

Chapter 5.12

The Profession of Research Management and Administration in Japan

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Abstract

This chapter outlines the circumstances that led to the evolution of the profession of research management and administration in Japan. The state of research administration in Japan can be characterised by a combination of a top-down approach guided by the government and a bottom-up approach taken by the practitioners named University Research Administrator (URA), which have effectively been working in alignment since 2009. Currently, the RMAN-J (Research Manager and Administrator Network Japan), a national association of URA practitioners and stakeholders, actively promotes networking not only among the practitioners but also with important stakeholders including industries. As a recent achievement, a new skills certification program is being completed based on RMAN-J's activities over the past 13 years.

Keywords: Research Management and Administration; professionalisation; RMAN-J; URA; certification system; top-down

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Transition of the University System in Japan

The history of Japanese higher education spans more than 130 years and can be divided into 3 major periods, each spanning about 40 years. The third period, which began in the 1960s, is characterised by the popularisation of higher education and is inseparable from the impact of the rapid economic growth that Japan had gone through in the post-war era. In the 1990s, the revival of the US economy was attributed to an ecosystem where universities and industry work together to spur technological innovation. Silicon Valley was considered by Japanese policymakers as a prime example of successful industry-academia collaboration, and a series of measures were implemented to promote similar dynamics in Japan. Furthermore, as it became clear that science and technology (S&T) were the origin of economic growth, a new expectation developed that universities should play a more active role in contributing to society in addition to its original mission to promote education and research. Given the historical separation between the higher education sector and industry, this was a big shift in Japan's efforts towards the promotion and acceleration of its scientific and technological breakthroughs.

S&T Overview

Here are some key figures for the Japanese universities in S&T. The proportion of the S&T budget to the GDP increased significantly in 2009 and 2012. After 2012, the ratio declined for a few years, and then began to gradually increase again in 2016. In 2019, the latest year available, it was 0.78 (MEXT, 2020).¹

In 2019, Japan had 936,000 researchers, making it the third largest country in terms of the number of researchers, behind China (2018: 1,866,000) and the United States (2017: 1,434,000). The number of researchers per 10,000 people was 53.2 in Japan (FTE) in 2018 (MEXT, 2020). In terms of values since 2002, this was the highest among OECD member countries until 2010 when South Korea² surpassed Japan. International comparisons of the number of researchers in the university sector are difficult to make because the scope of the target population and the method of measurement differ from country to country. The number of researchers in the university sector in Japan in 2019 (FTE value) was 135,000 (MEXT, 2020).³

As for the number of organisations in the universities, the total number of universities in Japan is 786, broken down as follows: 11% national, 12% public, and 77% private. On the other hand, a different trend can be seen in the headcount ratio. In 2019, the number of researchers⁴ at national, public, and private universities was 135,000 (46%), 21,000 (7%), and 139,000 (47%), respectively. This indicates that, in relative terms, more researchers belong to national universities.

¹ In terms of comparable Asian countries, China and South Korea have both experienced significant growth since the beginning of the 2000s, although growth has been moderate since 2010, with China at 1.06% and South Korea at 1.04% in 2019, according to the latest figures available (White Paper on Science and Technology 2020 (Provisional Translation).

² South Korea had 79.1 (2018) followed by Germany with 52.3, the United Kingdom with 46.5, France with 45.6, the United States with 44.1 (2017), and China with 13.4.

³ These data are based on a survey conducted by the Ministry of Education, Culture, Sports, Science and Technology (FTE survey), which measured the number of FTE researchers using the research full-time equivalent coefficient (FTE coefficient).

⁴ In this survey, it includes both full-time and term-limited employees.

Need for URA Specialists and Synopsis of Their Work

Japan’s S&T policy is based on the Basic Plan for Science and Technology (Cabinet Office, 1996), which is updated every five years. Since 2004, universities have expanded and strengthened their functions through a diverse set of programs. Specifically, public competitive funding has increased, especially for R&D projects through organisation-to-organisation industry–academia collaboration and programs that support start-ups and foster entrepreneurship.

These programs required diverse expertise at each stage of the application and implementation of public competitive funding. In addition to the research content, these applications are evaluated based on the topic, technical feasibility, breadth of the field of application, potential for monetisation, potential for industrial partners, as well as the development of rules such as intellectual property and confidentiality. The increase in the management costs for conducting research that meets the requirements, both operationally and financially, cannot be handled by researchers alone. This is the reason why URA is needed as research management and support specialists.

Fig. 5.12.1 shows the functions of URAs in the sequence of research activities from resource inputs to outputs, outcomes, and finally, next resource acquisition (Research dynamics: Takahashi & Yoshioka-Kobayashi, 2016).

URAs are needed not only for pre- and post-award work, but also for strategic planning, institutional research (IR), outreach, and for almost all other research-related activities. In many research universities, this diverse range of tasks is handled by URAs, which have been expected as a new professional position. In addition, Japan’s S&T policy has created several other professionals who serve as industry–academia collaboration coordinators, licencing associates, etc. These professionals are expected to work with URAs to promote research more actively and contribute technology more innovatively.

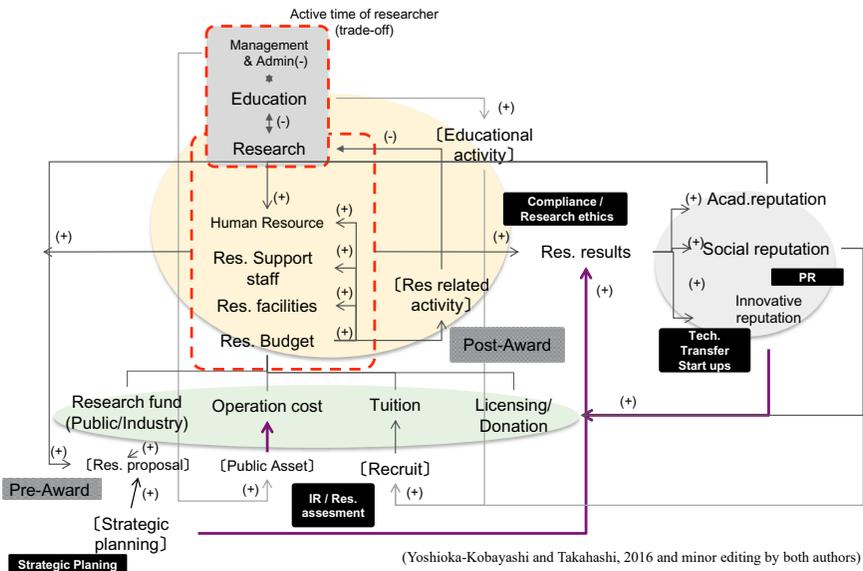


Fig. 5.12.1. Theoretical Framework of the URA’s Role in Research Dynamics.

Attributes and Demographics of the URA Workforce

Currently, there are estimated to be 1,512 URAs at 172 institutions in Japan (MEXT Survey, 2022). The attributes of URAs in terms of age, tenure status, and previous professional experiences (as of 2022) are shown in Fig. 5.12.2.

The largest number of the survey respondents are relatively young, in their 40s and younger, and about half of them hold PhD degrees (data not shown). Although a small number of people start working as URAs immediately after graduating from universities or graduate schools, most of the current URA practitioners have experience as researchers, university administrative staff, or business people. About 84% of all URAs are employed on a fixed-term basis.

The question of how many URAs are needed per university is a key issue not only for policymakers but also for the university headquarters as an employer (Ito & Watanabe, 2020). Ultimately, the number of URAs required in an institution depends on both the functions expected of them, and more importantly, the management policy of the university itself. Fig. 5.12.3 shows the number of URAs by the size of institutions. While there are research universities with dozens of active URAs, there are many organisations with only one URA working for the entire institution. Since the history of URA in Japan is not sufficiently long, it can be said that each university is still searching for the most efficient size of URA organisation for its own university. Before that, they may be in the process of trying to allocate valuable personnel expenses to URAs.

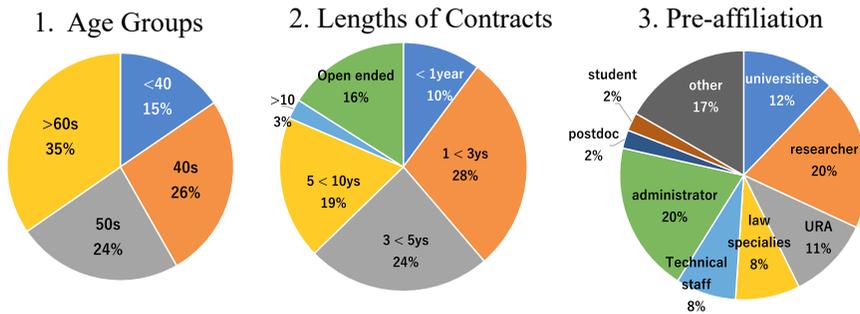


Fig. 5.12.2. Japanese URA Employees in FY 2022. *Source:* Information provided from MEXT, University–Industry Collaboration and Regional R&D Division (1 February 2022).

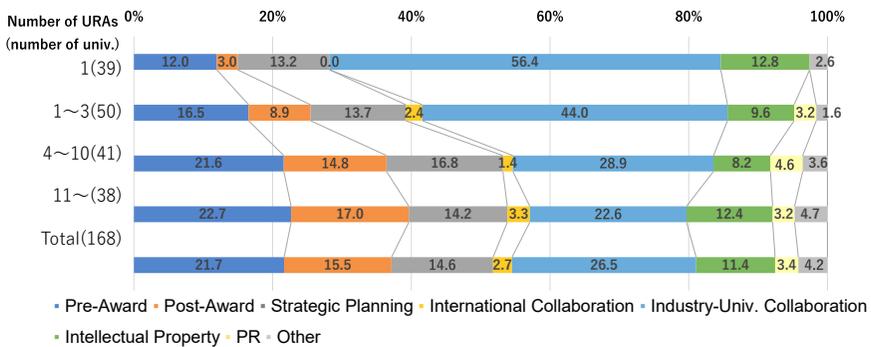


Fig. 5.12.3. The Main Role of URAs Is Different Depending on the University Size. *Source:* Ito and Watanabe (2020).

RMAN-J, Inauguration of the National Community

The existence of communities that legitimise and enhance the skills and expertise of certain professions is essential for its growth as a career. The history of the URA profession in Japan can be traced back to September 2009, when the activities and functions of URAs were introduced at a conference for technology transfer practitioners named UNITT⁵ Annual Conference. In 2011, URAs began working at 15 universities under a program of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).⁶ This program has grown its practitioner population year by year and has become the trigger for an annual conference that attracts URA practitioners from all over the country. Building on the community formed at this annual conference, RMAN-J⁷ was established in March 2015 as the Japanese URA organisation. In other words, RMAN-J was established when practitioners recognised the necessity of their own network and voluntarily started activities as a platform for exchanging information and sharing knowledge among themselves. This is a typical example of bottom-up activity.

In May 2021, RMAN-J hosted the INORMS World Congress 2021 Hiroshima. It marked a significant touchstone for the professionals in the research management and administration field worldwide with the flagship RMA international event being hosted in Asia for the first time. The biennial INORMS Congress originally named Hiroshima 2020 was postponed one year due to COVID and held in a fully online format from 24 to 27 May 2021.⁸ There were over 500 participants from 49 countries. The theme of the congress was ‘Promoting Diversity in Research and Research Management Collaborations: More Trans-national, More Trans-disciplinary, More Trans-sectoral’. Finally the Hiroshima Statement,⁹ which states the Principles and Responsibilities of the URA, has been adopted by all organisations.

RMAN-J has steadily increased its presence both domestically and internationally and it now serves as the only organisation for URAs in Japan. RMAN-J’s annual conference, held each year in August/September, has attracted an increasing number of participants since 2015, with approximately 600–700 people coming from all over Japan. In August 2022, the eighth annual conference was held in person at Tohoku University in Sendai, the first time in three years of the Corona pandemic. The current composition of the organisation is shown in Table 5.12.1. In addition to organisational and individual members, RMAN-J has a Special Member System for distinguished individuals and a Supporting Member System for companies to form alliances with those who agree with the purpose of RMAN-J and support the establishment of URA.

Table 5.12.1. Overview of the RMAN-J.

Membership Type	Organisation/Number of People
Organisational members	33 organisations
Individual members	672 people
Special members	3 people
Supporting members	5 organisations

⁵ University Network for Innovation and Technology Transfer. <https://unitt.jp/en/>.

⁶ https://www.mext.go.jp/a_menu/jinzai/ura/detail/1315871.htm

⁷ <https://rman.smartcore.jp> (in Japanese).

⁸ <https://inorms2021.org>

⁹ https://inorms2021.org/dl/index/HIROSHIMA_statement.pdf

Quality Assurance System for Skills Certification

Beginning in 2020, after several years of feasibility study, a project subsidised by MEXT has begun to identify the skill sets needed for URAs and to establish a certification system.¹⁰ The project culminates into an extensive educational training program consisting of 15 subjects and a 2-tier certification system. The first tier is ‘Certified’ status which is granted based on a minimum of 3 years of work experience, completion of 15 core-level training subjects, and a written review. The second ‘Advanced’ tier of ‘Certified Professional’, whose prerequisite is a ‘Certified’ status, is awarded upon excellent completion of the advanced-level subjects as well as an essay and interview review.

The 15 subjects cover almost a full range of research management activities, including research strategic planning, pre- and post-award granting, technology transfer, IR, and outreach, as shown in Table 5.12.2. It shows the contents of each of the 15 subjects,

Table 5.12.2. Structure of the Educational Training Program for URAs in Japan (Common for Both Fundamental and Core Level).*

Subject Group	No.	Subject Title
Orientation	0	Overview of Fundamental and Core level structures
A. Research Institutes and URAs	1	Overview of Universities and other research institutions
	2	URA in Japan (Background and Purpose, Functions, Community)
B. Research Ability Analysis and Its Utilisation	3	Introduction to Science and Technology Policy
	4	Research ability analysis and its Utilisation
C. Research and Development Evaluation	5	Research and Development Evaluation
D. External Funding	6	Introduction to External Funding
	7	Support for Preparation of Applications and Reports
E. Research Projects	8	Research Project Management Methodology
F. Sector Collaboration	9	Industry–University–Government Collaboration
	10	Regional Collaboration
G. Intellectual Property	11	Intellectual Property
H. Research Compliance and Risk Management	12	Research Compliance and Risk Management ①
	13	Research Compliance and Risk Management ②
I. Research Public Relations	14	Public Relations
J. Internationalisation	15	Internationalisation

Source: Japan Certification Board for Research Administration and Management Skills (n.d.). * The original Japanese names of each subject groups and subjects have been translated into English by the author for this manuscript.

¹⁰The project is expected to be completed in March 2024 under MEXT’s three-year subsidised project. https://www.mext.go.jp/a_menu/jinzai/ura/detail/1315866.htm.

which are common in both the fundamental and core levels of the educational training program.

As the new professionals in Japan's academic arena, it is important that the work and credentials of the URAs are properly recognised by the university executive board, faculty members, and other stakeholders. Successful completion of the above 15 subject matters, and subsequent certifications, will demonstrate a high level of knowledge and skill sets. As the work becomes more sophisticated, more advanced management skills which are difficult to evaluate quantitatively are required in addition to explicit knowledge. In this context, the certification process will serve as a tool to communicate with the stakeholders what roles URAs can play and help endorse URAs as professionals. An analogy can be made between the URA certification and one's driver's licence (a guarantee of having the basic knowledge and skills to drive safely on the road). In this sense, the certificate system will be beneficial not just for the individuals serving as URAs but also for various stakeholders such as the university's executive board. In contrast to the formation of RMAN-J, a network of practitioner communities that started voluntarily with the needs of URA practitioners, the development of this skill standard is a top-down approach under the leadership of the MEXT (University of Tokyo, 2014).

Final Thoughts

University research administration in Japan has evolved over the past 10 years as a new profession that strengthens the functions of universities in the changing environment surrounding the higher education sector. This is the result of a successful combination of top-down policy imperatives and bottom-up activities by URA practitioners themselves. In addition, the demand for professionals at individual universities and the call for macro policy discussions have evolved hand-in-hand, successfully leading to the feasibility studies conducted at 15 universities, which resulted in the creation of skill standards as well as the development of a certification system. The shared awareness of the importance of fostering a professional community to promote URAs as a profession accelerated the move. In 2022, the further development of URA was discussed at the Council for Science, Technology and Innovation,¹¹ the top directive body for S&T policy. It will be remarkable to see how the Japanese URA and its function will develop in the coming decade.

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