practice of Xiamen University Tan Kah Kee College, they concluded that the introduction of database marketing technology in Chinese HEIs has positive and beneficial effects on the correct brand construction as well as the precise communication of the brand. In "role of ai technology in brand building of Chinese HEIs -- thought based on integrated marketing communication," Wu, L. L. et al. analyzed the role of ai technology in brand communication and the main problems of current brand building in Chinese HEIs[114]. The authors point out that, for HEIs, the significance of integrated marketing communication lies in the integration of brand image communication content, communication channel, and communication process. Currently, the influence of traditional communication channels declines, self-established media is limited, and the damaging information is not monitored well. Under such circumstances, AI technology can provide technical support for integrated marketing communications of the HEIs brand. VR/AR, UAV, interactive games, and chatbots are mainly applied in communication content. In the aspect of communication channels, the data mining technique is mainly used to achieve differentiated communication, and the extensive data analysis technique is adopted to integrate brand image information communication channels. Natural language processing technology can provide high-efficiency, full-coverage, and round-the-clock adverse information monitoring for adverse information monitoring.

In summary, the relevant literature has greatly enriched and deepened the research on brand communication in Chinese HEIs at the theoretical and countermeasure levels and provided the theoretical and practical basis for the writing of this paper. However, we also found that these studies are fragmented, disorganized, lacking in the sense of wholeness in terms of theory, lacking in depth and relevance, and cannot propose practical solutions for Chinese HEIs to carry out brand marketing. Moreover, the research means and methods are single, and there is a lack of data and empirical analysis on relevant aspects. At the same time, the concepts of branding and marketing as economic management disciplines have been transferred to the field of education, but to a large extent, they are "grafted" and "transplanted," and there is no real "integration" of theory and practice with the characteristics of HEIs. The lack of actual "integration" of theory and practice with the

characteristics of HEIs. These are the research directions to be carried out in this study.

The authors precisely searched all the Chinese literature collected through the CNKI Academic Journals and Papers Database. The keywords "university + marketing communication" led to 14 articles. 14 articles were searched by the keyword "higher education + marketing communication." The keywords "school + marketing communication" led to 0 articles. The authors expanded the keywords to "higher education + marketing communication," "education + marketing communication," and "college + marketing communication" and found 0, 13, and 4 articles, respectively. After carefully checking the relevance of the literature to this study, we found that only 4 out of 45 articles were relevant to this study.

Among the 14 articles searched by the keyword "university + marketing communication," there were only 2 relevant studies. In the article "The application of integrated marketing communication theory in open university enrollment," Yang Li [115]analyzed the current situation of open university enrollment promotion. Moreover, the integrated marketing communication theory is applied to the open university enrollment publicity work, and the framework of open university enrollment publicity strategy is built with integration as the center, big data as the basis, sound classification, and flexible use of publicity means. In the article "Reviewing and thinking about the marketing communication of American university sports events," Yuan [116]conducted an in-depth study on American university sports marketing communication. The authors identify targeted strategies to promote the development of university sports in China and help promote the role of higher education sports in campus culture and brand building of HEIs.

Among the 14 articles searched by the keyword "higher education + marketing communication," only one article has studied the overall marketing communication of HEIs. This article was published by Lin [117] in Jiangxi Education magazine in 2009, entitled "Brand building of HEIs with integrated marketing communication thinking." The article analyzes the importance of building a higher education brand by drawing on the concept of integrated marketing communication and proposes a process for building an effective higher education brand communication by drawing on integrated marketing communication thinking. (Other searched articles were: marketing communication of cultural and creative

products in higher education, research on marketing communication methods of enterprises in higher education, research on marketing communication of cultural and creative products in higher education campus, brand building and management of higher education school journal in the perspective of integrated marketing communication, research on employment guidance system in higher education from the perspective of integrated marketing communication theory, integrated marketing of higher education teaching materials to enhance market communication, and (Research on teaching in higher education based on the idea of integrated marketing communication, integrated event marketing communication model and its application in the higher education market, are not related to the establishment of higher education marketing communication system.

A search for "schools + marketing communications" and "higher education + marketing communications" yielded 0 articles.

Among the 13 articles searched by the keyword "education + marketing communication," there was only one relevant study. Li and Wang [118] discuss the influence of integrated marketing communication theory on the advertising of private education, the role of advertising in the integrated marketing stage, and the influence of the advertising effect in integrated marketing communication on the brand building of private education in their article "The application of integrated marketing communication in the brand building of private education." The other articles are "Word-of-mouth marketing communication of online education platform," "Analysis of Pearson Education Group's development strategy in the era of digital communication - based on the perspective of 4C marketing theory", and "The way of integrated marketing communication of educational newspapers," "Exploration of marketing communication methods in the context of combining vocational education and community education," and "Media relationship marketing communication - a new growth point for communication research and education." All are not relevant to this study.

The search for "College + Marketing Communication" yielded four articles: 2012 Creative Communication Management and Digital Marketing Development Forum was held at Peking University, 2012 Creative Communication Management and Digital Marketing Development Forum", the 20th anniversary series of activities of the Advertising Department of School of Journalism and Communication, Peking University, A study on the

practice of advertising talents in local HEIs to serve the marketing and communication of enterprises: Yichun College as an example, What the U.S. Advertising Market Can Teach Mainland China: An Interview with Professor Cheng Hong, Associate Dean of the School of Journalism and Communication, Ohio University, and Charles R. "Ray" Taylor, former President of the American Academy of Advertising and Professor of Marketing, Villanova University, U.S.A. Taylor. All four articles are not relevant to this study.

After compiling and analyzing the relevant literature, we concluded that: the current research on marketing communication of HEIs in China is relatively few and not deep, especially since there is a lack of unique research, systematic definition, and generalization on the construction and management of marketing communication system of HEIs. Currently, Chinese HEIs have recognized the importance of marketing communication to enhance the awareness of HEIs and strengthen the brand building of HEIs to different degrees, but the degree of attention to marketing communication of HEIs is still insufficient. However, they still do not pay enough attention to the marketing communication of HEIs. Moreover, the current publicity work of HEIs in China is not sufficiently integrated with the marketing communication theory, the effective integration of various marketing communication media is not good, and the marketing communication effect is not tested. Therefore, we think the urgent task is to explore how to build a systematic and targeted marketing communication system in Chinese colleges and universities. By defining the concept, defining the track of development practice, analyzing the theoretical framework of background disciplines, and summarizing the universality and development process model, we can enhance the influence and competitiveness of Chinese universities and provide a reference for other universities in the world.

1.3 Methodological basis for assessing the effectiveness of marketing communications management

As a cross-discipline, marketing communication has many background disciplines such as communication, advertising, and marketing. The theoretical models of these background disciplines have contributed to the development and improvement of marketing communication from practice and provided insights to this study from theory.

Marketing thinking first began in the early 20th century. The early marketing scholars were familiar with the prevailing economic thinking of the time. As a result, they often used the economic theory as a frame of reference when an issue in the marketplace came to their attention. However, marketing is different from economics, which usually focuses on theoretical studies, while marketing is more empirical and practical. More specifically, marketing theory is developed and evolved based on the summary and refinement of practice. Since the emergence of marketing, especially after the 1950s, the depth and breadth of marketing theory research have been significantly developed.

In 1964, Professor Jerome McCarthy of Michigan State University developed the concept of the 4 Ps (product, price, place, promotion) within the marketing mix. (1) Product, which focuses on what we sell, what customers buy, how to build a reasonable overall product model, how to build a reasonable "product line" and "product mix," and other issues. (2) Price, the study of issues including the development of product price objectives will be what, what influencing factors must pay attention to, based on what criteria to set prices, etc. (3) Place, the concern is "how to get the product to the consumer," which involves the channel length decision, the channel width decision, channel optimization and integration issues. (4) Promotion, that is, companies focus on sales behavior change to stimulate consumers, with short-term behavior (such as concessions, buy one get one free, marketing site atmosphere.) to contribute to the growth of consumption, to attract consumers of other brands or lead to early consumption to promote the growth of sales. In 1967, Philip Kotler further confirmed the 4Ps as the core of the marketing mix in his best-selling book "Marketing management: analysis, planning, implementation, and control" [119]. The 4Ps laid the foundation for the theoretical framework of management marketing. The theory takes a single enterprise as the unit of analysis and believes that there are two kinds of factors that affect the effectiveness of marketing activities: one is not controllable by the enterprise, such as political, legal, economic, human, geographic, and other environmental factors, called uncontrollable factors, which is also the external environment faced by the enterprise; one is controllable by the enterprise, such as production, pricing, distribution, promotion, and other marketing factors, called the controllable enterprise factors. The essence of corporate marketing activities is a process of using internal controllable factors to adapt to

the external environment, i.e., through the planning and implementation of products, prices, distribution, and promotions, to make a positive and dynamic response to uncontrollable external factors, to facilitate the realization of transactions and meet the goals of individuals and organizations. In Kotler's words, "If a company produces the right product, sets the right price, utilizes the proper distribution channels, and complements it with the right promotions, then the company will be successful. Therefore, the core of marketing activities lies in developing and implementing a compelling marketing mix (Figure1.4).

Figure 1.4 – 4Ps marketing model

Source: Ma, L. (2005). Research on the marketing of HEIs in China. (Doctoral dissertation, Kunming University of Technology).

Robert F. Lauterborn proposed a 4 Cs classification in 1990[120]. His classification is a more consumer-orientated version of the 4 Ps[121] that attempts to better fit the movement from mass marketing to niche marketing[120]. He believes that marketing should focus on Consumers, pay attention to customers' needs in terms of Cost and Convenience, and strengthen communication with customers. The proposed 4Cs model of the marketing mix (especially the proposed Communication) makes the connotation of "marketing" and "communication" in integrated marketing communication clearer (Figure1.5). Among them, the "customer" corresponds to the "product" under "4Ps". In other words, products should be designed and produced according to the target consumers' needs. Cost corresponds to

Price, the total cost the target consumer can accept for pricing consideration. The customer's Convenience corresponds to Place, that is, the construction of marketing channels according to the convenience of the target consumer's shopping. Moreover, Communication corresponds to Promotion, that is, methods including discount promotion, advertising, direct marketing, and other methods of communication with the target consumers to convince them to buy and establish a good corporate or product image.
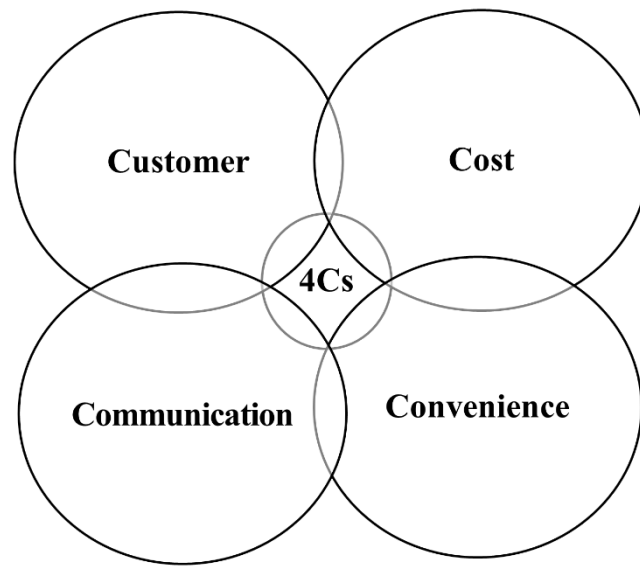

Figure 1.5 – 4Cs marketing model

In 2005, Don E. Schultz, the father of integrated marketing communications, announced the "SIVA model" of marketing theory, including Solution, Information, Value, and Access. He proposed that the market roles of marketers and consumers have been reversed; instead of marketers "pushing" consumers to buy products, consumers decide when, where, and how to buy what products, and consumers' ideas "pull" the behavior of brands [122]. "S" - "Solution". This module addresses the consumer's question: "How do I solve my problem?" What is the solution that can be provided to the consumer's needs? Helping consumers find the "solution" is identifying the core "need" of the target customer. This is the core of the SIVA model. "I" - "Information." This module addresses the consumer's question: "Where can I find a solution to the problem I am facing?" Today's consumers are drowning in a sea of information that is largely not designed to help them solve their problems. Consumers need information that is relevant to them and available through a more convenient medium. "V" - "Value". This module addresses the consumer's

question, "What is the value of the solution provided?" Specifically, it is thinking, "Does it solve my problem? Also, what do I need to pay to get this solution? These questions greatly influence the consumer's perception and awareness of the product. In other words, we can only build superior consumer perception value by clearly telling consumers about the competitive advantages of our products in the communication content. "A" - "Access." This module addresses the consumer's question: "Where to find the solution?" It considers what type of distribution system will allow consumers to access the product or service easily. So the consumer considers whether the marketer can provide the fastest, most convenient, and inexpensive (both in terms of time and cost) way to obtain the product and use that to build an ongoing consumer-brand relationship. In addition to the traditional marketing mix of building product sales channels, activities that communicate with consumers on and offline in the field are also represented here.

On the whole, the information in the SIVA framework corresponds to the promotion in the 4Ps model and the communication in the 4Cs model of the traditional marketing mix. It is responsible for the function of "integrated marketing communication," conveying product "information" and promoting customers' consumption and purchase. In addition, each part of the SIVA framework can correspond to the traditional 4Ps marketing mix model. The solution, which corresponds to the product in the 4Ps model and consumer in the 4Cs model, means that "product" is the "solution" used to meet the needs of the "consumer." The value corresponds to price in the 4Ps model and cost in the 4Cs model, i.e., the price paid by consumers for a product and the overall purchase cost, which is an essential basis for measuring the perceived "value" of the product by consumers. Access, which corresponds to place in the 4Ps model and convenience in the 4Cs model, means that the "channel" of product sales is constructed based on the "convenience" of consumers' "access" to the product or service.

Communication is a basic need for human survival, and information exchange is the basis for human survival and development. For marketing communication, the classical theoretical framework provides a systematic and cybernetic mode of thinking, i.e., the systemic concept of the organic whole between the transmitter, channel, recipient, and symbol, and the cybernetic concept of improvement and correction according to the

feedback. In addition, communications, with its emphasis on the transmission of "meaning" and the sharing of information between communicators and audiences, has important implications for planning "content" in marketing communications.

Lasswell's "5W" Model [123; 124] describes the classic communication model. Harold Dwight Lasswell (1902-1978) was a professor of law at Yale University, a leading American political scientist, and one of the founders of the communication discipline. He received his Ph.D. in 1926 and published Propaganda Technique in World War I in 1927. In 1939, he was appointed as the director of the Wartime Communication Research Committee of the Library of Congress. And in 1947, he became a member of the Committee on Freedom of the Press. In "The Structure and Function of Social Communication," he first proposed the famous and far-reaching 5W communication model in its entirety. This article was published in Lyman Bryson's The Communication of Ideas in 1948 in New York's Religious and Social Studies and later in Mass Communications, edited by Wilbur Lang Schramm. The 5Ws model (Who, what, in which channel, to whom, with what effect) has constructed the disciplinary framework of communication studies and opened up a broad path for the division and in-depth study of communication phenomena. Lasswell's 5W model of communication was further explained in the 1949 edition of Mass Communications by the University of Illinois Press (Figure1.6).

From the image shown, the model is broken down into 5 questions, each displaying a unique factor. "Who" refers to the communicator that formulates the message. "Says What?" involves the content of the message. "In which Channel?" includes the medium transmitting the message. "Whom" describes either an audience or recipient and "Effect" captures the response and intended result.
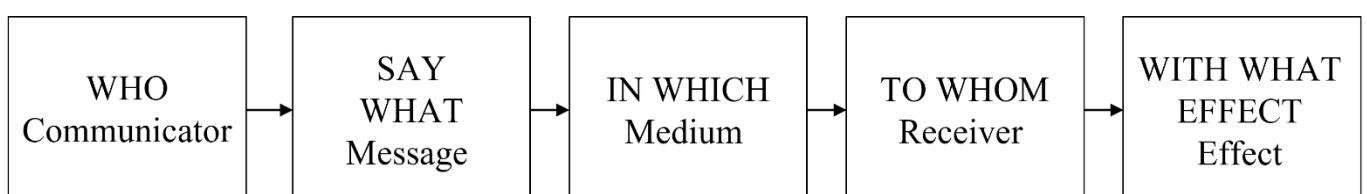

Figure 1.6 – Lasswell's "5W" Model

Source: https://rahmanjmc.files.wordpress.com/2015/02/008ff-lasswell-model-of-communication.png

In 1958, Braddock expanded the model by adding 2 W's (in what situation, for what

purpose) to increase the context and purpose of communication. This model became known as the 7W model (Figure1.7).
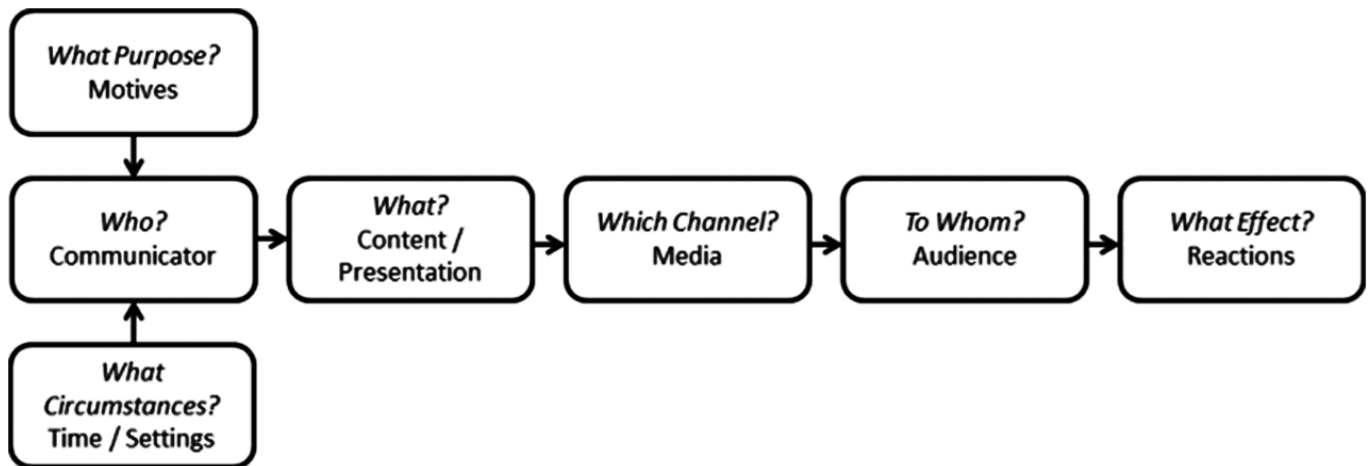

Figure 1.7 – Braddock's "7W" model

Source: Dai, Y. G., Jin, C. G., General Theory of Communication [M]. Shanghai: Shanghai Jiaotong University Press, 2000: 177.

In 1948, Shannon was an American mathematician, Electronic engineer, and Weaver was an American scientist. Both of them joined together to write an article in "Bell System Technical Journal" called "A Mathematical Theory of Communication," also called as "Shannon-Weaver model of communication" [123](Figure1.8). This model is specially designed to develop effective communication between sender and receiver. Also, they find factors affecting the communication process called "Noise." At first, the model was developed to improve Technical communication. Later it was widely applied in the field of Communication. The model deals with various concepts like Information source, transmitter, Noise, channel, message, receiver, channel, information destination, encode, and decode.

Sender: The message's originator of the information source selects the desired message. **Encoder**: The transmitter which converts the message into signals. Note: The sender's messages are converted into signals like waves or Binary data, which is compactable to transmit the messages through cables or satellites. For example: In the telephone, the voice is converted into wave signals and transmitted through cables. **Decoder**: The reception place of the signal which converts signals into the message. A reverse process of encoding. Note: The receiver converts those binary data or waves into a comfortable and understandable message. Otherwise, the receiver cannot receive the exact message, affecting

the effective communication between sender and receiver. **Receiver**: The destination of the message from the sender. Note: Based on the decoded message, the receiver gives feedback to the sender. If the message is distracted by noise, it will affect the communication flow between sender and receiver.
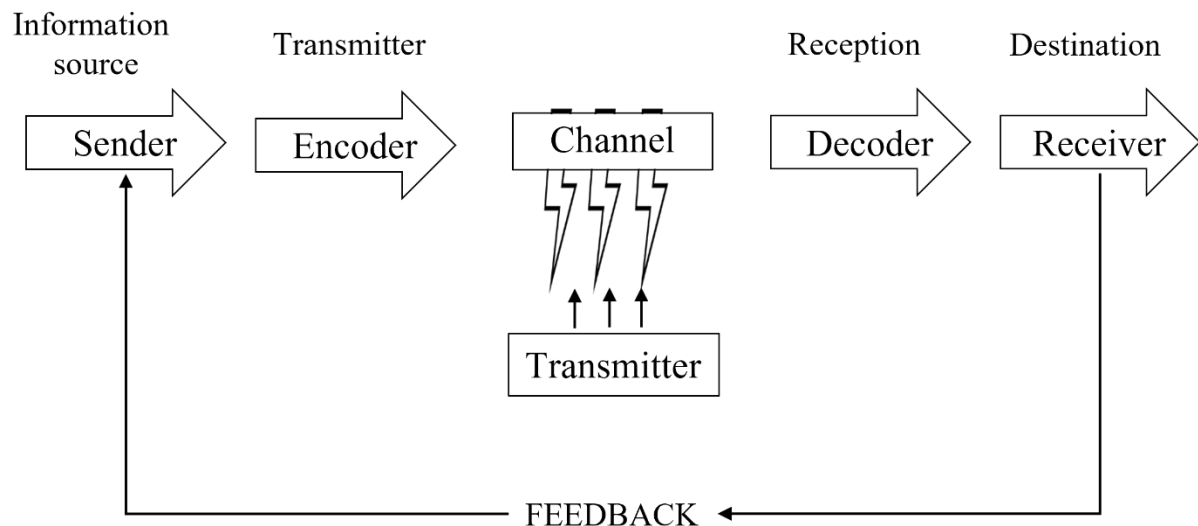

Figure 1.8 – Shannon-Weaver's model of communication

Source: Dai, Y. G., Jin, C. G., General Theory of Communication [M]. Shanghai: Shanghai Jiaotong University Press, 2000: 178.

Noise: The messages are transferred from encoder to decoder through a channel. During this process, the messages may distract or affected by physical noise like horn sounds, thunder, and crowd noise, or encoded signals may distract the channel during the transmission process, which affects the communication flow, or the receiver may not receive the correct message. Note: The model only deals with external noises that affect the messages or signals from external sources. For example: If any problems occur in the network directly affecting the mobile phone communication or distracting the messages.

Shannon-Weaver's communication model includes made and reduced symbols, with particular reference to the interference of "noise" in communication. The term "noise" refers to interference with the standard transmission of information the communicator does not intend. Various obstacles inside and outside the process can interfere with the message. However, Shannon-Weaver's model of communication is a linear one-way process using the principle of circuitry, which lacks feedback and ignores the message's content, the communication's social effect, and the communication's environment. Applying this model

to the wide variety of human communication is not appropriate.

In 1966, Melvin L. Defleur, a communication scientist, revised and added to the Shannon-Weaver's model of communication when discussing the consistency between the meaning of the message sent and the meaning of the message received, and in a certain sense, developed the Shannon-Weaver's model of communication again and proposed the De Fleur Model of Communication (Figure1.9). Melvin L. Defleur points out that in communication, "meaning" is transformed into "information," and the use of circular model diagrams raises some critical questions. For example, how a transmitter turns information into a signal and then passes it through a channel. In other words, information reduction, conversion, and feedback are used to check whether the communication is achieved. The progress of De Fleur's Model of Communication compared with Shannon-Weaver's model of communication is that he pays attention to the feedback of information, which makes the traditional linear model close to the circular model and essential addition to Shannon-Weaver's model of communication.
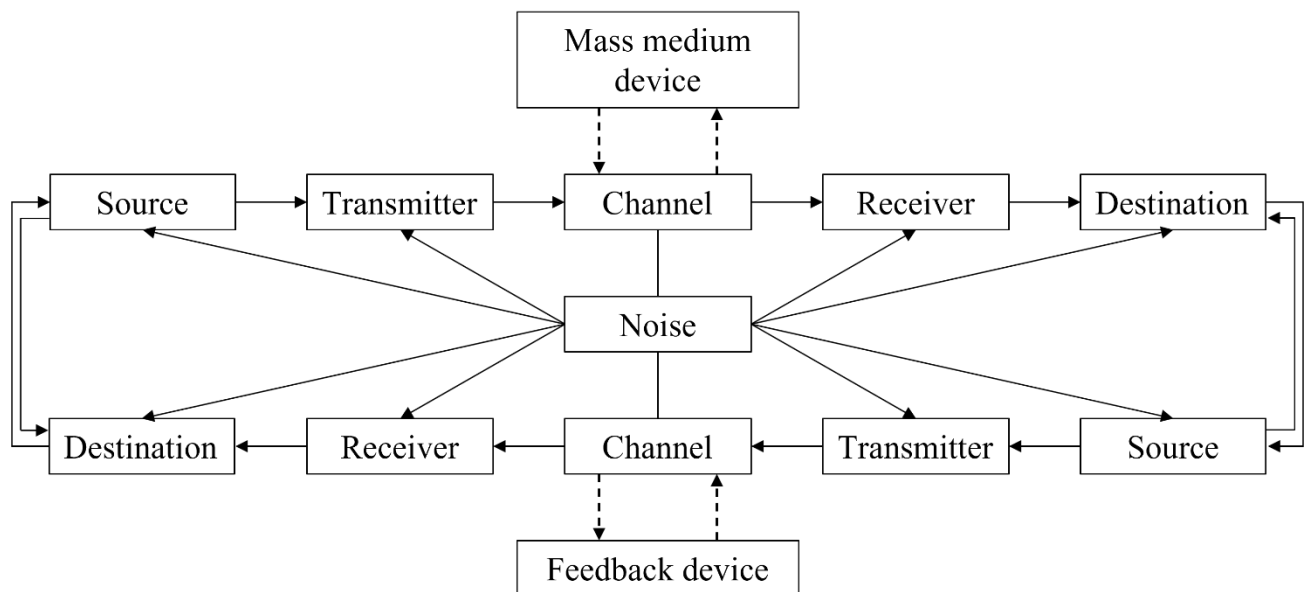

Figure 1.9 – De Fleur Model of Communication

With the rapid development of the network in China, the theory of network information dissemination has also seen great innovation. Currently, the dissemination mode of network information has undergone three stages of development. The first stage is the "mass portal" communication mode with the website as the core. The second stage is the search engine-based "targeted request" mode of communication. The third stage is the

"personal portal" communication model based on social relationships. The inner core of the model change is the change of the protagonist of information dissemination. In the first generation, websites and the web editors representing them were the main protagonists. In the second generation, the main character was the tool. On the other hand, the third generation model has the user as the main protagonist. In the process of this change, the individual needs of users are increasingly respected and satisfied.

The communication model of the "mass portal" era (Figure1.10) continues the traditional mass communication model. It is characterized by the following: First, the status of the website and the Internet users is naturally unequal, and the website is the center of communication. The information on the website is spread at a single level. It flows directly from the website to the netizens without other intermediary channels. Second, websites can only provide undifferentiated information facing thousands or even hundreds of millions of Internet users. Third, the communication effect of website content can only be roughly measured by the size of the audience. Fourth, to meet the differentiated users, websites need to expand the scale of their products continuously, and operating products become the primary goal of websites, but websites also dominate the production of these products.

The communication model of the "personal portal" era (Figure1.11) is characterized by the following features: First, each user node is a communication center in this model. The growth of the number of users means it is more challenging to control communication. Second, in this model, information flows along people's social networks. Third, this communication model makes each message's landing point and flow path perceptible. Fourth, although such communication is multi-layered and information needs to be disseminated several times to expand the effect of communication, the well-connected interpersonal network can easily promote the formation of "fission" communication. Fifth, in such a communication network, there may be a deformation of information every time information is disseminated. After being filtered and screened by the whole society, the information network composed of actual individuals and genuine social relationships automatically undertakes the task of selecting, filtering, spreading, and interacting with network information, making the mutual matching process between information and users more natural, more accurate, more intelligent and more efficient. Sixth, such a

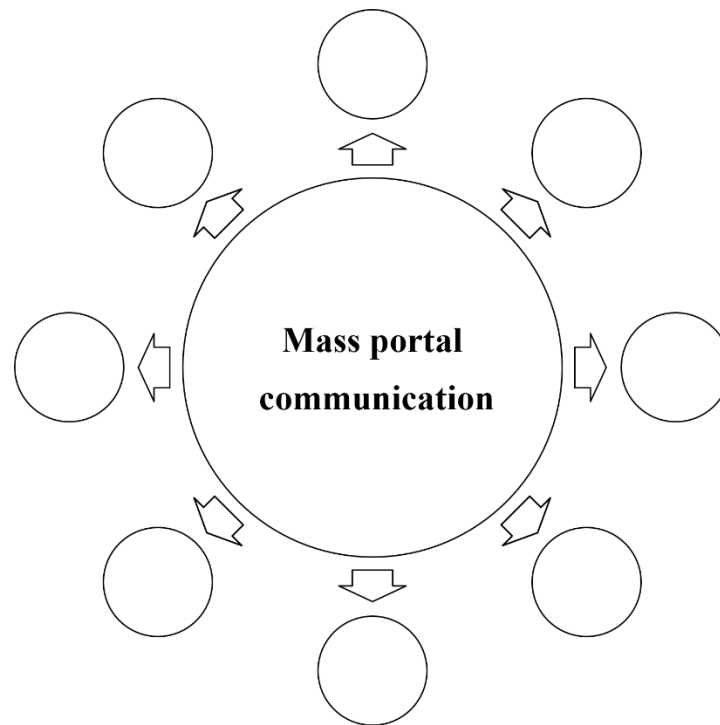communication model theoretically means that each communicator starts from a relatively equal position.

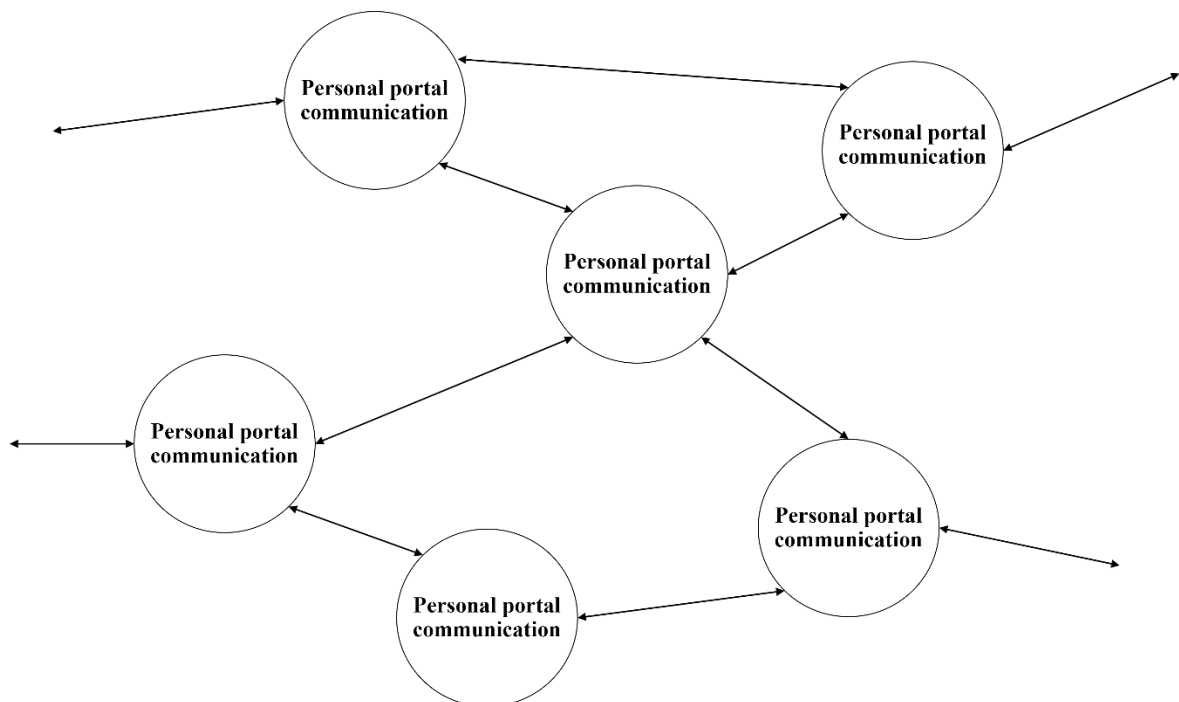Figure 1.10 – Communication mode of personal portal

Figure 1.11 – The communication model of mass portal

Source: Peng, L., From "mass portal" to "personal portal" - the critical change of online communication model[J]. International Journalism, 2012 (10).

Advertising is one of the earliest practices in the marketing communications strategy

portfolio and one of the oldest disciplines in marketing communications. The "persuasive communication" mindset of advertising, the use of mass media, unique selling points, customer perception, and process management have laid a solid foundation for the discipline.

The discipline of advertising is not considered a long-established discipline, but the market demand has promoted the improvement of the theory and model of advertising. Over the past half-century, advertising has established a complete system of theoretical models based on psychology, sociology, communication, and other disciplines. Unlike the above-mentioned basic disciplines, industry professionals have summarized many theoretical advertising models. USP is an advertising theory proposed by Rosser Reeves in the 1950s, calling for a "unique selling proposition" (USP) to consumers. Rosser Reeves was the president of Ted Bates & Co, one of the top ten advertising agencies in the world at the time. In an era of surging advertising creativity, he rationalized that advertising was science and that scientific advertising must follow the USP principle in creative expression. The "Unique Selling Proposition" (USP) is one of the earliest creative advertising theories that have had a comprehensive and far-reaching influence on the history of advertising. What it means is that an ad must contain a selling proposition to consumers (Proposition) that promises benefits, emphasizing what specific special effects the product has and what tangible benefits it can provide to consumers (Selling); at the same time, it must be unique, something that competitors cannot or do not propose and strong (Unique). The classic advertising slogan of M&M chocolate, "It is in the mouth, not in hand," was refined by Rosser Reeves based on USP theory.

ROI theory is a set of creative theories summarized by William Bernback, one of the founders of the DDB advertising agency in the 1960s, based on his creative accumulation. It is also one of the classic theories of advertising. He believed that advertising is the art of persuasion. Similarly, ROI theory is the abbreviation of three words: Relevance, Originality, and Impact. The basic idea of ROI theory is that a good advertisement must have three essential characteristics: Relevance, Originality, and Impact. Without relevance, the advertisement loses its meaning; without originality, it lacks attractiveness and vitality; without impact, it will not leave a deep impression on consumers. If we want to achieve ROI, the following five questions must be addressed specifically and clearly. First, what is

the purpose of advertising? Second, whom is the advertisement for? Third, what competing points of interest can be advertised as promises? What are the supporting points? Fourth, what is the unique personality of the brand? Fifth, what media is the right choice? Where is the breakthrough or entry point for the audience?

In the production process of advertising, advertisers must make decisions from five perspectives, the 5M's of Advertising, starting with the identification of the target market and buyer motivation[121]: Mission, which identifies the goals of advertising; Money, which identifies the amount of money available for spending and how it should be allocated among different advertising media; Message, which is the content design of the message; Media, which is the selection and combination of media; Measurement, which is how to evaluate the effectiveness of advertising [121](Figure1.12).
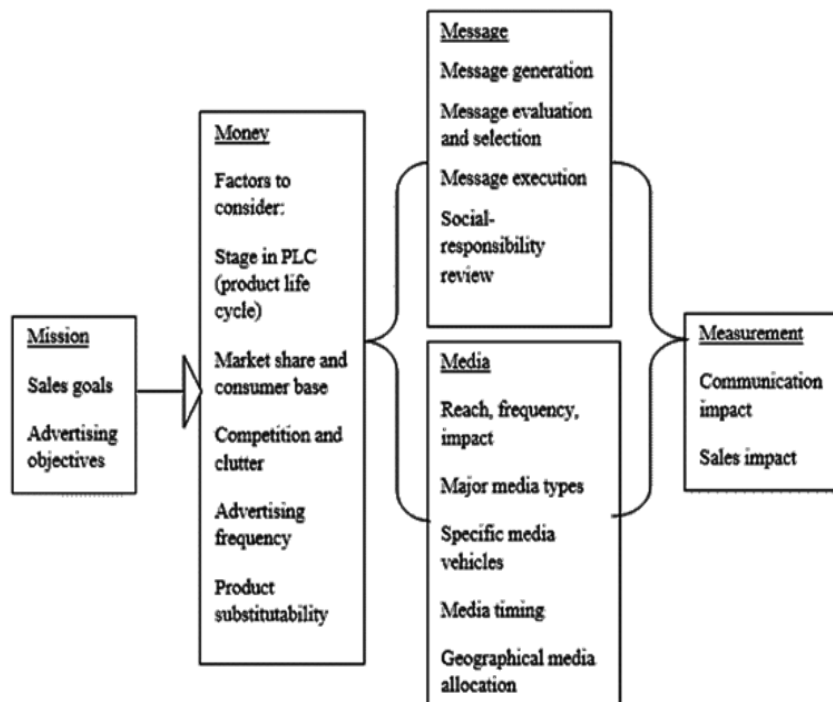

Figure 1.12 – 5M's of Advertising

Source：Kotler, P., & Keller, K. L. (2012). Marketing Management: Philip Kotler, Kevin Lane Keller. Pearson.

Branding provides clear target orientation, value orientation, audience interest appeal, construction of visual identity, and humanized character. From the strategic to the tactical level, the theoretical branding model provides an actionable perspective and vehicle for the framework of the marketing communication discipline.

Brand Image is a creative concept developed by David Ogilvy, founder of the world-

renowned advertising agency Ogilvy & Mather Worldwide, in the mid-1960s. He believes that brand image is not inherent to the product but is derived by consumers from the product's quality, price, and history. The idea is that each advertisement should be a long-term investment in what constitutes the entire brand. This theory is also regarded as the foundation of modern branding.

The primary goal of advertising is to create an image for the brand. Any advertising is a long-term investment in the brand, and it is more important to portray the brand image than to emphasize the product's specific features. For some consumers, the importance of psychological benefits is even greater than substantive benefits, and consumers who seek luxury goods are one of them. Later theories such as "corporate character theory" and "brand personality theory" are also based on the brand image theory. The classic example of this theory is the image of "cowboy," "horse," and "meadow" created by David Ogilvy for Marlboro cigarettes. As a result, Marlboro's world gradually expanded and gained unprecedented success. Marlboro's rugged and bold image has been deeply rooted in the hearts of the world ever since.

CIS is the abbreviation of Corporate Identity System. It is divided into three parts: Mind Identification (MI), Behavior Identification (BI), and Visual Identity (VI). Mind identification (MI) mainly includes the following aspects or components: corporate mission, business purposes, and corporate culture. Behavior identification (BI) is the externalization and expression of the corporate philosophy identification system, such as the code of conduct for employees. Visual Identity (VI) is composed of various visual design symbols and their various application factors that reflect the corporate philosophy, business nature, and behavioral characteristics. It is the concretization and visualization of the corporate philosophy system and behavioral identification systems, such as corporate logo and appearance design. Each part of the system is not isolated. They are connected. MI is the fundamental of CI, the elemental force driving people's behavior, and the ideology can be established only by inculcation. BI is the leading CI and relies on management to establish professional consciousness and civilization cultivation. VI visual is the packaging of CI, its most fundamental function is to identify the need for a strong visual impact. The style of visuals should be consistent with the behavior and philosophy.

Don E. Schultz, Stanley L. Tannenbaum, and Robert F. Lauterborn co-authored Integrated Marketing Communications: Pulling It Together & Making It Work in 1993. Integrated Marketing Communications: Pulling It Together & Making It Work. In their book, they discuss the model, which divides integrated marketing communications into five steps: Database development of customer and prospect, Segmentation/classification of the customer, contact management, and communication development. Contact management, Develop communications objectives and strategy, and Select marketing communications tactics [3]（Figure1.13）.
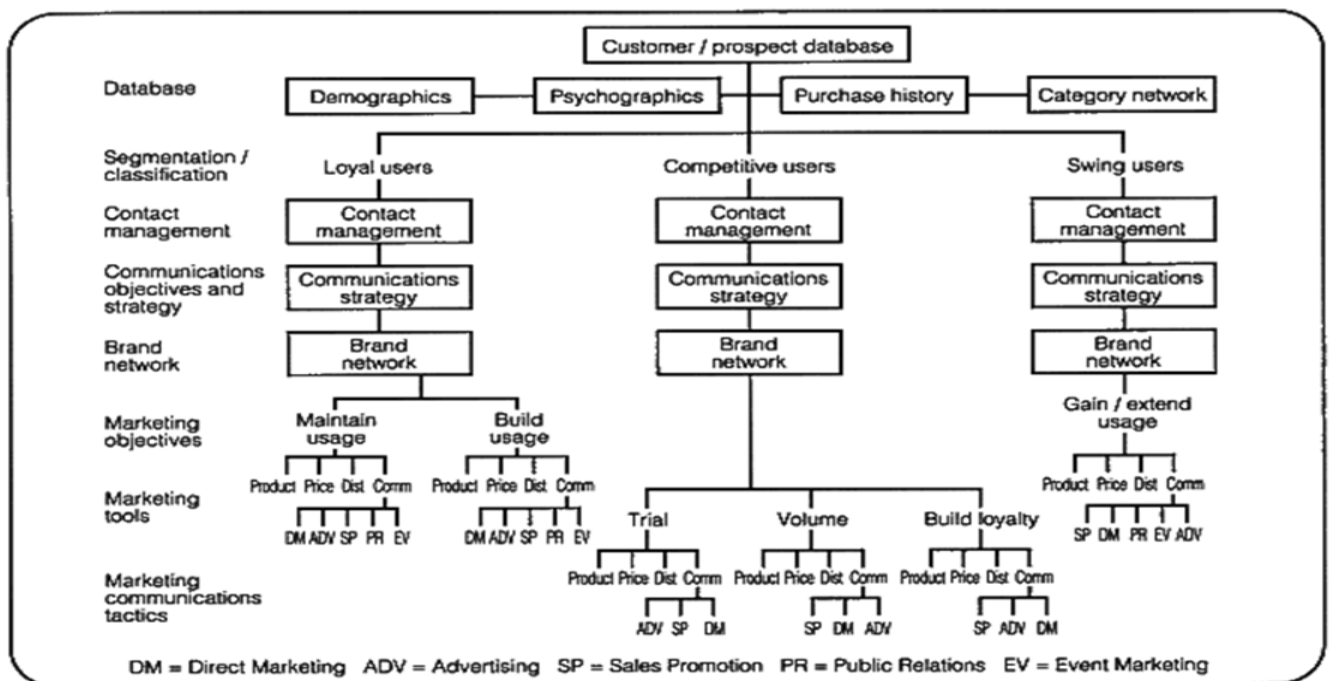

Figure 1.13 – Schultz-Tannenbaum-Lauterborn IMC Planning Model

Source：Schultz, D. E., Tannenbaum, S. I., & Lauterborn, R. (1993). Integrated Marketing Communications: Putting It Together & Making It Work. McGraw-Hill.

The model reflects the importance of "communication tactics" in marketing: marketing is communication, communication is marketing, and the two are inseparable. The model uses a database, consumer segmentation, contact management, and communication strategies to develop the main body of integrated marketing communication activities, i.e., a combination of communication tactics: advertising, public relations, sales promotion, direct marketing, events, in-store retail activities, trade shows, and packaging. At the same time, the model expresses that integrated marketing communication "tactics" depend on several "marketing strategy" elements, such as consumer segmentation, Customer Contact

Points, communication strategy, and external environment. Overall, the model emphasizes the basis of consumer segmentation, clarifies the orientation of communication strategy, grafted on the concept of contact management, and integrates several communication methods, but does not yet mention the budget management of integrated marketing communication and control of feedback results.

George E. Belch and Michael A. Belch [128], in Advertising and Promotion: An Integrated Marketing Communications Perspective, incorporate the idea of integrated marketing communications into their discussion of advertising and promotional activities. They argue that integrated marketing communication relies on careful planning and effective control of promotional activities. George E. Belch's theoretical model of integrated marketing communication promotion process with "advertising and promotion" as the core idea includes the following seven aspects. (1) Marketing plan review: It includes examining the overall marketing plan and objectives, the role of advertising and promotion, analysis of the competitive situation, and assessment of the environmental impact. (2) Analysis of promotional program posture: Internal and external analysis mainly contains two parts. The internal analysis includes the company's ability to execute the promotional program, the evaluation and selection of advertising agencies, and the review of the results of the implementation of the previous program. The external analysis includes consumer behavior, market segmentation, target marketing, and market positioning. (3) Communication program analysis: analysis of audience response, information resources, information channels, and other factors, as well as determining communication objectives. (4) Budget decision: Initially determine the marketing communication budget and allocate the initial communication budget. (5) Development of integrated marketing communication programs: advertising, direct marketing, promotion, public relations, and personnel sales. (6) Integrating and implementing marketing communication strategies: integrating promotional mix strategies, creating and producing advertisements, designing and implementing sales promotion programs, designing and distributing sales promotion materials, and designing and implementing public relations programs. (7) Monitoring, evaluating, and controlling integrated marketing programs: evaluating the results and effectiveness of promotional programs, controlling and adjusting promotional strategies based on predetermined criteria
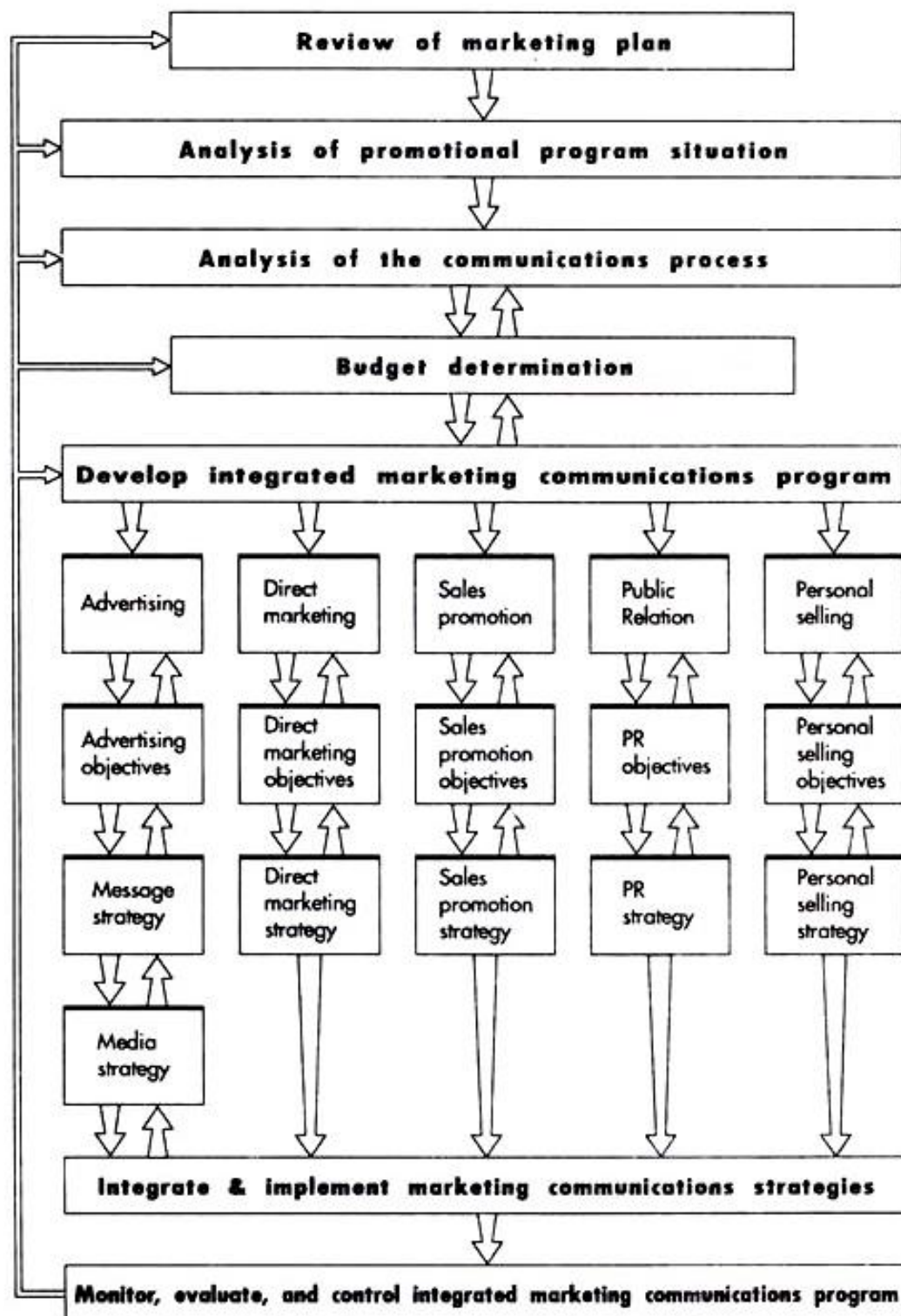
(Figure1.14).

Figure 1.14 – Belch's IMC Planning Model

Source：*Belch, G. E., & Belch, M. A. (2001). An integrated marketing communications perspective. Advertising and Promotion, 65-79.*

As can be seen in Figure 1.14, George E. Belch, in addition to designing a complete

integrated marketing communication plan model, also divided the integrated marketing communication program into five types of advertising, direct marketing, promotion, public relations, and personnel sales, making the model gradually clear the implementation path of the communication program. In addition, the model has a " control " feedback function and proposes monitoring and evaluating the overall model. Meanwhile, George E. Belch's model briefly mentions the construction of communication touch points and media mix.

In his third book, " IMC, the next generation: five steps for delivering value and measuring returns using marketing communication," Schultz, Don E presents the "Five-Step Model for Integrated Marketing Communications"[129](Figure1.15). This process is a series of intrinsically linked, customer-focused management steps that have proven effective for many companies worldwide over the past few years. Through these steps, companies can plan and execute fully integrated marketing communications campaigns that involve many of the traditional functional areas of marketing and communications. However, these can only be combined in a new, more effective, and efficient way that makes the overall effect far greater than the sum of its parts, a five-step process designed to facilitate both short- and long-term tracking and evaluation of the above increments. Figure1. 16 provides a comprehensive view of each step's specific components, reflecting that the process is a closed system in which the output of one phase is used as input for the next planning cycle.

Figure 1.15 – The 5-Step Integrated Marketing Communication Process

Source：Shultz, D. E., & Schultz, H. (2003). IMC, the next generation: five steps for delivering value and measuring returns using marketing communication. McGraw Hill Professional.

Step 1: Identify existing customers and prospects. Integrated marketing communications need to identify existing customers and prospects through behavioral data, i.e., what they have done, or what actions they may take in the future because they were influenced in some way. In the first step of the integrated marketing communications process, marketing communications managers need to identify customers based on behavior and understand why these behaviors are occurring. For this reason, the first step requires collecting different types of information, including demographic information, geographic information, psychographic information, and other relevant data.

Step 2: Assess the value of existing and potential customers. Since value-oriented integrated marketing communications focus on the financial impact and effect of marketing communications activities, the second task of the process is to determine a predicted financial value for existing customers and prospects, i.e., to specify the revenue they contribute to the company. This step is critical because it is the basis by which the company decides to allocate its limited resources to whom and how. The second step begins with a clear understanding of how the company's target customers use its products and services in the present and also takes into account the future potential, which is reflected in the current or future revenues contributed to the company. Once revenue size is determined, specific, measurable behavioral goals are also established to acquire customers, maintain customers, grow customers, or convert customers based on the particular circumstances of each target group.

Step 3: Develop communication messages and incentive programs. That is, plan persuasive content for the company's target customers and deliver it. The goal is to design highly relevant and compelling communication campaigns that reach existing and potential customers at the point in time when they are most receptive to these communications. These practices require marketers to have a comprehensive, in-depth understanding of each customer segment's brand exposure and brand network profile. Where do they engage with the brand, and what "network" of associations have they built about it? The marketer can only decide how best to use the essential marketing tools (product attributes, pricing policies, distribution or channel strategies, and communications) if he or she has planned the appropriate messaging and incentive program strategies.

Step 4: Evaluate the return on customer investment. In the integrated marketing communications approach, financial value is a very critical indicator. On this basis, marketing communications managers estimate the financial results of all the company's marketing communications activities. In integrated marketing communications, managers can demonstrate that marketing communications investments yield positive returns and refine which programs are the most effective and efficient.

Step 5: Post-event analysis and future planning. The final step of the integrated marketing communications process is further divided into the following steps. The first is determining a relevant period to implement the integrated marketing communications plan in the marketplace. The second is to evaluate the plan when it has been implemented. The third is to develop a strategy for reinvestment. In the integrated marketing communication process, marketing communication is no longer seen as a set-in-stone plan. Its beginning and end do not precisely follow the company's fiscal year or financial reporting period.

Chinese scholars Su and Li proposed an interactive, integrated marketing communication model diagram (Figure1.16) in "Exploring the application of interactive, integrated marketing communication in China's telecom market in the 3G era".
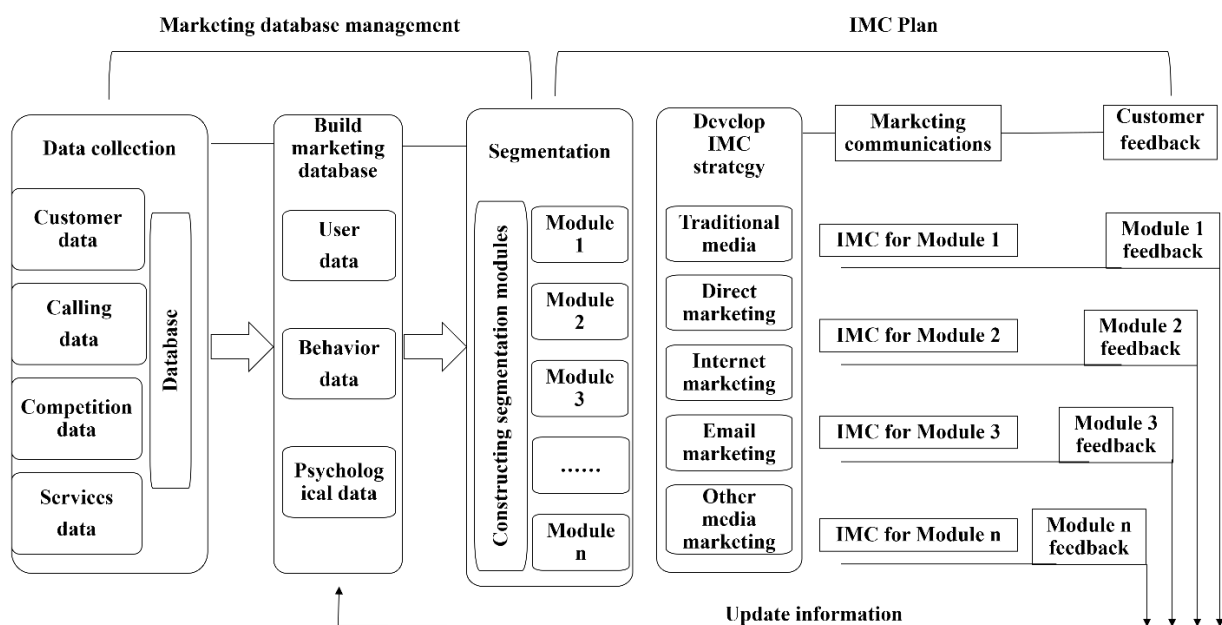

Figure 1.16 –Interactive, integrated marketing communication model

Source：   *Su, Y., Li, X. Y, Exploring the application of interactive, integrated marketing communication in China's telecom market in the 3G era [J]. Marketing Guide, 2009 (4): 59.*

The authors proposed an interactive, integrated marketing communication

implementation model for China's telecom market in the 3G era. In this model, interactive, integrated marketing implementation is divided into data collection, building a marketing database, constructing a customer segmentation module, developing an integrated marketing communication strategy, implementing integrated marketing communication, obtaining customer feedback, and revising a marketing plan. Database-based marketing planning and integrated marketing communication planning are trendy in the new media era. Especially the "big data" marketing trend, after Don Schultz's 2012 Baidu speech, has become more attention and recognized. "Let the data speak" has also become an essential voice in integrated marketing communications. However, we also see that data records are only a part of consumer behavior, and the influence on the development of integrated marketing communications strategy has limitations.

Conclusions to section 1

The purpose of this chapter is to define the basic concepts of this study, analyze the current research situation, the basis of research theories and methods, to clarify the scope, direction, and focus of this research. This paper first discusses the concept and types of marketing communication as the object of management in economics and focuses on the definition and development process of integrated marketing communication. Secondly, we comprehensively consult and collect the relevant literature, sort out the relevant research on marketing communication in HEIs, and clarify the current research direction. Finally, this paper explains the basis of relevant theories and methods. We focus on the classical theoretical models closely related to this study, such as marketing, communication, advertising, brand, and integrated marketing communication. This chapter will provide the necessary theoretical and methodological support for this research.

SECTION 2. THE CURRENT STATE OF THE PROCESS OF MANAGING THE SYSTEM OF MARKETING COMMUNICATIONS IN UNIVERSITIES

2.1 State and dynamics of development of marketing communication systems in universities of China

In China, there is no special marketing management department in HEIs. The marketing communication responsibility of HEIs generally belongs to the news publicity department of HEIs, namely the Publicity Department of the Party Committee. The Publicity Department of the Party Committee in HEIs is mainly responsible for ideology and news information publicity. In a sense, news publicity and information communication work is the marketing communication work of HEIs. The marketing communication work mechanism of HEIs is also the news publicity work mechanism, which is led by the highest department of the university, managed by the Party, government, and labor body, coordinated by the Publicity Department of the Party Committee, and relevant departments and universities participate in jointly. In recent years, with the arrival of the network era, to cope with the new situation and tasks brought by the continuous expansion of information channels for teachers and students and the continuous growth of schools, HEIs have set up a news center (converged media center). Through the work of the center to strengthen internal and external news and information publicity to enhance the popularity, reputation, and social influence of schools, better build the brand and image of schools and strive for more social resources. The news center (converged media center) is usually subordinate to the Publicity Department of the Party Committee, and the personnel consists of the original members of the Party Committee. At the same time, the person in charge is the Director of the Publicity Department of the Party Committee. On the portal websites of publicity departments of the party committee in many HEIs, we can see that the responsibilities of the Publicity Department of the Party Committee overlap with those of the news center (or converged media center). The internal news and information publicity and external information publicity tasks of HEIs are generally undertaken by the news center (or converged media center). HEIs without a news center (or converged media center) will set up the publicity division, network information division, and other divisions at the publicity

department, responsible for internal and external information communication work and completing HEIs brand marketing through news communication and public opinion guidance.

For example, from the portal website of the Publicity Department of the Party Committee in Tsinghua University, China, we see that the Publicity Office of the CPC Tsinghua University Committee is a functional department of the CPC Tsinghua University Committee, and the News Center is an administrative function department of Tsinghua University. They carry out joint office and hang the board of the Global Communication Office. The Converged Media Center of Peking University is affiliated with the Publicity Department of the Party Committee. It is a professional public service unit serving the production of news content, campus media construction, and communication operation, mainly responsible for topic selection planning, editing, photography and video, audio and video production, new media product production, and news visual image design for important news and information manuscripts; responsible for the operation of the school newspaper, Chinese and English website, news and culture website, ensuring the timely disclosure and update of information; responsible for the operation and maintenance of new media platforms such as official WeChat, official Weibo, Xue xi. cn, WeChat Mini Program, Toutiao, baijiahao.baidu.com. In the significant topic selection and daily reports, the Converged Media Center cooperates with the university's print, network, and radio & television media to carry out content linkage, enrich the level of news reports and improve the effect of news reports. In addition, it is responsible for the operation and maintenance of official Bilibili, official TikTok, official Kuaishou, CCTV video, and other video accounts, as well as content release and live streaming events. It is also in charge of planning and producing visual products and guiding the operation of the campus (student) radio station.

With the continuous growth and development of HEIs in China, campus activities such as scientific research, teaching, discipline, talent team building, exchanges and cooperation at home and abroad, as well as students' thoughts, study, and cultural life are increasing. Meanwhile, with the continuous development of network information technology, the number of new media marketing platforms is also increasing, and the workload of information gathering, editing, and broadcasting is also increasing rapidly. The

workload becomes very heavy. Besides, the marketing communication consciousness of secondary units in HEIs is also gradually enhanced, and the demand for the quality and quantity of news and information manuscripts continues to grow. Thus, the working team of the news center (or converged media center) of HEIs in China generally has the problem of insufficient staff and excessive work intensity. Many HEIs will develop a team of correspondents for each secondary college, department, and directly affiliated unit, requiring each college, department, and directly affiliated unit to be equipped with at least one correspondent. In addition, many HEIs will also set up a news agency or undergraduate press corps at the news center (or converged media center), regularly inviting professional media personnel to conduct special news training for the team of correspondents and members of the undergraduate news agency to improve their news level. These measures have considerably eased the stress of school marketing communication work. The news center (or converged media center) will make a comprehensive judgment on the value of news and information publicity activities according to the applications submitted by each college and institution and make a reasonable and scientific overall arrangement for the reporters of news activities. For example, significant activities, major events, or information communication tasks with high news value are undertaken by the staff of the news center (or converged media center).In contrast, the activities or events that are less newsworthy are assigned to the correspondents of the unit in charge of the activity or the undergraduate journalists of the undergraduate news agency.

Such a move not only ensures a timely and rapid response to news events and meets the growing demand of teachers and students for news publicity but also guarantees the coordination and dispatching of publicity task collecting and editing personnel for major college activities, significant events, or information with high news value, effectively safeguarding the marketing communication effect of school brand. In this way, a marketing communication pattern under the leadership of the Deputy Secretary of the Party Committee and in charge of the Publicity Department of the Party Committee and the news center (or converged media Center) will form, in which all colleges, units, directly affiliated departments, and the undergraduate news agency work together for the development and construction of the university.

In Chinese, media refers to a person or thing that connects two sides (people or things). All substances that can make people, people, and things or related to each other are media in the broad sense. In English, media appeared around the end of the 19th century and the beginning of the 20th century. It refers to the medium or instrument that connects things. In the works of McLuhan, "The medium is the message." All media may have a connection with the human body. Media exists everywhere all the time [131]. The information communication media of HEIs is an important channel, tool, and means of information publicity and image building in HEIs. In the campus information communication media of Chinese HEIs, traditional media mainly include campus newspapers, campus radio, student publications, and university websites.

The campus newspaper of an HEI is internal and is usually managed, edited, and published by the Publicity Department of the Party Committee (news center), which is mainly responsible for news information publicity and public opinion guidance. Almost all HEIs in China have their campus newspaper and issue one every two weeks or every month. According to publication time, there are quarterlies, monthlies, and weeklies. In The Power of Newspapers, Martin Walker, a British, said, "The history of a newspaper is the history of the country that publishes it, and a newspaper is a diary of national culture." The campus newspaper of an HEI plays a vital role in inheriting college history and communicating campus culture. Campus newspapers of Chinese HEIs have experienced a long period from germination to rapid development. Over the past 100 years since its birth, it has experienced three historical periods: the late Qing Dynasty, the Republic of China, and New China. It has grown from nothing and has written a brilliant page in the campus culture education, communication, and even the history of higher education. According to the data, the earliest campus newspaper in China is The School Journal of the Peiyang University of Peiyang University in Tianjin, founded in 1895. It has a history of 120 years. There are no less than 1,000 kinds of campus newspapers sponsored by various HEIs in China, accounting for about 30% of the total number of newspapers in China. There are not only many kinds of campus newspapers in China, but many of them have high popularity and reputation, which play an essential role in the publicity and building of HEIs brand. For instance, the Campus Newspaper of the Renmin University of China has extensive connections with numerous

domestic news media and the campus newspaper of significant universities but also has extensive study and exchange with foreign HEIs, which significantly influences society.

Campus radio is also a meaningful way to market the HEI brand. Based on its cross time and space, timeliness and acceptability, campus radio also has the functions of conveying humanistic spirit, cultivating students' sentiment, and enriching students' campus life, in addition to publicizing college policies and guiding campus public opinions. Campus radio in Chinese HEIs is generally attached to the Publicity Department of the Party Committee (news center) or the School Youth League Committee, and it is active in the forefront of campus media as the communicator of campus information and the guide of students' thought. For example, Peking University Radio, founded in the 1950s, is one of the leading media of Peking University, and it set up news programs such as news brief, communication and interview, and cultural programs like music and literature. Besides, Peking University Audio Library was created. The permanent news programs include "the Unnamed Daily Broadcast news brief program," "10 minutes every day", and "reporting current events in Peking University." "Focus of Peking University" (a communication program), 20 minutes every issue, make detailed and in-depth reports on important news of Peking University. "Face to Face of Peking University"(an interview program), 20 minutes every issue, is a talk program in which people involved in a news event are interviewed about the news event and its background. "First Voice on Scene"(an instant report program) conducts on-the-spot interviews on major and emergency events at Peking University and releases them rapidly. The producer produces the cultural program according to the plan, and no permanent program is set. It usually includes programs suitable for pure voice, such as literature, music, and talk, and cultural life programs close to teachers and students. The broadcasting channels of Peking University Radio include audio mobile apps and the university public address system. Besides, it actively explores the artificial intelligence development trend of sound media. It uses voice programs as the medium to create an elegant campus culture atmosphere, influencing students of Peking University silently.

Since the 1980s, TV stations of Chinese HEIs have gradually risen. With the progress of society and the development of technology, TV stations of HEIs have become one of the important communication ways to reflect campus cultural life and serve students' learning

life. Relative to the campus newspaper, student journal, and campus radio, TV stations of HEIs are characterized by sound and image synchronization, vividness, and easy understanding. For example, PKU TV, founded in October 1989, is one of China's earliest HEI TV stations. Currently, the cable TV network of the university covers three areas (main campus, surrounding family area, and student canteen). About 6,000 households have access to the network, covering more than 50,000 people. In addition to cable TV, video programs will be pushed through WeChat, Weibo, and other video websites. For major campus activities such as school opening ceremony, graduation ceremony, and New Year's Party, PKU TV will conduct TV and online live streaming. PKU TV now has six fixed programs and several non-fixed programs. The six fixed programs are News of Peking University, The Eighth Day, Hear, Beautiful Life, PKUPK, and Film & Television 1+1. The non-fixed programs are produced irregularly, including News Through Train, Scenery of Peking University, Glory of Peking University, and Chinese Dream • Peking University Dream. News of Peking University is a weekly video news program for communicating campus news. It is premiered at 7:35 pm every Friday on the PKU TV channel and repeated every evening and noon. It mainly covers important events and activities of Peking University, essential activities of university leaders, various departments, scientific research achievements, and foreign affairs activities. The Eighth Day is a weekly news program produced entirely by student journalists, and it is premiered every Monday night. The content covers two categories: news and event investigation, and focuses on the big and small things happening in Peking University from students' perspectives. Hear is a weekly news commentary program premiered every Tuesday. It pays attention to focus topics of Peking University and society and conducts in-depth thinking and analysis, reflecting college students' social responsibility and critical thinking ability. The main content of Film & Television 1+1 includes microfilms and film reviews. The microfilms are prepared, directed, and acted by students, which are pretty creative and in-depth. It is a weekly program premiered every Wednesday night. As an interview program of Peking University, "Beautiful Life" is a biweekly program premiered every Thursday night. PKUPK is a fact view PK entertainment program with the theme of campus life. It is a weekly program premiered every Friday night. News Through Train is an irregular program reporting major

news of Peking University, and only a news event is reported in each issue. The event is collected, edited, and broadcast on the day it happens. The scenery of Peking University is a non-regular program recording scenery of Peking University, and it is also a window for the audiences inside and outside the university to understand Peking University. The glory of Peking University is a non-regular program especially reporting scientific research achievements of Peking University, telling the audiences the significance of the scientific research results and the production process. Chinese Dream • Peking University Dream program interviews teachers and students of Peking University listens to them talk about the Chinese dream and Peking University dream in their minds, and shows the care of teachers and students of Peking University about the motherland, their positive ambition, and style.

Moreover, the campus talk show Talk about the Communication University of China, set up by CUC TV, invites teachers and students inside and outside the university as the guests to talk about hot campus topics in the studio, with the characteristics of openness and freedom. It provides a platform for teachers and students to express their opinions and show their personalities. One Day is a campus figure documentary created by the Anhui University TV station. It records the campus life of college students from a unique perspective and thus becomes a distinctive way to show the style of college students and the image of an HEI.

As one of the critical ways for HEIs to carry out cultural publicity, spiritual guidance, and information communication to students, student journals mainly refer to all kinds of magazines and periodicals oriented to college students and reflect their spiritual outlook and campus life. According to the different contents, college student journals mainly include academic journals, literary magazines, employment magazines, current politics magazines, scientific journals, and news magazines, such as FEATURE (News Topic Practice of Peking University Students) news magazine founded by PKU School of Journalism and Communication News Agency in December 2004, news magazine - Students of Nanchang University created by the Student Reporter Union of NCU, He Qiu literature magazine created by a student organization of Zhejiang University - He Qiu Studio, Longitude and Latitude of Xiamen University • Touch fashion magazine, and Longitude and Latitude of Xiamen University • Documentary current politics magazine set up by Student Committee

of Xiamen University. Compared with campus newspapers, these journals are not only based on students but also closer to students. They are rich in content, diverse in types, and more popular and exciting in language, so college students favor them more. Under the traditional media, student journals are the most crucial channel for students to touch information. For HEIs, student journals are one of the easiest ways for the communication information of HEIs to enter students' hearts.

In the 1990s, the Internet entered China. To better carry out education and research work, the national education and research website was initially established in China, connecting most HEIs in China. Then, HEIs in China successfully set up portal websites. Compared with Weibo, WeChat, and other campus media communication platforms emerging in recent years, the author classifies the mature and stable portal websites of Chinese HEIs that have developed over 20 years as traditional campus marketing communication media. Presently, the portal websites of Chinese HEIs have become the most convincing communication way to convey campus information and show the image of HEIs to students and society. A study by Abrahamson, a foreign scholar, published in 2000, shows that browsing the official website of an HEI is the second most crucial channel for learning about a university, only second to visiting the campus. When we search for a university on Google or Baidu, the top information ranking is usually the university's official website. The official website of an HEI is one of the most important "business cards" to show the image of an HEI. Besides, more and more HEIs adopt their official websites as an essential marketing and public relations tool. Through a long development period, the portal websites of Chinese HEIs have been constantly improved, and various professional and subdivided websites have emerged. For example, each university's recruitment and employment network provides professional services for school recruitment and graduate employment; the postgraduate entrance examination website provides the latest information for postgraduate entrance examination students. There are also some unique websites, like the student portal website of Wuhan University - ziqiang.net not merely provides general network information for students at Wuhan University but also provides a stage for students to show their personalities. These HEIs portal websites provide platforms and services for students to study and work and a suitable environment for teachers and students to discuss

and communicate.

A strong authority is the main characteristic of traditional marketing communication media in Chinese HEIs. The traditional newspapers, magazines, radio, and television stations of Chinese HEIs are subordinate to the relevant departments of universities and play a vital role in the campus marketing communication media. These traditional marketing communication media are the "speaker" of a university, conveying the "voice and image" of the university, so they have substantial authority in HEIs, and high credibility among teachers and students. In addition, whether HEIs issue newspapers and journals or use the campus radio or TV station to report news and communicate information, the single and closed traditional media environment will also make teachers and students accept and believe the authenticity of the information. The second distinctive campus culture. Traditional media will be restricted by their communication characteristics and audience coverage, and the marketing effect is often limited within the university or a particular range. Thus, the intensity and effect of external information communication through traditional media in the traditional media environment are not apparent. Therefore, most HEIs use traditional media as a means of internal information communication, and administrators mostly employ traditional media to concentrate on internal articles and the university's situation. If things continue this way, these media forms have the unique cultural characteristics of respective universities. Third, reasonable control. In the traditional media environment, HEIs hold the initiative and decision-making power of information release and communication, while teachers and students are passive receivers of information. Except that relevant departments strictly control the content of information, the publicity form, and discourse of campus newspapers and periodicals, radio and television stations in HEIs also have specific templates and rules. Hence, these traditional ways of communication have reasonable control over HEIs. It is also the case for the major newspapers and TV stations. They publicize and report the news and events of HEIs to benefit social development and conform to the country's overall situation.

However, we also see that the traditional media of HEIs have the following problems in the marketing communication process: firstly, the content is single, and the brand interpretation is insufficient. Since HEIs limit the traditional media of HEIs in terms of the

communication audience, content, and form, the communication content is mainly the university itself, and there are few reports on other universities and foreign HEIs. As a result, sources of information are single, and the news facts reflected are relatively narrow. Moreover, the traditional media of HEIs are usually used to communicate campus policies and systems and promote culture but lack flexible and rich ways to interpret the HEI brand from multiple perspectives. The homogenous official terms and communication modes of HEIs make the marketing communication among HEIs lack unique differences. Secondly, the interactivity is poor, making it difficult for brands to enjoy widespread support. Under the impact of the new media environment, one of the most significant defects exposed by traditional media is the lack of communication with the audience and poor interactivity[132]. The traditional campus media also have the same deficiencies. For example, the communication method is monomial, and teachers and students cannot participate in and discuss the most reported news content. Teachers and students passively receive information, and their enthusiasm to participate in information is not high. In addition to the information related to their interests, they ignore most of the information released by HEIs. Thus, in the minds of teacher and student audiences, there is no apparent cognition of brand connotation and difference between these HEIs[133]. Thirdly, both the technology and the scope of brand communication are limited. In the traditional media environment, information communication is limited by time and region, and the scope of information communication in HEIs is limited. The traditional campus newspapers, campus magazines, campus radio, and TV stations of HEIs are all campus internal media. The communication audiences of these media are teachers and students at the university, and it is difficult for outsiders to learn about the information of these media in detail. For students, it is hard for them to learn about external information. For HEIs, the news information of HEIs is challenging to be understood by the outside world, which restricts the brand communication of HEIs to a great extent.

Now, the mobile Internet has broken people's original way of life and changed the way of accessing information, breaking through time and geographical restrictions. Traditional media communication can no longer meet people's demands for information acquisition. New media, a product of the information technology revolution, integrate

pictures, sound, and video, enhancing the fun of reading and meeting people's needs for fragmented time reading. In addition, new media can realize the audience's independent choice and form an excellent two-way interaction of information, which makes the media and users stickier. Under the background of mobile Internet, HEIs use new media platforms such as short videos, WeChat, and microblogs as an essential way to disseminate information and brand marketing. New media marketing improves school brand influence, increases school visibility and reputation, enhances internal cohesion and centripetal force, and forms a positive interaction between HEIs and the outside world. Among the campus information communication media in Chinese HEIs, the new media mainly include Microblog, WeChat public website, and short video platforms (TikTok, WeChat short video, Kuaishou.).

A microblog is a platform for sharing, spreading, and acquiring information based on user relationships. Users can form personal communities through WEB, WAP, and various clients, update information with text, pictures, and videos in about 140 characters and share them instantly, which has the characteristics of fast-spreading, comprehensive coverage, and significant influence. As a low-cost, high-efficiency, and wide-ranging communication platform, microblogs are open, convenient, and friendly, which helps to bring the university closer to its followers and facilitate them to express their opinions freely. For example, Henan University's official microblog is named "Xiaohe," which personalizes it and uses pronouns to make it livelier. The official microblog of Zhengzhou University is close to the daily needs of students and faculty and speaks for students, both sharply and tenderly, by posting exciting and hot topics on campus or in the community and inviting students to participate. Henan University of Chinese Medicine microblog insists on producing interactive topics, good morning and night topics, exciting stories, knowledge sharing topics, and campus scenery topics. The text usually ends with questions or interactive expressions, often with naughty emoticons to attract followers' attention and comments. This lively interaction with fans is more likely to attract and increase attention. In addition, the microblog of HEIs can timely, comprehensively, and accurately release the progress of the school's work in talent cultivation, scientific research, social services, cultural heritage, and innovation. Relying on the Weibo platform, teachers and students are organized and

mobilized to plan attractive jointly, highly participatory, and interactive online promotional activities to showcase the changes and achievements of the university in promoting economic and social development, with remarkable marketing effects. In general, current Chinese universities can use the interactive and immediacy of Weibo to effectively strengthen communication with the outside world and continue to gather and integrate resources. At the same time, promote teacher-student exchanges and provide services for teacher-student learning and learning to highlight the campus-style and teacher-student spirit and effectively market the university brand.

WeChat is a chatting tool that can send voice messages, text, pictures, and videos over the Internet, and it has been trendy since it was developed and launched by Tencent in January 2011. About WeChat marketing of HEIs. The flexible and interactive nature of WeChat makes it easier for HEIs to reach their audiences and makes HEIs more "reachable" and impressive. Therefore, WeChat has become one of the most popular and convenient ways for Chinese HEIs to disseminate information, showcase campus culture, promote unique campus content, and interact with students and teachers. The official WeChat of the HEIs releases the accumulated school history, proud school achievements, positive energy-filled role models, and familiar and friendly campus scenery, thus triggering emotional resonance, awakening shared fond memories, and increasing the attention of the public number. The article "Alma Mater is 108 years old, what do you want to say" pushed by Henan University's WeChat platform stood out with 100,000+ reads and 2,102 likes. The article's title is eye-catching, and the main idea of the article is clearly stated while leaving enough space for interaction with fans, which is a prominent marketing effect. In terms of content, the article closely follows the hotspot of "university celebration." It starts from emotions, combining Henan University's history with the campus's beautiful scenery in four seasons, expressing good wishes for Henan University, and arousing the resonance of alumni. The strength of this article is that it combines the hot topics at the right time and captures the proper focus of the article. In addition to this, the targeted and phased release of information by HEIs through the WeChat platform to guide the rumor spread can effectively shape the good social image of the university and prevent adverse news events of HEIs from spreading rapidly in a viral way and triggering public opinion crisis (Wu

Lingling, 2021). In a word, WeChat has become an essential medium for teachers and students to communicate, share and comment on various information in campus life, an essential platform for the public to understand the information of HEIs, and an authoritative platform for branding and image communication of HEIs. The WeChat public numbers help HEIs build a good brand image and enhance their popularity, reputation, and social influence through its marketing advantages and high-quality marketing communication content.

Short videos are developed based on the development of mobile Internet, they are disseminated through mobile Internet, following the trend of fragmentation time, and the short, fragmented content dissemination meets users' needs. This entertaining and interactive communication is very much in line with young groups and fashion trends. According to the "2020 TikTok College Student Data Report" released by TikTok, the number of college student users has exceeded 26 million as of December 31, 2020, accounting for nearly 80% of the total number of college students in China. Based on the high-frequency usage of new media and the great attention to new media information among contemporary students, HEIs have seized the short video windfall, built short video platforms, and strengthened short video operation. 799 HEIs in China have entered new media platforms such as TikTok, Kuaishou, and B Station to enhance student interaction and launch higher education brand marketing. Comparing the two platforms, TikTok and Kuaishou, Chinese HEIs have more total followers and more significant influence on the TikTok platform, which may relate to the short video platform's audience and promotion efforts. Among the HEIs in Henan Province, Shangqiu Institute of Technology has performed more outstandingly in the marketing operation of short video platforms, entering two short video platforms, TikTok and Kuaishou, and its short video position building has gained strong momentum, with a total of 347,000 fans on the two platforms. The released contents mainly focus on students' daily life, campus food, and school activities, and the scenes are mainly located in the school canteen, playground, classroom, and dormitory. The content is exciting and diverse, primarily responding to the issues and topics of most concern in the daily life of college students. The text is short and exciting, with a fresh style, using storytelling and exciting editing techniques to increase the video's ornamental. It is worthwhile to promote Shangqiu Institute of Technology's official TikTok to other HEIs

because it accepts submissions from all students and faculty members and receives works from a wide range of channels, making the platform more diversified. In addition, using the school's characteristics and advantages to promote the correct values and encourage young people to work hard on the short video platform will also get more likes and retweets. Henan Police College uses TikTok to show students' daily training. It selects the school's most realistic contents as short video materials to promote the spirit of students and school scenery, attracting the audience's attention and effectively improving the brand marketing of HEIs. In general, Chinese HEIs have not paid enough attention to the construction of short videos, and most have no or few updates. If short videos can be deeply integrated with other social network media, it can lead to greater exposure of video content on their platforms in other social network media.

Chinese HEIs have taken advantage of the rapid dissemination and interactive linkage of new media to design and produce engaging, interactive content and highlight HEIs' brand characteristics through new media platforms such as Weibo, WeChat, and short videos. However, different new media marketing channels will be fragmented without an excellent macro design, and marketing effectiveness will be weakened. Therefore, HEIs should fully integrate all kinds of communication channels, establish all-media thinking, build a new media communication matrix, and expand the new media marketing communication effect. Facing the current situation that new media marketing in higher education is still in the exploration and initial stage, new media marketing in higher education should follow. First, new media can adopt a holistic way of thinking in content distribution to avoid content re-distribution and omission. Secondly, the new media platform should maintain a specific update frequency to retain the fan ownership rate and make the new media account gain longevity. Thirdly, the new media should improve content creation, fully take advantage of the school's unique talent and intellectual advantage, and produce high quality, high likes, and high spread works on the premise of profound mastery of the new media platform communication law. Fourthly, the new media marketing department of the school should strengthen the analysis of marketing and communication effects and provide new ideas for the next new media selection planning by analyzing the communication channels, communication trends, and reproduction of specific contents. Fifth, it is necessary to train

professional talents within HEIs and make full use of big data to enhance the ability of public opinion analysis and build public opinion early warning and feedback mechanisms to ensure that information favorable to the university is quickly and effectively led and negative impacts on the university are dissipated.

There is a wide range of marketing communication media in Chinese HEIs, but the communication contents generally tend to be similar. In general, the contents mainly cover the following: the reports on learning and implementing the lines, principles and policies of the Party and the country, and carrying out the vital work plans and the spirit of essential meetings of relevant departments at higher levels; relevant information of crucial work, significant decisions, essential meetings and large-scale activities of the university, and reports of all kinds of major activities and conferences attended by university leaders; significant achievements of the university in talent training, scientific research, social service, cultural innovation and inheritance; reports on meaningful domestic and overseas exchange and cooperation activities, and influential academic activities at home and abroad; news about significant honors and awards obtained by functional departments, teaching units or teachers, students and staff; primary measures, outstanding achievements, typical experience and characteristic activities of reform and development of the university; information with news value about outstanding alumni; news reports or positive interviews of mainstream news media on teaching and scientific research, social services, Party building, ideological and political work or excellent teachers and students; other reports of the university with significant news information value.

Chinese HEIs mainly have the following information channels in marketing communication: **News reports.** Significant scientific research achievements, major achievements, and all kinds of major awards obtained by teachers and students of HEIs are communicated to professional media reporters through high and front-page headline media reports to expand social influence. **Event marketing.** HEIs in China can become a topic of public concern and attract media reporting and the participation of people concerned about the development of the university by participating in major social activities, holding academic conferences, organizing authoritative competitions, organizing public welfare activities, and planning other creative activities or events, thus attracting public attention to

the university. For example, HIST undertook the 26th Chinese Undergraduate Handball Championship in 2011. Twenty-two teams from 17 HEIs in the Chinese mainland, Hong Kong Macao Special Administrative Region of China, Macao Special Administrative Region of China, and Singapore, participated in the 6-day competition. As an actual high-level sports event in Chinese HEIs, the Chinese Undergraduate Handball Championship won a good reputation for the university by organizing the competition and communicating it widely via the media. **Figure marketing.** For example, the university is publicized through the principal, famous professors, alumni, social celebrities, and other important figures. For instance, the new wheat variety - "Bainong short resistance 58," cultivated under the leadership of Prof. Ru Zhengang from HIST, won the first prize of the National Prize for Progress in Science and Technology, which is the highest award in scientific research of China. Prof. Ru Zhengang was also rated National Outstanding Communist Party Member and National Advanced Worker and was met four times by General Secretary Xi Jinping, China's top leader. His deeds were widely reported by the most critical media in China, including CCTV, People's Daily, Henan Daily, and Henan TV, significantly improving the social reputation and cognition of the university. **Experience marketing.** Experience marketing refers to virtual VR technology to provide a real campus experience. Some HEIs publish high-definition panoramas of the school through the internet, using VR technology to restore campus scenes to the internet, allowing viewers to watch and browse the campus at 720° without any dead angle. It provides an excellent interactive platform for alumni, teachers, students, candidates, and people who care about the development of the school to understand the school and achieve good marketing results. **Relationship marketing.** Firstly, maintain relationships with relevant stakeholders. The vital information about the university is mailed to the interest groups concerned about the university, such as alumni, publicity departments of brother universities, superior authorities, and employers, through letters or mail to strive for more support and attention. Secondly, maintain relationships with the media. Some HEIs arrange dedicated staff for external publicity, make daily contact and communication with professional media reporters, provide the media with the latest news leads or personally written news articles, invite reporters to cover major events on campus and maintain good relations with external media. **New media interactive**

communication. The new media matrix is used to release school promotional videos, short videos reflecting school culture, and even interact with people concerned about the university through new forms such as live streaming. For instance, Some HEIs use WeChat, Weibo, and short video platforms to release relevant information about the university. Besides, using live streaming on TikTok during the enrollment season leads the audiences to view the campus and university history museum and feel the university's historical culture. The marketing role of new media was fully exerted.

2.2 Monitoring of university marketing communication systems

Whether the whole process and result of marketing communication achieve the marketing goal of HEI with high effect and high efficiency and convey the brand image of HEI accurately need to be monitored and measured in time to find, analyze and correct the deviation in time, and better realize the construction and management of marketing communication system. Therefore, effectiveness monitoring is the scientific means to ensure the whole marketing communication activities achieve the final purpose. This study attempts to draw on communication effect theory, marketing communication theory, and lock information content analysis, based on the information on marketing communication of HEIs, by constructing a model of the marketing communication effect of HEIs and carrying out empirical research. The study can lay the foundation for further improving the marketing communication effect of HEI, establishing the marketing communication model adapted to HEI, and improving HEI's marketing communication management system.

Mass communication is the cornerstone of the development of modern communication science, and the communication effect has been the mainstream of its research. In the 1950s, scholars represented by Hovland built the classic theoretical framework of "persuasion effect" with "attitude change" as the core concept [134]。In persuasion effect theory, "communication" is directly related to "effect" and "attitude change" the purpose of communication is persuasion, the focus of communication is an attitude change, and behind the attitude change, there is a hidden demand for behavior change. The purpose of communication is persuasion, and the focus of communication is attitude change. Furthermore, there is also the demand for behavior change behind attitude

change. Lasswell proposed the 5W communication process model, which laid down the five essential elements of communication research: control analysis, content analysis, media analysis, audience analysis, and effect analysis. At the same time, some scholars found that in the new media environment, the five essential elements of communication have evolved, in which the three elements of communication subject, communication medium, and communication audience show a trend of mutual integration.

Moreover, the interactive experience and full exchange of information in the new media marketing environment are gradually changing the characteristics of information dissemination. The user's internal attitudes, emotions, and other variables will be transformed by the quantity and quality of the information perceived. In new media marketing communication, information content has become key to changing public attitudes and influencing communication effects. Based on the above analysis and a lot of literature reading and research, this paper draws on communication effect theory to target marketing communication information of HEIs. We construct a marketing communication effect-measurement model regarding information content, information characteristics, information function, and attitude formation such as cognition, emotion, and intention about HEIs.

Information content. Information content consists of various symbols, the structural state of symbols that carry communication values and achieve communication purposes. These symbols and the combination of symbols carry the communication purpose of information sharing, consensus building, influence, and communication interaction. In the field of communication research, information content is always "central" in the communication process, and Bradac et al. point out that the structure of information can cause cognition processes or other processes (such as emotion management) in the audience, and the intention of the communicator or audience is less important than that[135-137]. Information structure, i.e., the structure of information composition symbols, determines the basic appearance of the information content. When the audience is exposed to the information content, it brings about the last change of the communication effect, including the formation of cognition, obtaining satisfaction or feeling motivation from it, or attitude change[138]. It is because the content of information brings about changes in the audience's reaction that the content of information is regarded as a prerequisite and central element of

communication effectiveness, and attention is paid to the systematic and structural nature of communication symbols in "content production" and "content dissemination" in order to control communication effectiveness better. The research on marketing communication points out that all aspects of the communication process are being developed. Marketing communication research points out that all aspects of the communication process affect the effectiveness of communication. The credibility of the source and the attractiveness of the source can affect communication effectiveness, but this effect is not absolute; Mazursky and Schul's research shows that for consumers who are highly engaged, their focus is more likely to be on the content of the message than on the source[139]. In the Elaboration Likelihood Model (ELM), highly engaged consumers process information along a content-centered path; thus, in this case, the content of the message more profoundly influences the effectiveness of the communication[140]. This view is supported in general consumption behavior. Petty, Cacioppo, and Schumann found that when consumers expressed concern about an item, the content of the message itself was more likely to influence the consumer than factors such as the spokesperson and the credibility of the source of the message. This situation is consistent with the consumer behavior characteristics of higher education customers. Yuan Jing et al. showed that when customers and potential customers of HEIs are ready to pay attention to or choose a particular university, they will pay more attention to the content of the information released by HEIs[141]. Meanwhile, Yuan Jing pointed out that if the content setting of information released by higher education media is monotonous, the audience will choose to stop paying attention to the school's information later. Li pointed out in her research that the content is crucial for the audience to judge the HEI brand information [142].

Information Richness refers to the extent to which the content covers the full range of information areas required by higher education customers and potential customers for higher education. Hawkins, Best, and Coney analyze information content needs and classify the information consumers need to make consumer decisions into three categories: appropriate evaluation criteria for problem-solving, the variety of available solutions, and the characteristics of each alternative option for each evaluation criterion[143]. The study suggests the composition of information content in marketing communication and gives

good insight into the development of marketing communication strategies so that marketers can better meet the information-seeking needs of consumers. In the networked and digitalized information era, consumers' information-seeking behavior is more often realized through the Internet because of its fast, efficient, extensive, interactive, and autonomous choice characteristics, which align with the principle of cognition economy. Ross and Pulizzi suggest that content marketing is a core strategy for increasing customer loyalty and a strategy that focuses on value experience creation. In the context of content marketing, companies create content platforms that allow people to help each other, share valuable information, and enrich communities while helping them to become thought leaders in their communities. The content on the platform is engaging, easy to share, and, most importantly, helps customers (on their own) find the information they want about a product or service[144]. Fang Zhiyuan found in his study that when the public can feel the richness, accuracy, and timeliness of the information content released by higher education institutions and also the effectiveness and efficiency of these push communications, they will reap a better emotional experience in the process of interacting with information from higher education institutions[145]. Yuan Jing et al. concluded in their study that the most desired information contents of higher education users include academic research and talent cultivation, school teachers and students, campus cultural activities, school environment scenery, enrollment, and employment situation[141; 146]. These support the view that the richness of information content impacts the communication effect.

Information credibility refers to the degree to which the content of a message appears trustworthy to customers and potential customers of higher education institutions. Trust is an interdisciplinary concept, and previous research generally supports that trust is multidimensional. Smith studied word-of-mouth communication in virtual communities and noted that trust has three dimensions: competence-based trust (cognition component), relationship-based trust (emotion component), and moral dimension[147]. However, more scholars tend to divide the trust into two dimensions: cognition and emotion[148-150]. In offline and Web 1.0 era marketing communications, the credibility of information depends on the credibility of the source and the attractiveness of the source. Source credibility is the level of professionalism and credibility that the source of information has and is recognized

by consumers[151]. In a context where the communicator and audience are divided, source credibility is judged by three dimensions: the level of expertise, impartiality, and reliability of the source. The credibility of information a source provides increases when the source has more expertise and a more objective stance. In the Web 1.0 era of online marketing communication, the credibility source is influenced by the website's type and the credibility of the sender of the information. Park and lee propose that the influence of website reputation on the IWOM effect is more significant for experience products than for search products, so website reputation can be used as a source A dimension of credibility can also be used as an external signal of the quality of IWOM information when purchasing an experienced product[152].

Based on the above analysis, this paper lists the variables and measures of information content as **richness** and **credibility**.

Information characteristics. To better achieve the purpose of information dissemination, the communicator selects designs and organizes the various symbols that compose the information according to its own needs, the characteristics of the audience, and its demand for information, so that the symbolic elements that compose the information and their structure are objectively presented as external representations. In practice, the characteristics of information usually depend on which symbols are selected by the communicator and in what way these symbols are organized (i.e., coding). Research on information characteristics in marketing communication in the online environment has focused on the richer results of word-of-mouth information on the Internet. Foreign scholars believe that the number of comments, the direction of comments, diffusion, and consistency characteristics of messages by Internet users affect potential consumers' perceptions of products and purchase intentions. In their study of the effects of IWOM information on consumer information processing, Park and Kim point out that the number of reviews of IWOM information has a more prominent effect on consumption decisions for consumers who have less product knowledge, which is consistent with the theoretical view that low-involvement consumers process information based on peripheral signals[153]. The research by Liu et al. shows that in the marketing communication of cultural products represented by movies, the number, and diffusion of IWOM messages are positively related to their

influence Gershoff et al. propose that the overall consistency of IWOM information or absolute positive (negative) information affects the acceptance of review opinions by Internet users. However, the actual impact of negative information on different types of products can vary[154]. Sen and Lerman argue that the negative word-of-mouth effect is not significant in the case of hedonic products because users understand the negative word-of-mouth message as a result of personal differences rather than the product itself [155]. The information characteristics that the above studies focus on are essentially more about the characteristics of information content. In the UGC (User Generated Content) era, which emerged along with the concept of Web 2.0, users in social network nodes assume multiple roles of communicator, medium, and audience. Users disseminate information for value-seeking purposes and will show more behavioral characteristics different from the conventional ones when coding information, such as attractiveness, sharing, and relevance, which make the external representation of information unique and thus affect the communication effect.

Information interesting refers to the extent to which the content of a message is organized and designed using humorous, stylish, and emotionally stimulating ways so that the message is pleasant and exciting to the user. Scholars have explored why consumers are willing to accept and remember word-of-mouth messages from the perspective of the fun of word-of-mouth messages. Herr, Kardes, and Kim et al. point out that the main reason why word-of-mouth messages are more likely to influence consumers' judgments than messages disseminated by print media is that word-of-mouth messages are more exciting and more likely to be remembered and recovered by audiences [156]. In the study of the interest in web information, Chen and Rodgers proposed that the interest in web information includes three dimensions: engaging, exciting, and energizing[157]. Information dissemination on the Web makes full use of the multimedia organization of information in graphic and vivid form and fully absorbs the language of the Web, which becomes one of the information characteristics that affect the communication effect.

Information sharing refers to the openness of content and structure presented by higher education information through screening, organization, and design, which allows, welcomes, and makes every effort to attract comments and forwarding to increase the degree

of information proliferation. The sharing feature of online information is guaranteed by the UGC function, whose members can realize information interaction, correction, improvement, and update regardless of time and space constraints. Shi Yanxia conducted a study on the knowledge-sharing mechanism of SNS virtual communities, which concluded that enhancing the personal image, realizing the desire to help others, and enjoying the reciprocity of interaction among members are three main motives for virtual community members to be willing to share knowledge [158]. Kankanhalli et al. noted that contributing knowledge enhances a positive reputation, gaining cognition in society, social status, and a relevant image[159]. In addition to the image-enhancing factors, Kankanhalli et al. found that contributing knowledge and helping others with information can be rewarding and thus motivating to be helpful. In their study, Wasko and Faraj also found that people are willing to contribute knowledge in virtual communities because they find it fun to help others when they encounter challenging problems [160]. Social transaction theory states that there are two kinds of interpersonal exchange relationships: economic and social. The dissemination of information in social networks reflects the democracy and equality in the online world and is in line with the basic thesis of social exchange theory about the principles of social exchange: one person gives favor to another person, and although there is a general expectation of some future reward, the person who gives the favor does not know the nature of the specific reward beforehand, the expected benefits included in this exchange do not have an exact price and quantity like an economic exchange, and the giver will trust others to fulfill their obligations by giving non-material rewards, ultimately leading to the accumulation of personal social capital.[161]. As a kind of social exchange behavior, Internet users share information not only for the image above enhancement and helpfulness but also with the expectation of reciprocity, hoping to receive the help of information from other Internet users through sharing.

Information targeting is the targeted characteristics of information content symbol screening and organization design, which can attract and target specific people through hot topics and personalized information, promote the dissemination of relevant information in a niche market, and realize the efficiency and precision of marketing communication. Targeting is the key to marketing communication. In traditional marketing communications,

such as advertising, it is often difficult for marketers to grasp targeting, so there is a common confusion: John Wanamaker, the father of the department store industry, once said, "I know that half of the investment in advertising is useless, but the problem is that I do not know which half. As market segmentation becomes deeper and deeper, micro marketing such as gap-filling, localized, and individualized marketing gradually replaces mass marketing, and in the online context, niche marketing becomes a new trend in market evolution. American marketing guru Philip Kotler proposed the concept of "precision marketing" for the first time in his book "Principles of Marketing," advocating that marketers need a more precise, measurable, and high return on investment in marketing communications to meet the increasingly diverse and heterogeneous consumer demand[67]. Xu Yixin summarized the five characteristics of precision marketing in the literature research for social media precision marketing, namely, selectivity of target objects, stability of target objects, the effectiveness of communication strategy, economy of communication behavior, and effectiveness of communication effect, among which targeting is the basis and key of implementing precision marketing[162]. New media on the Internet is an effective platform for achieving precision marketing. Scholars such as Pérez-Latre proposed that the Internet has the inherent advantage of precision marketing and more clearly pointed out the key to targeted social network marketing[163].

Based on the above analysis, this paper lists the variables and measures of information characteristics: **interesting, sharing, and targeting.**

Information function. In this research, the information function refers to the role and efficiency of higher education information to achieve the purpose of marketing communication ultimately. Paul C. Santilli pointed out that advertising has two basic functions: informing and persuading consumption [164]. Japanese scholars such as Sadafumi Renko, Yo Tanaka, and Yoshito Maruoka, who equated the role of advertising with its function, also proposed that communication and persuasion are important in advertising. Other scholars and practitioners generally share these conclusions, and on this basis, advertising functions are further studied. Arens and Schaefer examine advertising in the free economic system and propose seven functions: establishing product identification; spreading product information; inducing consumers to try and repeat sales; enhancing

product usage; establishing brand preference and loyalty; reducing the cost of sales[165]. Chen Pei-ai points out that the fundamental function of advertising, as an information dissemination activity, is to disseminate information[166]. According to the comprehensive socialization of communication and advertising, Luo Ziming et al. believe that advertising has diversified functions: for advertisers, the function of advertising is to disseminate product information and establish brand image; for consumers, the function of advertising is to provide consumption information and realize the interaction between supply and demand; for advertising media, the function of advertising is to promote the development of media; for the whole society, the function of advertising is to promote the interaction between advertising information, advertising culture and social culture[167]. From the history of marketing, Qian Hang Yuan proposes that the function of advertising varies in different marketing stages. In the business-oriented marketing stage, the function of advertising is to convey information about goods; in the consumer-oriented marketing stage, the function of advertising is the unification of communication and marketing dichotomy; in the social marketing stage, advertising is given diversified functions such as communication, marketing, politics, culture, society, education, and aesthetics [168]. The evolution of advertising function is a dynamic process related to the media environment, market environment, marketing concept, consumer perception, and other factors. She Shihong analyzes the function of advertising according to the change in product competition intensity and proposes that when the competition level is low, the function of advertising is mainly to inform; in the era of hard-selling, advertising mainly fulfills the function of persuasion; in the era of soft selling, it mainly fulfills the function of inducement[169]. Since the 1960s, the multifaceted functions of marketing communication have been overshadowed by the two functions of enticement and persuasion, which have been consolidated and amplified while the other functions have been declining. Marketing communication has gradually evolved into a market "mind-bending technique," represented especially by advertising, which has turned marketers and consumers into two opposing groups. Marketing ethics has constantly questioned this phenomenon. In the 1990s, Lauterborn proposed the 4Cs theory, which advocated a return to a consumer-centric marketing philosophy [170]. However, marketing communication in the traditional media context has

not changed the state in which marketers have a dominant voice and consumers' voice is missing, and inducement and persuasion are still the main functions. It is necessary and feasible to change this phenomenon and return to the informative function of marketing communication in the era when digital technology is highly developed, and the Internet world has entered Web 2.0[171]. Marketing communication in HEI occurs between the school and its customers and potential customers, with the information function like that of advertising. In the new media era, the traditional media functions of "persuasion" and "inducement" are euphemistically fulfilled using interactive experiences, and the corresponding information functions are expressed in the form of information and motivation with high intensity of interaction between network users and the two functions coexist interactively. Both interact with each other and constitute the information function variable. HEI communicates detailed information to its audience through media communication. Equally and autonomously, HEIs and audiences disseminate and share information in an open, time- and space-independent environment, enabling HEI information dissemination to approach complete and authentic information. At the same time, this different and authentic information motivates members of social network circles to contribute content, share information, try to consume, and other multiple motives. UGC behaviors such as correcting each other's mistakes, and adding and improving information among users are helpful for audiences to objectively understand and resolve different opinions about the organization, which can eliminate audiences' concerns about marketing information, and then approve the information and stimulate motivation to pay attention and choose[172; 173].

Based on the above analysis, the variables and measures of the information function are listed in this paper as **informing function** and **motivating function**.

Attitude formation. Communication effectiveness is both a concept of process and outcome, describing the gradual emergence of the impact of communication and the result of the impact of communication on the subject and society. As a dependent variable in the model, attitude formation is the effectiveness of HEI marketing communication in terms of results. Assael defines attitude as "an acquired preference that responds to an object or class of objects in a consistently favorable or unfavorable manner"[174]. According to attitude

theory, attitudes consist of three components: cognition, emotion, and al. Oliver, Szymanski, and Bernard et al. all point out that consumers' cognition and emotion about a product or brand can act together in the final consumption choice or intention, although the intensity of their influence differs[175]. However, both cognition and emotion information systems can function independently in the information processing of consumer decisions, and it is worth exploring the sequence of cognition and emotion occurrence when the two systems function jointly. The formation and development of attitudes is an integrated and complex process associated with individual factors such as family, personality, and experience, as well as with social groups such as colleagues and friends and information possession status. This study focuses on the audience's response to psychological reactions from marketing communications through higher education, encompassing internal experiences and behavioral tendencies. In this paper, it is believed that there is a progressive, positive relationship between the audience's cognition, emotion, and intention about HEI. **Cognition about HEI** mainly refers to the audience's overall perception and evaluation of HEI based on its information dissemination. **Emotion about HEI** mainly refers to the audience's preference of likes and dislikes, which is a way to evaluate one's inclination and emotional experience. **Intention about HEI** refers to the audience's tendency to react or prepare for action.

Based on the above analysis, the variables and measures of attitude formation are listed in this paper as **cognition about HEI, emotion about HEI, and intention about HEI.**

Based on the above analysis, this paper proposes the following hypotheses.

H1: Information richness positively influences the formation of audiences' cognition, emotion, and intention about HEI.

H1a: Information richness positively influences audience's cognition about HEI.

H1b: Information richness positively influences the audience's emotion about HEI.

H1c: Information richness positively influences audience's intention about HEI.

H2: Information credibility positively influences the formation of audience's cognition, emotion, and intention about HEI.

H2a: Information credibility positively influences audience's cognition about HEI.

H2b: Information credibility positively influences the audience's emotion about HEI.

H2c: Information credibility positively influences audience's intention about HEI.

H3：Information interesting positively influences the formation of audience's cognition, emotion, and intention about HEI.

H3a: Information interesting positively influences audience's cognition about HEI.

H3b: Information interesting positively influences the audience's emotion about HEI.

H3c: Information interesting positively influences audience's intention about HEI.

H4：Information sharing positively influences the formation of audience's cognition, emotion, and intention about HEI.

H4a: Information sharing positively influences audience's cognition about HEI.

H4b: Information sharing positively influences the audience's emotion about HEI.

H4c: Information sharing positively influences audience's intention about HEI.

H5：Information targeting positively influences the formation of audience's cognition, emotion, and intention about HEI.

H5a: Information targeting positively influences audience's cognition about HEI.

H5b: Information targeting positively influences the audience's emotion about HEI.

H5c: Information targeting positively influences audience's intention about HEI.

H6：Informing function of information positively influences the formation of audience's cognition, emotion, and intention about HEI.

H6a: Informing function of information positively influences audience's cognition about HEI.

H6b: Informing function of information positively influences the audience's emotion about HEI.

H6c: Informing function of information positively influences audience's intention about HEI.

H7：Motivating function of information positively influences the formation of audience's cognition, emotion, and intention about HEI.

H7a: Motivating function of information positively influences audience's cognition about HEI.

H7b: Motivating function of information positively influences the audience's emotion

about HEI.

H7c: Motivating function of information positively influences audience's intention about HEI.

H8：There is a progressive positive correlation between audience's cognition, emotion, and intention about HEI.

H8a：The audience's cognition about HEI positively influences the emotion about it.

H8b：The audience's emotion about HEI positively influences the intention about it.

Based on the above hypotheses, a hypothetical model 1 (Figure 2.1) is proposed to evaluate the effectiveness of marketing communication in HEI.
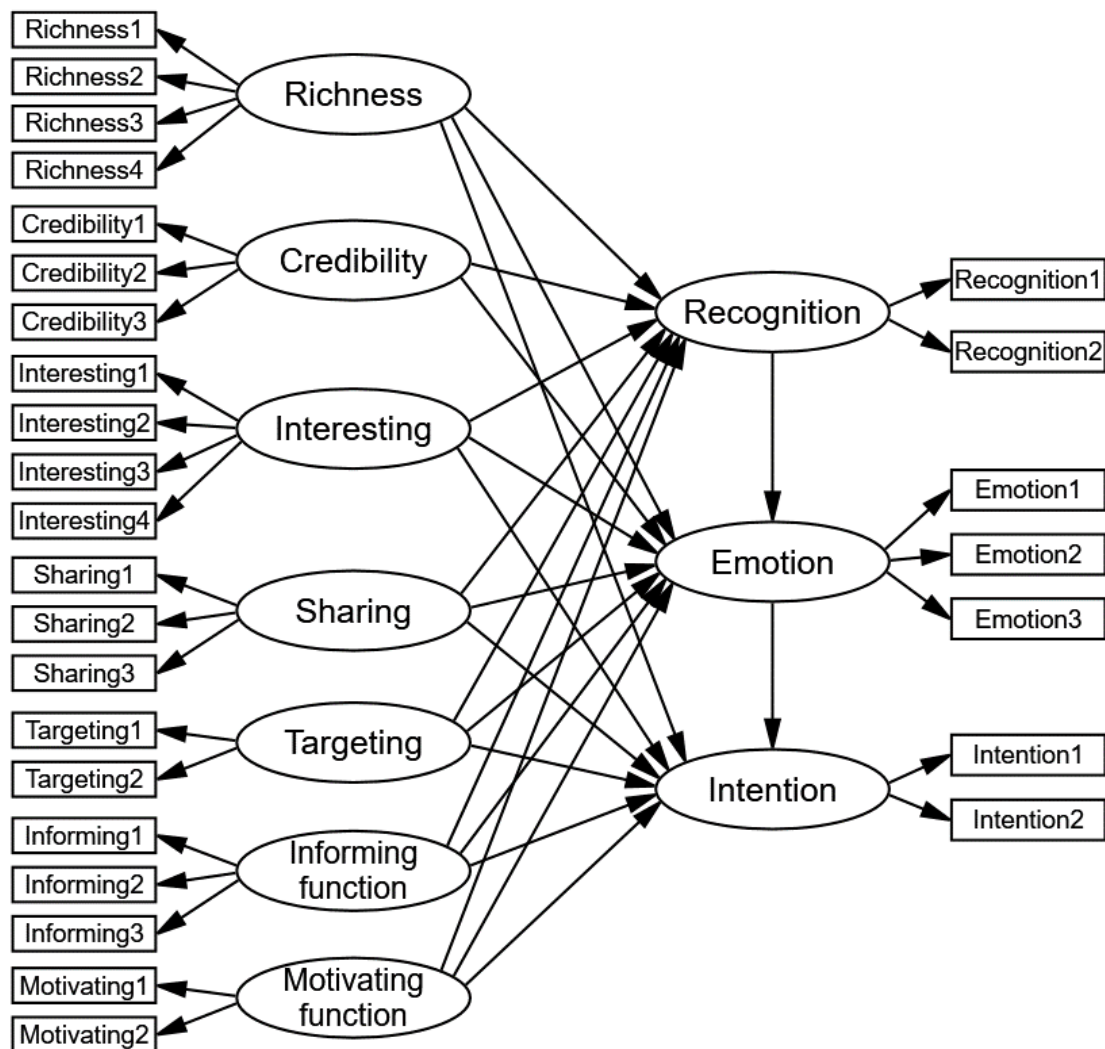

Figure 2.1 – Hypothetical model 1 for effect evaluation of marketing communication in HEIs

First, the questionnaire and scale design were conducted. Based on the literature review and variable study, combined with the research needs, this paper designed the

measurement questions of the research variables, and the specific questions are referred to in the questionnaire in Appendix. The questionnaire consists of four parts. The first part is the foreword of the questionnaire. The foreword provides a unique introduction to the information released by HEIs to ensure that the respondents' understanding was consistent with this paper's reference. The second part of the questionnaire is about the respondents' personal information, which mainly investigates the demographic characteristics of the respondents, such as gender, age, status, occupation, education level, and home location. The third part of the questionnaire was a survey on the use and knowledge of marketing communication media, content, and higher education methods. The second and third parts of the questionnaire were designed as general multiple-choice questions. The fourth part is the core part of the questionnaire, which measures the respondents' perceptions of various variables in the effectiveness of higher education communication. The questions in this section are organized into four option tables, which are easy to read and answer, and respondents are asked to respond according to their situation. The first option is for respondents to evaluate the message content of marketing communication of higher education institutions; the second option is for respondents to evaluate the message characteristics of marketing communication of higher education institutions; the third option is for respondents to evaluate the message function of marketing communication of higher education institutions; the fourth option is for respondents to respond based on their impressions of the universities they are familiar with or concerned about, in order to measure their attitudes toward the universities. The fourth section is the core section, measured on a five-point Likert scale, using a scale of 1 to 5 to indicate each degree option from strongly disagree to agree strongly.

Second, a questionnaire pretest was conducted. After the questionnaire design was completed, the author conducted a pretest of the questionnaire. Malhotra pointed out that the pretest respondents should be similar to the respondents of the survey in terms of background characteristics, familiarity with the topic, and related attitudes and behaviors [176]. The audience of HEI is widely distributed, including university students, teachers of HEI, parents of university students, high school students, parents of high school students, government staff, employer personnel, and journalists. To ensure the reasonableness and

applicability of the questionnaire, the authors selected 14 university students, 14 teachers in HEI, 6 parents of university students, 6 high school students, 6 parents of high school students, 6 government workers, 5 employer personnel, and 3 journalists, for a total of 60 respondents. We conducted a pretest in January 2022 by distributing a pretest questionnaire through a peer-to-peer personal social network. Through data collection and communication with them, we tested the presentation, order, format, layout of the questions, and the reliability of the questionnaire. Some respondents suggested the foreword and phrasing of the questionnaire, which prompted the author to add a "Special Instructions" section in the foreword. The results of the reliability test of the pretest questionnaire are shown in Table 2.1.

Table 2.1 – Reliability Statistics of the pretest

Variables	N of Items	Cronbach's Alpha
Richness	4	0.817
Credibility	3	0.904
Interesting	4	0.849
Sharing	3	0.815
Targeting	2	0.759
Informing function	3	0.811
Motivating function	2	0.895
Cognition about HEI	3	0.826
Emotion about HEI	3	0.876
Intention about HEI	2	0.838

According to T. X. Wu's suggestion, the scale reliability is acceptable when the Cronbach's value is between 0.5 and 0.7; the scale reliability is ideal when the Cronbach's value is between 0.7 and 0.9; the scale reliability is satisfactory when the value is more significant than 0.9[177]. The results of the pretest questionnaire in this paper showed that the Cronbach's value of each variable was more significant than 0.7, and the scale's reliability was satisfactory and qualified for further statistical analysis of the data.

Then, the research subjects were selected, and data collection was started. In this paper, a questionnaire survey was used to obtain relevant data. The questionnaires were distributed through the Internet after the pretest, and users were invited to participate in the

survey mainly through WeChat circles and WeChat groups. This paper intends to use structural equation modeling (SEM) to analyze the relationship between variables. According to the requirements of structural equation modeling and computer statistical procedures, a model contains at most 20 variables. The research model in this paper is designed with a total of 10 variables, which fulfills this requirement. In data collection, Schumacker and Lomax point out that either too large or too small a sample size is not conducive to testing the actual situation. Between 200-500 samples are the appropriate size[178]. Scholars such as Reisinger and Turner also suggested a sample size between 100-200 and noted that based on research experience, the sample size should be at least five times the number of parameters, but the absolute minimum should be 50 samples[179]。

Based on this, the questionnaire was released by the author on January 20, 2022, and the survey was conducted separately for 7 categories of people: high school students, university students, parents of high school students, parents of university students, government agencies/institutional workers, teachers of HEIs, media reporters/state-owned enterprises/foreign enterprises/private enterprises/self-employed workers/freelancers/other professional workers. Up to February 8, 2022, 149, 501, 115, 66, 164, 153 and 163 users have submitted questionnaires, respectively. The data were screened, and all those with the same consecutive options; those with apparently contradictory answers (e.g., age and identity do not match, e.g., 31-40 years old but say they are parents of students); and some questionnaires with some omitted questions were deleted as unqualified questionnaires. The number of valid questionnaires were 144, 497, 112, 64, 160, 149, and 160, respectively. At this point, the number of questionnaires is in line with the recommendations of relevant scholars, and the author closes the questionnaire filling platform and ends the questionnaire survey.

Descriptive statistics. SPSS was used for descriptive statistics of the first and second sections of the questionnaire. The frequency and mean were used to understand the demographic characteristics of the respondents and their knowledge of the channels, contents, and forms of marketing communication in HEIs.

Reliability and validity tests. The pretest questionnaire passed the reliability test, indicating that the questionnaire is suitable for further statistical analysis. The reliability and

validity of the data collected in the formal questionnaire will be further tested to ensure the reliability and validity of the measurement. Reliability in measurement is defined as the ratio of the true variances of a set of measurement scores to the total number of variances. In questionnaire survey research, reliability is expressed as the consistency, coherence, reproducibility, and stability of test results, i.e., the measurement is reliable. Cronbach's coefficient, a commonly used reliability test, was used in this study. Validity in measurement is defined as the ratio of the number of true variances related to the purpose of the measurement to the total number of variances in a series of measurements, i.e., the degree of validity or correctness of the measurement. Validity includes content validity and structural validity. This study will use expert analysis, Exploring Factor Analysis, and Confirmatory Factor Analysis for validity testing.

Structural equation model. Based on the reliability test, this paper proposes to use the structural equation modeling (SEM) method to explain the positive influence relationship and correlation between a set of variables of marketing communication effects in higher education. The structural equation model can solve the problem of the relationship between the potential structures measured by the observed variables and is widely used. Hai Lanxin found that in "Research on the knowledge structure and frontier hotspots of foreign marketing communication research," scholars in the field of marketing communication have gradually started to pay attention to the research on digital marketing communication with the development of social media since 2017, and started to use structural equation model as a research method in a more significant number of cases [180]. The steps of the structural equation model done in this study include developing a theoretical model, model estimation, model evaluation, and model revision.

First descriptive statistics. In this paper, descriptive statistics were performed on the first and second sections of the questionnaire using SPSS 26.0, and the results were as follows.

Demographic Characteristics of Respondents. The results of the sample's demographic characteristics showed that the sample adequately considered different groups such as university students, high school students, parents of high school students, parents of university students, government agencies/institutions staff, teachers of HEIs, and media

reporters. In a comprehensive view, the sample is well represented and statistically valid (Table 2.2).

Table 2.2 – Demographic Characteristics of Respondents

Question	Options	Frequency	Proportion (%)
Gender	Male	481	38.1
	Female	780	61.9
Age (years old)	Under 20	465	36.9
	21-30	321	25.5
	31-40	190	15.1
	41-50	215	17.0
	51-60	59	4.7
	60 and above	11	0.9
Status	High School Students	147	11.7
	university students	497	39.4
	Parents of High School Students	114	9.0
	Parents of university students	66	5.2
	Others	437	34.7
Occupation	Government agencies/institutions staff	160	12.7
	Teachers and staff of universities	150	11.9
	Media reporters	12	1.0
	Employees of state-owned enterprises	24	1.9
	Foreign enterprises/private enterprises/self-employed	78	6.2
	Freelancers	49	3.9
	Others	144	11.4
	Of which: 27 employers' personnel, accounting for 2.1%		
Education level	Junior high school and below	39	3.1
	High school (junior college, vocational college, etc.)	192	15.2
	University (specialist, undergraduate)	859	68.1
	Master's degree and above	171	13.6
Family Residence	Directly governed city	43	3.4
	Provincial capital city	103	8.2
	Prefectural cities	394	31.2
	County-level cities	250	19.8
	Town	51	4.0
	Rural	420	33.3
	Total	1261	100.0

According to the statistical results, the respondents mainly want to know information of HEIs through the publicity materials of HEIs, the data published by the Ministry of Education, the websites of HEIs and the news media reports, with the percentages of 56.2%, 55.7%, 55.2% and 51.8% respectively (Figure 2.2). The main information that the respondents want to know about HEIs are faculties, educational teaching level,

characteristics and advantages and campus environment, with the percentages of 68.3%, 66.9%, 57.7 and 55.4% respectively (Figure 2.3). The acceptance and cognition of marketing communication channels of HEIs were as follows: promotion of "famous teachers", "outstanding alumni" and other typical figures, cooperation with government and enterprises with the advantages of science and technology and talents, and socially influential activities (e.g. school celebrations, large-scale academic activities, etc.), publishing information on platforms such as admission magazines and press media, organizing activities such as campus open days and virtual campus experiences (Figure 2.4).
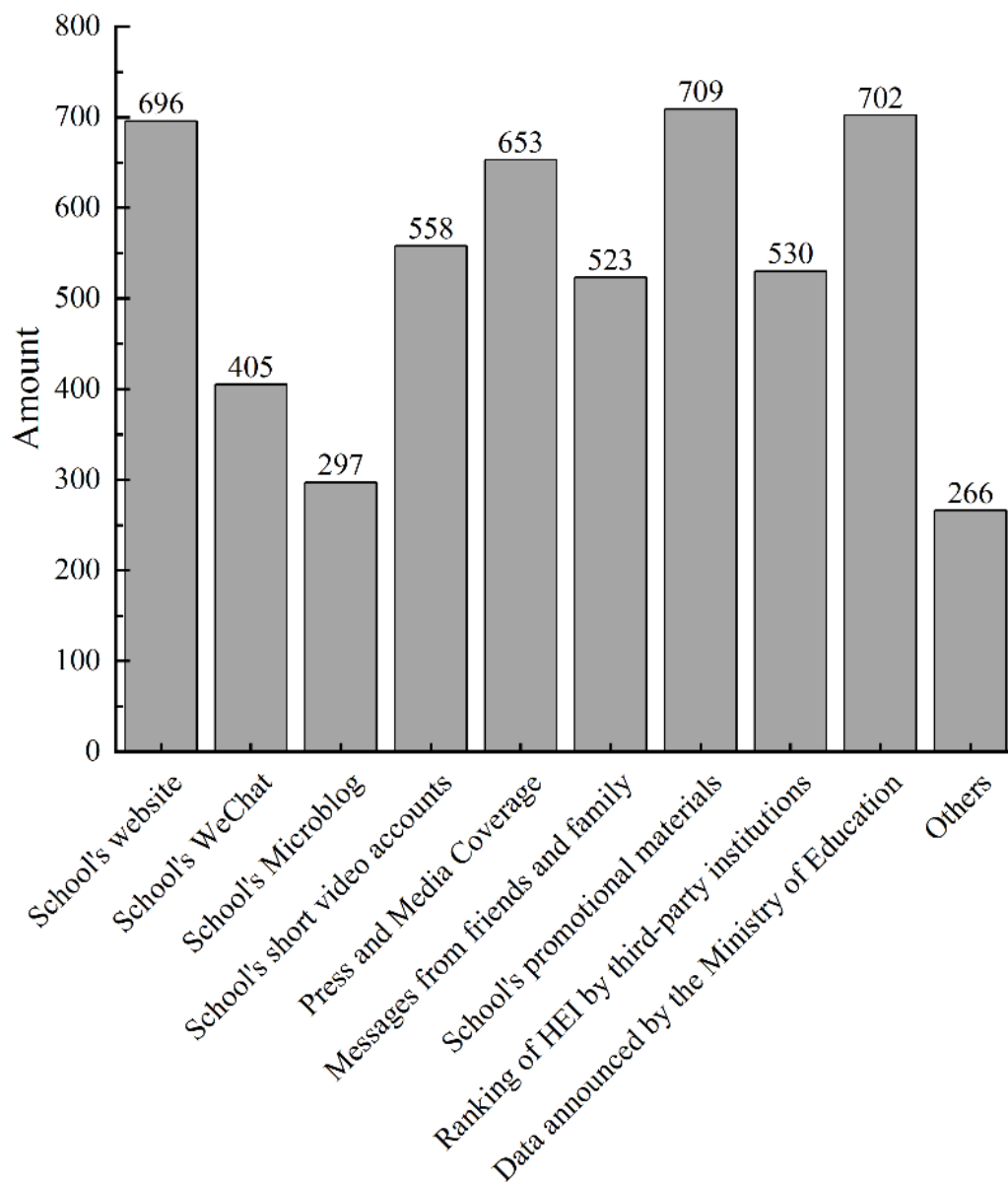

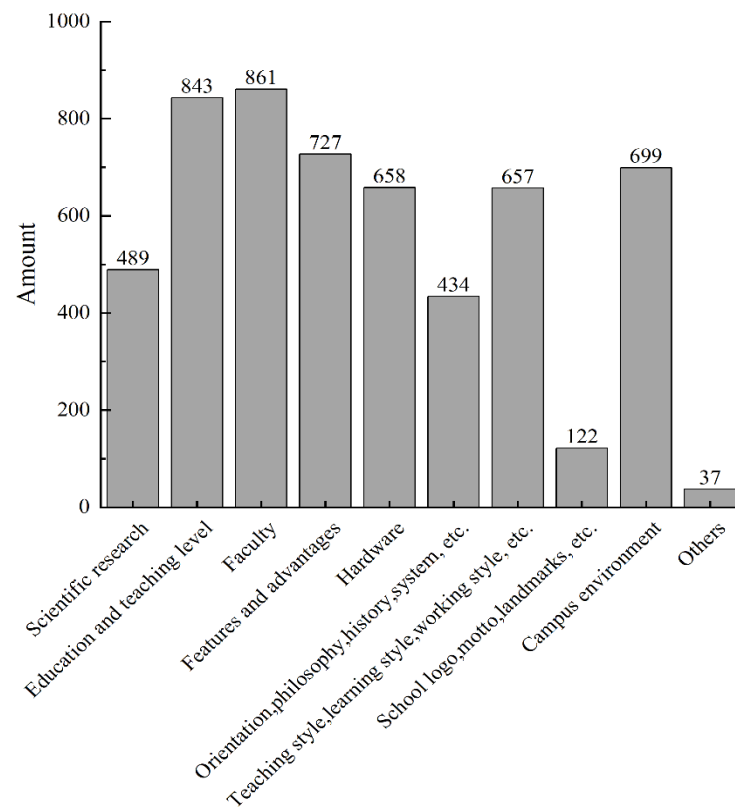Figure 2.2 – Use of marketing communication media of HEIs by respondents

Figure 2-3 – Demand for information content of marketing communication of HEIs by respondents
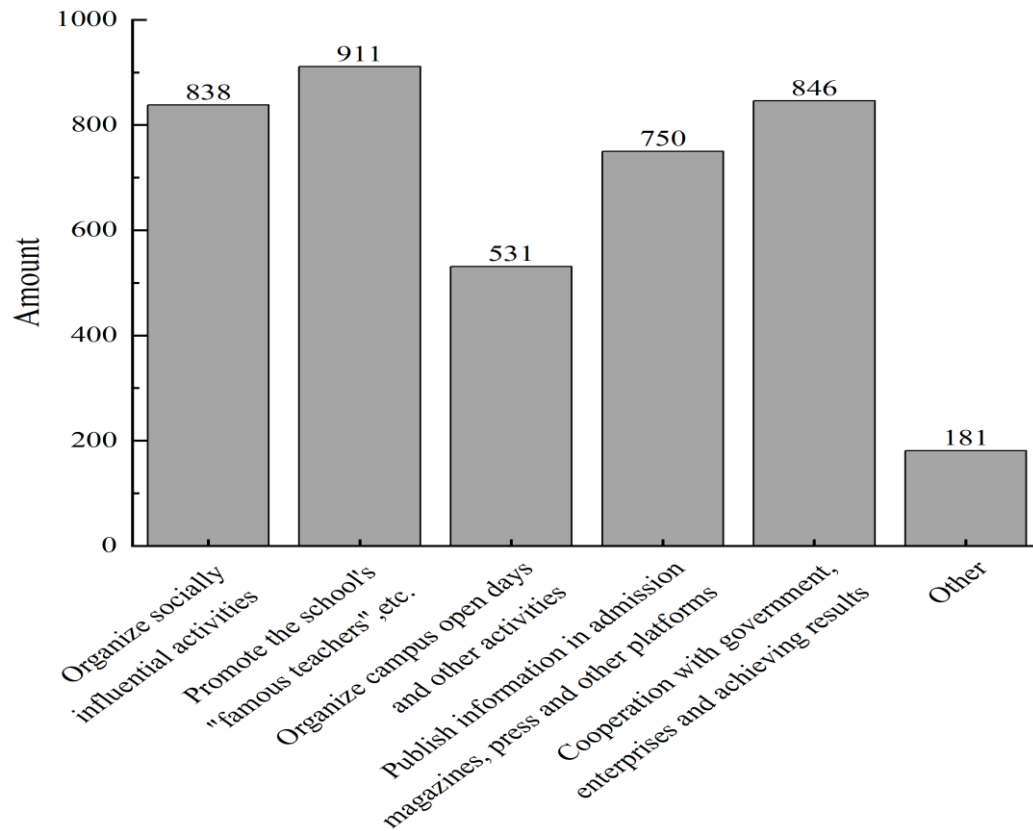

Figure 2.4 – Knowledge of marketing communication methods of HEIs among respondents

In this paper, descriptive statistics were analyzed using SPSS 26.0 statistical software for the 29 measurement questions of the questionnaire, with the main reported results being the means and std. (Table 2.3).

Table 2.3 – Statistical characteristics of the measurement questions

Measured variable		Mean	Std. deviation	Number of samples
Richness	Richness 1	3.64	0.804	1261
	Richness 2	3.85	0.830	1261
	Richness 3	3.89	0.834	1261
	Richness 4	3.86	0.809	1261
Credibility	Credibility1	3.87	0.777	1261
	Credibility 2	3.88	0.751	1261
	Credibility 3	3.86	0.764	1261
Interesting	Interesting 1	3.66	0.710	1261
	Interesting 2	3.69	0.726	1261
	Interesting 3	3.65	0.748	1261
	Interesting 4	3.77	0.749	1261
Sharing	Saring1	3.60	0.792	1261
	Saring2	3.80	0.719	1261
	Sharing3	3.61	0.756	1261
Targeting	Targeting1	3.74	0.770	1261
	Targeting2	3.74	0.771	1261
Informing function	Informing 1	3.82	0.730	1261
	Informing 2	3.65	0.785	1261
	Informing 3	3.78	0.728	1261
Motivating function	Motivating1	3.77	0.717	1261
	Motivating 2	3.81	0.713	1261
Cognition about HEI	Cgnition1	4.05	0.742	1261
	Cognition 2	4.05	0.739	1261
	Cognition 3	4.02	0.773	1261
Emotion about HEI	Emotion 1	4.03	0.749	1261
	Emotion 2	4.12	0.716	1261
	Emotion 3	4.11	0.710	1261
Intention about HEIs	Action 1	4.02	0.776	1261
	Action 2	3.96	0.826	1261

Second, reliability tests were conducted. This paper uses Cronbach's coefficient to test the reliability of each variable. The results are shown in Table 2.4.

Table 2.4 – Reliability analysis of measurement questions

Variable name		Corrected term-to-total correlation (CITC)	Cronbach's coefficient after removal of term	Cronbach's
Sample size：1261；Number of questions：29				0.947
Richness	Richness 1	0.489	0.946	0.862
	Richness 2	0.507	0.946	
	Richness 3	0.472	0.946	
	Richness 4	0.415	0.947	
Credibility	Credibility1	0.590	0.945	0.908
	Credibility 2	0.616	0.945	
	Credibility 3	0.619	0.944	
Interesting	Interesting 1	0.646	0.944	0.898
	Interesting 2	0.665	0.944	
	Interesting 3	0.659	0.944	
	Interesting 4	0.642	0.944	
Sharing	Sharing1	0.660	0.944	0.852
	Sharing2	0.650	0.944	
	Sharing3	0.633	0.944	
Targeting	Targeting1	0.678	0.944	0.800
	Targeting2	0.642	0.944	
Informing function	Informing 1	0.669	0.944	0.868
	Informing 2	0.644	0.944	
	Informing 3	0.681	0.944	
Motivating function	Motivating1	0.705	0.944	0.889
	Motivating 2	0.702	0.944	
Cognition bout HEI	Cgnition1	0.584	0.945	0.892
	Cognition 2	0.561	0.945	
	Cognition 3	0.530	0.945	
Emotion about HEI	Emotion 1	0.553	0.945	0.904
	Emotion 2	0.593	0.945	
	Emotion 3	0.591	0.945	
Intention about HEI	Action 1	0.550	0.945	0.85
	Action 2	0.502	0.946	

The results showed that the correlation coefficient (CITC) values of each individual item to the total item were greater than 0.4 (the minimum value was 0.489), the overall Cronbach's value of the scale was 0.947, and the Cronbach's value of each variable was above 0.800 (the minimum value was 0.800). This result indicates that the measurement level of each variable in this paper is relatively satisfactory, and the scale's stability, equivalence and internal consistency are all well performed.

Based on previous research, we designed the questionnaire to meet the needs of this study, which is well grounded in theory and empirical testing. After the design was completed, we invited two experts in the field of marketing research and two senior workers in marketing communication of HEI to conduct a logical analysis to judge whether the questions were compatible with the content of the study. Both suggested some modifications to the questionnaire and helped determine a pretest version for the author. Therefore, the content validity of this questionnaire can be guaranteed. Regarding structural validity, we chose the factor analysis and Average Variance Extracted (AVE) methods to examine the influence factors and communication effects of marketing communication in HEIs, respectively.

First, the independent variables were analyzed. In the exploring factor analysis of the independent variables, we used Bartlett's test of sphericity and KMO measure of sampling to test whether the interrogatives are correlated with each other. Bartlett's test of sphericity is a chi-square test on the null hypothesis, which concludes that if the chi-square value is not valid at the 0.95 significance condition, then the correlation matrix cannot be analyzed. KMO measurement is shown by an index between 0 and 1. This index utilizes the biased correlation method. If the effect of bias correlation is small relative to the total correlation, then the KMO test value will be close to 1, which means that the correlation between pairs of variables can be explained by other variables. Determining the criteria to be met for KMO values is subjective to some extent, but logically it is more likely to yield useful factors (components) above 0.5. Hair et al. suggest that a KMO value of 0.7 is an acceptable floor, above 0.8 is good, and above 0.9 is very good [179]. In this paper, we conducted Bartlett's Sphericity and KMO test on the factors that affected the effectiveness of marketing communication in HEI. Second, in the process of exploring factor analysis of independent variables, we used Kaiser's maximum variance orthogonal rotation method. Since the independent variables have been identified as seven in the previous literature review in this paper, a fixed factor extraction model was used with a default value of 25 for the maximum number of iterations for rotational convergence, and the factor scores were obtained using the regression method to obtain the rotated factor loading matrix. Finally, we performed validated factor analysis, correlation matrix, and mean extracted variance value analysis on

the independent variables.

Combining the confirmatory factor analysis results on the independent variables, we combined the information informing function and the information motivating function into the information functionality. Meanwhile, we deleted the targeting variable and its two measurement questions. Thus, we got 8 measurement variables and 26 measurement questions. The adjusted model is (Figure 2.5)
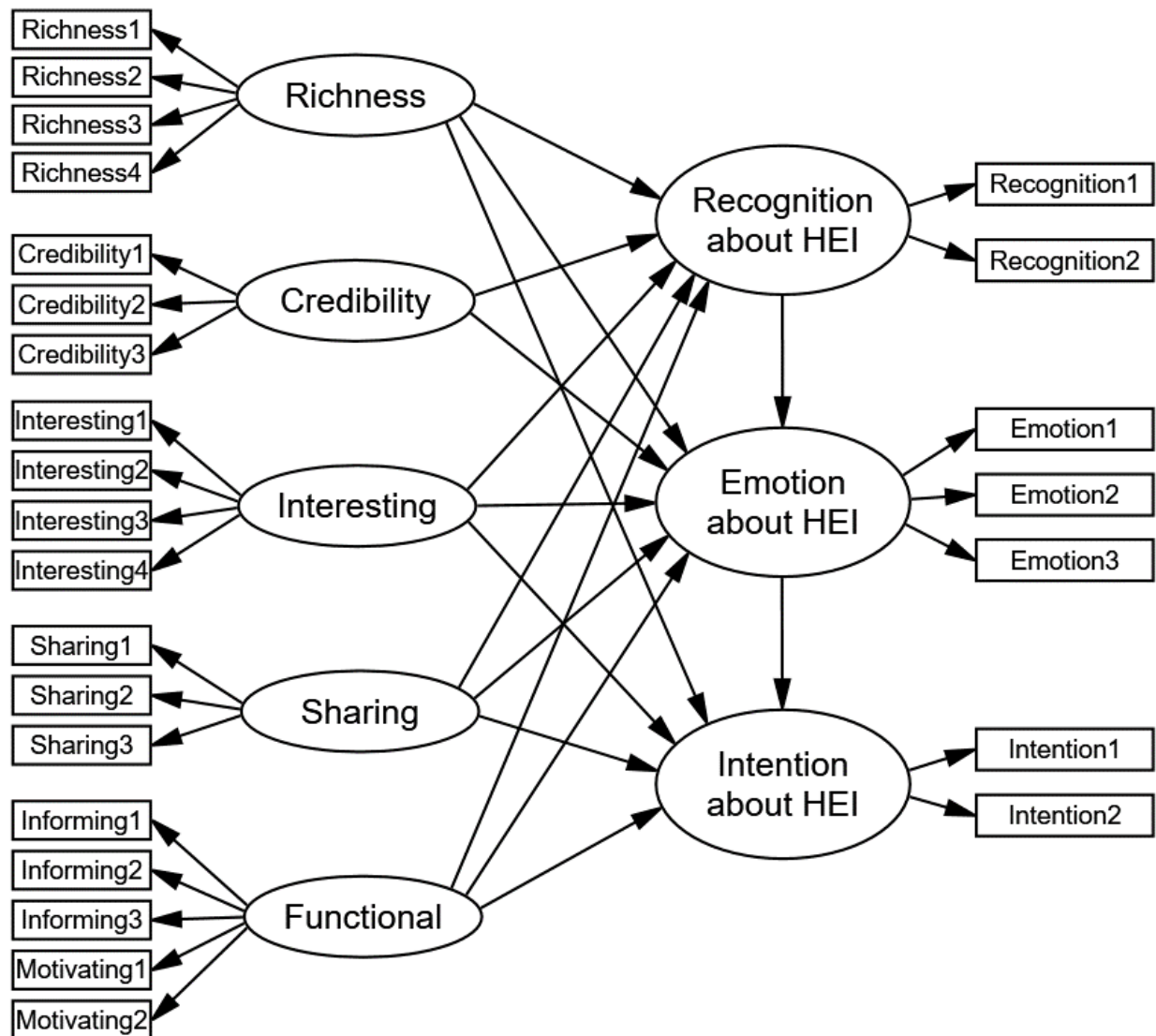

Figure 2.5 – Hypothetical model 2 for effect evaluation of marketing communication in HEIs

The correlation test results for the independent variables in model 2 are as follows.

The results of the KMO and Bartlett's test for the independent variables (Table 2.5). The results show that the KMO value is 0.948, indicating a good fit for factor analysis.

Table 2.5 – KMO and Bartlett's test for independent variables

Kaiser-meyer-olkin Measure of Sampling Adequacy.		0.948
Bartlett's Test of Sphericity	Approx. Chi-square	19210.266
	df	210
	Sig	0.000

Results of factor loading matrixa after maximum variance orthogonal rotation of independent variables（Table 2.6. According to the results of statistical analysis, five variables cumulatively explain 76.63% of the variance, and five variables can represent most of the information of the measurement indicators of marketing communication effectiveness of HEIs. The factor loadings of each variable on the corresponding measure were distributed between 0.610-0.849, which was greater than the minimum criterion of 0.5, and the loadings on the non-belonging factors were all less than 0.5, with good discriminant validity and convergent validity.

Table 2.6 – Results of factor loading matrix after maximum variance orthogonal rotation of independent variables

Questions	Component				
	1	2	3	4	5
Informing3	0.809				
Motivating1	0.773				
Informing 2	0.773				
Motivating2	0.772				
Informing1	0.759				
Interesting1		0.818			
Interesting2		0.811			
Interesting3		0.788			
Interesting4		0.610			
Richness2			0.849		
Richness3			0.818		
Richness4			0.779		
Richness 1			0.739		
Credibility1				0.825	
Credibility 3				0.824	
Credibility2				0.808	
Sharing3					0.753
Sharing2					0.732
Sharing1					0.708
Extraction method: Principle Component Analysis. *Rotation method: Varimax with Kaiser Normalization.* *a. Rotation converged in 6 iterations.*					

The values of the model fit goodness of fit index (Table 2.7), the structural

equations (Figure 2.6), the factor loadings, the combined confidence, and the mean-variance extraction values results (Table 2.8) for the validation factor analysis of the independent variables. Table 2.9 shows that the model's fit is relatively good, and the values of the indices meet the minimum acceptable criteria. Table 2.10 shows that the factor loadings of the independent variable question items are all above 0.5, with a minimum value of 0.712, and all pass the test at the 0.01 level of significance. The combined reliability of the other five variables all exceeded the acceptable level of 0.6, with a minimum value of 0.853; the mean-variance extracted values were all greater than the minimum acceptable standard of 0.5, with a minimum value of 0.616. The results of the above statistical analysis showed that the aggregated validity of the five independent variables selected in this paper met the requirements.

Table 2.7 – Fit index values for confirmatory factor analysis of independent variables

Indicator	Indicator value	Acceptable value
CMIN/DF	4.61	<5
GFI	0.944	>0.9
RMR	0.019	<0.05
NFI	0.962	>0.9
RFI	0.954	>0.9
CFI	0.97	>0.9
RMSEA	0.054	<0.1
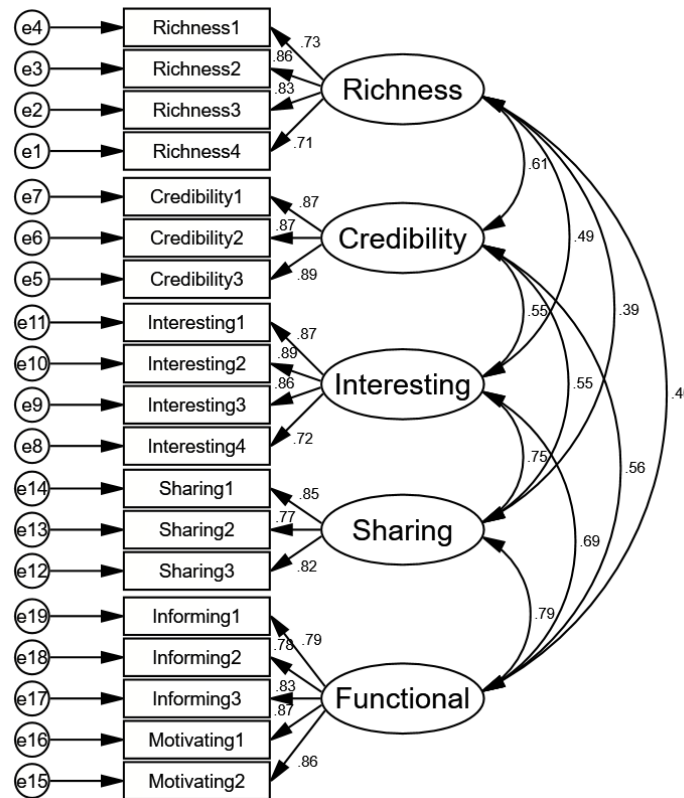
CMIN =654.677；DF =142；RMSEA=0.054；GFI=0.944；CFI=0.970

Figure 2.6 – Confirmatory factor analysis model of independent variables

Table 2.8 – Fit index values for Confirmatory factor analysis of independent variables

Paths			Estimate	S.E.	C.R.	P	AVE	CR
Richness 4	<---	Richness	0.712					
Richness 3	<---	Richness	0.834	0.044	27.189	***	0.616	0.865
Richness 2	<---	Richness	0.858	0.045	27.767	***		
Richness 1	<---	Richness	0.726	0.042	23.952	***		
Credibility 3	<---	Credibility	0.888					
Credibility 2	<---	Credibility	0.873	0.023	41.601	***	0.767	0.908
Credibility 1	<---	Credibility	0.867	0.024	41.135	***		
Interesting4	<---	Interesting	0.723					
Interesting3	<---	Interesting	0.856	0.04	29.757	***	0.7	0.903
Interesting2	<---	Interesting	0.887	0.039	30.777	***		
Interesting1	<---	Interesting	0.871	0.038	30.256	***		
Sharing3	<---	Sharing	0.817					
Sharing2	<---	Sharing	0.77	0.03	29.561	***	0.66	0.853
Sharing1	<---	Sharing	0.849	0.033	33.244	***		
Motivating2	<---	Functional	0.856					
Motivating1	<---	Functional	0.868	0.026	39.878	***		
Informing3	<---	Functional	0.831	0.027	37.074	***	0.684	0.915
Informing2	<---	Functional	0.783	0.03	33.696	***		
Informing1	<---	Functional	0.793	0.028	34.341	***		

The results of the independent variables correlation matrix and mean extracted

variance values analysis (Table 2.9). In terms of discriminant validity, if a measurement model has good discriminant validity, the degree of correlation between variables must be smaller than the degree of relationship within variables, which can be tested using the relationship matrix. In this paper, Pearson correlation analysis (Two-tailed) was used to obtain the correlation coefficients between the variables, and a relationship matrix was constructed and compared with the square root of the average variance extracted (AVE) of each variable. The results showed that the square root of AVE of each potential variable was greater than the correlation coefficient of that variable with all other variables, indicating good discrimination among potential variables.

Table 2.9 – Results of correlation matrix and mean extracted variance value analysis of independent variables

	Richness	Credibility	Interesting	Sharing	Functional
Richness	0.785				
Credibility	0.60（***）	0.876			
Interesting	0.488（***）	0.555（***）	0.837		
Sharing	0.392（***）	0.545（***）	0.748（***）	0.812	
Functional	0.396（***）	0.56（***）	0.692（***）	0.786	0.827

Note: *** represents correlation at the 0.01 significant level; values on the diagonal are square root values of AVE, and off-diagonal values are correlation coefficients between the variables.

Next, the three dependent variables " Cognition about HEI, Emotion about HEI, and Intention about HEI" were analyzed in the same way. Based on the results of the analysis, the new hypothesis Model 3 (Figure 2.7) was created by deleting the emotion 1 question.
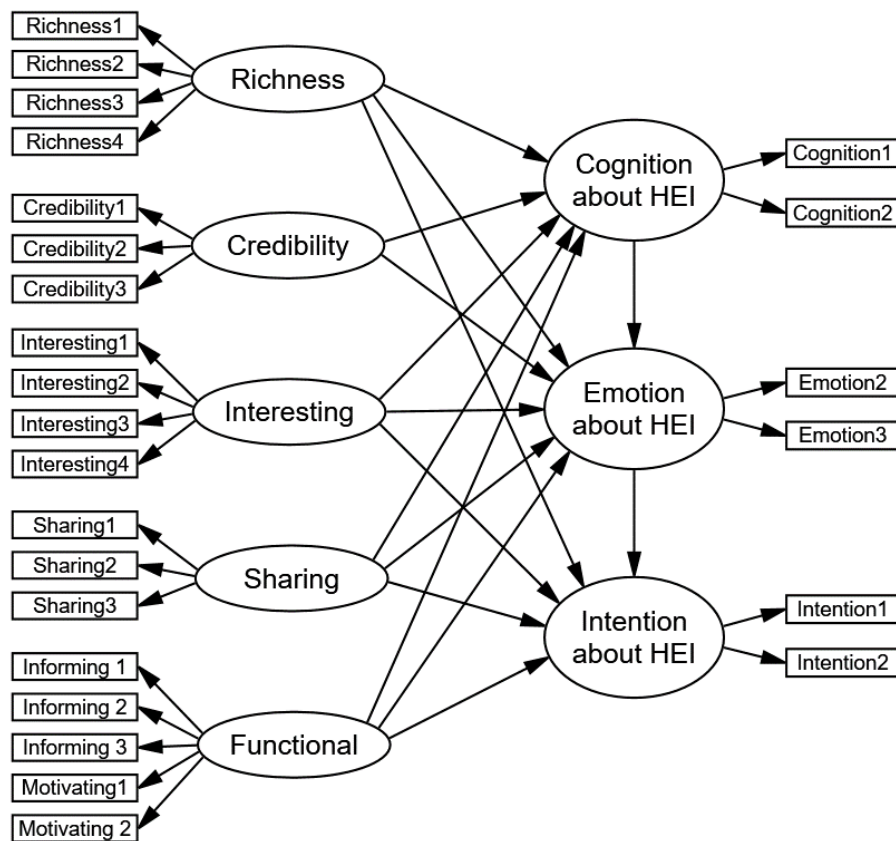

Figure 2.7 – Hypothetical model 3 for effect evaluation of marketing communication in HEIs

The results of the correlation test for the dependent variable in model 3 are as follows.

The results of KMO and Bartlett's test for the dependent variable (Table 2.10). The results show that the KMO value is 0.902, indicating a good fit for factor analysis.

Table 2.10 – KMO and Bartlett's test for dependent variables

Kaiser-meyer-olkin Measure of Sampling Adequacy.		0.902
Bartlett's Test of Sphericity	Approx. Chi-square	7109.456
	df	21
	Sig	0.000

The result of factor load matrix an after orthogonal rotation of maximum variance of dependent variable（Table 2.11）. According to the results of the statistical analysis, the 3 variables cumulatively explained 86.516% of the variance, and the 3 variables

could better represent the main information of the original measures. The factor loadings of each variable on the corresponding measure were distributed between 0.754-0.869, which was greater than the minimum criterion of 0.5, and the loadings on the non-belonging factors were all less than 0.5, with good discriminant validity and convergent validity.

Table 2.11 – The result of factor load matrix an after orthogonal rotation of maximum variance of dependent variable

Questions	Component		
	1	2	3
Cognition 1	0.840		
Cognition 2	0.831		
Cognition 3	0.722		
Intention 2		0.869	
Intention 1		0.754	
Emotion 3			0.820
Emotion 2			0.763
Extraction method: Principle Component Analysis.			
Rotation method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

The values of the model fit goodness of fit index (Table 2.12), the structural equations (Figure 2.8), the factor loadings, the combined confidence, and the mean variance extraction values results (Table 2.13) for the validation factor analysis of the dependent variables. Since the chi-square values and chi-square degrees of freedom ratios are susceptible to large samples and do not test the model fit well, and are only used as a reference [181]，other apt and reliable fit tests need to be selected. Therefore, Table 2.12 shows that the model fits relatively well, and the values of the indicators meet the minimum acceptable criteria. Table 2.13 shows that the factor loadings of the dependent variable question items are all above 0.5, with a minimum value of 0.805, and all pass the test at the 0.01 level of significance. In addition, the combined reliability of all three variables exceeded the acceptable level of 0.6, with a minimum value of 0.853; the mean variance extracted values were all greater than the minimum acceptable standard of 0.5, with a minimum value of 0.743. The results of the above statistical analysis showed that the

convergent validity of the three dependent variables selected in this paper met the requirements.

Table 2.12 – Fit index values for confirmatory factor analysis of dependent variables

Indicator	Indicator value	Acceptable value
CMIN/DF	8.186	
GFI	0.979	>0.9
RMR	0.014	<0.05
NFI	0.987	>0.9
RFI	0.976	>0.9
CFI	0.989	>0.9
RMSEA	0.076	<0.1

CMIN =90.045；DF =11；RMSEA=0.076；GFI=0.979；CFI=0.989
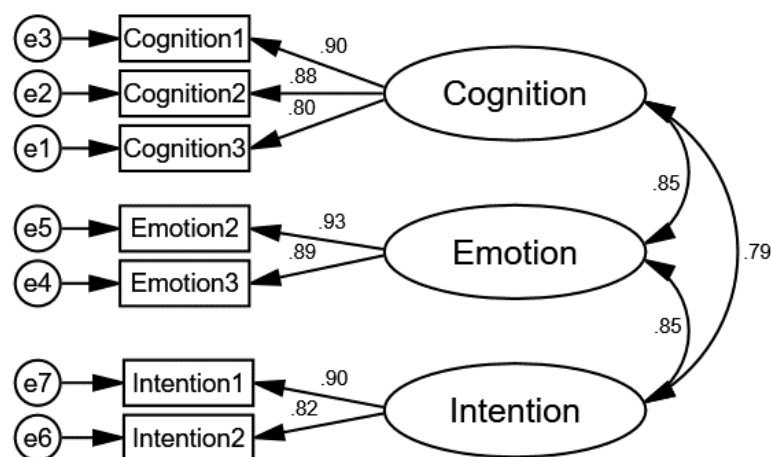
Figure 2.8 – Confirmatory factor analysis model of dependent variables

Table 2.13 – Fit index values for Confirmatory factor analysis of dependent variables

Paths			Estimate	S.E.	C.R.	P	AVE	CR
Cognition 3	<---	Cognition about HEI	0.805				0.743	0.896
Cognition 2	<---	Cognition about HEI	0.877	0.029	36.017	***		
Cognitive 1	<---	Cognition about HEI	0.901	0.029	37.248	***		
Emotion 3	<---	emotion about HEI	0.89				0.826	0.905
Emotion 2	<---	emotion about HEI	0.927	0.022	47.286	***		
Intention 2	<---	Intention about HEI	0.824				0.744	0.853
Intention 1	<---	Intention about HEI	0.899	0.029	35.139	***		

The results of the dependent variables correlation matrix and mean extracted

variance values analysis (Table 2.14). The results showed that the square root of AVE of each potential variable was greater than the correlation coefficient of that variable with all other variables, indicating good discrimination among potential variables.

Table 2.14 – Results of correlation matrix and mean extracted variance value analysis of dependent variables

	Cognition	Emotion	Intention
Cognition	0.862		
Emotion	0.851 （***）	0.909	
Intention	0.785 （***）	0.854 （***）	0.863

*Note: *** represents correlation at the 0.01 significant level; values on the diagonal are square root values of AVE, and off-diagonal values are correlation coefficients between the variables.*

In summary, the new modified model (Figure 2.7) and hypotheses were derived in this paper based on the reliability analysis performed by Bartlett's' coefficient, combined reliability (CR), exploring factor analysis, confirmatory factor analysis, and validity analysis performed by average variance extracted (AVE). The reliability and validity of all variables measured in the model met the requirements and were suitable for subsequent validation of the overall model.

H1: Information richness positively influences the formation of audiences' cognition, emotion, and intention about HEI.

H1a: Information richness positively influences audience's cognition about HEI.

H1b: Information richness positively influences audience's emotion about HEI.

H1c: Information richness positively influences audience's intention about HEI.

H2: Information credibility positively influences the formation of audience's cognition, emotion, and intention about HEI.

H2a: Information credibility positively influences the audience's cognition about HEI.

H2b: Information credibility positively influences the audience's emotion about HEI.

H2c: Information credibility positively influences audience's intention about HEI.

H3: Information interesting positively influence the formation of audience's cognition, emotion, and intention about HEI.

H3a: Information interesting positively influence the audience's cognition about HEI.

H3b: Information interesting positively influence the audience's emotion about HEI.

H3c: Information interesting positively influences audience's intention about HEI.

H4: Information sharing positively influence the formation of audience's cognition, emotion, and intention about HEI.

H4a: Information sharing positively influence the audience's cognition about HEI.

H4b: Information sharing positively influence the audience's emotion about HEI.

H4c: Information sharing positively influence the audience's intention about HEI.

H5: Information functional positively influence the formation of audience's cognition, emotion, and intention about HEI.

H5a: Information functional positively influence the audience's cognition about HEI.

H5b: Information functional positively influence the audience's emotion about HEI.

H5c: Information functional positively influence the audience's intention about HEI.

H6：There is a progressive positive correlation between audience's cognition, emotion, and intention about HEI.

H6a：The audience's cognition about HEI positively influences the emotion about it.

H6b：The audience's emotion about HEI positively influences the intention about it.

2.2.5.4 Model Validation

Models and hypotheses were tested further in this study using Amos 26.0 analysis software. According to Bollen's suggestion, the measurement models can be evaluated by matching tests on a case-by-case basis [182]. The testing model of this study can be decomposed into four sub-models, which are the effect of each variable on cognition, emotion, and intention about HEI, and the level-by-level effect between the three variables of cognition, emotion, and intention about HEI. The four sub-models are respectively numbered and named as model 1, model 2, model 3, and model 4, which are tested in turn below.

Model 1 test: the effect of each variable on the formation of cognition about HEIs

This paper plots the initial model of model 1 in AMOS software (Figure 2.9) and imports the matched data, estimates the model using the maximum likelihood method, and calculates the values of each parameter, the path coefficients, and the model goodness-of-fit index.
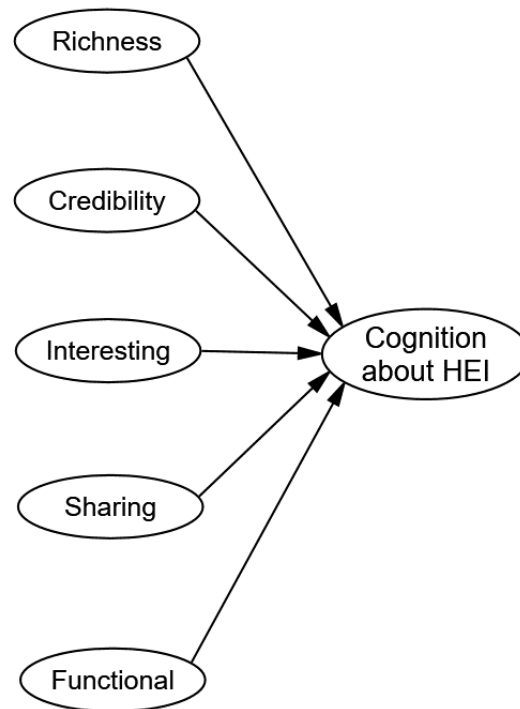

Figure 2.9 – Model 1

The goodness-of-fit indicators for model 1 are shown in Table 2.15, and the coefficient estimation results are shown in Table 2.16.

Table 2.15 – Overall fit index results for model 1

Indicator	Indicator value	Acceptable value
CMIN/DF	3.741	
GFI	0.947	>0.9
RMR	0.017	<0.08
AGFI	0.931	>0.9
RMSEA	0.047	<0.08
NFI	0.964	>0.9
RFI	0.957	>0.9
TLI	0.968	>0.9
CFI	0.973	>0.9

Table 2.16 – Standardized regression coefficients and significance test for model 1

Impact Path			Hypo-thesis	RC	Estimate	S.E	C.R.	P
Cognition about HEI	<---	Richness	H1a	0.086	0.072	0.047	1.834	0.067*
Cognition about HEI	<---	Credibility	H2a	0.012	0.012	0.043	0.268	0.788
Cognition about HEI	<---	Interesting	H3a	0.059	0.047	0.065	0.915	0.36
Cognition about HEI	<---	Sharing	H4a	0.035	0.031	0.07	0.491	0.623
Cognition about HEI	<---	Functional	H5a	0.389	0.347	0.062	6.281	***

*Note: *** indicates correlation at the 0.001 significant level; ** indicates correlation at the 0.05 level, * indicates correlation at the 0.1 level.*
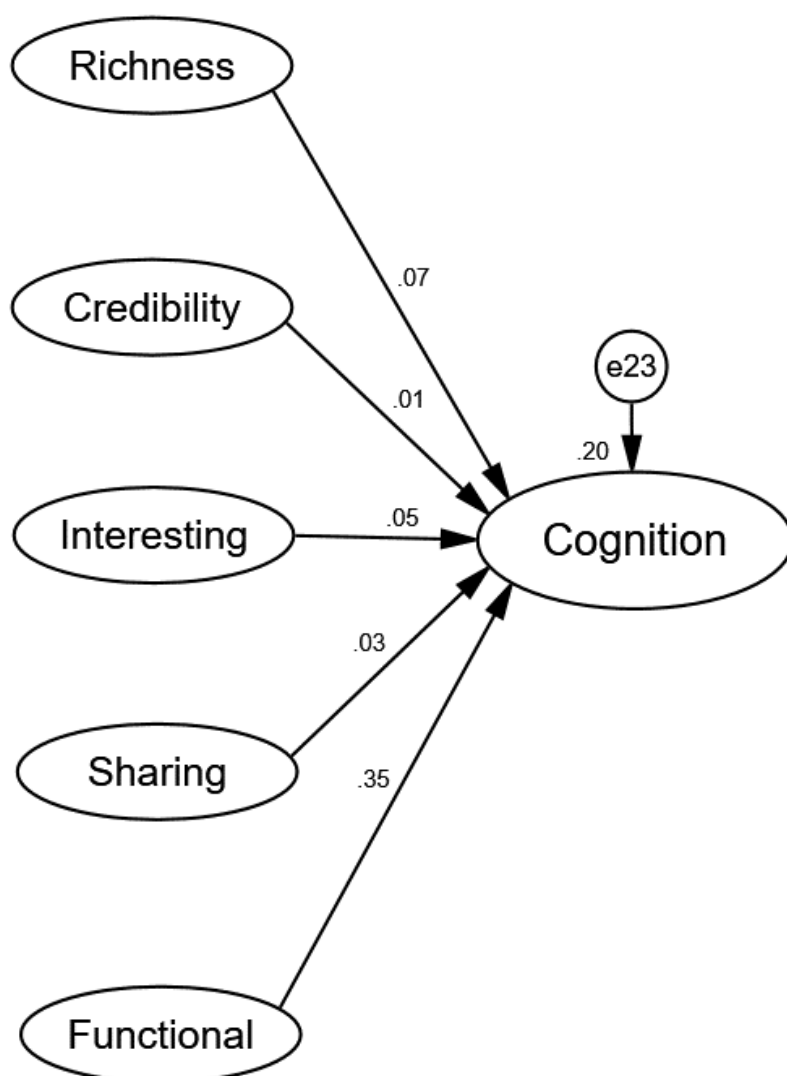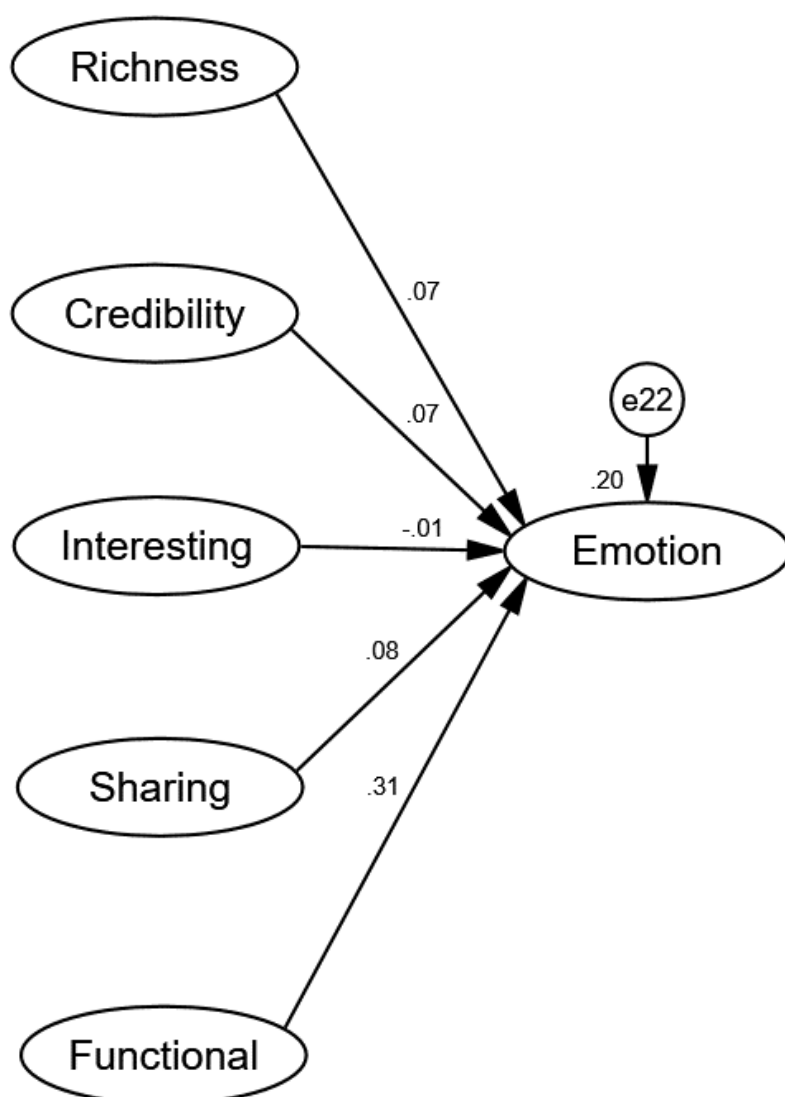

Figure 2.10 – Results of structural equation model analysis for model 1

Model 2 test: the effect of each variable on the formation of emotion about HEIs
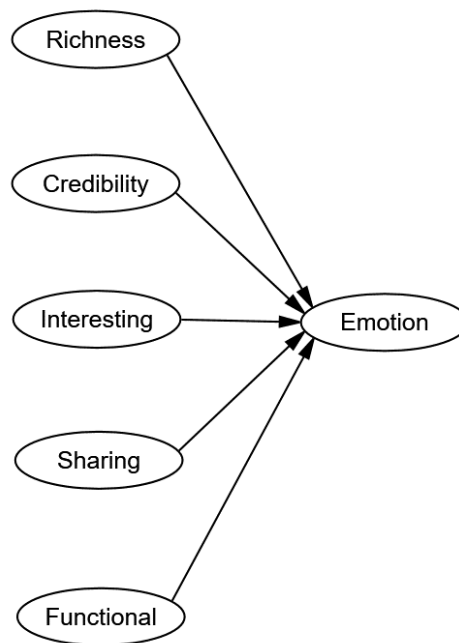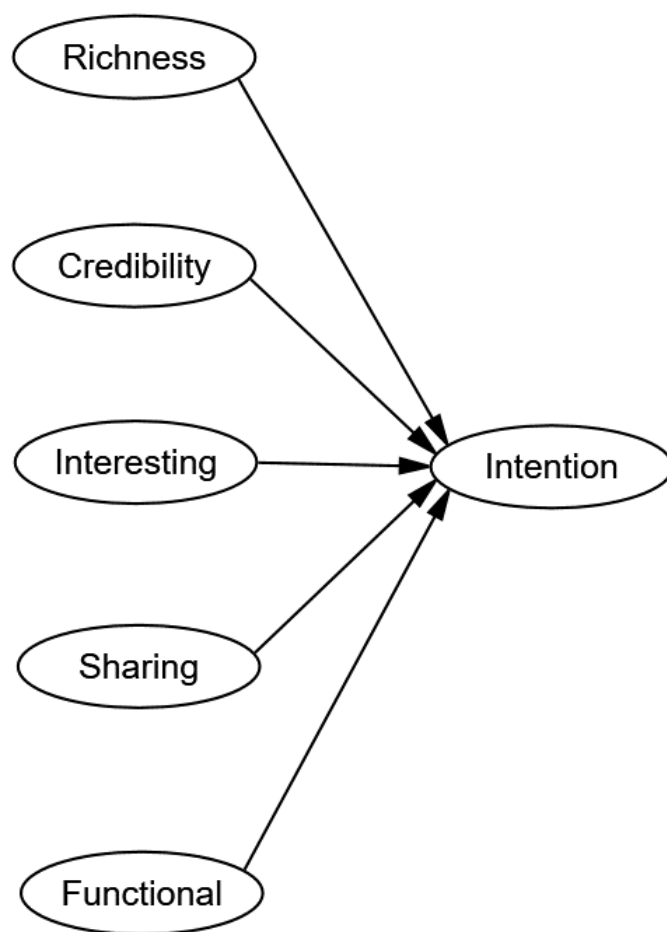

Figure 2.11 – Model 2

Model 2 (Figure 2.11) is estimated according to the above process, and the results are as follows.

Table 2.17 – Overall fit index results for model 1

Indicator	Indicator value	Acceptable value
CMIN/DF	4.063	
GFI	0.946	>0.9
RMR	0.018	<0.08
AGFI	0.929	>0.9
RMSEA	0.049	<0.08
NFI	0.963	>0.9
RFI	0.955	>0.9
TLI	0.966	>0.9
CFI	0.972	>0.9

Table 2.18 – Standardized regression coefficients and significance test for model 2

Impact Path			Hypo-thesis	RC	Estimate	S.E	C.R.	P
Emotion about HEI	<---	Richness	H1b	0.074	0.066	0.044	1.658	0.097*
Emotion about HEI	<---	Credibility	H2b	0.067	0.071	0.041	1.641	0.100*
Emotion about HEI	<---	Interesting	H3b	-0.008	-0.007	0.061	-0.135	0.893
Emotion about HEI	<---	Sharing	H4b	0.081	0.077	0.067	1.211	0.226
Emotion about HEI	<---	Functional	H5b	0.326	0.31	0.059	1.211	***

*Note: *** indicates correlation at the 0.001 significant level; ** indicates correlation at the 0.05 level, * indicates correlation at the 0.1 level.*
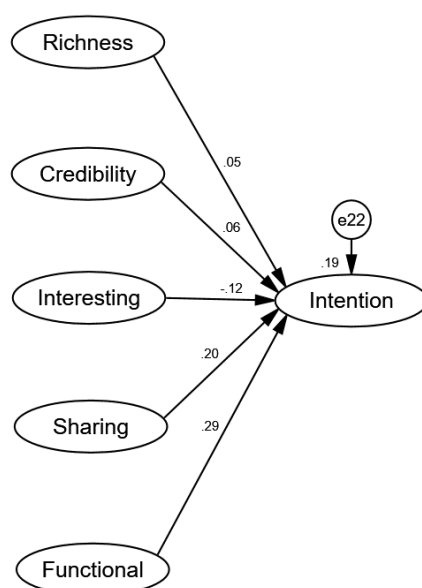

Figure 2.12 – Results of structural equation model analysis for model 2

Model 3 test: the effect of each variable on the formation of intention emotion about HEIs
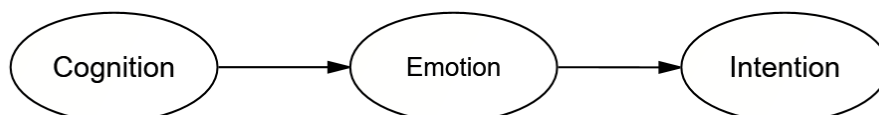

Figure 2.13 – Model 3

Model 3 (Figure 2.13) is estimated according to the above process, and the results are as follows.

Table 2.19 – Overall fit index results for model 3

Indicator	Indicator value	Acceptable value
CMIN/DF	3.997	
GFI	0.947	>0.9
RMR	0.018	<0.08
AGFI	0.929	>0.9
RMSEA	0.049	<0.08
NFI	0.947	>0.9
RFI	0.955	>0.9
TLI	0.966	>0.9
CFI	0.972	>0.9

Table 2.20 – Standardized regression coefficients and significance test for model 3

Impact Path			Hypo-thesis	RC	Estimate	S.E	C.R.	P
Intention about HEIs	<---	Richness	H1c	0.059	0.049	0.05	1.18	0.238
Intention about HEIs	<---	Credibility	H2c	0.058	0.056	0.046	1.258	0.208
Intention about HEIs	<---	Interesting	H3c	-0.155	-0.12	0.069	-2.228	0.026**
Intention about HEIs	<---	Sharing	H4c	0.224	0.198	0.075	2.98	0.003**
Intention about HEIs	<---	Functional	H5c	0.336	0.294	0.066	5.119	***

*Note: *** indicates correlation at the 0.001 significant level; ** indicates correlation at the 0.05 level, * indicates correlation at the 0.1 level.*
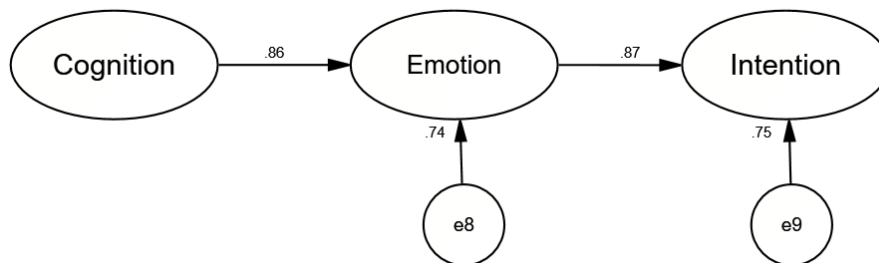

Figure 2.14 – Results of structural equation model analysis for model 3

Model 4 test: Influence effects among three levels of audience attitudes about HEIs

Figure 2.15 – Model 4

Model 4 (Figure 2.15) is estimated according to the above process, and the results are as follows.

Table 2.21 – Overall fit index results for model 4

Indicator	Indicator value	Acceptable value
CMIN/DF	8.978	
GFI	0.977	>0.9
RMR	0.017	<0.08
AGFI	0.946	>0.9
RMSEA	0.08	<0.1
NFI	0.985	>0.9
RFI	0.974	>0.9
TLI	0.976	>0.9
CFI	0.987	>0.9

Table 2.22 – Standardized regression coefficients and significance test for model 4

Impact Path			Hypo-thesis	RC	Estimate	S.E	C.R.	P
Emotion about HEIs	<---	Cognition about HEIs	H6a	0.849	0.862	0.023	36.694	***
Intention about HEIs	<---	Emotion about HEIs	H6b	0.918	0.868	0.025	36.454	***

*Note: *** indicates correlation at the 0.001 significant level; ** indicates correlation at the 0.05 level, * indicates correlation at the 0.1 level.*

Figure 2.16 – Results of structural equation model analysis for model 4

2.3 Discussion the result of the empirical test on the effectiveness of marketing communication in Chinese HEIs

According to the strategic structure of marketing communication of HEIs, information communication is the strategic base to unite various marketing forces. Essentially, the pursuit of communication effectiveness is to make that higher education information released by different subjects through various coordination and guidance form marketing synergy and effectively influence the audience's attitude toward higher education. In this study, 17 research hypotheses were proposed and empirically tested, 10 hypotheses passed the test, and the data did not support 7 hypotheses.

Information richness determines the degree of comprehensiveness of all aspects of attributes of HEI in the communication process. According to the results of empirical tests, the richness of information significantly influences the formation of users' cognition and emotions about HEIs. Firstly, the richness of information can outline a comprehensive image of HEI and form an overall public cognition of the university. Secondly, the richness of information is expressed in the choice of content symbols and in the way of information coding. For example, HEIs can deliver information through text, pictures, videos, and audio, which combine figurative and abstract expressions and are highly infectious, so that the image of HEIs is reflected in the communication process in a three-dimensional and comprehensive way, mainly containing all information elements required by the public. When users target a particular university, the richness of information enables them to understand the overall situation of HEI from different perspectives, making the overall appearance of HEI come alive in users' minds and mobilize their emotions and form emotions about HEI. The influence of information richness on the public's Intention about HEI is not significant. The decision to enroll in an HEI is a complex and rational process, which is influenced not only by personal emotional preferences but also by other factors outside the individual, such as parents' wishes, financial conditions, and family environment. These factors may explain why the information richness is not significant in identifying intentions about HEI.

Table 2.23 – Study Hypothesis and Test Results

	Hypothesis	P	Results
H1a	Information richness positively influences audience's cognition about HEI.	0.067*	Support
H1b	Information richness positively influences audience's emotion about HEI.	0.097*	Support
H1c	Information richness positively influences audience's intention about HEI.	0.238	Not supported
H2a	Information credibility positively influences the audience's cognition about HEI.	0.788	Not supported
H2b	Information credibility positively influences the audience's emotion about HEI.	0.100*	Support
H2c	Information credibility positively influences audience's intention about HEI.	0.208	Not supported
H3a	Information interesting positively influence the audience's cognition about HEI.	0.36	Not supported
H3b	Information interesting positively influence the audience's emotion about HEI.	0.893	Not supported
H3c	Information interesting positively influences audience's intention about HEI.	0.026**	Support
H4a	Information sharing positively influence the audience's cognition about HEI.	0.623	Not supported
H4b	Information sharing positively influence the audience's emotion about HEI.	0.226	Not supported
H4c	Information sharing positively influence the audience's intention about HEI.	0.003**	Support
H5a	Information functional positively influence the audience's cognition about HEI.	***	Support
H5b	Information functional positively influence the audience's emotion about HEI.	***	Support
H5c	Information functional positively influence the audience's intention about HEI.	***	Support
H6a	The audience's cognition about HEI positively influences the emotion about it.	***	Support
H6b	The audience's emotion about HEI positively influences the intention about it.	***	Support

Information credibility determines the degree of trustworthiness of various attributes of HEIs in the public's mind during communication. Information credibility has a significant influence on the formation of public emotions about HEIs and has no significant influence on the cognition and intention of HEIs. Because information credibility tends to give the

public an impression of objectivity, fairness, and trustworthiness, it makes the public trust HEI. It forms the emotional preference of liking or disliking based on this trust, which is the primary value judgment that users make about HEI in the process of marketing and communication of HEI. Information credibility determines the degree of trustworthiness of various attributes of HEIs in the public's mind during communication. Information credibility has a significant influence on the formation of public emotions about HEIs and has no significant influence on the cognition and intention of HEIs. Because information credibility tends to give the public an impression of objectivity, fairness, and trustworthiness, it makes the public trust HEI. It forms the emotional preference of liking or disliking based on this trust, which is the primary value judgment that users make about HEI in the process of marketing and communication of HEI.

Information based on new media often has prominent, interesting characteristics, which are mainly reflected in: firstly, new media users often choose content symbols that can easily activate people's "laughing point" to organize information; secondly, new media users tend to use humorous and funny ways to design coding in the process of information coding. Therefore, interest would have been a prominent characteristic of new media communication. The results of empirical tests show that information interesting has no significant effect on the public's cognition and emotion about HEI and has a significant effect on the intention of HEI. Interesting information is achieved through information coding, which reflects the spirit of entertainment in communication and tends to dilute the audience's attention to the substantive meaning of higher education information. However, when the audience is focused on a particular university, the interesting of the message can significantly influence its intention. The interesting in the information can stimulate the audience to pay more attention to the substance of HEI and form the intention to choose or not.

Information sharing refers to the openness of communication in encoding information, allowing, welcoming, and making every effort to attract comments and retweets to increase the degree of information diffusion. The empirical results show that information sharing, like information interesting, has no significant effect on the cognition and emotion of HEI and has a significant effect on the intention of HEI. The coding method of information

motivating users to comment, retweet, and interactively share has a soundproof effect on the public's intention decision on HEI. The reason why users share information about HEIs with their friends and are willing to interact with HEIs in information dissemination shows that users have a deep and comprehensive understanding of HEIs, and the interaction with friends and HEIs strengthens the connection between personal image and HEIs' image, which makes them more determined in their choice

The function of information refers to the beneficial effect of information dissemination. In the new media environment, the function of information is mainly reflected in informing and motivating. The empirical results show that the function of information significantly influences the formation of users' cognition, emotion, and intention about the chosen HEI. In the new media communication environment, higher education marketing and communication organizations and personnel are equal to the public as new media users, and they have three roles: publisher, audience, and media. The current communication context allows the audience to understand the school better and spread its message. HEI and the audience complete effective integration and cohesion of power in this process. Motivation is achieved through the marketing stimulus delivered by users' mutual corrective, complementary, retweeting, commenting, and other behaviors and messages. First, the user's behavior has raised his attention and participation in higher school, which has a positive meaning for forming all three components of attitude. Secondly, the marketing stimulus in the message also motivates the user to share and interact with the information about the destination in social network circles. This interactive behavior on the network is similar to offline discussions and invitations among friends, which contributes to the user's attitude about HEI, specifically through the formation and strengthening of cognition, emotion, and intention.

This study tested the relationship between the three components of public attitudes about HEI with a progressive, positive influence, and the research hypothesis was passed. In many marketing practices, marketers achieve marketing objectives by appealing to purchase intentions and ignoring cognitive and emotional components, such as luring consumers to buy a brand they dislike by reducing prices. However, the natural, social and cultural attributes of the choice of higher education institutions determine that the selection

process of higher education institutions has a close two-way interaction with individual values, beliefs, and cognitive processes, which is an actual situation that higher education marketing communication personnel must be faced. In order to achieve a good communication effect and win more development resources for HEIs, higher education marketing communication agencies and staff need to encourage potential users to form or change their attitudes about HEIs based on the three components of cognition, emotion, and intention in a step-by-step and positive way.

2.3.3 Current problems of marketing communication construction and management in Chinese HEIs

Combining the results of the empirical study and the current situation of marketing communication system construction and communication effect of Chinese HEI, we summarize the current problems of marketing communication construction and management of Chinese HEI.

Lack of awareness of marketing communication. Under the condition of the planned economy in the past, Chinese HEIs' school-running funds were all managed by the state, and the quality of HEIs' operation had little interest in the personal interests of the school staff. At that time, the managers of Chinese HEIs did not need to consider the competition of talents, funds, employment, and other aspects and did not need to consider marketing communication to gain more resources. This inertia thinking has continued to this day. This phenomenon has led to the general weakening of the marketing communication concept of managers and internal staff of Chinese HEIs, which has no sense of market crisis. They think that if there is a federal guarantee, they only need to care about their own "productivity" and "production quality," and they do not want to solve or cannot solve the problems that affect the brand image of the school, such as the mismatch between the existing majors of the school and the demand of the job market, the inability of trained talents to meet the market demand.

The marketing communication management level is low. The reform of China's higher education system started late (after 1994, it gradually entered the stage of reform and exploration, and substantial changes such as breakthroughs were realized in about 2000), which led to the relatively late introduction of the concept of marketing communication by

Chinese HEIs. In addition, the differences in national systems and the actual situation of China's higher education development, the experience of western developed countries cannot wholly solve the practical problems in the process of China's higher education reform, so the current marketing communication management level of Chinese HEIs is on the low side, which is still in the exploratory stage. For example, top-level design and strategic planning are essential links in management. This link is the guiding ideology and essential compliance of the whole marketing communication work, the design of an overall long-term plan, the choice of "doing something" and "not doing something" for the organization, and the baton and soul to realize the organization's goals and missions. However, in today's China, due to the lack of awareness of marketing communication among HEIs managers, HEIs generally have not formulated the overall planning of marketing communication strategy in line with their reality, so the work of HEIs marketing communication is fragmented, isolated, unorganized, and unsystematic, which significantly affects the effect of marketing communication.

Marketing communication market positioning is not precise. Positioning in advertising refers to a specific communication strategy in a particular target market under the background of market segmentation and target marketing. The key lies in giving consumers a clear understanding of what products and brands represent and determining the position of products in consumers' minds. Extending from this concept, "What kind of image should HEIs set up in the minds of students, college entrance examination candidates, and customers from all walks of life"; "How to make these customers have a clear understanding of the connotation and level of HEIs in the direction of running a school, personnel training and scientific research"; and "How to improve the popularity of a school by highlighting the market positioning of its characteristics and advantages." These problems should be seriously considered and explored by Chinese HEIs. However, most Chinese HEIs' answers to the above questions are vague. They have not built their school orientation, characteristics, and competitive advantages according to their disciplines, talents, resources, location, and other characteristics and formed appropriate "misplaced" competition with other HEIs. If this strategic idea is not implemented and its positioning is unclear, it will significantly affect long-term customer satisfaction and loyalty[183].

The target market of marketing communication is uncertain. Target strategy is the core content of modern marketing communication. Identifying target and potential customers effectively, paying attention to the characteristics of customers and potential customers, and designing marketing communication strategies while meeting the primary needs of customers are the basis for realizing the marketing communication effect. The target market of Chinese HEIs solves the market problems faced by Chinese HEIs: whom to communicate with, whom to communicate with and how to distinguish communication. Chinese HEIs should be clear-headed and clear-cut in this respect and avoid blindness and dullness. However, many Chinese HEIs have not made market segmentation and cannot effectively identify their target and potential customers. The target of marketing communication is often limited to students.

Meanwhile, there is no effective research on the needs of students, which are the target customers. They often think that students' needs are every day and there is no difference. They are the same from south to north, from coastal to inland areas, and from urban to rural areas. If some people do not know where the target market is, and the marketing activities are not targeted, the effect will naturally not be perfect.

Marketing communication information expression is not uniform. Tom Duncan believes that in marketing communication, unifying the image and voice means that in the process of information design and dissemination, we must coordinate and obey a common standard and present a unified concept image, behavior image, and visual image to customers and potential customers. However, many Chinese HEIs do not have a complete marketing communication information-expression system, and teaching staff and students do not have the idea of unified expression. For example, the vast majority of Chinese HEIs have not designed a unified visual identification system; they have not comprehensively and uniformly planned and designed various visual factors that express the image of HEIs, including school signs, standard colors, various supplies, campus buildings, uniforms of teachers and students. This result makes the information unable to effectively express the "unified image" of HEIs in the external communication process. Meanwhile, in the process of contact with customers and potential customers, HEIs teachers and students lack the unified concept of "behavior identification." They cannot effectively and consistently

convey the idea of the school and show its unified image through their behaviors, let alone deepen the impression of customers and potential customers on the school brand through their behaviors.

The marketing communication mode is single. At present, Chinese HEIs lack the idea of combining marketing communication strategies. Many Chinese HEIs' marketing communication operations remain in the aspects of news propaganda, recruitment advertisements, holding activities, and the development of marketing activities usually only focuses on the advertising campaign in recruitment and the recommendation of graduates' employment. Applying these sporadic marketing methods cannot fundamentally solve the problems HEIs have encountered in the market. In addition, Chinese HEIs' marketing communication means are still relatively traditional, which cannot be effectively adjusted according to the new scientific and technological development trends. For example, seize the opportunity of rapid development of the Internet, give full play to the communication advantages of big data, artificial intelligence, new media, and other communication channels, and carry out precise marketing, experiential marketing, resonance marketing, interactive marketing for close followers. These new marketing communication methods, born in the network background and practice, often bring unexpected marketing communication effects, but HEIs do not fully utilize them.

Marketing communication media lacks effective integration. Currently, the campus marketing communication media of Chinese HEIs, such as school newspaper, radio, website, WeChat, and Microblog, play different publicity functions. However, the phenomenon of "each in its way" is widespread, and its working mechanism, operation process, and published content cannot be effectively integrated. Publishing the same news event cannot form an effective communication matrix and communication resultant force, resulting in the waste of resources such as workforce, material resources, financial resources, and time, and affecting the communication effect. In addition, at present, various departments and secondary colleges in Chinese HEIs also have their media, such as WeChat and Microblog, but they lack unified command and cannot cooperate, so they are ineffective. Therefore, it is of great significance for HEIs to find a way to integrate these media and amplify their communication effects effectively.

The effectiveness of marketing communication lacks practical evaluation. After implementing the marketing communication strategy, it is essential to test whether it has achieved the expected goal. Whether the "customer side" audience has an accurate view of the HEIs brand; What personality characteristics the HEIs brand has left in the minds of the "customer side" audience; How the "customer side" audience intensely reacts to the HEIs brand image; Whether the HEIs brand has gained the "customer side" audience's preference or dislike; Why. The evaluation of its effect is to discover and find the problems and shortcomings in the process of marketing communication. By summarizing and analyzing, we can adjust relevant strategies in time to achieve the best marketing communication effect. However, in the current Chinese HEIs, there is generally no effective design for this link.

Conclusions to section 2

The purpose of this chapter is to analyze the current situation of marketing communication system management in Chinese HEIs, examine the effectiveness of marketing communication in Chinese HEIs, and identify the problems in the construction and management of marketing communication systems in Chinese HEIs. Firstly, we analyzed the current marketing communication system construction and management in Chinese HEI from the aspects of marketing communication management organization and responsibilities, marketing communication staff team and composition, marketing communication rules and regulations and workflow, marketing communication media composition, and marketing communication content and channels. Then, we completed the empirical test on the effectiveness of marketing communication in HEI by determining the scale, forming questionnaires, collecting data, using descriptive statistics, reliability testing, and a structural equation model. Finally, based on the analysis of the current situation and the empirical test results.

SECTION 3. WAYS TO IMPROVE THE SYSTEM OF MARKETING COMMUNICATIONS IN CHINESE HEIS

3.1 Algorithm for building an effective marketing communications system in Chinese HEIs

3.1.1 The corresponding solution for the construction of the marketing communication system of Chinese HEIs

To solve the above problems, we have given the corresponding solutions to the problems in the construction and management of the marketing communication system of Chinese HEIs and indicated the corresponding relationship between the solutions and the problems by connecting lines (Figure 3.1). The proposal provides a guiding direction for the construction and management of the marketing communication system of Chinese HEIs.
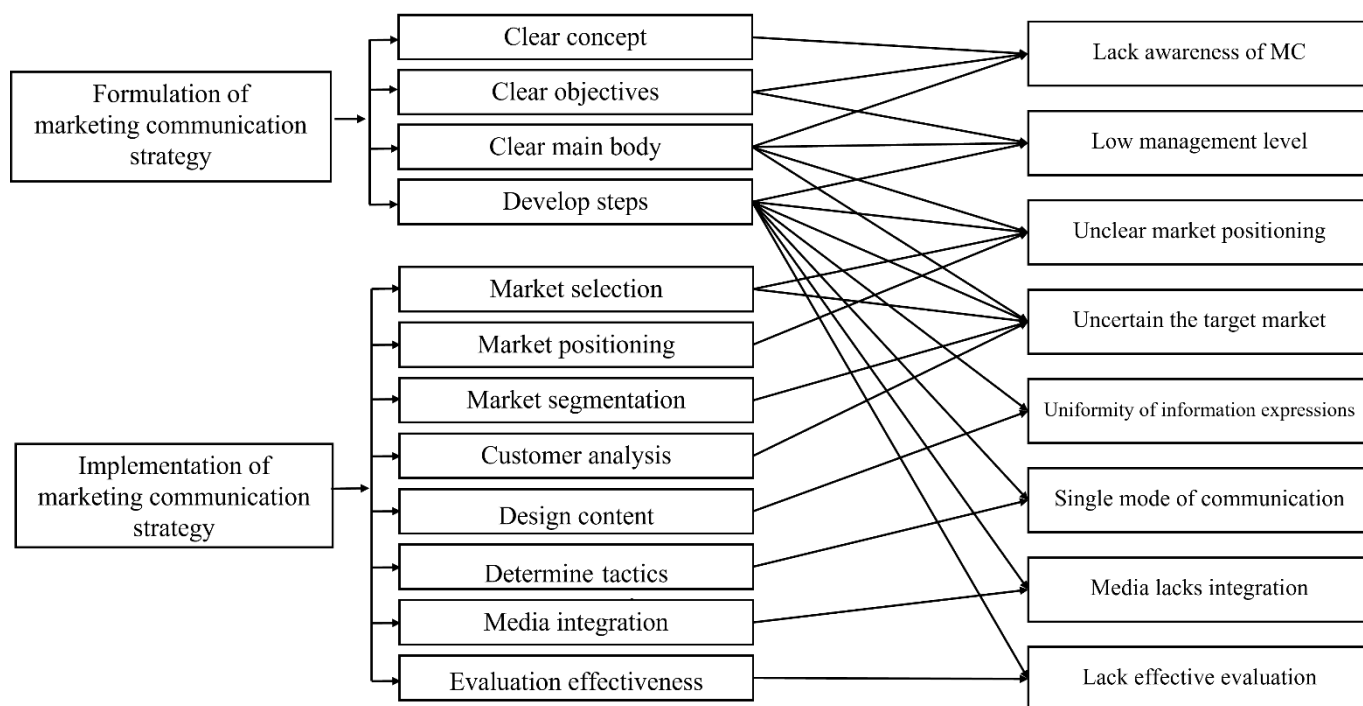
Figure 3.1 – Problems of marketing communication system construction in Chinese HEI and corresponding solutions

3.1.2 Thought of constructing a marketing communication system for Chinese HEIs

The marketing communication system construction and management mode of Chinese HEIs is the mode that Chinese HEIs effectively implement and manage their marketing communication activities. This system is the basic framework and the sum of the

main operating principles of the marketing communication system construction and management of Chinese HEIs; it reflects the most fundamental content of the marketing communication system construction and management of Chinese HEIs; It is the theoretical abstraction of Chinese HEIs' marketing communication system construction and management. It is an ideal "type" or "style" abstracted from the actual practice of Chinese HEIs' marketing communication system construction and management. It is a theoretical system used to guide Chinese HEIs' marketing communication system construction and management practice.

The construction of marketing communication systems and management mode in Chinese HEIs focuses on solving the existing problems in the construction and management of marketing communication systems in Chinese HEIs. Based on the theoretical models of background disciplines such as communication, advertising, marketing, and marketing communication, based on fully understanding the marketing characteristics of non-profit organizations, from the perspective of marketing communication, learn from the theory and practice of marketing communication related to enterprises and HEIs in Ukraine. Combined with the characteristics of Chinese HEIs' marketing communication environment, it mainly consists of two parts: the determination of Chinese HEIs' marketing communication strategy and the implementation of Chinese HEIs' marketing communication strategy.

Based on the above analysis, we have developed the overall framework of marketing communication strategy formulation and strategy implementation of Chinese HEIs (Figures 3.2 and 3.3) to describe the design and implementation process of Chinese HEIs' marketing communication system.

The formulation of HEIs' marketing communication strategy is essential in implementing the whole strategy. It should be carried out under the guidance of the whole organization's "strategy" concept and "strategic management" process. It is the connection between the whole school strategy and the marketing communication activity strategy, so it should be designed based on the whole university strategy. The formulation of the overall strategy of HEIs should be based on analyzing the environment in which HEIs are located and the advantages and disadvantages of HEIs. Meanwhile, these analyses also lay the foundation for formulating the marketing communication strategy. After the strategy's

implementation, the effect evaluation can be fed back into the strategic adjustment. Strategy is essential, which directly relates to the success of the overall marketing communication strategy's implementation. The links involved are also very complicated, so we intend to focus on it as one of the sections for analysis and discussion.
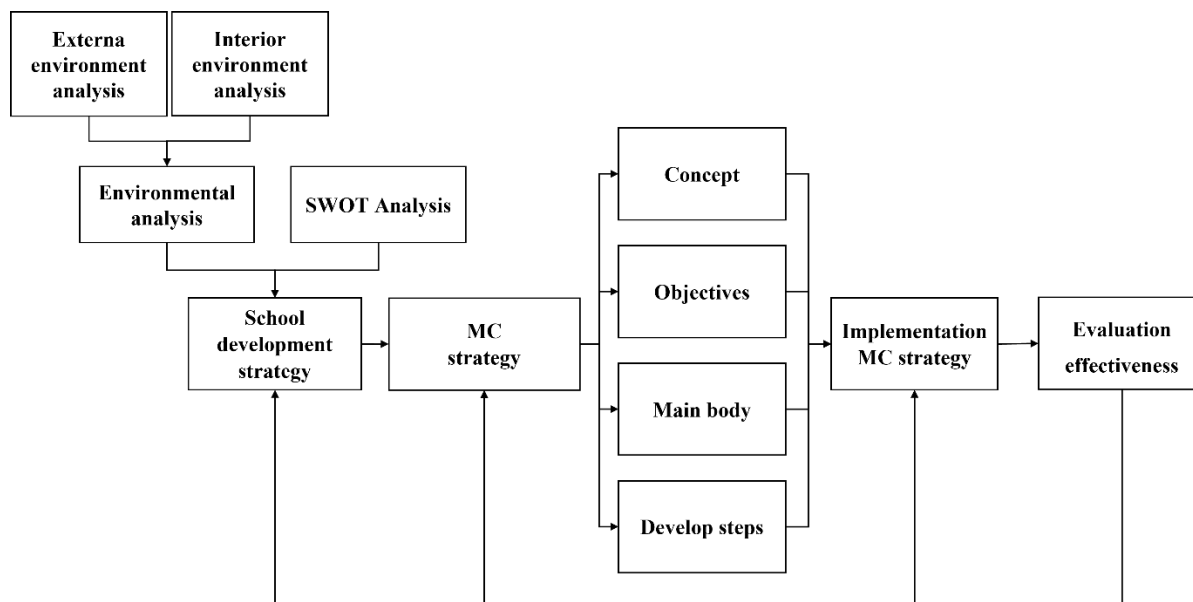

Figure 3.2 – General framework of marketing communication strategy development for Chinese HEIs

The implementation of HEIs' marketing communication strategy is based on the concrete design of the overall marketing communication strategy. First, the market analysis should be carried out, and then specific strategies should be implemented. In implementing specific strategies, it is necessary to design the content of communication information, choose the mode of communication and integrate the media; finally, the communication effect should be monitored and fed back.

The market analysis aims to provide relevant information about market demand for the decision-making body of HEIs' marketing communication so that the decision-making body can make decisions to maximize the effect of marketing communication. The market analysis of HEIs' marketing communication refers to determining the target market, market positioning, and target customers of HEIs' marketing communication after market segmentation according to the educational level, educational nature, personalized differences, and geographical location of HEIs.

Marketing communication tactics selection. First of all, the information of marketing

communication should be designed, that is, what kind of ideas and information can be used to express the idea and brand positioning of HEIs; Secondly, the methods of marketing communication should be selected, and the practical methods suitable for the characteristics of HEIs and target customers should be selected. Thirdly, we should integrate marketing communication media. That is, according to the situation of the target market, the media that consumers can effectively contact will be integrated to achieve the goal of maximizing the communication effect.
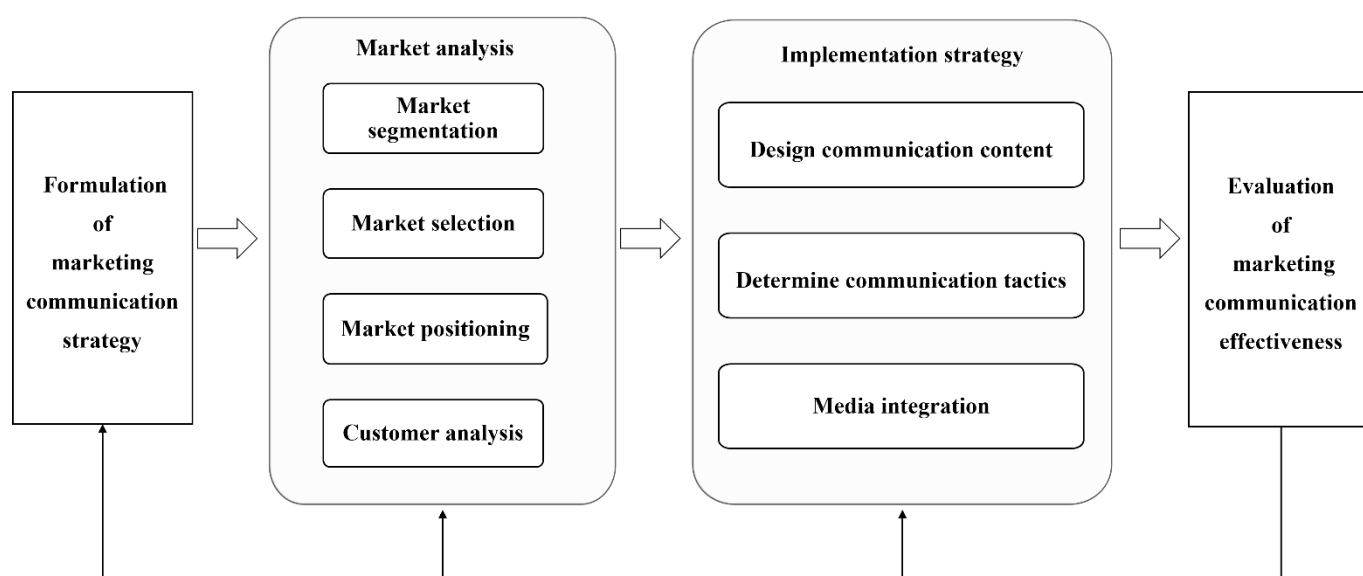
Figure 3.3 – Framework for the construction of a marketing communication system for Chinese HEIs

Marketing communication effect evaluation. During and after the implementation of the marketing communication strategy, it is necessary to monitor and evaluate its effect to improve and optimize the overall marketing communication strategy and each link.

3.2 Clarification of marketing communication strategy for Chinese HEIs

What kind of goal should be established to develop the marketing communication strategy to maintain the competitive advantage of enterprises and what kind of marketing communication strategy should be formulated to achieve this goal are broad principles [184]. The same is true of HEIs. The design, development, planning, and management of its marketing communication strategy are aimed at setting the direction, stages, and methods

for specific marketing communication activities to ensure the overall effect of all activities and realize the strategic objectives of marketing communication.

The principle of synergy. "Strategy" gives the organization a long-term and overall conceptual orientation and guides the strategic construction of "one image, one voice" in marketing communication activities. Marketing communication strategy, as a part of the strategic system of the organization, needs to be coordinated with other strategies of the organization so that all activities of the organization can be unified with the overall strategic objectives. Therefore, when designing the marketing communication strategy, HEIs should grasp the principle of synergy and, based on clarifying the overall development strategy of the school, formulate the marketing communication strategy and objectives that are compatible and coordinated with it to guide the formulation and implementation of various decisions in marketing communication activities.

Integration concept. In marketing communication, the whole marketing communication system should be examined strategically with the concept of integration. Especially in the Internet era, the new media platform is developing rapidly, subverting the traditional communication structure and has a far-reaching impact on marketing communication. Therefore, HEIs must establish the concept of integration, integrate various marketing communication tools and media, realize the innovation of marketing communication and maximize the communication effect.

Big data support. With the development of Internet technology and the arrival of the era of big data, it is possible to realize precise marketing. Through comprehensive analysis of massive and multidimensional data, organizations can accurately find the target consumers and clearly understand consumers, thus helping organizations implement accurate marketing communication. Therefore, when making the marketing communication strategy, HEIs should fully use ample data resources to form a closed-loop marketing communication system of big data, which predicts the market through data, guides marketing through data, and evaluates decisions through data to provide a data-based marketing communication strategy.

It should be said that in the current Chinese HEIs, the publicity department is generally the main body of marketing communication. Because the publicity department is

mainly responsible for the publicity work of the school, is responsible for building and managing various media of the school, and organizes, coordinates, supervises, and controls the development of the overall publicity activities of the school.

However, the author believes that it is far from enough to position the main body of marketing communication as the publicity department of the school mainly for the following three reasons: First, the determination of the marketing communication strategy and the achievement of its effect, one of the essential links is to conduct market analysis, and observe the needs and changes of the market at any time, and use the market to guide, formulate and adjust the whole scheme. However, the publicity department of HEIs undertakes heavy daily publicity, ideological and spiritual civilization construction work, and lacks professional knowledge and human and material resources to carry out market research and design scientific and reasonable marketing communication strategy. Second, in the current Chinese HEIs, some publicity tasks will be dispersed to other specific departments, and the general public funds of the school will be divided. For example, the admissions and employment office undertakes the enrollment and publicity work of the school; the personnel department is responsible for the recruitment and publicity work of the school. In implementing the corresponding publicity work, these departments will also become the main publicity body. In the publicity process, they often seek the help of the publicity department because of the limitations of terrible publicity experience and the slight influence of the media they have mastered. However, due to the division of funds and tasks, as well as the workforce limitation, in implementing collaborative tasks, the publicity department will be unable to meet its needs, affecting the communication effect. Third, Don E. Schultz believes that all the "processes and experiences" that can transmit brands, product types, and market-related information to consumers or potential consumers can become contact points. In this sense, any contact between any department or individual in the school and "customers and potential customers" is the contact point, which has an impact on the whole marketing communication work and the brand building of the school, so it should also belong to the main category of marketing communication.

Therefore, Chinese HEIs should try to remedy the lack of marketing communication mechanisms in current organizations and explore establishing specialized marketing

communication institutions. For example, the marketing communication office should be responsible for the overall planning of the school's marketing communication work and unify the school's publicity and brand communication functions. They can decentralize the publicity department (news center), admissions and employment department, personnel department, and other departments into the marketing communication office to make it the main body of the school's marketing communication work. We think that this will have the following theoretical and practical significance for the development of HEIs: First, the effective operation of the marketing communication office can promote the change of the concept of all members of HEIs, and help to establish the customer-oriented marketing concept, overall concept and service awareness within the school from the president to every employee, as well as the enrollment, educational administration, personnel, and other management departments. Second, the effective operation of the marketing communication office can make HEIs better adapt to the changes in the competitive environment. Through monitoring the marketing environment by the marketing communication office, HEIs can correctly analyze the opportunities and challenges it faces, and make a timely response, constantly revising the strategic planning of marketing communication, thus improving the market competitiveness of HEIs. Third, the effective operation of the marketing communication office can improve the systematicness of HEIs' marketing communication. Currently, the publicity work of Chinese HEIs is not paid attention to, scattered in many administrative departments, unsustainable and unsystematic, which will be significantly improved. The functions of the marketing communication office should mainly include formulating and implementing the overall marketing communication strategy.

An objective is a purpose or final result that an organization seeks and is necessary for implementing strategic planning at all levels of organizational activity. The definite objective may reduce useless efforts and allow all involved personnel to always be on target. At the same time, the results of strategy implementation can be evaluated in a targeted manner based on set objectives, allowing for a more optimal allocation of resources. In brief, objectives are a crucial part of the strategic planning process, allowing the strategy to be defined and acting as an essential bridge for all matters related to the implementation of the strategy, assisting in giving direction and providing a means for evaluating the results of

implementation. When developing strategic goals for marketing communication, HEIs can incorporate the hierarchy of influence model [185] from communication theory (As shown in Figure 3.4) to develop clear and precise goals to ensure the scientific nature of the constructed strategy and as a means of evaluating the effectiveness of marketing communication activities. The hierarchy of influence model describes a stepwise process where individuals move through the ladder of knowing, understanding, believing, and acting as they interface with marketing communications, including steps of cognitive thinking, emotional feeling, and volitional action.

Acting - The actual purchase or action described in the promotion. For example, voting, attending an event, taking out a trial item, purchasing a product

Believing - Development of brand interest and credibility, development of brand preference, development of a propensity to buy or act as described in the promotion

Understanding - Developing brand knowledge and understanding of brands and their values

Knowing - Generate brand awareness among the target audience

Figure 3.4 – Colley's hierarchy of influence model (1961)

Source： Colley, R. H. (1961). Defining Advertising Goals for Measured Advertising Results, Association of National Advertisers. Inc., New York, NY.

Taking into account the actual situation of HEIs, we believe that the objectives of marketing communication strategy of HEIs can be generally segmented into the following levels: to let the target audience and the public know about the school and leave the impression of the school brand; to grasp the various media in contact with the target audience; to establish an effective media marketing combination strategy, to develop the understanding of the target audience on the school spirit, culture and school orientation through two-way communication with the target audience; to convey the school's achievements in scientific research, talent cultivation and social services to the target audiences and the public, so as to make the target audiences feel good about the school and enhance their attention to the school; to better perform the function of higher education

schools in cultivating talents; to better promote the sustainable forward development of HEIs, to successfully shape the brand image of the school, to enhance the social reputation and influence of the school;   and to improve the market competitiveness of the school; to help the target audience to make decisions through marketing communication, for example, high-quality students applying to the school, high-level talents serving the school, high-level enterprises accepting school graduates, and effectively absorbing social funds to support the school.

The formulation of a marketing communication strategy can be regarded as a continuous cycle containing a large number of activities. Cooper's overall view of the planning cycle (1997) effectively emphasizes the periodic nature of the planning process (Figure 3.5) and its relationship with developing and implementing marketing communication schemes.
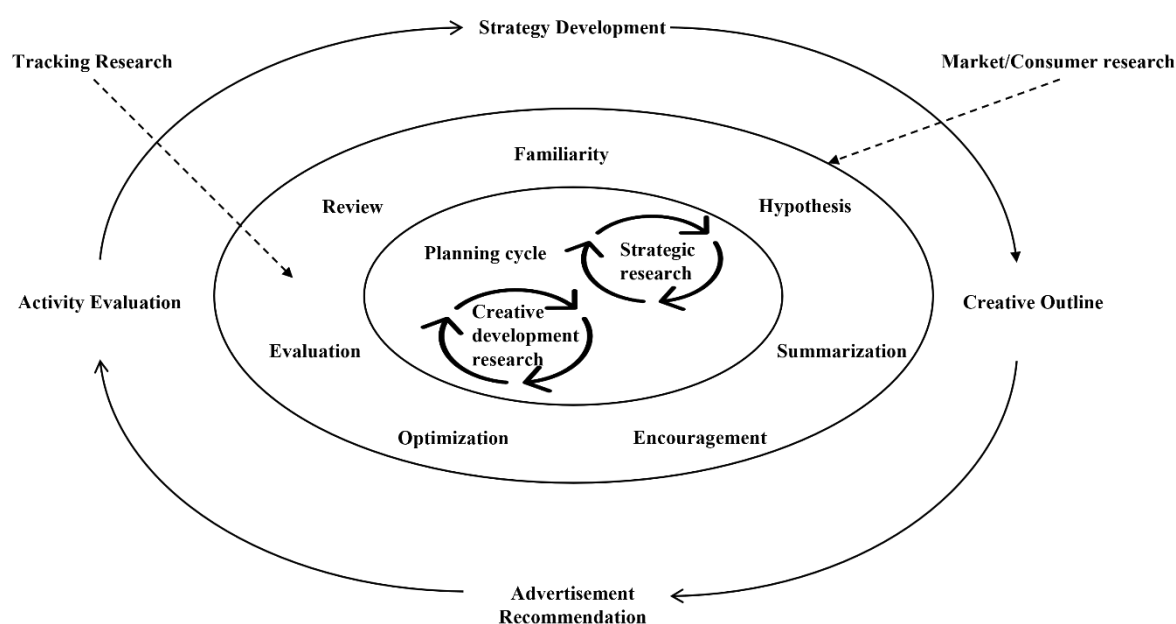
Figure 3.5 – Marketing communication development process and research input

Source: Adapted from Cooper (1997).

Critical steps of Cooper's planning cycle: 1. Familiarity: The first stage involves the research of customers and the analysis of existing data, including published market reports, data distribution, utilization rate and attitude research, cognitive tracking research, and marketing communication research. 2. Hypothesis: More research needs to be started in the second stage. There may be several strategic choices for research that need to be determined, and the research will help to form a conclusion. 3. Summarization and encouragement: The

third stage includes the final task instruction to the creative team so that customers can accept and agree with the strategic process of the brand. 4. Optimization: The fourth stage includes initiating or conducting diagnostic research on the original ideas to determine the influence of promotion on brand attitude and how individual elements work. 5. Evaluation: The fifth stage involves pre-inspection management to ensure the brand and information feedback are satisfactory. 6. Review: In the sixth stage of the planning cycle, it is necessary to track the marketing communication results according to sales and awareness to make corrections in subsequent activities.

According to the critical steps of Cooper's planning cycle, we designed the step chart of the HEI marketing communication strategy (Figure 3.6).
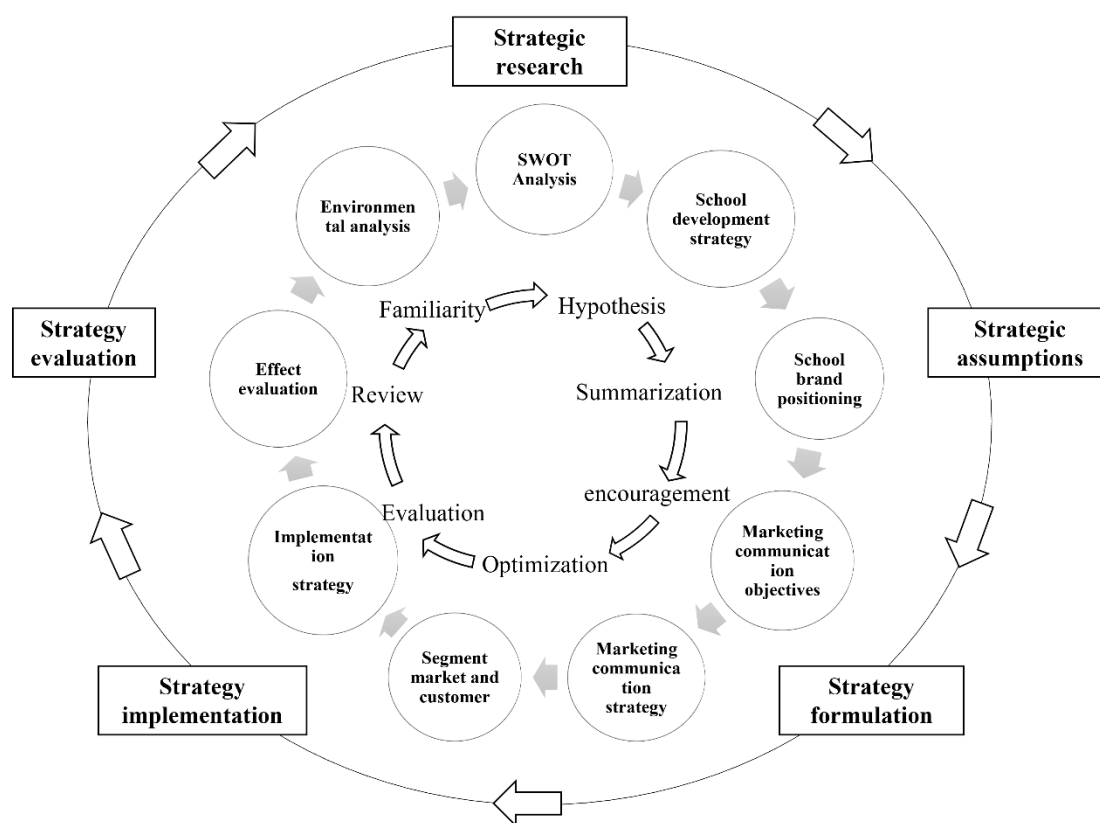
Figure 3.6 – Steps of developing a marketing communication strategy for Chinese HEI

Strategic research. It includes environmental analysis, SWOT analysis, and school development strategy formulation. Before formulating the overall strategy of the school, we should first collect the necessary information and conduct research, including research on the external macro-environment and the internal microenvironment of the school. Secondly, we should fully understand the advantages and disadvantages of the school, as well as the opportunities and threats that the school will face in the external environment changes

through SWOT analysis. Upon the investigation, we should scientifically analyze and evaluate the information we have to make it an essential basis for the overall strategic planning of the school.

Strategic assumptions. In this step, the school brand positioning and marketing communication objectives should be worked out to set a clear direction for the formulation of the marketing communication strategy based on the previous strategic research and the school's overall strategic planning and objectives, which is the strategic assumption link.

Strategy formulation. After the strategic goal of marketing communication is determined, it is necessary to formulate a strategic implementation plan. By analyzing the market environment, the school can design a scheme of marketing communication information, the path selection scheme of marketing communication methods, the integration method of marketing communication media, and the evaluation method of marketing communication effect; which can do overall planning for all the activities to be done next; can make clear the action path. In the market analysis, it is necessary to conduct continuous research, segment the target market, find the correct market position and lock the target population.

Strategy implementation. Implementation is to put every link of strategic planning into action and to test the scientificalness of strategic formulation in practice. The effect evaluation link in the implementation process is vital. The implementation process and effect of each step are evaluated to check the scientificalness of the strategic plan formulation and the effectiveness of the implementation process. The overall strategy and implementation steps are amended through the inspection and evaluation of each link and the final result.

3.3 Implementation of marketing communication strategy for Chinese HEIs

After the strategy is formulated, it will be implemented concretely. First, the market analysis should be carried out, then communication strategies should be formulated, and finally, communication effects should be evaluated to optimize and adjust the overall strategy and each implementation link.

The so-called market segmentation is the process by which an organization segments

the whole market into several segments according to specific standards according to the differences and similarities of consumer demands to determine the target market. Every market segment is a group of consumers with similar needs. Therefore, consumers of different market segments have obvious differences in the demand for the same product, while consumers of the same market segment have similar demand. An HEI can neither meet all the people who need higher education nor can it cultivate all kinds of talents, which is not only limited to its resources and abilities but also to ensure efficiency and quality. The higher education market, in different ways, can be segmented into different markets.

Different industries and units have different requirements for the categories of talents and the levels of talents. Chinese HEIs can be segmented into HEIs based on first-class universities, HEIs based on first-class discipline, "double first-class" universities, universities with a doctoral degree, universities with master's degrees, universities with bachelor's degree-granting rights, junior colleges, vocational and technical colleges. From the nature of education, it can be segmented into general, adult, and vocational-technical education.

Considering that the demand preference or response of HEIs' students varies from region to region, the student market is segmented into different geographical regions: for example, it can be segmented into "domestic market" and "foreign market." "Domestic market" can be further segmented by "province" or even "city." For example, a university has different branch schools, and the enrollment and teaching plan of each branch school should meet the different requirements of local students, including "big cities," "medium cities," and "small cities," or "city," "suburb" and "country."

People's personalities are very different, and people's pursuits and aspirations are also different. It can be segmented into philosophy, economics, law, education, science, engineering, agriculture, medicine, and management according to the tendency to apply for the major; or comprehensive universities, science and technology colleges, agricultural colleges, forestry colleges, medical colleges, regular colleges, financial colleges, political and legal colleges, sports colleges, art colleges and ethnic colleges according to the tendency of the colleges applying for the examination; or "technical," "academic," "skilled" and "engineering" based on the preference of talent types. According to demand preference, it is

segmented into hardware facilities, teaching quality, campus life, and necessary expenses.

Generally speaking, the employment market of HEIs can be segmented into philosophy, economics, law, education, literature, history, science, engineering, agriculture, medicine, and management according to the talent demands; or "practical operation," "theoretical research" and "combination of operation and research" according to the type of talent demand. It can also be segmented into "obedient," "rebellious," and "independent" according to talent demand preference.

The above only segments the HEIs market in theory. In most cases, various market segments intersect, and HEIs should consider various factors when making a market selection.

The limited resources of HEIs and the diversity of consumer demand determine that HEIs cannot manage all products and meet the needs of all consumers. Any HEI can only operate certain products according to its resource advantages and consumers' needs to meet part of consumers' needs. The target market is one or several market segments that HEIs are ready to enter and meet the actual and potential needs of consumer groups with its educational products, that is, the market with specific needs selected or developed according to its operating conditions. The market is the center of the whole marketing communication planning of HEIs. HEIs should grasp the following principles when determining the target market:

As a result of market segmentation, a large number of market segments are often obtained. Paying attention to and analyzing every market segment is impossible and unnecessary. A large number of market segments can be preliminarily screened according to the following standards: measurability- the market can be measured and calculated; accessibility-the market can enter; scale- the market is large enough. HEIs should choose the market with the most excellent opportunity after balancing, comparing, and analyzing.

The target market depends not only on the size of market opportunities but also on its conditions. We should choose those market segments that align with our development strategies and advantages. Even if a particular market segment has a good prospect and attractive structure, it should be abandoned if it does not meet the long-term goal and development strategy of HEIs. Otherwise, it will not only waste valuable resources but also

blur the school's characteristics and damage its image and brand.

With the development of the social economy, the change in the market situation, and the change in HEIs, the target market is constantly evaluated and examined. HEIs should respond quickly and positively to the changes and adjust the target market in time.

HEIs market positioning is a behavioral process of clarifying the position, advantages or unique features, brand image, and product value of HEIs, to help target customers correctly recognize and understand the image of HEIs as different from its competitors. HEIs market positioning refers to the positioning of the target market, which should not conflict with the demand preference of the target market. The market positioning aims to influence customers' psychology, improve the quality and quantity of students, enhance the employment rate of graduates and strengthen the market competitiveness of HEIs. HEIs positioning should be practical, avoid blind comparison and ambition, and at the same time, reflect social requirements and meet their actual conditions. It should be emphasized that the market positioning of HEIs is a very rigorous problem, and it is necessary to evaluate various factors before making decisions comprehensively. Once the market positioning is determined, it should maintain specific stability. However, this does not mean that the market positioning is invariable. If the environment and conditions change drastically, the positioning should naturally change accordingly. To do this, HEIs can effectively maintain their competitive advantages.

Currently, there are 3,005 universities in China, which can be segmented into eight levels according to their running levels. On the first level, there are 9 top universities in China, all of which are the first batch of first-class universities under the national "985 Project", including Peking University, Tsinghua University, Harbin Institute of Technology, Fudan University, Shanghai Jiaotong University, Nanjing University, Zhejiang University, University of Science and Technology of China and Xi'an Jiaotong University. They established the Nine-University Alliance in October 2009. On the second level, the first batch of 42 first-class universities was announced by the Ministry of Education of China in 2016. The first batch of 95 first-class discipline construction universities is on the third level. On the fourth level, 85 universities were once in the category of "985" and "211," although they were not selected as the first batch of "double first-class" universities in China. On the

fifth level, there are 146 universities with all doctoral programs. There are 350 universities with all master's degrees on the sixth level. On the seventh level, there are more than 600 universities with all bachelor's degree-granting rights. On the eighth level, there are more than 1,000 junior colleges and higher vocational and technical schools（Figure 3.7）.
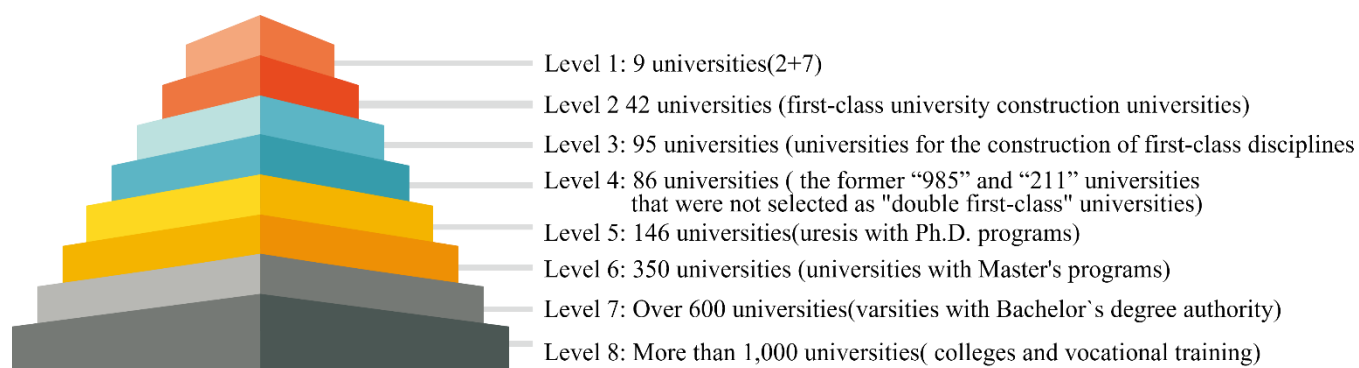

Level 1: 9 universities(2+7)
Level 2 42 universities (first-class university construction universities)
Level 3: 95 universities (universities for the construction of first-class disciplines
Level 4: 86 universities (the former "985" and "211" universities that were not selected as "double first-class" universities)
Level 5: 146 universities(uresis with Ph.D. programs)
Level 6: 350 universities (universities with Master's programs)
Level 7: Over 600 universities(varsities with Bachelor`s degree authority)
Level 8: More than 1,000 universities(colleges and vocational training)

Figure 3.7 – Level distribution of Chinese HEIs

Following the research on Chinese university ranking (Wu Shulian), Chinese universities can be segmented into four types: research type, research & teaching type, teaching & research type, and teaching type. At the same time, it is segmented into Research Type 1, Research Type 2, Research & Teaching Type 1, Research & Teaching Type 2, Teaching & Research Type 1, Teaching & Research Type 2, Teaching Type 1, Teaching Type 2, and Teaching Type 3 according to specific standards (Table 3.1).

Table 3.1 – Classification of Universities in Evaluation Indicator System of Chinese University Ranking (Wu Shulian)

Type name	Type criteria	Type segmentation	Standard segmentation
Research type	Rank the scientific research scores of all universities in the country in descending order, and add them from big to small until the cumulative scores exceed 61.8% of the national university scientific research scores; each added university is a research type university.	Research Type 1	Scientific research scores rank among the top 10 universities in China, or the innovation environment of graduate students is higher than the average level of research universities, and no less than 100 doctoral degrees are awarded yearly.
		Research Type 2	Research universities that do not meet the standards of Research Type 1.
Research &	Do not count research universities, but rank the research scores of the	Research Type 1	The innovation environment of graduate students is higher than

teaching type	remaining universities in the country in descending order and add them in descending order, with the first university in each graduate discipline being counted first until the scores cumulatively exceed 61.8% of the research scores of the university being counted; each university being added is a research and teaching university.		the average level of research-teaching universities, and no less than 100 master's degrees are awarded yearly.
		Research & Teaching Type 2	Research-teaching universities that do not meet the Teaching & Research Type 1 standard.
Teaching & research type	Do not count research and research-teaching universities, but rank the research scores of the remaining universities nationwide in descending order and add them in descending order, with the first place in each undergraduate program, the first place in each second-level graduate discipline, and universities with doctoral degree-granting authority being counted first, until the scores cumulatively exceed 61.8% of the research scores of the universities counted; each university counted is a research-teaching university.	Research & Teaching Type 1	The quality of bachelor's degree training is higher than the average quality of teaching and research universities, and no less than 1,000 bachelor's degrees are awarded every year.
		Research & Teaching Type 2	Teaching and research universities do not meet the Teaching & Research Type 1 standard.
Teaching type	Universities do not meet the standards of research, research & teaching, and teaching research.	Teaching type 1	The quality of bachelor's degree training is higher than the average quality of teaching-oriented universities, and the number of bachelor's degrees awarded by the school every year exceeds the number of junior college students who graduate from the school every year.
		Teaching type 2	The number of bachelor's degrees awarded yearly exceeds the number of junior college students who graduate yearly.
		Teaching type 3	The number of college students who graduate yearly exceeds the number of bachelor's degrees awarded yearly.

Positioning by subject nature. For example, it is a regular HEI or comprehensive HEI, engineering HEI or financial HEI, agriculture and forestry HEI, or grammar school.

Once the subject nature of the school is determined, it should remain stable for several years, and generally, it should not be changed easily to avoid wasting educational resources.

Positioning by an emphasis on talent training. For example, the teaching-oriented HEIs focus on training design talents, process talents, technology popularization talents, and other aspects. Other types of HEIs also have differences in the emphasis on personnel training.

Positioning by school service orientation. For example, school talent training should serve the industry, regional development, or the whole country.

A comprehensive understanding of HEIs customers is necessary to implement the HEIs marketing communication strategy. The customers faced by HEIs are much more complicated than those faced by enterprises and are different at different stages. The survival and development of HEIs need to meet the needs of all kinds of customers. HEIs customers mainly fall into the following categories:

Students and their parents. They refer to the students who have been admitted to HEIs, are willing to pay tuition and other fees according to the school regulations, and are educated in HEIs. Furthermore, it includes the parents who pay for their higher education. These people have relatively mature psychological qualities, so the demand for higher education is relatively straightforward, mainly manifested in information related to their HEIs and major, information related to their current study and life, and information related to future employment, further studies, and other issues. The needs and desires of students and their parents must be paid attention to and considered in the process of marketing communication management of HEIs.

High students and their parents. They mainly refer to high school students and their parents who have a strong demand for higher education, are motivated to buy and can buy higher education services with the support of their parents or bank loans. They are potential consumers of HEIs. Because of their non-professionalism, these customers can only learn about school information through limited off-campus media, and their needs are ambiguous, uncertain, complex, and diverse, and they are prone to herd mentality.

Employees. All kinds of employers with talent needs are willing to recruit and hire HEIs graduates to work. Employers of different natures have different demands on talents'

educational level, professional knowledge, and working attitude. Therefore, the needs and desires of such customers are also different, and the mainstream direction of graduates of HEIs should be clear and correspond to the orientation of students.

Governments. HEIs accept the government's financial support and supervision, which means that HEIs must meet specific performance verification standards. The monitoring of HEIs by government departments at all levels is usually independent of the will of HEIs, and the government departments at all levels that give financial support to HEIs are usually relatively fixed.

Donors. Donors are individuals or organizations that donate money or property to HEIs. Such customers are often random and individual, and a particular donor's donation often has specific purposes and needs.

Relatively speaking, students' customers and employers belong to the category of heavy customers, students in school belong to the category of light customers, and government and donors belong to the category of general customers. The educational needs of students in school are drawn by the needs of students, customers, and employers, which are closely related.

According to the principle of marketing communication, everything perceived by consumers and other stakeholders and related to brands is brand information. Therefore, different from general communication types, marketing communication should pay attention to not only planning and organizing information but also information that organizations and their employees inadvertently transmit to the outside world, as well as unpredictable and uncontrollable information about organizations or brands from outside. The so-called design refers to the activation process of conveying a method of planning, imagination, and problem solving through visual methods. The design of the content of marketing communication in HEIs can be said to be an act of using creative thinking to design all elements that can improve the effectiveness of brand communication in HEIs, and conveying information through various senses and channels, build a common meaning space between the school and the target audience, and achieve the goal of marketing communication. Specifically, the brand information to be expressed by HEIs can be roughly divided into planning and non-planning information. HEIs need to effectively disseminate

two aspects of information to maximize the effect of marketing communication.

1. Planning information on HEIs

In marketing communication, the organization will plan communication information content systematically and purposefully. According to the contact habits of the target audience, a specific medium or combination of media will be selected for external release. The organization's product name, design, packaging, and other brand information are all part of the planning information. Duncan believes that the traditional planning information usually promotes brands and enterprises and their goals, including brand awareness, positioning, and knowledge.[186]. Combined with the exploration of marketing communication theory in enterprises and other related fields, we believe that during the process of marketing communication of HEIs, the planning information of external communication should include:

Identity content. Such content refers to the external, precise, and concrete connotation of the institution brand, which can directly give consumers visual, auditory, or sensory impact, mainly including school title, school badge, school song, and landmark building. **School name**. As the essential symbol of an institution's brand, the school name is a crucial factor that affects the popularity and reputation of universities. In China, the naming of HEIs is generally divided into the following situations: the name of the city and region where the campus is located, the name of the discipline, specialty, or industry vocabulary, the name of the private name, the name of the cultural vocabulary. The school name can often concisely reflect the characteristics of the history, geography, disciplines, majors, or industries of HEIs, and sometimes it can also convey the idea, value pursuit, and cultural connotation of HEIs. Therefore, when setting up or renaming an HEI, it is necessary to consider concise, clear, catchy, and easy-to-spread school names from the perspective of brand creation and information dissemination. The school name should reflect the characteristics of the school location, discipline, or industry as far as possible so that the public can understand the school's essential characteristics and cultural taste through the school name. **School badge.** It is a symbolic sign conceived and designed according to the school-running philosophy, school-running characteristics, and corresponding historical precipitation of HEIs. This sign is a graphic symbol with profound meaning, combining

images, colors, and characters. It is the concentration and symbol of the spirit and value pursuit of HEIs. It can conspicuously convey the spiritual image of HEIs to the public and produce a lasting brand effect.[187]. **School song.** It describes the brand of HEIs in the form of music and is the concentrated expression of the ideas, spirit, and cultural connotation of HEIs, and complements each other with the school badge and motto. Because the school song lyrics are primarily concise, simple and natural, accurate in orientation, graceful and touching, consistent with the connotation of the school motto, and contain the spirit of the times, they can fully express the verve and mind of HEIs. They can also inspire teachers and students to make unremitting efforts to achieve the school-running goals of HEIs. Therefore, school songs of many HEIs have been widely sung and become the clarion call for rallying ideas and inspiring people. **Landmark building**. The landmark buildings with profound historical accumulation and cultural connotations formed in the long-term development of HEIs have also become crucial information for their brands. The famous educator Flexner Abraham [188], in the "Universities: American, English, German," pointed out with envy the charm and educational value of the "quiet quadrangle campus, college library, HEI library and academician garden" of the old British universities, and listed the libraries, science laboratories, museums of Oxford HEI and Cambridge HEI. These buildings are symbols of the school brand.

Quality content. The quantity and quality of human, material, and financial resources occupied by teaching, scientific research, and social services in HEIs directly affect the service quality of HEIs. **Human resources**. Such resources include teacher resources and student resources. Concerning the talent training function of HEIs, teacher resources have become the main factor affecting higher education's service quality. Commonly used indicators to describe the quality of teacher resources include the proportion of teachers with doctoral degrees, the proportion of professors, the proportion of tutors for doctoral (master) students, the number of senior talents such as academicians, and the number of famous professors. Students' resources include quantity and quality. Student quality mainly examines the quality of enrollment and graduates. Enrollment quality is the starting point of implementing higher education and the critical factor affecting students' learning quality in higher education. The indicators describing the quality of enrollment are mainly the actual

admission scores of HEIs. The quality of graduates includes the employment quality of graduates and the degree and quantity of celebrities among graduates. **Material resources**. Teaching, scientific research, and social service in HEIs need to occupy many material resources. We can ensure the implementation of high-quality teaching, scientific research, and social service activities only with the right amount of material resources. Therefore, countries have made specific regulations on the average campus area, average dormitory area, average books and materials number, fixed network facilities, experimental equipment, and basic living facilities of their higher education institutions. In addition, the geographical location of these material resources has an increasingly important influence on teaching quality. **Financial resources.** Financial resources refer to the amount and source of funds used by HEIs for the training of students, scientific research, and social services. The indicators to describe the financial resources of HEIs include the average annual fund, the annual research fund, the proportion of government budget funds to the total fund, the proportion of social donations to the total fund, and the proportion of tuition fees to the total fund. On the one hand, these indicators describe the adequacy of higher education funds. On the other hand, they describe the reliability and stability of funds. **Academic resources.** They mainly include national and provincial key disciplines, laboratories, humanities, social sciences research, and doctoral and master's degree programs. These resources are not only the basis for training senior specialized talents but also an essential fortress for forming scientific research advantages and enhancing the scientific and technological innovation ability of HEIs. Some researchers compared evaluation index systems of Ranking of QS World HEIs, Ranking of World HEIs described in *Times Higher Education* (THE), Ranking of HEIs described in *US News & World Report* (USNW), and "Academic Ranking of HEIs in the World" (ARWU) of soft science and found that except for ARWU, academic reputation as one of the crucial indexes in all other rankings, and it occupied an important position. Among them, QS's "academic reputation" index has a weight of 40% (which has the highest weight); USNWR's "global research reputation" and "regional research reputation" have a total weight of 25%; THE's "teaching reputation" and "academic reputation survey" have a total weight of 33%. Therefore, academic resources reflect the core competitiveness of HEI brands.

Cultural characteristics. Modern HEIs take the critical task of inheritance, research, development, and leading excellent culture. Therefore, cultural information in various forms such as state of affairs, system, and behavior is an integral part of the brand content of HEIs, mainly including school motto, teaching style, study style, work style, school philosophy, school ideology, school history, school rules, and regulations. Although cultural information is intrinsic and abstract information of the HEI brand, it exists in the process of brand formation instead of being directly perceived and is the spirit and core of the HEI brand and an essential aspect of reflecting the valuable content of the HEI brand.

The generation of the above information is firstly the achievements that HEIs inherit, exploit and develop in the brand creation process, and secondly, these achievements are transcribed into some form of linguistic or non-linguistic symbols.

2. Non-planning information of HEIs

The planning information corresponds to the non-planning information. All information about brands or products that are not released through planning is non-planning information, including but not limited to news, stories, rumors, rumors, activities of special interest groups, evaluation of transactions and comments of competitors, findings of government agencies, or research institutes and oral rumors related to brands or companies.[186]. Non-planning information includes optimistic communication content conducive to brand building of the organization and harmful and unexpected news and comments that need to be responded to by the organization.[189]. In practice, with the continuous updating of information communication means, digital media such as the Internet and mobile phones are rapidly popularizing in HEIs, and new media has become the primary communication way of "non-planning information." In the meantime, we found out that most information published from mew media is adverse emergencies and information, which have the characteristics of rapid communication, wide range, diversified distribution, randomness, uncontrollable communication, and significant negative influence. If there is no adequate response in a short time, it will seriously damage the brand of HEIs and threaten the steadiness and development of the HEIs.

Positive non-planning information often brings sound publicity effects and plays a role in shaping the image of HEIs. However, positive non-planning information often

does not attract the attention of HEIs because it does not cause adverse effects. When this happens, HEIs, as the main body of information, should seize the opportunity, take advantage of the situation, intensify propaganda, amplify positive information, change passive to active, and actively shape a good image of HEIs. On the other hand, through the practical guidance of this positive information highly concerned, the mainstream values of HEIs can be fully expressed. After this, teachers and students in HEIs can constantly regulate their words and deeds and improve their moral quality in the correct information orientation, which will play a subtle role in shaping the physical and mental quality of teachers and students in HEIs. At the same time, it will also make them more trust and identify with the management and teaching of HEIs, and take active communication instead of extreme ways to solve the events affecting their interests, which will help to create a harmonious and equal cultural atmosphere in HEIs. In this sense, effectively dealing with positive non-planning information can reduce the occurrence of adverse events, thus reducing the probability of negative information dispelling the school's brand image.

Negative non-planning information often dramatically affects the brand image of HEIs. In the era of all-media, the irrationality of the public often makes things labeled as "labels" before being qualitative, and some hot words will quickly become the focus of public discussion in a certain period. When relevant negative non-planning information appears, and stigmatized keywords such as sexual assault, malpractice for personal gain, academic fraud, students being forced to commit suicide, and plagiarism are connected with HEIs, it will undoubtedly hurt the brand image of HEIs. In addition, negative non-planning information will make HEIs face the pressure of public opinion. HEIs occupy the country's most significant educational resources, entrust college students' dreams and carry the hopes of countless families, and their trends have been continuously concerned by all walks of life. The negative information events from HEIs, whether dereliction of duty in the management of HEIs, corruption of teachers' morality, or wrong words and deeds of students, the pressure from society will undoubtedly point the finger at the HEIs. How to withstand the pressure, speak correctly, and effectively resolve the negative information crisis has become a critical problem that HEIs must face.

3. Design and management of HEI's information

(1) Design and management of planning information

The design and management of information content and form in HEIs can refer to Tom Duncan's research on integrated marketing communication. He believes there are usually four levels in the integration of marketing communication: unified image, unified voice, being a "good listener," and world-class citizens. These levels reveal the process of marketing communication activities from narrow and closed organizations to open interactive dialogue and finally form an organizational culture that permeates the whole organization and seeks joint development with society. Therefore, we suggest that HEIs can learn from the principles and methods of this brand information design, and the design and management of its information content can be expressed through the construction of a mind identity system (MI), behavior identity system (BI) and visual identity system (VI).[190], as is shown in Figure 3.8.
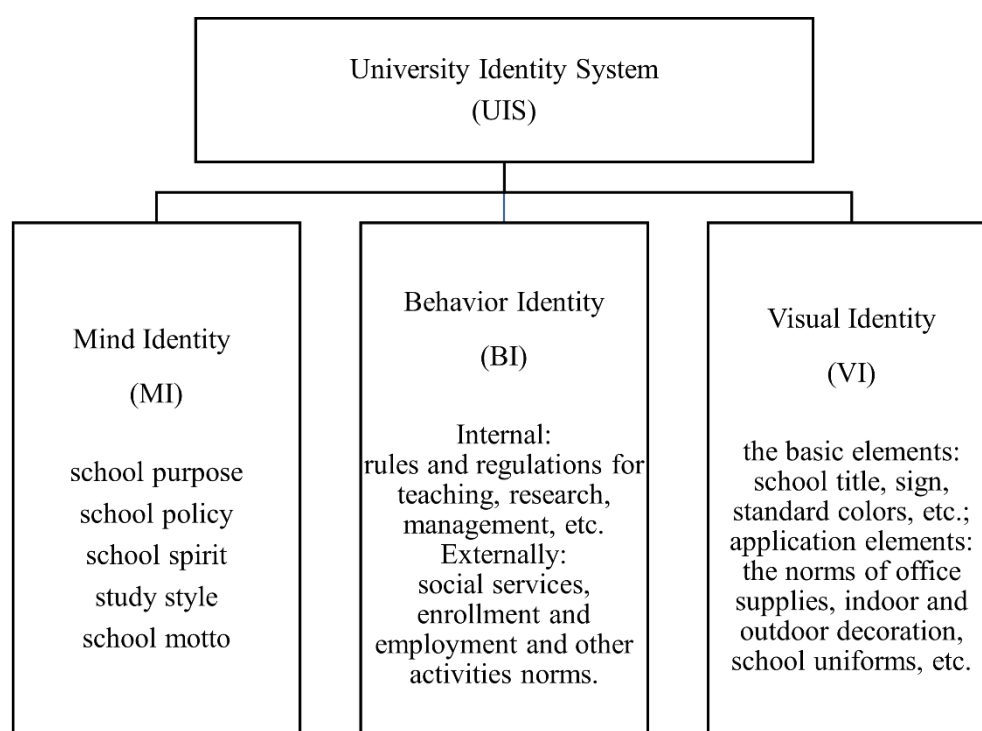
Figure 3.8 – University Identity System

Source: Li, X. (2008). Study on building the brand image of University [Master, Shantou University].

Among them, mind identity should pay special attention to "consis

tent voice", and the design of various conceptual information must be coordinated and consistent, obey a common standard, and present a unified conceptual image to customers

and potential customers. Behavior identity must reflect a unified behavior image, and the behavior information conveyed by teachers, students, and staff in HEIs must strongly and consistently convey the school concept, and behaviors that violate the school concept are not allowed to exist. Visual recognition follows the principle of "unified image," HEIs should show their unified image information for a long time at any contact point between customers and potential customers to deepen the impression of customers and potential customers on their brands.

Design of mind identity system. It is the core part of the strategic operation of HEIs, which belongs to the field of the superstructure of HEIs, and is decided and implemented by the highest decision-making level of HEIs. A mind-system must be set up for tactics, not only a single idea. This mind system includes the school purpose, policy, spirit, study style, school motto, and other factors. It reflects HEIs to be established, tradition to be carried forward, cultivated talents to be cultivated, and advocated study style be advocated. The design of the mind identity system in HEIs should be combined with the historical tradition and actual characteristics of HEIs, to improve the quality of higher education products; the mind identity system should be expressed by concise and clear language, patterns, or signs that are easily perceived and remembered by the public. The mind-system of HEIs is generally reflected in a school motto, and its design is mainly completed by the leaders, teachers, and experts of HEIs.

Design of behavior identity system. Such a system includes the norms of internal activities such as teaching, scientific research, and management and the normative procedures and standards in foreign exchanges such as external service, enrollment, and publicity. Through the unified design of behavior identity, teachers' and students' standardized and distinct behavior is formed. It is the externalization of the mind identity system, which regulates internal management, teaching, scientific research, and all external social services, communication, and other activities of HEIs. Through all kinds of behavior activities of HEIs, the public can master the information about HEIs, identify, understand and acknowledge HEIs, and finally successfully shape the dynamic brand image of HEIs. The design of the HEI's behavior identity image system is the key to the success or failure in the design of brand information, and it is also the dynamic performance of HEI's brand

information. People are the main body of the organization. The main body of the organization of the school is mainly composed of administrators, teachers, and students who perform different duties. Their behavior is essential for brand information communication and image shaping in HEIs. Therefore, the key to the design of behavior identity in HEIs is to regulate people's behavior. We should not only advocate and guide the standard good behavior but also limit the destructive activities and behaviors so that the operation of HEIs is genuinely under the system management. Many HEIs have no clear rules and regulations for the activities of some HEIs because of the lack of shaping their behavior image system, which leads to many teachers' inappropriate behavior information expression, and seriously affects the school's brand image.

Design of visual identity system. It statically expresses information about its' brands and mainly consists of two parts: the essential elements, mainly including the specification of school title, school sign, school standard words, and school standard colors; and application elements, mainly including the norms of office supplies, indoor and outdoor decoration, environment shaping, school uniforms, transportation, and other external signs. It concretizes and standardizes the external information expression of the mind-system of HEIs. In the information communication process in HEIs, the visual identity system has the most impact because some of the external information people perceive directly reaches people's minds through visual channels. At the same time, the visual identity system in HEIs also has the characteristics of intuitiveness, image, and difference in information expression.

On the one hand, it is conducive to the public's direct perception, memory, and recognition. On the other hand, it is conducive to improving the self-confidence and pride of all teachers and students. It transforms the abstract semantics such as school-running ideas, systems, and norms of HEIs into concrete information symbols and conveys the unique brand image of HEIs, that is, concretization and informatization of abstract target concepts. Through the organized and systematic visual identity system, HEIs express and disseminate information about HEIs. Visual design pursues strong appeal and visual impact and has distinctive features and school characteristics. It should be unified, normative, and emotional, arousing the public's strong sense of identity with the school brand image. For example, we often say "Tsinghua Purple" and "Peking HEI Red," that is, Tsinghua HEI and

Beijing HEI are the standard colors determined in the visual identity system according to their school reality. After extensive communication, they become brand colors representing the temperament and spirit of the two schools (Figure 3.9).

Figure 3.9 – Tsinghua Purple and Peking University Red

(2) Response to non-planning information

Change the governance concept from passive response to active action. Under all-media background, HEIs should change the idea of negative information governance and take positive actions to invest in negative information governance. Many negative information cases show that the previous behaviors of "deleting posts" and "suppressing posts" in HEIs are no longer suitable for new networks. HEIs should start with changing ideas, actively build a campus media platform with smooth communication, continuously improve the ability to manage negative information on the Internet, and create a clear network space for teachers and students.

Do a good job in management to reduce the probability of negative information. HEIs should use the network platform to promote school affairs' openness promptly, unblock the channels for expressing the interests of teachers and students, and solve related problems in a timely and effective manner to avoid the emergence of negative information. Improve students' psychological counseling and intervention mechanism, and try to reduce the potential possibility that students use the Internet to vent their negative emotions and cause negative information from the source. Given the risk points that are prone to negative

information, such as teaching management, teachers' morality, and academic corruption, it is necessary to sort out in advance, establish an early warning information database, and formulate an emergency plan, to take precautions and make a proper response, and effectively prevent the occurrence and spreading of negative information.

Improve the information release mechanism with open and transparent information. Establish a crisis communication mechanism in advance, set up a public relations emergency team, formulate plans at different levels and fully drill them, improve the system of spokespersons inside and outside the school, and form a normalized dialogue mechanism. In responding to negative information, it is necessary to quickly identify the public platform for voice and respond to concerns with a sincere attitude. Because once netizens catch the response, it will not only fail to quell the negative information but also produce a series of problems such as secondary negative information and secondary negative information, which will further endanger the brand image of HEIs. On the other hand, HEIs should further improve the information disclosure mechanism, timely disclose the truth through new media platforms (official website, WeChat, and Twitter) and so on, grasp the initiative of information release, enhance the identity of stakeholders and the public to HEIs, and reduce the damage to the brand image of HEIs.

Accurate and visible information, creating a negative information monitoring platform. HEIs should actively use big data, cloud computing, mobile internet, and other information technologies to monitor daily negative information and speed up the construction of a new media matrix by comprehensively using Weibo, WeChat, websites, and other communication channels. After the crisis, HEIs should actively monitor and screen negative information. By responding to hot issues of public concern for the first time, the university can deepen the public's cognition and understanding of HEI's brand and evoke public emotional resonance.

Traditional marketing communication management includes Advertising, Sales Promotion, Public Relations, and Direct Marketing. Advertising means that marketers pass information to the target audience by paying fees to various media; that is, marketers buy advertising space or time and control the information the target audience accepts. Sales Promotion combines various short-term incentive tools to encourage consumers to try or

buy a particular product or service, including consumer promotion, trade promotion, and sales promotion. Public relations and publicity refer to schemes aimed at internal employees or external consumers, other companies, governments, and media to promote and protect the company's image or products. Direct Marketing refers to the organization's direct communication with the target audience, obtaining feedback, and realizing transactions.

In the marketing communication process, HEIs also need to design a set of "combination boxing" according to their reality and learn from the marketing communication methods of enterprises, that is, using different marketing communication methods simultaneously to achieve the best communication effect.

1. Public Relations

HEIs must establish a good school image in front of the public, establish a good reputation and reputation, win the support and cooperation of the public, and create the best environment for survival and development if they want to recruit, retain and promote students. The best environment for developing HEIs is a unified environment of internal unity and external harmony. Therefore, HEIs must coordinate relationships inside and outside the school. The public relations objects of HEIs include faculty and staff, students, potential students, parents, alumni, competent departments, government agencies, employers, news media, friendly colleges, competitive colleges, ranking institutions, and so on (Figure 3.10).

Firstly, coordinate relationships with the facility and staff. Faculty is the mainstay of school governance, the backbone of the school, and the critical factor in improving teaching quality. Therefore, the school shall pay attention to the needs of the teaching staff's professional titles, academic research, teaching work, salary, welfare, and needs at other levels. At the same time, it shall enhance the transparency of management, entirely communicate with teaching staff in two ways, allows them to express their opinions, attach importance to their reasonable suggestions and enhance their sense of responsibility through the establishment of employee congresses, suggestion boxes, dialogues, public opinion polls, and other forms. Only in this way can we fully mobilize the enthusiasm and initiative of the faculty and staff, enhance their sense of responsibility and honor, gradually cultivate their emotion of "loving school, loving work, and loving students," and consciously devote all

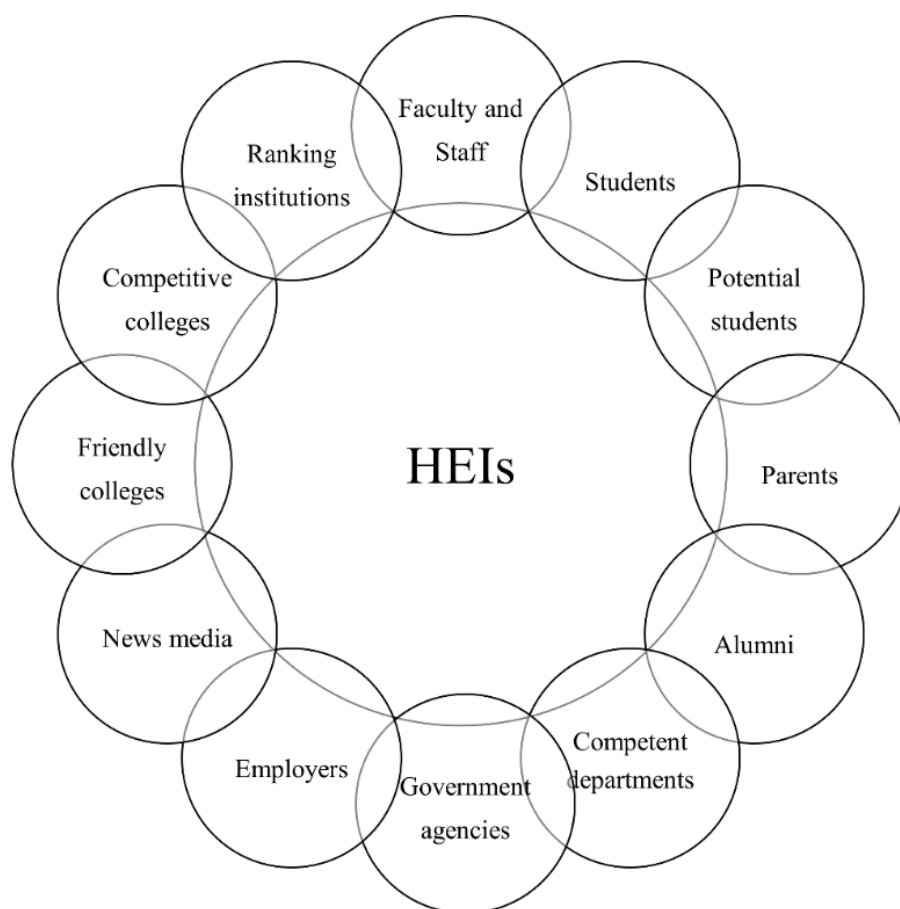their energy to work, to closely link their future with the fate of the school.

Figure 3.10 – Public relations objects in HEIs

Secondly, coordinate relationships with students. Students are the most influential public in schools. They are not only the educational objects of the school but also the basis for the survival and development of the school. The survival and development of a school depend mainly on the quantity and quality of students. Therefore, students are the most reliable communicators of the school for the public. The school's public relations activities for students essentially run through the whole teaching process. It can be said that the image of teachers, the art of lectures, and the level of knowledge are the crucial factors of a school brand in forming students' understanding. In addition, counselors, principals, administrative logistics personnel, and other care for students' thoughts, studies, bodies, and life is also an essential aspect of the close teacher-student relationship. Faculty and staff should establish a good sense of values and public relations, so that the school's teaching style, study style, and spirit can leave a beautiful and deep impression on students.

Thirdly, coordinate relationships with alumni. After graduation, students will become alumni and essential members of the external public. They are large in number and have a wide range of social contacts. Most students will care for and support the development of their alma mater and become the most loyal disseminators of school brands. There is a Chinese saying: the alma mater is a place where you can only scold yourself but others cannot, which shows the loyalty of alumni to the school. Therefore, HEIs should maintain a good relationship with alumni. For example, building an alumni home, where alumni return to their alma mater, can relax, exchange ideas, and experience growth. Schools can hire career mentors for young alumni to guide them to face the obstacles in the workplace correctly; they can hold alumni orientation meetings in various places to guide new alumni to adapt to the new environment smoothly after entering the society; they can organize various lectures, forums and continuing education classes for alumni, and alumni can still go back to their alma mater from time to time to continue recharging and further study.

Fourthly, coordinate relationships with parents. Students' parents and elders are elemental forces to support and care for school work and are essential evaluators and propagandists of school image. Their knowledge of the school mainly comes from children, so an important part is to enable students to accurately convey the school information to their parents and coordinate the relationship between parents. Of course, parents' meetings offer school journals as gifts and invite parents to participate in significant school activities. It can be used to enable parents to understand the school's situation from various perspectives and directions, support the school's work and expand the popularity and reputation of HEIs through them, thus gradually forming an excellent public opinion.

Fifthly, coordinate relationships with groups: (i) **coordinate relationships with groups within the school**. The secondary organizations, secondary colleges, and group organizations of the school are collectively referred to as groups in management. Harmonious relations between groups, performing their duties, and cooperating tacitly can enhance the school's vitality and improve work efficiency. The management of the school should coordinate the relationship among various groups, clarify the terms of reference, streamline the organization, strengthen the horizontal connection, build a big-picture

perspective through various forms, give full play to their respective functions, and jointly give suggestions for the development of the school; (ii) **coordinate relationships with groups outside the school.** The relationship with higher authorities is essential to public relations outside the school. Schools should rely on the support and help from higher authorities regarding workforce, financial resources, and policies, and all work should also be inspected and supervised by higher authorities. Therefore, schools should always report their work to the higher authorities, give feedback on implementing policies and guidelines, and strive for the most excellent support and help from the authorities. In addition, the relationship with the local government is also an essential aspect of public relations outside the school. HEIs should actively coordinate the relationship with the local government, timely understand the actual situation and demand of local economic development, actively connect, actively integrate into it; give full play to the advantages of scientific research and talents, and solve problems for the local government and promote the local economic development. These practics can gain the local government's trust and obtain its policy support and legal guarantee. While the relationship between HEIs and the local government is steadily improved, it can also improve the good image of HEIs in public, expand the regional influence of the school, win a good reputation and increase the school's reputation.

Sixthly, coordinate relationships with employers: HEIs, as places for cultivating various professional and technical talents for the society, establish a stable and good cooperative partnership with employers, which can help the school to avoid worries in the fierce market competition, and is also conducive to various forms of cooperation between the two sides, such as jointly running schools, establishing internship practice bases, and broadening students' employment opportunities through various channels. Schools should make employers familiar with the specialty settings and graduates' quality. At the same time, they should pay attention to collecting employers' opinions on graduates and suggestions on personnel training, adjust specialty structure and teaching plan in time, improve teaching methods and teaching quality, and try their best to meet the requirements of employers.

Seventhly, coordinate with relationships with the media: the relationship between HEIs and the media is the primary means for schools to publicize. HEIs should attach importance to establishing good communication relations with professional media

organizations and be good at using various channels to actively and enthusiastically provide all kinds of thoughtful services for media reporters in time. For example, some practices include arranging for full-time staff to communicate with professional media reporters; providing the media with the latest news clues or self-written news articles about the school; inviting journalists to visit the school to cover the major events held by the school; and making full use of new media communication technologies to achieve efficient communication with media reporters. HEIs can significantly enhance the image and influence of the school by spreading its teaching and research features and academic achievements in a broader range with the help of professional media.

Eighthly, coordinate relationships with competitors: the competition among schools is mainly reflected in students, teachers, teaching conditions, quality, and public relations. This kind of competition is the driving force of school development. Therefore, the school must carry out relevant investigation and research, understand the social needs, adjust the internal structure, strengthen cooperation and communication with sister schools, and know each other well to gain a firm foothold in the market competition and develop steadily.

Ninthly, coordinate relationships with ranking institutions: the independent HEIs ranking institutions greatly influence the brand image of HEIs. HEIs should actively communicate with these institutions and provide timely information about these HEIs.

2. Event marketing

Event marketing, or campaign marketing, is a marketing tool that integrates resources inside and outside the organization with the help of planning and creative activities or events and quickly builds momentum to achieve a specific marketing purpose. Event marketing attracts many consumers' participation with the help of topics or manufacturing topics, causing the media to scramble for reports and word-of-mouth among the public to promote brand awareness and build brand value and the image quickly. Event marketing is different from ordinary daily public relations activities. Each activity has a clear theme, and special activities are carried out around the theme. It is often necessary to use various communication methods comprehensively to strengthen the communication effect and achieve the purpose of establishing an image. HEIs should be good at using event marketing

to expand its social and academic influence in the process of brand communication, to shape the brand image.

Plan external thematic events: (i) **plan important commemorative events**. HEIs can invite superior leaders, alumni representatives, and people from all walks of life to participate in various anniversaries, especially school celebrations, which will help to expand the influence of the school, enhance the cohesion of running a school and deepen the feelings with all walks of life; (ii) **plan large-scale charity events**. HEI's concern for public welfare can show the school's sense of social responsibility to the public, show the school's strength, win the public's goodwill and trust, and make the school build a good image in society. For example, HEIs can actively undertake, participate in or sponsor various large-scale scientific and technological innovations, cultural communication, sports events, and other activities, and carry out activities such as visiting families of students with difficulties and subsidizing students with difficulties. (iii) **plan admissions campaigns**. The most important part of school activities is enrollment because abundant students will give the school an inexhaustible motive for development. HEI group can widely publicize the school enrollment information through mass media and online media, organize school enrollment personnel to distribute enrollment information locally or in different places in a planned way, and carry out all-around publicity through written materials and multimedia assistance. Through the publicity activities, we can directly achieve the purpose of expanding enrollment and make the outside public know more about the school; (iv) **organize open house tours**. HEIs can organize campus open days with various themes, such as open days with enrollment as the theme, and can design enrollment information conferences, open day centralized consultation, campus visits, and in-depth experience of college laboratories and libraries so that participants can learn about the school from all aspects in an all-round way and experience the school; we can also organize campus open days with school characteristics. Such as the "Cherry Blossom Festival" of Wuhan University. When cherry blossoms are in full bloom, the campus will be opened to the public free of charge, and the open visit will be combined with the characteristics of the school, which will become an unusual publicity activity and effectively promote the brand image of the school; and (v) **plan other special events for publicity**. Other creative activities or

events can be planned to become topics and issues of public concern, such as organizing news conferences, teaching achievement exhibitions, and other activities to attract media reports, public participation, and public attention to schools. At the end of the activity, publicity should be strengthened. This honest and objective news report can establish more effective communication with the public.

Plan internal methodological activities: (i) plan various academic salons, seminars, and workshops. A solid academic atmosphere and orderly research environment are the most original tones of an HEI. Therefore, HEIs can carry out such special activities in a planned and step-by-step manner, effectively safeguard the image of knowledge exploration and theoretical discussion possessed by HEIs, and embody the vitality of the school in solemn and rigorous scientific research and academic discussion; (ii) **plan diverse campus cultural activities with HEIs' characteristics**. We can design and hold campus cultural activities with characteristics that combine universality and characteristics, integrity and hierarchy, inheritance and innovation, and science and humanity so that teachers and students can be influenced subtly in their participation, their thoughts and feelings can be edified, their spiritual life can be enriched, their moral realm can be sublimated, and their overall quality can be improved, thus building the image of the school.

3. Word-of-mouth

Word-of-mouth, also known as verbal public praise and the oral idiom circulated in society, is an important marketing tool that influences customers' judgment and purchasing behavior and is one of the essential information sources for customers. Positive word-of-mouth publicity is conducive to reducing customers' risk perception and enhancing customers' desire to buy. Therefore, in marketing communication, HEIs should clarify and control the content and tendency of word-of-mouth communication, speak with "one voice" to provide clear and consistent communication with the most efficient and effective results, expand the influence of word-of-mouth communication and enhance the brand value.

HEIs should make teachers, employees and students genuinely have a unified understanding, accept and recognize the school's brand ideas and school-running ideas, and make them actively become the mainstay for school brand communication.

As the direct social public of HEIs, parents expect a high brand value from them.

Therefore, HEIs should encourage parents to fully support and participate in the brand building of schools so that parents of students can become the main word-of-mouth disseminators of school brands and effectively disseminate information through them.

The employment problem of graduates has become an essential factor affecting the students of HEIs. HEIs-related staff should study and explore more means and methods and take employment fairs and other graduate recommendation forms as an opportunity to improve the efficiency and effect of school brand marketing communication. At the same time, the alumni who have graduated are the "products" of HEIs, and their performance in society is also the most meaningful measure of the brand value of the school. HEIs should strengthen contact with employers, track the growth of graduates in real-time, make full use of typical cases of outstanding graduates, and spread them widely through various forms.

HEIs can also take a proactive word-of-mouth communication strategy. For example, to enhance brand awareness, actively provide academic services to the government, enterprises and other organizations, and Launch technology and cultural activities at the grassroots level. Taking brand communication as the primary purpose, take the initiative to participate in HEI exchange meetings and patent technology fairs. For general brand information dissemination, we attach importance to participating in comprehensive coverage and meaningful communication activities of industries and community organizations.

In the process of interactive communication between society and schools, enterprises can be used to serve the brand communication of HEIs, such as organizing excellent experts to exercise in enterprises, helping enterprises solve thorny problems in the process of production and operation, or reaching cooperation intentions with enterprises, and making enterprises become the bases for students' training and visiting the practice, which is of great significance to realize horizontal communication between schools and enterprises and brand marketing communication of HEIs.

4. Personnel marketing

In the process of marketing communication, personnel promotion is a standard method. Personnel promotion, with the goal of showing, answering questions, and obtaining orders, refers to face-to-face communication with one or more potential buyers to achieve

or persuade customers to buy or establish a good image. In the marketing communication of HEIs, all teachers, students and employees are dynamically communicating the school's brand image in their foreign exchanges and contacts. Among these people, two groups should be paid special attention to because their marketing behavior will have an important impact on the school's brand image.

Famous teachers. A master drives a discipline's development and even achieves an HEI's reputation. There are many precedents in the practice of running an HEI. For example, Chen, an internationally renowned master of mathematics, has made great achievements in differential geometry, who has played an important role in developing Nankai University's mathematics discipline and promoting Nankai University's reputation at home and abroad. In Chinese history, Southwest United University is world-famous, which is closely related to its gathering of a group of leading Chinese academics, such as Feng Youlan, Dean of Literature, Wu Youxun and Ye Qisun, Dean of Science, Chen Xujing and Zhou Binglin, Dean of Law and Business School, Shi, Dean of Engineering, Huang Zijian, Dean of Teachers College. World-famous HEIs such as Cambridge, Oxford, Harvard, and Stanford are famous for having world "masters" and cultivating many world-famous talents. Conant, the former president of Harvard University, said, "The honor of a university lies not in its dormitory and number of people, but the quality of its teachers from generation to generation. If a school is to stand up, teachers must be famous." Therefore, famous professors with high academic prestige and academic status, namely "famous teachers," have the utility and "magnetic field" effect of promoting the reputation of HEIs. However, Famous teachers are not given in an administrative sense, nor are they self-appointed, but are gradually created in the long-term practice of teaching and educating people. Therefore, every HEI should attach importance to the building of teaching staff, and strive to attract famous teachers, train famous teachers and cultivate famous teachers by optimizing the selection and training mechanisms such as teacher selection, appointment, promotion and evaluation, and ability improvement, to enhance the brand influence of the school through famous teachers and high-level brand teachers.

President. The president is the key person who leads a university to achieve its goals. The history of higher education shows that the emergence, development, and consolidation

of any famous university are closely related to the president who is in power behind it. It can be said that the president has achieved the school brand and created his own brand, and he is the first brand of the school. For example, in 30 years, Mr. Zhu Jiusi has turned a single-discipline Huazhong Institute of Technology into a comprehensive high-level university (now Huazhong University of Science and Technology). Professor Qu Qinyue spent 12 years building Nanjing University into a university with a high academic level. President Zhang Chuting worked hard for 18 years to build a little-known local average college into a "211 Project" HEI with a particular brand influence [111]. It can be said that a president's quality directly affects the school's development and achievements. As the head of the university management, the president's school-running ideology, professionalism, humanistic quality, theoretical level, and professional quality largely determine the school-running objectives, school-running style, and school-running level of a university determine its brand personality and characteristics.

First of all, the university president should be an educator or at least understand the law of education and can act according to the law of education. No matter how society changes and the university develops, the function of cultivating talents will not change, so the university president should understand the law of cultivating talents. Secondly, university presidents should be far-sighted, innovative, and executive. Whether a university president can lead a university well depends on whether he can assess the situation and make the right choice on such significant issues as the direction of running a university. In the tide of the convergence of running schools, the premise is that the president must make clear how to form the university's personality and characteristics when managing HEIs. In addition, the university president should have solid social activity ability and be a prestigious social activist to strengthen the connection between the university and all sectors of society and strive for more resources for the school. On the other hand, the president plays a directional role in the brand management of the school, and he (she) himself is also one of the core pillars of the brand of HEIs. His (her) personal brand reflects all the views and comments of the public on a president, the overall requirements and standards, and the recognition degree of the internal and external public stakeholders to the school, which is a concentrated expression of the reputation, reputation, and credibility of modern HEIs.

With the advancement of digital technology and network communication technology, the media pattern is undergoing unprecedented changes in history. Media integration has become the central theme of this change. Single media increasingly needs to integrate with other forms of media to share information resources, exert synergy and scale effect, and improve the diversity and influence of information to cope with the increasingly fierce media competition. The current marketing media of Chinese HEIs mainly include school newspapers, radio stations, news networks, WeChat, Weibo, and outdoor electronic screens, which we discussed in the previous chapter. The school's propaganda department or news center generally manages these campus marketing media. Because there is no barrier between organizational structures, they have natural advantages in the practice of "media integration."

In recent years, many HEIs in China have made some valuable explorations in the field of "media integration" of campus media, gradually integrating the information resources on campus, realizing the integrated operation and management of different forms of marketing media such as school newspaper, radio station, TV station, news network, WeChat, Weibo. They have rationally deployed human resources, enriched the expression forms and ways of news information, and improved the benefits of information dissemination. However, we should be soberly aware that to maximize the effect of marketing communication, HEIs should further innovate the traditional ideas boldly so that campus media can achieve fuller and deeper integration.

Creating personalized news information and strengthening the differences between news information. In "media integration," all media share the same news information source. To avoid "homogenization," all media should take the road of differentiation and develop the same news information source into different news information products. In addition to the different attributes of different media, it is necessary to explore the news facts from multiple dimensions and angles as much as possible, and strengthen the differences between news information products, so that a news fact can be reflected from multiple aspects. For example, new media and campus networks can respond boldly and quickly and release time-sensitive news. New media such as Weibo and short videos can increase push frequency, track and report events in real-time, or even broadcast

them live. The news information in the school newspaper lags slightly in time, so the form of news information cannot be the same as that of new media and network news but should be changed into in-depth reports to develop unique and original products. Television stations and short videos can give full play to the advantages of images, record the live scene and actual sound, and reproduce the real news. Outdoor electronic screens are mainly for mobile people on campus, and some newsletters can be published in a centralized way. The same news event has its personality and characteristics due to different expression techniques or perspectives. News information products are not only colorful in expression forms but also diversified in ideas and contents, which enhances the appeal to different groups of audiences.

Giving full play to the advantages of multimedia and strengthening the integration of different forms of news information products. After the media integration, the news information products developed will not only be presented in various forms, such as words, sounds, images, and pictures but also have their characteristics in terms of angle and content. The advanced multimedia network technology makes the Internet the best platform to display these news products. However, the role of the network platform is far from being fully exerted. More and more Chinese universities' newspapers, TV stations, and radio stations have their own WeChat, Weibo, and short video accounts, but they are independent and have not been organically integrated. For example, the news information on the campus network is usually presented in words, and pictures accompany some, but basically, they are not collected together with the video news of related news events. If clicking on a piece of news information, we can simultaneously see the reports made by multimedia such as text, audio, video, and pictures. The audience will read rich and diverse information in the shortest moment and get a three-dimensional impression of a news event. The news information reports of campus media will also have an influence.

Enhancing the interaction with the audience and jointly producing news information content. The most important one in the definition of "media integration" is the new social relationship between the audience and the media. The public has been increasingly involved in the agenda-setting process of media. For example, it strengthens the interaction between professional journalists and the public and combines campus media with professional journalists' reports. However, the media integration we propose here refers

not only to the organizations responsible for reporting news but also to the general public, who are increasingly involved in news reporting and feedback. College campus media should give full play to the interactive features of new media, fully mobilize the audience with teachers and students as the main body to actively participate, open up various channels, and encourage them to provide the latest news sources and news reports for the news center of HEIs, express their opinions and participate in daily news and information work, thus becoming a vital force of information dissemination in HEIs. At the same time, with the direct participation of more and more audiences, the news information of HEIs will attract more attention and play its due dissemination effect. Without the extensive participation of teachers and students of HEIs and stakeholders concerned with the development of HEIs in campus news and information dissemination activities, HEIs will not be able to achieve real media integration, nor will it be possible to achieve the marketing and communication goals set in advance.

Sharing news information products of diverse media to total multi-channel disintegration of news information. In the practice of media integration, different media can be interspersed flexibly, newspaper reports can be extended to new media, exciting content in new media can enter newspapers, and TV can collect newspapers and new media content. Various media products can be flexibly combined, and various media contents can be embedded into each other more conveniently. In the media communication process in HEIs, all media should share news sources and content and various media resources. The content that cannot be published in the school newspaper due to the layout restrictions can be published in new media. Service information such as academic reports and announcements on campus networks can be simultaneously published on outdoor electronic screens. Some comments of netizens on news information events in new media can be published in the school newspaper. Campus TV and radio stations can select the essence of content from every school newspaper and daily new media newsletter and broadcast it in another medium in a new form. That is to say. The communication effect can be maximized by simultaneously seeing the news information products of several other media from one media on campus.

Cultivating multi-skilled and versatile new media talents. Adapting to the practice

of "media integration" in developing networks and new media calls for new media talents with considerable media skills simultaneously. In the United States, versatile journalists have emerged to meet the new situation of "media integration" needs. They can provide short or long text reports for the Internet or newspapers, shoot videos for TV and have photography skills. When a news event happens, all-around journalists can complete reports in various media forms without all the journalists, photographers, and TV reporters, which reduces the labor cost. Many journalism schools in the United States are strengthening the cultivation of such talents, and this new mode of cultivating and using media talents can also be used for reference by Chinese universities. In China, in order to adapt to the increasing demand for professionals in the new media industry brought about by the rapid development of new media, many HEIs have set up significant networks and new media, aiming at cultivating professionals who can not only engage in the in-depth, comprehensive and interdisciplinary information dissemination work in the information dissemination era but also have the communication skills in the aspects of news dissemination technology, design, production, and network technology. The workforce of media in HEIs is already limited, so besides introducing relevant specialized talents, it is also necessary to improve the workforce efficiency, consciously strengthen the practical training of practitioners, and improve the comprehensive professional quality of personnel, especially the targeted promotion of new media marketing and communication business quality. For example, a journalist can contribute to campus media such as new media, school newspaper, and radio station simultaneously, and has the skills of photography, video recording, text writing, and minor video editing.

The so-called communication effect refers to the change in the audience's ideas and behaviors caused by the information the communicator sends to the audience through the media.[191]. The marketing communication effect refers to the effect that marketers use appropriate ways to disseminate product information through various ways and media under the guidance of the overall marketing strategy to enhance consumers' goodwill towards products and enhance consumers' purchasing desire and behavior for products. The ultimate goal of marketing communication activities is to achieve the marketing objectives with high efficiency and accurately convey the brand image. In order to achieve the goal, in all stages

and aspects of marketing communication activities, the communication effect of marketing communication activities should be supervised and evaluated. The strategic design of integrating marketing communication should be further revised and optimized. That is, the "deviation" should be identified and managed by comparing the implementation results with the established goals to ensure the achievement of the management goals.

In the measurement of marketing communication effect, scholars have proposed marketing effect measurement models, including advertising effects, such as David Pickton's influence hierarchy model and the AIDA model.[192], DAGMAR model of Russeu.H.Colley.[185], Don Schultz's ROCI customer investment return model[129], TOM, DUNCAN's integrated marketing communication test method[186]. Among these models, there are two basic methods to analyze the communication effect: quantitative and qualitative. To truly grasp the definition of communication effect, we should analyze it quantitatively and qualitatively and combine them scientifically. This is the correct way to scientifically understand the communication effect and the necessary means to scientifically detect the communication process. According to people's accumulated experience over the years, the method of quantitative analysis is mainly investigation and analysis. The investigation and analysis of the communication effect focus on the audience's interest and credibility in the information content disseminated by communicators and their awareness of this. From the perspective of investigation and analysis methods, the following basic methods can be used to investigate the communication effect: personnel interview survey, communication survey, observation survey, experimental survey, sampling survey, and questionnaire survey. At the same time, related research also shows that to improve the efficiency of brand communication and reduce the communication cost, brand communicators must measure the response of the communication objects at each stage. From the perspective of brand marketing, the reaction of communication objects can be divided into successive and mutually causal reaction stages: brand popularity, brand attitude, brand acceptance, brand preference, brand trial, repeat purchase, brand satisfaction, and brand loyalty.

For evaluating the marketing communication effect of HEIs, we think that it can be measured and tested from the perspectives of the public's brand popularity, reputation,

satisfaction, and related Internet indicators.

Brand popularity refers to the audience's recognition of the name of an HEI and the ability to recall or realize that the institution is a member of a certain level of HEIs. The first goal of marketing communication is to establish brand popularity. Brand popularity can be measured by brand identification, recall, and association. The brand identification method measures brand popularity before and after brand communication activities. The brand recall method is to select survey samples from the target market and ask them to list the names of different HEIs at a certain level.

In some cases, the audience's impression of the brand is subconscious, and they cannot help recalling a particular university. At this time, the brand association method can be used. Through the questionnaire, the awareness of the customer audience on the school brand is measured, which can be divided into four levels: never heard of, knew, understood, and familiar. If a considerable number of answers are "I have not heard of it, I do not know it," then we should look for reasons from the aspects of carrier construction, publicity planning, logo design, and communication media as soon as possible. The popularity reflects the influence of an HEI, and it can be reflected through the frequency survey of media appearances. The specific method is to select one of the most influential mainstream media and count the number of times that schools continuously appear on these media (including reports about schools, data of articles published by teachers and students.). People can also jointly test the website's popularity and find the reasons for its low popularity through online questionnaires.

The brand is not reputation. Having a brand does not mean having a reputation. The brand reflects a kind of awareness, and reputation reflects a kind of wide recognition. Although different scholars have different expressions about the reputation of HEIs, most of them agree that the reputation of HEIs is the cognitive result and emotional response to the identity elements of HEIs, such as the spirit of HEIs, the behavior of HEIs, the conditions for running schools, social contributions. It can be seen from the definition that it has two apparent characteristics: subjectivity and comprehensiveness. First of all, the reputation of HEIs is a subjective attitude structure, which includes cognitive and emotional factors. People have different subjective understandings of the characteristics of different HEIs, and

this understanding will have different feelings and views on a college due to different cultural levels, value orientations, and personal experiences of each person. Secondly, the reputation of HEIs is a kind of extended cognition and attitude, and it is the comprehensive embodiment of all past behaviors and results of HEIs. The spirit of HEIs, the conditions for running schools, social contributions, and even every student's words and deeds will influence the social evaluation of HEIs. Therefore, the reputation of HEIs is the "spillover effect" caused by the complete synergy of various factors rather than the result of an individual factor alone. "[193]. Reputation is a hidden resource of a university, which reflects the long history and cultural heritage of a university. As Cole said, "once the reputation is formed, it is the unique biggest resource of the university." That is to say, the better the reputation, the stronger the university's faculty, the higher the academic level of the school, the greater the influence in society, and the stronger the competitiveness in the market. The survey results of university rankings can reflect the measurement of university reputation. There is no shortage of reputation indicators in the world influential index system of university rankings, especially in American News & World Report, Times Higher Education Supplement, and McLean magazine, which took reputation as one of the most important indicators to evaluate universities at the beginning of university rankings. In the evaluation index system of China's university rankings, the ranking index of the China Alumni Association Network has selected three first-class indexes, namely, personnel training, scientific research, and comprehensive reputation, among which the comprehensive reputation index accounts for 15.92% of the weight. The ranking index system of China Net University has five first-class indexes: academic reputation, students' quality, teachers' resources, curriculum quality, and supporting conditions, among which academic reputation accounts for 30% of the weight. China Science Evaluation and Research Center of Wuhan University has set four first-level indicators: school resources, teaching level, scientific research, and school reputation, among which school reputation accounts for 11.82% of the weight. The reputation survey results of these rankings over the years show that the ranking evaluation of HEIs is relatively stable, reflecting that establishing a university reputation is a long-term process. At the same time, the ranking list over the years shows that the ranking of the reputation survey is in high compliance with

the final ranking of the ranking list, and they support each other.

Internet and new media have become the essential means of marketing communication in HEIs, and its related index data has also formed a vital index to test the effect of marketing communication. For example, the click rate of news information about HEIs published on the Internet is the primary method to measure the dissemination effect of this information. The click count reflects the number of people who saw and clicked the message and can also refer to the indicators such as stay time, stay rate, and stay time. In addition, new media platforms have emerged, and the index system for evaluating the influence of new media communication is gradually being explored and applied. Communication influences users and the surrounding environment caused of the energy released after information reaches a particular area through communication. The influence of new media communication is mainly to evaluate its communication effect. For example, the Qingbo Index developed by Qingbo Big Data, the authoritative platform of China's new media big data, with big data as its core technology support, can provide daily, weekly and monthly rankings of new media such as WeChat, Weibo, and Toutiaohao, to evaluate the influence of its response. For example, Weibo Communication Index BCI ranks the influence, and its evaluation index system consists of posts, reposts, comments, original, innovative media, and total likes to reflect the communication ability and communication effect of accounts and to encourage high-quality original content. Wechat Influence (WCI) index has been described in the previous chapter. Douyin Communication Index (DCI) comprehensively reflects the communication influence of Douyin on the short video platform through the number, interaction status, and user coverage of short videos published by the Douyin account. The following are the WeChat Official Account Influence Rankings (Figure 3.11) and Douyin Influence Index Rankings (Figure 3.12) published by Qingbo Data in December 2021.

Figure 3.11 – WeChat public number influences index ranking of HEIS in Henan in December 2021

Source: Qingbo Data

Figure 3.12 – Influence index ranking of TikTok numbers of HEIS in Henan in December 2021

Source: Qingbo Data

Conclusions to section 3

This chapter aims to put forward the model of a marketing communication system in Chinese HEIs, optimize the current marketing communication system in Chinese HEIs, and improve the marketing communication effect. First of all, given the problems existing in the marketing communication system of Chinese HEIs, the complementary scheme and construction ideas are given, the framework model is constructed, and a clear implementation path is put forward. Then, aiming at the formulation of the marketing communication strategy of Chinese HEIs, this paper puts forward the basic principles to be followed, how to innovate the current marketing communication subjects and determine the marketing communication goals, and then points out the formation path of the marketing communication strategy. Finally, it provides the strategies to implement the marketing communication strategy of Chinese HEIs. It is necessary to ensure the marketing communication effect through market analysis, specific strategy selection, and evaluation of the marketing communication effect.

CONCLUSION

Introducing marketing communication ideas into the management process of Chinese HEIs still belongs to the exploratory stage, a new topic for theorists and university administrators to study. Based on reading much relevant literature at home and abroad and drawing lessons from the research achievements in related fields, this paper makes a systematic and in-depth analysis of the construction and management of marketing communication systems in Chinese HEIs. The essential conclusions of this paper are as follows:

1. With the transformation of Chinese higher education from "elite education" to "mass education," the government has changed the management model of higher education, the educational choice rights of students and parents are constantly expanding, and foreign universities constantly compete for the source of high-quality students in China. Therefore, the competition between Chinese universities in the higher education market is becoming more and more fierce. In this situation, an effective marketing communication system has become a strategic choice for developing HEIs. The effective management of the marketing communication system in HEIs has important practical significance for realizing the equivalence of information, improving the effective allocation of educational resources in HEIs, making HEIs gain a competitive advantage, and enhancing the overall competitive strength.

2. The advanced and specialized development of marketing communication theory and practice provides a solid theoretical basis for Chinese HEIs to establish marketing communication systems and mechanisms. At present, the research on marketing communication in Chinese HEIs is less, it is not in-depth, and it is mainly in the discussion and research at the theoretical level, such as ideas and concepts. There is a lack of systematic definition and summary of the construction and management of marketing communication systems in HEIs, especially exploring practical application effects. Currently, Chinese HEIs have realized to varying degrees the importance of marketing communication in enhancing the popularity of HEIs and strengthening the brand construction of HEIs. However, it is insufficient to combine with the theory of marketing communication in practice, cannot

effectively integrate various marketing media and other phenomena, and can not guarantee and test the effect of marketing communication.

3. The study examines the effect of marketing communication in Chinese HEIs. The results show that: in marketing communication, the richness of information significantly influences the formation of users' cognition and emotions about HEIs, but the public's Intention about HEI is not significant; Information credibility has a significant influence on the formation of public emotions about HEIs and has no significant influence on the cognition and intention of HEIs; information interesting and sharing have both no significant effect on the public's cognition and emotion about HEIs and have a significant effect on the intention of HEIs; the function of information significantly influences the formation of users' cognition, emotion, and intention about the chosen HEI; there is a step-by-step positive relationship between the public's cognition, emotion, and intention of HEIs.

4. At present, in the process of marketing communication construction and management in Chinese HEIs, there are mainly the following problems: lack of awareness of marketing communication, low level of management of marketing communication, the unclear market orientation of marketing communication, the uncertain target market of marketing communication, disunity of expression of marketing communication information, a single mode of marketing communication, lack of effective integration of marketing communication media, and lack of adequate evaluation of marketing communication effect.

5. Construct the marketing communication system model of Chinese HEIs. Firstly, we develop a strategy formulation model. Secondly, it constructs the overall framework of strategy implementation, including market analysis, marketing communication-specific strategy selection, marketing communication effect evaluation, and other links to ensure the effectiveness of marketing communication.

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APPENDICES

Questionnaire on the effectiveness of marketing communication in Chinese higher education institutions (HEIs)

Hello! I am a doctoral student. For academic research, please fill in the questionnaire on the effectiveness of Marketing Communication in Chinese HEIs. The survey is anonymous, and the results are for research and analysis only. Please fill in truthfully according to personal feelings. Each of the answers will become our valuable research material. Please support and sincerely thank you for your cooperation!

Special instructions

In this questionnaire, "information released by HEIs" refers to all the information released by universities and their subordinate departments, colleges, and organizations through social media (WeChat, Microblog, TikTok, Kuaishou, headlines, etc.), official websites, radio and television, newspapers and magazines.

1. What is your gender? [single topic] *
○Male
○Female

2. What is your age? [single topic] *
○Under the age of 20
○21-30 years old
○31-40 years old
○41-50 years old
○51-60 years old
○Over 60 years old

3. And you are? [single topic] *

○High school students (please skip to question 7)

○Higher education students (please skip to question 7)

○Parents of high school students

○Parents of students in higher education

○Others

4. What is your occupation? [single topic] *

○Staff of government agencies/institutions

○Teaching staff of Higher education

○Media reporter

○Employees of state-owned enterprises

○Foreign / private / self-employed

○Freelancer (please skip to question 6)

○Others (please skip to question 6)

4a. Are you responsible for recruiting college students in your unit? [single topic] *

○Yes

○No

5. What is your educational level? [single topic] *

○Junior high school and below

○Senior high school (technical secondary school, vocational school, etc.)

○University (junior college, undergraduate)

○Master's degree or above

6. Where does your family live? [single topic] *

○Municipalities directly under the Central Government

○provincial capital

○Prefecture-level city

○County-level city

○small towns

○Rural areas

7. Usually, the way you learn about HEIs is: [multiple choice of topics] *

☐The school's website

☐The school's WeChat

☐The school's Weibo

☐The school's short video accounts, such as TikTok, Kuaishou, etc.

☐The coverage of the news media

☐Information from relatives and friends

☐Publicity materials of HEIs

☐University rankings of third-party institutions

☐Data released by the Ministry of Education

☐Others

8. Based on your choice of the above channels, what aspects of information do you most want to get from HEIs? [multiple choice of topics]*

☐Scientific research situation

☐Education and teaching level

☐Teachers' strength

☐Characteristics and advantages

☐Hardware facilities

☐School orientation, concept, history, system, etc.

☐The style of teaching, study, work, etc.

☐School badge, school motto, school song, landmark buildings, etc.

☐Campus environment

☐Others

9. According to your understanding, what are the primary forms of marketing communication activities in HEIs? [multiple choice of topics] *

□Hold socially meaningful activities (such as school celebrations, large-scale academic events, etc.)

□Publicize familiar figures such as "famous teachers," "outstanding students," and "outstanding alumni" of the school.

□Organize campus open days, virtual campus experience, and other activities

□Publish information on the magazine "Friends of entrance examination," news media, and other platforms

□Give full play to the advantages of science and technology and talents to cooperate with the government and enterprises and achieve results

□Others

10. The following options describe the content of the information released by the HEIs. Please comment on it.

There is no right or wrong choice in itself. Please choose the option that is closest to your experience. [Matrix scale title]*

	Very much disagree	Disagree	Generally agree	Agree	Very much agree
The content is comprehensive	○	○	○	○	○
Including school spirit, concept, history, culture.	○	○	○	○	○
Including school teachers, scientific research, personnel training, social service, etc.	○	○	○	○	○
Including school representative color, school emblem, landmark buildings, etc.	○	○	○	○	○
The content of the information is accurate	○	○	○	○	○
The content of information is valuable.	○	○	○	○	○
The content of the information can be trusted.	○	○	○	○	○

11. The following options describe the characteristics of the information published by HEIs. Please comment.

There is no right or wrong choice in itself. Please choose the option that is closest to your experience. [Matrix scale title]*

	Very much disagree	Disagree	Generally agree	Agree	Very much agree
The form of information expression is novel	○	○	○	○	○
The expression of information is full of vitality	○	○	○	○	○
The expression of information is exhilarating	○	○	○	○	○
The information of different media platforms in HEIs (such as campus networks, WeChat, Microblog, etc.) has different styles and characteristics	○	○	○	○	○
Information attracts me to recommend it to others.	○	○	○	○	○
Reposting this information will help others understand the school.	○	○	○	○	○
Information attracts me to comment on it.	○	○	○	○	○
Information is updated promptly	○	○	○	○	○
Respond quickly to sudden hot topics or negative public opinion about the school	○	○	○	○	○

12. The following options describe the functions of the information published by HEIs. Please comment.

There is no right or wrong choice in itself. Please choose the option that is closest to your

experience. [Matrix scale title] *

	Very much disagree	Disagree	Generally agree	Agree	Very much agree
The information can tell the school objectively.	○	○	○	○	○
The information can fully inform the school.	○	○	○	○	○
The overall design of information can visually display the image of the school	○	○	○	○	○
Information can stimulate my interest in the school	○	○	○	○	○
Information can inspire me to pay more attention to the school	○	○	○	○	○

13. Please fill in the name of a university you are familiar with or concerned about, and evaluate your impression of the university. The name of the university is: [fill in the blanks] *

_____

There is no right or wrong choice in itself. Please choose the option that is closest to your experience. [Matrix scale title] *

	Very much disagree	Disagree	Generally agree	Agree	Very much agree
The school has distinctive features	○	○	○	○	○
The school has a unique brand image.	○	○	○	○	○
The campus environment of the school is beautiful	○	○	○	○	○
The campus culture of the school is elegant	○	○	○	○	○

The school has a good teaching style, a vigorous style of study, and high-quality personnel training	○	○	○	○	○
The quality of teachers and students in this school is relatively high	○	○	○	○	○
I will recommend the school to my friends	○	○	○	○	○
I will choose: apply for the school / let my children apply for the school / give priority to recruiting graduates of the school under the same conditions / will to donate money to the school / will to support the development of the school	○	○	○	○	○