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## **NEW PUBLIC ROLE OF PROFESSORS AND APPROACHES TO COMMERCIALIZATION OF INTELLECTUAL PROPERTY IN UK**



*The professor's role in commercialization of scientific knowledge has been analyzed by the example of UK. A system for support of cooperation between the professors and the corporations has been considered. The «knowledge transfer partnership» and «executive short projects» schemes used by the UK universities are described. The procedure for intellectual property commercialization at the Coventry University is considered.*

*Key words: commercialization of intellectual property, professor, and transfer of knowledge.*

Today, views on the role of a university professor and, consequently, the relationship between university leadership and the professor staff have been transformed due to high average level of education, reduction of public funding of universities and so on. For example, in the UK ferocious debates started after the publication of the survey results.<sup>1</sup> During the survey the respondents should answer the questions a) «How do the professors understand their role in the university?» and b) «How does the university leadership understand the role of professor staff in university?» The results are showed in Table below. Obviously, the professors believe that today they are perceived as a revenue generator, rather than as a moral authority of the academic community.

In fact, given the decline in public funding of higher education the role professors in the commercialization of scientific knowledge inevitably

becomes more significant. Obviously, a new type of academic culture focused not only on the creation of new knowledge, but also on the dialogue with business is expected to come. In view of the above factors, over the last decade, UK universities have been actively introducing new schemes of supporting the cooperation between the professors and the corporations, which is aimed at identifying a new, more well-balanced, role of the professor staff in the British society.

These schemes are notable for important elements of supporting the professor research activities in the context of his/her career at the intersection of interests of the researchers, the university students, the business, and the society as a whole.

The systemic support of collaboration between the professors of the corporations includes a set of components that can be divided into two categories as follows:

- 1) National and regional (within certain countries) schemes that are external with respect to university;
- 2) Schemes initiated by university.

The majority of the first type schemes is administered by the Technology Strategy Board and includes a range of activities and programs to

<sup>1</sup> Macfarlane, B. (2011). Intellectual Leadership and the Role of the University Professor. SRHE Academic Practice Network 6th July; [http://www.srhe.ac.uk/downloads/events/13\\_APN-dl-Macfarlane-060711.pdf](http://www.srhe.ac.uk/downloads/events/13_APN-dl-Macfarlane-060711.pdf).

support the research activities. In our opinion, one of the most exciting schemes in this category, which makes possible to perform a set of socially important assignments for limited funds is the so-called *knowledge transfer partnership*.

**KNOWLEDGE TRANSFER PARTNERSHIP (KTP)**

KTP scheme is partly funded by the government with the corporate funds involved. As part of this scheme in order to address specific business problems and to implement his/her own ideas into production the professor can get funding, on competitive basis, mainly, for paying to the associated employee who is engaged in the project within a period from 6 to 36 months and for funding travel expenses and administrative support of the project. An important feature of the project is the requirement for the employee. He/she should be a recent university graduate.

The average amount of annual funding per one such project is EUR 60 000 of which 33–50% is invested by the corporation, with the rest being financed by the state. In most cases, these are not very costly projects that can be executed by employee under professor’s supervision, with assistance of corporation. If necessary, at certain stages of the project, university students may be involved as trainees or probationers. Among the typical examples there are the projects related to improvement of logistics, optimization of production, raise of resource efficiency and so on. It

should be emphasized that the benefits of such projects are not limited to addressing the industrial problems. Such projects provide for the following results:

- ✦ A new type of academic culture aimed at cooperating with business;
- ✦ Integration of university graduate into production team and mastering by him/her of necessary knowledge and skills;
- ✦ Commencement of new areas of research;
- ✦ Introduction of resulting work experience into the lecture material;
- ✦ Strengthening of contacts with industry (including those implying the involvement of students), possibility of new projects;
- ✦ Capacity building in the sphere of project management for university staff.

In the UK, around 1000 KTP nationwide projects are funded. In addition to the nationwide KTP scheme, at the regional level, there are additional sources of funding. For example, at the Coventry University, where experience in collaboration of professors with corporations has been studied, there exists the «knowledge exchange and enterprise network» (KEEN) that is supported by the West Midlands County. The duration of such projects is from 6 to 24 months.

The KTP schemes are used for the complicated and long-term projects, whereas to finance the projects aimed at addressing more urgent tasks there are nationwide scheme of short knowledge

**Evaluation of the Professor Role  
(1 – the most important, 9 – the least important)**

Professor responsibility	Rating (in professor’s opinion)	Rating (in opinion of university leadership)
Assistance to colleagues in their professional advancement	1	4
Leadership in research	2	1
Giving an example to others	3	5
Meeting the academic standards	4	3
Influence on the activities and development of university	5	8
Influence on public discussions	6	6
Representation of faculty/department	7	9
Leadership in education	8	7
Profit making	9	2

transfer projects (SKTP) the duration of which is limited to a period from 26 to 51 weeks.

The basic principles for the KEEN and SKTP schemes are the same as for the KTP scheme: the graduate should be involved into cooperation under professor supervision.

Among the schemes belonging to the second category (initiated by university) and used at the Coventry University, the most interesting type of projects that not only address specific problems, but also have some social value, there are the executive short projects.

#### EXECUTIVE SHORT PROJECTS (ESP)

The ESP scheme is a structured method for provision of consulting services, including data collection and applied research.

The main features of this type of project are as follows:

- ✦ The project necessarily involves a recent graduate who, as a rule, is employed at university for the period of project duration and performs the managerial functions at a corporation which acts as a customer (usually, after the completion of project the graduate is employed at this enterprise);
- ✦ The project lasts 12 weeks;
- ✦ The university receives funds in the amount of 0.5 working day wage weekly (incentive for the supervising professor);
- ✦ The manager (or the recent graduate) is paid for 5 days per week; he/she has access to the library and other resources of the university;
- ✦ The meeting of the customer, the professor, and the manager is held monthly to discuss interim results;
- ✦ The project is fully funded by the customer (EUR 12 000).

The ESP projects are aimed at addressing specific problems of administrative nature (such as drafting of a marketing plan, evaluation of technical and economic efficiency, development of a new type of products and other business problems the solution of which requires additional resources and qualifications).

Such projects provide the following outcomes:

- ✦ Recognition of professor's professional qualifications not only in the research, but also in the application of scientific principles to addressing practical business needs;
- ✦ The university graduate masters the necessary skills and abilities for addressing the managerial issues in a very short time, which facilitates his/her subsequent integration into the corporation;
- ✦ Addressing of specific business problems and increase the business competitiveness;
- ✦ Strengthening of cooperation between the university and the corporations;
- ✦ Commencement of new research directions.

Of course, in addition to the above mentioned schemes, there are many other means of research funding in the UK, but the examples discussed above demonstrate how the state ensures that the university performs its social functions in the social environment combining the interests of individuals (professors, graduates, and students), universities, and enterprises.

#### APPROACHES TO INTELLECTUAL PROPERTY COMMERCIALIZATION

Describing the relationship between the professor and the university in the UK with respect to intellectual property created in the course of R&D activities it should be noted the game rules are clearly defined. The general approach to such issues is as follows: the inventor/researcher reserves the authorship, while the university holds the property rights. In general, in the UK, there has been reported an increase in the share of patents held by organizations: now, reaches about 74% (in the first half of the twentieth century, most of the patents were held by individuals)<sup>2</sup>. The inventions related to the activities of university professors belong to service inventions, with the employer possessing the ownership of them.

<sup>2</sup> Androschuk, G.O. Economic and Legal Analysis of the Regulation of Relations in the Service Inventions. *Science and Innovation*, 8, 1, 89–111 (2012) (in Ukrainian).

It should be noted that the intellectual property rights of university imply a responsibility for investing in the protection of intellectual property. In particular, the Coventry University invests into the protection of individual patents up to EUR 100 000; also, it pay for the protection of trademarks and registered trademarks.

At the Coventry University, there are the following procedures for the commercialization of intellectual property:

- ✦ for all the inventions the invention disclosure form is made and submitted to the Office for Support of Business Development; in the next 5 days, the inventor has an interview with the business developer;
- ✦ An approach to the intellectual property object is determined;
- ✦ In most cases, the title to property rights belongs to the university (by virtue of contracts of employment or training; these contracts imply that the intellectual property created in the course of performing the official duties or training should be owned by university);
- ✦ In some cases (for example, in the case of contracts on research project) the intellectual property may belong to other corporations;
- ✦ If the ownership belongs to university a comprehensive assessment of project commercial potential is made; it should be confirmed by letters of support from potential users;
- ✦ If the market potential is clear and the net present value of projected revenues exceeds EUR 1 million a decision on the protection of intellectual property is made;
- ✦ The inventor should help the intellectual property protection officers and provide them with necessary technical information and data;
- ✦ If there is a decision on patenting, a patent attorney is involved; since the filing date the patent maintenance commences and covers a period of more than 20 years (if general international patent is issued the costs can reach hundreds of thousands of pounds);
- ✦ The cost of initial application ranges from EUR 1500 for simple inventions in the field of me-

chanics to EUR 10 000 for pharmaceutical inventions (thereafter, during the year, about EUR 1000 should be paid);

- ✦ During 12 months from the patenting a decision on patent maintenance in the EU or on patent international maintenance is made (the standard initial payment is EUR 5 000 with mandatory subsequent installments, the amount of which varies depending on the duration of maintenance and the list of countries providing the patent protection), but before making this decision, within 11 months, the following three requirements should be met:

1) There is a potential purchaser of the license with whom a contract implying the payment of further patent fee at its/his/her expense has been signed;

2) The intellectual property rights are transferred to *spin-off*<sup>3</sup> which maintains the patent at the expense of loan from university;

3) The patent is sold to third parties;

- ✦ If none of the above mentioned conditions are met, the international patent is not maintained; decision on termination or continuation of maintenance of national patent is made by the Investment Committee; it can decide to transfer the patent to inventors or to continue maintenance for non-profit reasons.

It should be noted that in the case of intellectual property commercialization through creating a spinoff the university may continue to invest in the patent maintenance within a certain period (three years), with its share in the spinoff capital increasing. Typically, when creating a spinoff the shares are distributed 49 : 51 in favor of university. This is an equitable approach to sharing risks and profit.

However, if there is a need for reducing employee's academic load or renting equipment or facilities from university, the shares are redistrib-

<sup>3</sup> Spinoff is innovative company established by university. If the intellectual property rights belong to the university, 51 % of spinoff shares is owned by the university. If the spinoff is incorporated to commercialize intellectual property that does not belong to the university, the distribution of ownership may differ.

uted according to clearly defined criteria. For example, if a professor who is the founder of spinoff wants to reduce his/her academic load by 50 working days, it is equivalent to 6.6% increase in university's interest. The lease of office space having an area of 50 m<sup>2</sup> from university is equivalent to 1.6% interest in the spinoff; the lease of laboratory space having an area of 100 m<sup>2</sup> from university costs 3.8% interest in the spinoff (i.e. in this case, the distribution of shares should be 37 : 63 in favor of university).

Thus, in the UK, the intellectual property rights management is a balance between interests of the inventors and the university:

- ✦ The university incurs initial costs (which, as a rule, are not affordable for inventors), but reserves the intellectual property rights;
- ✦ The inventor retains authorship, transfers the title to property rights to the university, but uses the financial capacity of the latter to maintain the patent;
- ✦ Finally, if the spinoff is successful both the inventor and the university have material benefits from the commercialization of intellectual property.

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#### ФОРМИРОВАНИЕ НОВОЙ ОБЩЕСТВЕННОЙ РОЛИ ПРОФЕССОРОВ В ВЕЛИКОБРИТАНИИ И ПОДХОДЫ К КОММЕРЦИАЛИЗАЦИИ ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ

На примере Великобритании проанализирована роль профессоров в процессах коммерциализации научных знаний. Рассмотрена система поддержки сотрудничества профессором с предприятиями. Представлены схемы «партнерство для трансфера знаний» и «краткосрочные управленческие проекты», которые применяются высшими учебными заведениями Великобритании. Приведена процедура коммерциализации интеллектуальной собственности в Университете Ковентри.

*Ключевые слова:* коммерциализация интеллектуальной собственности, профессор, трансфер знаний.

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#### ФОРМУВАННЯ НОВОЇ СУСПІЛЬНОЇ РОЛІ ПРОФЕСОРІВ У ВЕЛИКОБРИТАНІЇ ТА ПІДХОДИ ДО КОМЕРЦІАЛІЗАЦІЇ ИНТЕЛЛЕКТУАЛЬНОЇ ВЛАСНОСТІ

На прикладі Великобританії проаналізовано роль професорів у процесах комерціалізації наукових знань. Розглянуто систему підтримки співпраці професорів з підприємствами. Наведено схеми «партнерство для трансферу знань» та «короткотермінові управлінські проекти», які застосовуються вищими навчальними закладами Великобританії. Показано процедуру комерціалізації інтелектуальної власності в Університеті Ковентрі.

*Ключові слова:* комерціалізація інтелектуальної власності, професор, трансфер знань.

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