

## **Research Article**

## **Developing Marketing Management In Private Universities** In Riyadh, Saudi Arabia

Jamal S.D. Alsharari\*

\*Department of Education and Psychology, College of Arts and Sciences, Jouf University, Kingdom of Saudi Arabia, E-mail: Jshamlan@ju.edu.sa

Citation: Jamal S.D. Alsharari et al. (2024), Developing Marketing Management In Private Universities In Riyadh, Saudi Arabia, Educational Administration: Theory And Practice, 30(4), 2332-2336, Doi: 10.53555/kuey.v30i4.1855

ARTICLE INFO	ABSTRACT
	The study aimed to discover the reality of marketing management in private
	universities in Riyadh and ways to develop it from the point of view of academic
	leaders. The study relied on the descriptive survey method and applied a
	questionnaire to (33) academic leaders using the comprehensive enumeration
	method. The results showed that the degree of approval of the academic leaders on
	the reality of marketing management in the private universities in Riyadh is high,
	with an average of (4.02). The field of control came at the forefront of the fields of
	reality discovery with an average of (4.16), followed by the field of implementation
	with an average of (4.00), then the field of planning with an average of (3.95), while
	the field of organization came in the last rank as the lowest field of reality discovery
	with an average of (3.90). The results showed that the degree of approval of
	academic leaders on ways to develop marketing management in private
	universities in Riyadh is high, with an average of (3.74).

**Keywords**: marketing management, private universities, academic leaders.

## 1. Introduction

In view of the rapid and successive changes, as well as the tendency towards privatisation, decentralisation, and strong competition in the business environment, the development of universities has become an urgent necessity in order to tackle such developments. As a result, universities must reassess their philosophy, aims, processes, and marketing strategies for educational, research, and societal functions, as well as face a variety of future challenges. The efficiency of the private education sector is clearly important, both as a necessary partner for the provision of educational services and as an added value to the quality of education and the degree to which it possesses development guidelines and competition tools. It also offers a multitude of options and a diversity of opportunities as a result of using its material and human resources and making appropriate investments in its capabilities. Given the circumstances, the objectives of the country, and its effectiveness in advancing sustainability and human development (Al-Rawashda, 2018)

It has become necessary for the university's mission to include marketing in order to improve its image, gain international classification and a competitive position among international universities, and achieve what is known as "branding," which is defining the essence of what the university is, what it stands for, what it offers, what it is famous for and distinguished by, and resources. According to Haji and Hossam (2012), effective marketing involves engaging future students, developing connections with current pupils and graduates, addressing societal issues, and competing on an international level.

Marketing services are an important source for opening interactive communication channels between universities and the surrounding community, which maximises the opportunities to benefit from universities' and their various capabilities, and enhances their function in serving society on the one hand, while also providing paid services to various sectors of society and its institutions, which contributes to resource provision. Additional funding helps universities fulfil their objectives, improve their services, differentiate their ideas, expand their capacities, and strengthen their competitive position locally, regionally, and worldwide (Attiya, 2022)

University institutions have begun to include the concept of university marketing into their operations and strategies, reflecting their confidence in the importance of the marketing revolution as one of the keys to innovation and excellence development in the twenty-first century. This movement helps colleges increase their competitive capacities and performance, and as a result, university marketing has become a successful global trend. Many universities in the industrialised world are implementing it by developing marketing strategies,

Copyright © 2024 by Author/s and Licensed by Kuey. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

research, educational, training, and information programmes to meet the demands of customers such as students, faculty members, and the surrounding community (Muhammad, 2020).

In this regard, the Applied Marketing Certificate book published by (School of Continuing Studies, 2015) confirms that in order for universities to achieve and successfully meet their educational, research, and societal functions in the twenty-first century, they must be able to respond effectively to evolving and growing educational, research, and societal needs and requirements, as well as forms and technologies. Competition, changing information and communications, and the ability to satisfy the demands of its consumers, recognise the needs of the target market in a competitive environment, translate these needs into products, services, or ideas, and convert demand into a desired response. In addition to designing a communication plan, pricing, promotion and marketing of university services (School of Continuing Studies, 2015)

According to Saleh et al.'s study (Saleh et al, 2021), the activities carried out by the university's marketing department focus on improving the image of its brand in terms of value, excellence, or superiority that has developed over time, as reflected in the university's reputation and image. Personality and internal expertise are critical factors in recruiting consumers and stakeholders to work with the institution.

Mahjoub (2007) emphasised the importance of marketing management in universities' relations with students as customers and with similar institutions as competitors, and thus the importance of universities adopting marketing concepts and strategies that allow them to meet the needs of targeted customers and occupy distinct positions in the markets they target. This tendency is supported by the activity's precise possession of successful marketing management, as well as the advanced marketing strategies and techniques it uses, which allow it to lead the competition in this field.

### 2. problem of the study

Universities deal with a lot of challenges, the Nile study (2015) found that there are numerous obstacles that prevent universities from reaching their marketing goals, despite their best efforts. These include a lack of welldefined strategic plans for marketing university services and a lack of clarity of their marketing objectives. The lack of specialised human resources in the marketing industry and the dearth of training courses offered to staff members in marketing-related speciality units, While the study (Al-Sameeh, 2015) revealed that one of the top research goals in the field of higher education studies in the Kingdom of Saudi Arabia is the problem of marketing higher education programmes at universities both domestically and internationally. Additionally, (Abu Saif, 2017) also revealed a low marketing return on university services, the dominance of centralization in the marketing of university services, the lack of university-specific units in scientific plans that connect their activities to the needs and problems of society, and the weakness of marketing theory and reliance on the internal environment of universities. Without considering the demands of the outside world, there is an absence of marketing research and studies about customer needs and satisfaction with the quality of services provided. According to Erturk and Isciogiu (2017), the marketing activities carried out by the university's marketing department are considered an important tool for achieving organisational goals, as marketing strategies for university services depend on enabling the university to develop its perceptions and the perceptions of competing universities, change their values, and focus on the important aspects and practice of change to develop the university until it.

On the other hand, the Al-Hasanat study (2017) indicated weak investment in university infrastructure and weak marketing of university properties and facilities to the local community, which were confirmed by the results of Al-Mutlaq's study (2017) on the importance of the educational infrastructure that Saudi universities have, which was provided and funded by the state, which was rarely able to Other entities and organisations must compete with them.

Muhammad's (2018) study identified a variety of problems that universities face when it comes to marketing their educational services. These issues include the lack of an institutional dimension in marketing services, the reliance on individual initiative and relationships, the absence of a philosophy among those in charge of establishing units of a special nature, and the universities' inability to modernise the services they offer. In addition, there are insufficient marketing skills, insufficient community and institutional demand for educational services, and insufficiently strong marketing channels.

According to Saleh (2021), the university's marketing department works to enhance the brand's image of value, excellence, or superiority that has grown over time. This brand is a reflection of the institution's internal experiences and self-image, and it is an important factor that influences the university's reputation in order to draw in stakeholders and customers.

In light of the foregoing, and in light of the findings of previous studies, as well as the importance of developing marketing management in private universities in the Kingdom of Saudi Arabia, the researcher discovered a real gap in studies related to marketing management in private universities in Riyadh, which has also not been addressed in previous Arab studies. This study was conducted to fill a research gap; as private institutions are one of the most important educational tributaries in Saudi Arabia's university education system. As a result, the study's challenge is to analyse reality and create strategies for developing marketing management in private universities.

## 3. Questions of the study

The following are the study questions:

1. What is the realty of marketing management in private universities located in Riyadh, the Kingdom of Saudi Arabia from the perspective of academic leaders,

2. How can private universities in Riyadh, the Kingdom of Saudi Arabia, enhance marketing management from the perspective of academic leaders?

## 4. Aims of the study

Assessing the reality of marketing management in private universities in Riyadh, Kingdom of Saudi Arabia.
 Identifying approaches to improve marketing management at private universities in Riyadh, Kingdom of Saudi Arabia.

## 5. Importance of studying

- Theoretical importance:

1. There is a scarcity of research and studies on the growth of marketing management at Riyadh's private universities. It is envisaged that the Arab educational library would expand on this issue.

2. Giving academics new directions to follow in their scientific investigations to assist them in developing the administration and marketing of universities, both private and public, in light of contemporary difficulties and changes.

3. Providing clarity on the concept of marketing management in light of the practices that international universities are implementing to promote their research, teaching, and social services. This is particularly important in light of the global developments and conditions that compel universities to establish marketing departments and employ technology and its add-ons to promote their missions.

- Practical importance:

This study aims to:

1. University administrators, as well as those in charge of private institutions, recognise the need of strengthening marketing management in universities.

2. To draw the attention of people in charge of private colleges to measures to improve marketing management in those institutions.

3. To accurately describe the realities of marketing management to those in charge of private colleges, as well as to give suggested strategies for improving marketing management.

#### 6. Limitations of the study

- Time limits: The study was conducted during the first semester of the academic year. 1444

- Objectives limits: shown in the growth of administration in the marketing city of private universities in Riyadh. - Spatial limits: The study was conducted at the Arab Open University, Prince Sultan University, and Al Yamamah University in the Saudi Arabian Kingdom of Riyadh. It was restricted to these universities because they were among the first private universities of higher learning to be founded in the city, with the oldest dating back to 1999 and the most recent one in 2002.

## 7. Terms of definition

**Marketing management**: Al-Sirafi (2004) defines it as a set of activities related to planning, organising, directing, and controlling by the entity entrusted with achieving harmony between these processes, as well as the processes of flow of goods and services from the producer to the consumer through rationalising the marketing decision-making process, and the researcher defines it procedurally. It is a set of administrative processes and activities used by private universities in Riyadh, Kingdom of Saudi Arabia, to market their educational, research, and community functions and achieve the university's marketing objectives in a way that meets the needs of current and potential beneficiaries while maintaining the desired efficiency, effectiveness, and quality.

**Private Universities**: In the Kingdom of Saudi Arabia, private universities are defined as: "a nongovernmental educational institution that operates according to the guidance of Islamic law, with a legal personality that enjoys financial and administrative independence, and aims to provide educational and training programmes (above the secondary level) and contribute to raising the level of education and scientific research, and provide appropriate scientific specialisation." AH 1444, and the researcher defines them procedurally as: private universities in the city of Riyadh that were granted a licence to operate pursuant to a Higher Education Council ruling, and that provide higher education services. These universities seek to develop their educational, research, and community functions to maintain their competitive capabilities at all levels.

**Academic leaders:** are defined procedurally by the researcher as heads of scientific departments, deans of colleges, heads of private universities in Riyadh, and representatives of marketing departments or units.

## 8. Theoretical background

Kotler (2002) defined the marketing management process as "analyzing, planning, implementing, and controlling various activities for product planning, pricing, promotion, and distribution of goods, ideas, and services, such as creating an exchange capable of satisfying the goals of both customers and organizations." The British Association defined it as "the process by which a specific marketing offer can be implemented and supervised with the aim of achieving the desired goals with high efficiency (Anis, 2021)

### Areas of marketing management

According to (Ngure, 2018), (Bedros, 2017), (Anis, 2021), and (Amerkhanova & Meshkov, 2019), marketing management in universities includes the following fields:

#### **Planning:**

Planning marketing efforts in universities is critical, as the success of marketing activity depends to how much future possibilities are expected. Planning marketing activities works to prepare for tomorrow by developing plans and strategies, and marketing planning is an important component of strategic planning in organisations, supporting the organization's strategic planning with more detailed plans to target specific marketing opportunities, and the planning progresses according to the following levels:

- Strategic planning at the university level, which includes (creating visions, establishing missions, analysing the circumstances, formulating goals, and formulating overall plans).

-Strategic planning for marketing university services, which includes situation analysis, goal-setting, positioning the brand, selecting potential customers, creating marketing plans, and creating marketing mix plans.

- Annual marketing planning, which includes (developing a plan for each service, activity, and region).

- Implementing and evaluating the annual plan.

### **Organization**:

The organisation of marketing activities varies from university to university in terms of the structure of the marketing unit and its relationship with other units. As a result, the marketing organisation is part of the administrative organisation of the university, just as the marketing management system is a subsystem of the administrative system. As well as the size of the material capabilities and human resources based on the nature of the university's marketing orientation, the size of the university and its research, service, and teaching activities, and the convictions of those in charge of its management about the feasibility of marketing these activities. In general, marketing work in universities can be organised using the functional organisation approach, the geographical organisation approach, or the complex organisation approach, which relies on combining more than one of the previous organization's foundations, resulting in a combination of several organisational forms based on the nature and size of each university.

#### Implementation

Marketing implementation is seen as the ultimate test of marketing success in universities, as developing innovative strategies is simply the first step towards successful marketing, and the return on a great marketing strategy is minimal if it fails. The organisation in implementing marketing is a system that converts plans into marketing procedures in order to achieve strategic marketing objectives, and it includes implementing activities from day to day and month to month in accordance with work plans, and successful marketing implementation is dependent on the quality of the combination of individuals, structure, decision systems, and rewards. The current culture in the work programmes that support the organization's strategies.

#### Censorship

Oversight of university marketing activities refers to the process of assessing and evaluating the results of marketing strategies and plans, as well as implementing corrective steps to guarantee that universities' marketing objectives are met. Oversight of marketing efforts in universities involves several stages, including setting control requirements, measuring actual performance, and evaluating performance.

Accordingly, the integration of these marketing areas. Good marketing planning necessitates the establishment of a marketing organisation capable of executing field plans, strategies, and established strategies, as well as implementing marketing activities. This is the ultimate test of marketing plans' performance. Successful marketing implementation depends on the quality of the mix of individuals, the organisational structure, and the extent to which university employees possess the necessary marketing skills. Then comes the role of marketing oversight to ensure that marketing performance is in the right direction and in accordance with what is expected.

## 9. Previous studies

The researcher discovered a scarcity of studies addressing the growth of marketing management in private colleges. The majority of the studies focused on marketing services and educational outcomes in public

universities, such as the Al-Sarhan study (2013), the Al-Nawfal study (2016), the 2019 study (Maiteeq), and Amr (2021), whereas the Mansouri study (2018) and Abu Al-Khair (2018) focused on internal marketing. The following is a presentation and analysis of previous research in the topic.

Diaconu (2012): My goal was to identify the relationship between the economic academy and the commercial environment by focusing on university marketing in America. The study used a descriptive technique using its questionnaire instrument and was conducted at 15 American universities, with a sample size of 98 faculty members and 100 students. The results suggested a growing interest in marketing universities to establish and activate communication with targeted students, and university services have become one of the most valuable assets possessed by educational institutions. Potential students in The higher education sector seeks for the finest study options and collects and analyses information offered by higher education institutions on the qualities and benefits of educational programmes and services.

Favaloro (2015): Clarifying local marketing in the Australian higher education industry, showing marketing patterns for universities, and determining the amount of expanding student enrolment as a return on marketing effort. It used a descriptive method, and the instrument consisted of analysing and examining financial information on the cash flows of local investment in universities and their institutions. It revealed that marketing expenses at Australian universities climbed by 23% over the five years from 2013 to 2013, with certain schools allocating more than ten million dollars to advertising and promotion each year. However, few colleges translate marketing investments into sources of income, and reputable universities will confront additional challenges, such as a greater competitive threat from private sector providers in terms of pricing and future shifts in consumer preferences. It is critical to review strategies. Marketing that may have been developed in universities previous to the implementation of the demand-based strategy before 2012.

Abu Al-Khair (2018): The aim of the study was to determine the extent of internal marketing practice at Al-Quds Open University and how it related to employee work engagement. With the use of a questionnaire, the study used a descriptive methodology to gather information from every employee at the Gaza Strip's Al-Quds Open University branches. The study found that there was a positive correlation between the administration of the university's internal marketing practices and the degree of employee engagement with work, and that the degree of internal marketing practiced by the university was high.

Maiteeq's study (2019): seeks to identify the most significant barriers to marketing university research services at the University of Misrata's College of Education. With the questionnaire as its tool, the study took a descriptive approach. The sample consisted of 53 faculty members. The investigation concluded that the marketing difficulties have been overcome. University research services are provided to an exceptional level by the Faculty of Education at the University of Misrata.

Al-Wahashi Y (2020) study: The reality of identifying the internal marketing practices' goal in Qassim region's private colleges, by understanding faculty members' opinions regarding the degree to which internal marketing is practiced in colleges, where the descriptive approach was applied and primary data was gathered via a questionnaire, The most notable findings were that less than 70% of private institutions apply internal marketing in the areas of work teams, rewards and incentives, work environment, training and development, and marketing information. Among the most important recommendations is the need to focus on applying internal marketing in private colleges in the Qassim region because it plays a significant role in increasing faculty member satisfaction, as well as the importance of internal marketing, which is a basic requirement for quality service and creating a competitive advantage for colleges and universities.

Attia's study (2022) aims to identify the reality of electronic marketing management for educational services in specialised units/centers at the University of Alexandria. The descriptive approach and questionnaire were utilised as research tools, and the study was conducted on executive directors and working personnel. The sample consisted 17 executive directors and 95 The study "Marketing Management" determined that the electronic hub for educational services at Alexandria University is available to a high degree, while obstacles to managing the "electronic marketing hub for services at Alexandria University" are available to a low degree.

#### 10. Remarkable marks

It is evident from the presentation of previous studies that each viewpoint on previous studies addresses another aspect of the current study, or focuses on a different variable. It is expected that the outcomes will therefore complement previous attempts. Analysing previous research reveals benefits from earlier studies as well as areas of agreement, similarities, and contrasts between the current study and previous research. It is obvious that the current study used a descriptive technique, which is compatible with many studies, including Diaconu's (2012), Favalor's (2015), Abu Al-Khair's (2018), Maitiq's (2019), Al-Wahashi's (2020), Al-Wadaei's (2021), and Attiya's (2022). The current study differed from prior studies in that it focused on the development of marketing management in Riyadh's private universities, which had not been addressed in previous Arab studies. The current study was unique in that it used private universities in the city of Riyadh, Kingdom of Saudi Arabia, as a study population, where no previous marketing research had been implemented. The aspects of advantage were the following: The current study used prior studies' results and recommendations to develop the study problem and study tool. The current study drew on earlier research to analyse, evaluate, and debate the current study's findings, as well as the findings of previous studies in agreement and disagreement.

## 11. Methodology of the study

The researcher used the descriptive survey approach to diagnose the reality of marketing management in private universities in the city of Riyadh, Kingdom of Saudi Arabia, as well as measures to improve it from the perspective of academic leaders.

## - Population of the study

The study population consisted of all academic leaders at Riyadh's private universities during the first semester of the year (1444 AH), which amounted to (56) academic leaders (Ministry of Education, 1444 AH)

## Table 1 :Distribution of academic leaders in private universities in the city of Riyadh

University	University's	Dean	Department	Marketing	Total
	president		head	officer	
Al-Yamama University	1	3	8	1	13
Arabic Open University	1	5	10	1	17
Prince sultan university	3	8	14	1	26
Total	56				

## - Sample of the study

The study was applied to all academic leaders in private universities in the city of Riyadh, the Kingdom of Saudi Arabia, as well as ways to develop it from the perspectives of academic leaders in private universities in Riyadh using a thorough inventory technique. 33 leaders replied, accounting for 58.9% of the survey population, and the table below shows the characteristics of academic leaders at private universities in Riyadh based on academic rank and years of experience.

## Table 2: Academic leaders' characteristics in Riyadh's private universities according to years of experience and academic rank

Variable	Categories	No	%
	Assistant professor	16	48.5
academic rank	Associate professor	14	42.4
	Professor	3	9.1
	Total	33	100
years of experience	Less than 5 years	7	21.2
	From 5- 10 years	19	57.6
	More than 10 years	7	21.2
	Total	33	100

According to the previous table, academic leaders with the rank of assistant professor represent the highest category in terms of academic rank, with a rate of 48.5%, followed by associate professors with a rate of 42.4%, and finally by professors with a rate of 9.1%. Academic leaders with five to ten years of experience have the highest percentage (57.6%), followed by academic leaders with less than five years and more than ten years of experience, both with equal percentages (21.2%).

## - Instrument of the study

A questionnaire was developed to fulfil the study's objectives after consulting the literature on marketing management and analysing prior research on the subject, such as Nayel (2015), Muhammad (2018), and Abu Al-Khair (2018). The questionnaire was also constructed in its original form, with (51) item and there are (30) statements measuring marketing management in private universities in the city of Riyadh in the following fields (planning, organisation, implementation, and Censorship), as well as (21) statements measuring ways to develop marketing management in private universities.

The apparent validity of the tool was confirmed by presenting it to six arbitrators who specialise in educational administration. It was discovered that all of the questionnaire's items had agreement ratings more than 95%, indicating that they were honest and served the aim of the questionnaire. Internal consistency was assessed by computing the correlation coefficient between each statement and the subdomain in which it appeared. As shown in Table (3)

 Table 3: The Pearson correlation coefficient between items connected to the reality of marketing management at private university and the degree of the field

Planning		Organisation		Implementation		Censorship	
Item	Pearson correlation	Item	Pearson correlation	Item	Pearson correlation	Item	Pearson correlation
1	.792**	10	.847**	15	.666**	22	.868**
2	.540**	11	.904**	16	.650**	23	.771**

3	.837**	12	.887**	17	·593 <sup>**</sup>	24	.757**
4	.839**	13	.909**	18	.563**	25	.815**
5	.676**	14	.896**	19	.711**	26	.659**
6	.640**	-		20	.626**	27	.860**
7	.764**	-		21	.532**	28	.838**
8	.519**	-		-	-	29	.860**
9	.697**	-		-	-	30	.819**

Table (3) shows that the correlation values between the items of the reality of marketing management in private universities and the degree of the field in which they were mentioned ranged from (0.519) to (0.909). These percentages are statistically significance at the level (0.01). The tool's reliability was confirmed using Cronbach's alpha, shown in the table (4).

Table 4: The reliability coefficient for each of the	questionnaire's sub-items and their fields
--	--

Item	Field	Field stability	Main item stability		
	Planning	0.861			
The reality of marketin		0.930			
	e Implementation	0.711	0.950		
universities	Censorship	0.932			
Ways to develop marketing management at private universities 0.962					

Table (4) shows that the questionnaire has a very high degree of reliability in each of its sub-axes, as the Cronbach's alpha value in the axis of the reality of marketing management in private universities reached (0.950) in its sub-fields between (0.711-0.932) and the reliability value for the main item" ways to develop marketing management in private universities" (0.962), which confirms the possibility of stabilising and generalising the results drawn from it. The final form of the questionnaire was derived from two sub-items, as follow:

The first main item is the reality of marketing management in private institutions, which contains the following (30) items:

The first field, planning, contained (9) items.

The Second Field: The second is organisation, which involves (5) items.

The third field: implementation. It included (7) items.

The fourth field is censorship, which contains (9) items.

The second main item discusses how to improve marketing management in private universities. It contained (21) items. The respondent corrected the questionnaire by selecting one of the five possibilities presented in front of each item. The options are as follows: (Very high) gets five points, (high) gets four, (middle) gets three, (low) gets two, and (very low) gets one. Specifically, by finding the length of the cells of the pentatonic scale. To find the top limit for this cell, calculate the range (5 - 1 = 4), divide it by the highest value in the scale to get the length of the cell  $(4 \div 5 = 0.80)$ , and then add this value to the lowest value in the scale (the scale's beginning, which is a whole one). For the purposes of the study, weighted averages can be calculated as follows:

Table 5: Averages for the	purposes of the study	v according to the	e five-point scale
rusie J. II. er uges for the	purposes or me stud	, accortaning to the	me pome seure

Level
From 4.21 to 5
From3.41 to 4.20
From 2.61 to 3.40
From 18.1 to 260
From 1 to 1.80

## - Statistical analysis

The following statistical methods were used to answer the study questions:

-Cronbach'Alpha.

- Averages and standard deviations.
- -Pearson Correlation

## 12. Results and discussion

Results of the first question which states that "What is the realty of marketing management in private universities located in Riyadh, the Kingdom of Saudi Arabia from the perspective of academic leaders?" **To answer the first question**, which states that "What is the realty of marketing management in private universities located in Riyadh, the Kingdom of Saudi Arabia from the perspective of academic leaders?"

Nu.	Level	Standard deviation	Average	domains
1	High	0.64	4.16	Censorship
2	High	0.57	4.00	Implementation
3	High	0.50	3.95	Planning
4	High	0.76	3.90	marshalling
	High	0.52		And the reality of marketing management in private universities in Riyadh

average and standard deviation were calculated for each sub-domain of marketing management and for the overall domain, as indicated in table (6).

The table above indicates that the state of marketing management in private universities in Riyadh, as perceived by academic leaders, is high, with an average of 4.02 and a standard deviation of 0.52. The area of supervision ranked highest among the domains with an average of 4.16, followed by implementation with an average of 4.00, and then planning with an average of 3.95. Meanwhile, the organization domain ranked lowest with an average of 3.90. The researcher attributes these results to the commitment of Riyadh's private universities to effective marketing policies in both educational and economic fields, as well as their provision of the necessary material, administrative, and human resources for marketing management, and the training and qualification of their employees. They are trained on how to apply modern strategies to market their various services, thereby enhancing their competitive and marketing capabilities among competing universities. These results are consistent with Abu Al-Khair's study (2018), which showed a high level of internal marketing practice in universities. They also align with Diaconu's study (2012), which showed increased interest in marketing universities' development and activation of communication with targeted students, while differing from Al Wahashi's study (2020), which showed that the level of implementation of internal marketing in private colleges was moderate.

The researcher explains the highest ranking of the supervision domain in light of the interest of private universities in developing the quality of their services and improving their marketing management by measuring the performance of their employees, setting precise regulatory standards, continuously reviewing their development policies, evaluating the results of marketing strategies and plans, and taking necessary corrective actions to ensure the achievement of their marketing objectives. The lowest ranking of the organization domain may be attributed to the lack of specialized expertise in marketing, and the absence of clear action plans related to categorizing marketing activities within the university according to geographical regions, customer nature, and targeted markets. This is consistent with what was mentioned in Nile's study (2015) and Mohammed's study (2018), which indicated a shortage of human resources specialized in marketing in universities.

Below is a summary of the responses of academic leaders regarding the diagnostic statements for each domain.

Rank	Level	Standard Deviation	Average	Items	Nu.	Domain
11	High	0.55	4.12	Analyze elements of the university's internal environment to identify, enhance and enhance strengths and weaknesses to improve them	1	
14	High	0.52	4.09	Analyze the elements of the external university environment to discover and employ available marketing opportunities, and overcome challenges.	2	
30	High	0.75	3.61	Identify the characteristics of the target market through conducting research.		
25	High	0.82	3.79	Benefit from competitors' experiences in marketing.	4	

## Table 7: The reality of marketing management in private universities from the point of view of academic leaders according to each field

20	High	0.86	3.88	Determine marketing goals according to the requirements of reality, and the future needs of customers.	5	
21	High	0.99	3.88	Determine the nature of customers and beneficiaries, and design accordingly.	6	
15	High	0.58	4.09	Estimating expected profits and losses through an economic feasibility study.	7	
19	High	0.66	3.94	Monitor the capabilities and potential of competitors.	8	
12	High	0.65	4.12	Identify appropriate and effective marketing methods.	9	
						Planning
26	High	0.76	3.73	Recruitment of experienced specialists.	10	
24	High	0.73	3.82	Classification of marketing activities in specialized organizational units according to the nature of customers.	11	
27	High	0.98	3.73	Classification of marketing activities according to geographical areas and the nature of the target markets.	12	zation
10	High	0.87	4.15	Distributing marketing tasks and responsibilities to employees according to their abilities and capabilities.	13	organization
16	High	0.95	4.09	Choose the most appropriate methods of communication and communication between employees and the public.	14	
22	High	0.82	3.88	The university allows access to marketing services through the university offices or through the website	15	
18	High	1.05	3.97	The university accurately describes the services provided through its official platforms.	16	
29	High	1.08	3.64	The university is priced according to the volume of demand for it and compared to the prices of competitors.	17	
2	Very high	0.81	4.30	The university promotes online marketing services.	18	
6	Very high	0.71	4.24	The university improves the service provided to the public by communicating with customers	19	

				and identifying their opinions and suggestions.		
1	Very high	0.82	4.33	The university is keen to protect the privacy of customers and their personal data.		
28	High	1.16	3.67	The university adopts pricing policies based on cost, demand and competition.		
						implementation
8	High very	0.78	4.21	The university relies on clear criteria to measure and evaluate marketing performance.		
9	High	0.73	4.18	The university diagnoses actual marketing performance.	23	
23	High	0.91	3.85	The university compares marketing performance and predefined criteria	-	
13	High	0.78	4.12	The university examines marketing strategies to ensure their variable responses		
17	High	0.75	4.00	The university performs employees according to the standards that have been determined in advance.		
3	Very high	.073	.430	The university reviews development policies on an ongoing basis.	27	censorship
4	High very	.081	.427	The university is constantly reviewing distribution policies.	28	censc
7	High very	0.87	4.24	The university continuously reviews policies to promote its services and products.		
5	High very	0.76	4.27	The university measures the level of customer satisfaction.	30	
High		0.52	4.02	The reality of marketing manage universities in Riyadh	ement	in private

The average of the responses of academic leaders regarding the state of marketing management in private universities ranged from 3.61 to 4.33. Eight statements received a very high agreement level, while twenty-two statements received a high agreement level. The highest-ranking statement in the planning domain was "Analysing the elements of the internal university environment to identify strengths and enhance them, as well as identifying weaknesses for improvement," with an average of 4.12 and a standard deviation of 0.55. The researcher interprets this result as the analysis of the environment being one of the most important foundations upon which strategic plans for marketing management are built. Conversely, the lowest-ranking statement was "Identifying the characteristics of the target market through research," with an average of 3.61 and a standard deviation of 0.75. This could be attributed to the absence of clear action plans aimed at activating research to identify market characteristics when planning marketing management. This result aligns with Nile's study (2015), which showed universities' lack of clear strategic plans for marketing research and studies addressing customer needs.

The highest-ranking statements in the organization domain were represented in the statement "Assigning marketing tasks and responsibilities to employees according to their capabilities and capacities," with an average of 4.15 and a standard deviation of 0.87. This result can be interpreted as assigning tasks, responsibilities, and roles to employees being one of the most important aspects of organization, requiring consideration of their capabilities and capacities to succeed in performing assigned tasks and achieving set objectives accurately. Conversely, the lowest-ranking statement was "Categorizing marketing activities according to geographical regions and the nature of targeted markets," with an average of 3.73 and a standard deviation of 0.98. This may be due to private universities being relatively new and expanding to establish branches in various regions. Categorizing marketing activities according to these regions and diversifying them to suit the nature of the targeted markets is part of their future strategic plans. This result aligns with Abu Saif's study (2017), which indicated the lack of scientific plans connecting the activities of private university units with community needs and local markets.

The highest-ranking statements in the implementation domain were represented in the statement "The university ensures the protection of customer privacy and their personal data," with an average of 4.33 and a standard deviation of 0.82. This result confirms that private universities are taking the necessary material, technological, and administrative measures to protect their customers' personal data in order to increase customer trust, prevent unauthorized access, and avoid customer loss. Conversely, the lowest-ranking statement was "Adjusting the university's fees according to demand volume and comparison with competitors' prices," with an average of 3.64 and a standard deviation of 1.08. This may be due to private universities following other criteria that align with the university's objectives and capabilities while considering the nature of their customers.

The highest-ranking statements in the control domain were represented in the statement "The university continuously reviews its development policies," with an average of 4.30 and a standard deviation of 0.73. This result confirms the existence of a supervisory system in private universities aimed at evaluating performance and reviewing development policies for marketing management to keep pace with administrative, educational, technological, and economic developments and enhance their competitive edge among universities. This result aligns with the findings of Erturk & Iscioglu's study (2017), which highlighted the importance of universities revising their perceptions and the perceptions of competing universities to enhance their competitive and marketing capabilities. Conversely, the lowest-ranking statement was "Comparing the university's marketing performance with pre-defined criteria," with an average of 3.85 and a standard deviation of 0.91. This may be attributed to the limited diversity of the supervisory mechanism in verifying the application of pre-defined criteria when evaluating marketing performance.

Result of the second question, which states that "How can private universities in Riyadh, the Kingdom of Saudi Arabia, enhance marketing management from the perspective of academic leaders? "the average and standard deviation were calculated for each sub-domain of marketing management and for the overall domain, as indicated in table (8).

Nu.	Level	Standard	Average		
		Deviation		Items	
1	High	0.73	4.18	The university is keen to twinning with advanced international universities	2
2	High	0.92	4.03	The university strengthens the partnership and ties between the university and civil society institutions.	8
3	High	0.94	4	The university provides the necessary funding to manage its marketing in a manner commensurate with the expectations and ambitions of customers.	1
4	High	0.98	3.97	The university activates various means of communication with customers and beneficiaries to know their opinions.	7
5	High	1.03	3.94	The university designs websites to attract customers and beneficiaries through it.	20
6	High	0.95	3.91	The university determines the benefits of the expertise of international private universities in planning, organization, implementation, and marketing control.	21
7	High	0.6	3.88	The university adopts a marketing advertising policy through press conferences and advertising campaigns.	3
8	High	0.92	3.82	The university conducts training programs on an ongoing basis to improve the capabilities and skills of employees in marketing management.	11

# Table 8: The table below shows the ways to develop marketing management in private universities in Riyadh, according to academic leadership, ranked in descending

9	High	1.04	3.82	The university applies the concepts and strategies of marketing activity to support competition.	6
10	High	0.89	3.79	The university promotes coordination and integration between departments within the university and links them directly to the marketing department to facilitate the promotion process.	13
11	High	0.96	3.79	The university keeps pace with the marketing department for technical development and employing it in the marketing process.	
12	High	1.03	3.76	The university provides a specialized unit to communicate with customers and beneficiaries to respond to their inquiries.	
13	High	0.91	3.73	The university works to support, promote and spread the culture of marketing in the university environment.	
14	High	0.9	3.61	The university adopts good planning with a future vision for marketing.	
15	High	1	3.61	The university conducts research and marketing studies to identify the needs and desires of customers and their satisfaction.	4
16	High	1.14	3.61	The university employs experienced and competent specialists in marketing management.	10
17	High	0.91	3.48	The university allocates financial allocations to support marketing research.	16
18	High	1.03	3.45	The university provides material and moral incentives provided to distinguished people in the field of marketing at the university.	19
19	High	1.12	3.45	The university contracts with advertising companies.	5
20	High	1.03	3.42	The university employs promotion offices in target markets.	17
21	Medium	1.02	3.33	The university uses government agencies or institutions to promote in international markets	18
High		0.72	3.74	Ways to develop marketing management private universities in Riyadh	in

The results of the previous table demonstrate the agreement of academic leadership on the ways to develop marketing management in private universities in Riyadh, with an average of 3.74 and a standard deviation of 0.72. The arithmetic means of the statements related to this axis ranged between 3.33 and 4.18. This result aligns with the findings of Erturk & Iscioglu's study (2017), which emphasized that the strategies for marketing university services rely on empowering the university and developing its perceptions, as well as practicing change and development within the university to make it an exemplary institution.

The highest-ranked means for developing marketing management in private universities included the statement "The university emphasizes twinning with advanced international universities," with an average of 4.18 and a standard deviation of 0.73. The researcher interprets this result as academic leadership's awareness of the benefits of twinning with international universities, which allows for the exchange of leading experiences and knowledge, familiarization with modern strategies in this field, and the development of marketing management. Following closely is the statement "The university strengthens partnerships and links between the university and civil society institutions," with an average of 4.03 and a standard deviation of 0.92. This result confirms the acknowledgment of academic leadership that the university cannot operate in isolation and that activating partnerships between the university and civil institutions is a fundamental criterion for quality. Moreover, community partnerships contribute to introducing the university's goals, programs, and various activities, enhancing society's confidence in it. Additionally, the university needs support from stakeholders and civil institutions to back its resources and execute its various programs. Through community partnerships, the university contributes to developing the community's capabilities and providing financial alternatives for the university through marketing research and various services it offers. This result aligns with the findings of Al-Hasanat's study (2017), which underscored the importance of activating partnerships between universities and community institutions by investing in university infrastructure and marketing university properties and facilities to develop their marketing capabilities.

In third place is the statement "The university provides the necessary funding for its marketing management in a manner that aligns with customer expectations and aspirations," with an average of 4.00 and a standard deviation of 0.94. This underscores the importance of allocating appropriate financial resources to meet the

material, technical, and organizational requirements necessary to improve quality and achieve goals independently of the society in which it originated.

### **Recommendations:**

1. Increase the focus of university management on organizational structuring to activate marketing management within private universities in Riyadh.

2. Enhance training courses directed towards employees in private universities in Riyadh on modern strategies in marketing management.

3. Allocate appropriate budgets for conducting research to identify the characteristics of the target market when developing marketing plans in private universities.

4. Increase the attention of marketing management in private universities by categorizing marketing activities according to geographical regions and the nature of target markets.

5. Establish precise and clear criteria for pricing the university's services and evaluate its marketing performance, committing to their implementation. Additionally, develop strategic plans aimed at activating twinning between private universities and advanced international universities to enhance their marketing capabilities.

### REFERENCES

### **First: Arabic References**

- 1. Abu Al-Khair, Ahmed. (2018). Internal Marketing and its Relationship with Achieving Work Engagement Levels among Employees at Al-Quds Open University. Al-Quds Open University Journal of Humanities and Social Sciences, 1(46), 11-25.
- 2. Abu Seif, Mahmoud. (2017). A Proposed Model for Utilizing Gamification in Electronic Marketing of Educational Services. Journal of Educational Sciences, 25(2), 364-438.
- 3. Bounamous, Anis. (2021). The Role of Marketing Management in Enhancing Institutional Image (Unpublished master's thesis). Department of Service Marketing, Faculty of Economic and Commercial Sciences, Abdelhafid Boussouf University Center, Algeria.
- 4. Bedrouss, Wafaa. (2017). Proposed Scenarios for the Future of Marketing Educational Services in Egyptian Universities in Light of Models of Some Foreign Universities. Educational Magazine, (47), 430-525.
- 5. Hagee, Ahmed, & Abdelhamid, Hussam. (2012). The University and Human Development: Theoretical Foundations and Comparative Arab and Foreign Experiences. Al-Kutub World.
- 6. Al-Hasanat, Sari Radwan, Al-Khatib, Omar, Amer, & Salema, Adel. (2017). Activating Investment in Infrastructure: A Proposed Source for Financing Al-Azhar University in Gaza. Scientific Research Journal in Education, 9(18), 2296-275.
- 7. Rawashdeh, Raed. (2018). Investment in Education: Between Reality and Application. Ministry of Education Magazine, 2(55), 35-18.
- 8. Al-Sirhan, Atallah. (2013). The Impact of Applying Quality Standards and Academic Accreditation on Marketing Educational Outputs in Saudi Universities. Arab Journal for Ensuring Quality in Higher Education, 6(13), 3-17.
- 9. Al-Sameeh, Abdulmohsen. (2015). A Research Map for Research Priorities in Higher Education Studies in the Kingdom of Saudi Arabia. Scientific Arbitration and Publication funded by the King Saud Chair for Higher Education Studies in the Kingdom.
- 10. Al-Sirafi, Mohammed. (2004). Marketing Management. Horus International Publishing and Distribution Foundation.
- 11. Asiri, Zahra. (1438). Marketing Scientific Research in Saudi Universities from the Perspective of Knowledge Economy. Unpublished master's thesis, Faculty of Education, King Khalid University.
- 12. Attia, Afkar. (2022). Electronic Marketing Management for Educational Services: An Applied Study on Specialized Units at Alexandria University. Educational Magazine, 1(94), 1787-1617.
- 13. Omar, Hussam. (2021). Services Marketing as an Approach to Enhance Competitiveness for Universities in Egypt in Light of Some International Experiences. Journal of Studies in Childhood and Education, 18(1), 479-418.
- 14. Philip Kotler, Gary Armstrong, and Veronica Busha. (2002). Marketing. Translation by Mazen Al-Tafaa. Alaa Publishing and Distribution House.
- 15. Mahjoub, Bassam. (2007). Arab University Management in Light of Global Standards: An Applied Study of Colleges of Administrative Sciences and Commerce. Arab Organization for Administrative Development.
- 16. Mohamed, Hanan. (2018). Proposed Mechanisms for Marketing University Educational Services in Light of Knowledge Economy: An Applied Study at Beni Suef University. College of Education Journal, 18(2), 506-425.
- 17. Mohammed, Sabah. (2020). The Importance of University Marketing in Achieving Educational Service Goals: A Survey Study of Students at the College of Management and Economics, University of Iraq. North Europe Academic Journal for Studies and Research, 2(8), 21-43.

- 18. Al-Mutlaq, Turki. (2017). Cognitive Investment and its Relationship in Building the Competitive Advantage of Emerging Universities in Saudi Arabia. Journal of Educational and Psychological Sciences, 18(3), 261-299.
- 19. Muaiteq, Mustafa. (2019). A Proposed Concept for Marketing University Research Services at Faculty of Education, Misurata University: A Model. The First Scientific Conference of the Faculty of Education, University of Sirte: Anticipating the Future of Education Faculties in Libyan Universities in Light of Contemporary Global Trends, Vol. 2, Sirte University Faculty of Education, 598-614.
- 20. Mansouri, Ilham. (2018). The Impact of Internal Marketing on Ensuring the Quality of Higher Education Service: Perspectives of Employees at the College of Modern Information Technologies and Communication at Ouargla University. Journal of Economics and Business Finance, 1(7), 547-561.
- 21. Nile, Sahar. (2015). An Evaluative Study of University Services Marketing in Light of Total Quality Management at Egyptian Universities. Arab Studies in Education and Psychology, 1(61), 374-297.
- 22. Al-Nawfal, Mohammed. (2016). A Proposed Strategy for Managing University Services Marketing at Imam Muhammad bin Saud Islamic University. Doctoral dissertation, College of Social Sciences, Imam Muhammad bin Saud Islamic University.
- 23. Ministry of Education. (1440 Hijri). Initiatives and Projects in the Ministry of Education Higher Education. Retrieved December 9, 2022, from https://www.moe.gov.sa/ar/about/egovinitia
- 24. Al-Wahashi, Abdulwahab. (2020). The Current Status of Internal Marketing Practices in Private Colleges in the Qassim Region: An Applied Research on Faculty Members in Private Colleges in the Qassim Region. International Journal of Islamic Marketing, 16(1), 61.

## Second: Foregin references.

- 1. Abu El-Kheir, Ahmad. (2018). "Internal Marketing and Its Relationship to the Level of Work Engagement Among Employees at Al-Quds Open University." Journal of Al-Quds Open University for Humanities and Social Research, 1(46), 11-25.
- 2. Abu Said, Mahmoud. (2017). "A Proposed Model for the Use of Gamification in the E-Marketing of the Services of Egyptian Universities." Educational Sciences, 25(2), 364-438.
- 3. Al-Ḥasanāt, Sārī, Radwān, 'Umar, al-Khaṭīb, 'Āmir, Salāmah, 'Ādil. (2017). "Activating Investment in Infrastructure: A Proposed Source of Financing Al-Azhar University in Gaza." Journal of Scientific Research in Education, 18(9), 275-296.
- 4. Al-Mutlaq, Turkī. (2017). "Knowledge Investment and Its Relationship to Building the Competitive Advantage of Emerging Universities in the Kingdom of Saudi Arabia." Journal of Educational and Psychological Sciences, 18(3), 261-299.
- 5. al-Nawfal, Muḥammad. (2016). "A Proposed Strategy for Managing the Marketing of University Services at Imam Muhammad bin Saud Islamic University." [Ph.D. Thesis, College of Social Sciences, Imam Muhammad bin Saud Islamic University]
- 6. Al-Rawāshidah, Rā'id. (2018). "Investing in Education between Reality and Application." Jordanian Ministry of Education. Risālat Al-Mu'allim Journal, 55(2), 18-35.
- 7. Al-Samih, 'Abd Al-Muhsin. (2015). "A Map of Research Priorities in Higher Education Studies in the Kingdom of Saudi Arabia." Scientific Arbitration and Publishing Funded by the King Saud Higher Education Research Chair, KSA.
- 8. Al-Sarḥān, 'Aṭā Allāh. (2013). "The Impact of Applying Quality and Academic Accreditation Standards to the Marketing of Educational Output in Saudi Universities." Arab Journal for Quality Assurance in Higher Education, 6(13), 3-17.
- 9. Al-Ṣayrafī, Muḥammad. (2004). "Marketing Management." Egypt: The Horus International Foundation for Publishing and Distribution.
- 10. Alwhāshá, 'Abd al-Wahhāb. (2020). "The Real Situation of Domestic Marketing Practices of Private Colleges in the Qassim Region: An Applied Research on the Faculty Members of Private Colleges in the Qassim Region." International Journal of Islamic Marketing, 9(1), 16-61.
- 11. Amerkhanova, A. B., & Meshkov, V. R. (2019). "University Educational Services Marketing: Features, Opportunities, Problems."
- 12. Anis, Bunamous. (2021). "The Role of Marketing Management in Improving the Corporate Image." [Unpublished Master's Thesis, Service Marketing Department, Faculty of Economic and Commercial Sciences, University Center Abdel Hafeez Bou Souf, Algeria]
- 13. 'Asīrī, Zahrah. (1438). "Scientific Research Marketing at Saudi Universities from the Perspective of Knowledge Economy." [Unpublished Master's Thesis, College of Education, King Khalid University]
- 14. 'Atīyah, Afkār. (2022). "Management of Educational Services' E-marketing: An Applied Study on Units of Special Nature at Alexandria University." Educational Journal, 1 (94), 1617-1787.
- 15. Bedrous, Wafā. (2017). "Proposed Scenarios for the Future of Marketing Services in Egyptian Universities in Light of Certain Foreign Universities' Models." Educational Journal, (47), 430-525.
- 16. Cutler, Philip; Armstrong, Gary; Boucha, Veronica. (2002). "Marketing." Translated by Māzin Al-Tafā', Syria: Dār 'Alā' for Publishing and Distribution.

- 17. Erturk, O., Isciogiu, Y. (2017). "Higher Education Marketing: A Comparative Analysis of Public and Foundation Universities in Turkey." Beykoz Akademi Dergisi, 5(2), 169-231.
- 18. Favaloro, C. (2015). "Marketing in the Australian Higher Education Sector." Journal of Higher Education Policy and Management, 37(5), 490-506.
- 19. Hajjī, Ahmad, wa-ʿAbd al-Hamīd, Husām. (2012). "University and Human Development: Comparative Theoretical Fundamentals and Arab and Foreign Experiences." Cairo: ʿĀlam al-Kutub.
- 20. Mahjūb, Basmān. (2007). "Management of Arab Universities in Light of International Standards: An Applied Study of Faculties of Administrative Sciences and Commerce." Cairo: Arab Administrative Development Organization.
- 21. Manṣūrī, Ilhām. (2018). "Impact of Domestic Marketing on the Quality Assurance of Higher Education Service from the Perspective of the Employees of the Faculty of New Information Technologies and Communication." Financial and Business Economics Journal, 1(7), 547-561.
- 22. Ministry of Education (1440 H). "Initiatives and Projects of the Ministry of Education. University Education." Retrieved on 09/12/2022 from https://www.moe.gov.sa/ar/about/egovinitiav
- 23. Muḥammad, Ḥanān. (2018). "Proposed Mechanisms for Marketing University Educational Services in Light of Knowledge Economy: An Applied Study at Beni Suef University." Journal of the Faculty of Education, 18(2), 425-506.
- 24. Diaconu, & pandelica, p. (2012). "The Partnership Relationship between Economic Academic and Business Environment, Component of Modern University Marketing Orientation." Procedia-Social and Behavioral Sciences, 62, 722-727.
- 25. Muḥammad, Ṣabāḥ. (2020). "The Significance of University Marketing in Achieving Educational Services' Objectives: A Survey Study on the Students of the Faculty of Administration and Economics at Al Iraqia University." A Refereed Journal of Northern Europe Academy for Studies and Research, 2(8), 21-43.
- 26. Mu<sup>•</sup>itiq, Mu<sup>§</sup>tafá. (2019). "A Proposed Perspective for Marketing University Research Services at the Faculties of Education: Misrata University as a Model." 1st Scientific Conference by the Faculty of Education, University of Sirte: Exploring the Future of Faculties of Education in Libyan Universities in the light of Contemporary Global Trends, Volume 2, Sirte: University of Sirte, Faculty of Education, 598-614.
- 27. Nāyil, Saḥar. (2015). "An Evaluation Study on the Marketing of University Services in Light of Total Quality Management at Egyptian Universities." Arabic Studies in Education and Psychology, 1 (61), 297-374
- 28. Ngure, J. (2018). "Influence of Marketing Strategies on Performance of Strathmore University, Kenya." (Doctoral dissertation, University of Nairobi).
- 29. Saleh, M. S. M., Kassim, N. M., Tukur, N. A., Mukhiar, S. N. S., & Balaraman, R. A. (2021). "Sustainable Universities as Brand Marketing for Universities: A Case of Universiti Sains Malaysia." Media Watch, 12(1), 127-148.
- 30. School of Continuing Studies. (2015). "Certification Applied Marketing." Canada: McGill University.
- 31. 'Umar, Ḥusām (2021). "Marketing Services as an Introduction to Developing Universities' Competitiveness in Egypt in Light of International Experiences." Journal of Childhood and Education Studies, 1(18), 418-479.