

Analysis of National R&D Project Report Output Utilization and Economic Contribution

Kiseok Choi, Cheol-Joo, Yong-Hee Yae, YongJu Shin

(Korea Institute of Science and Technology Information)

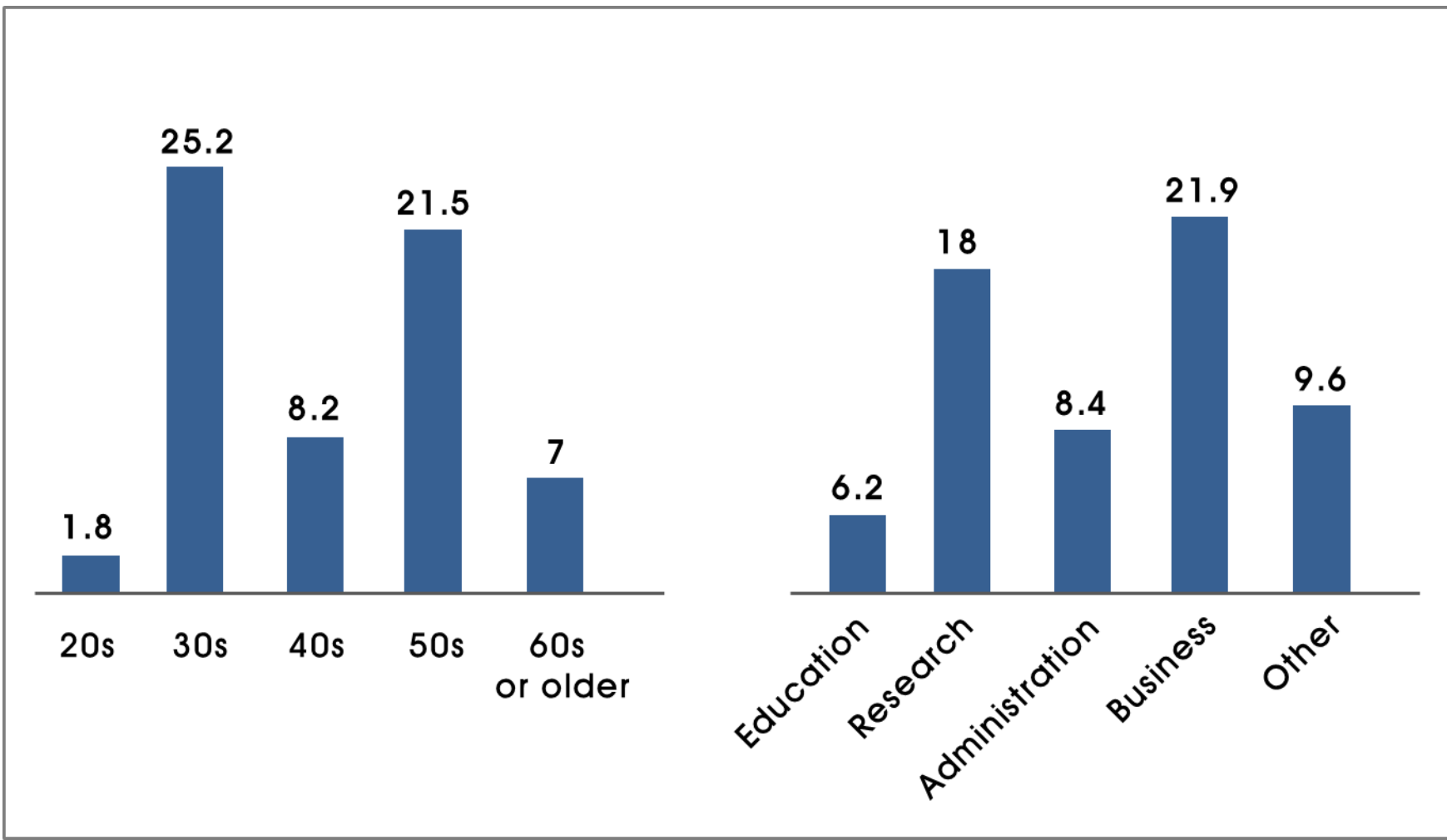
- ❖ **Introduction**
- ❖ **Analysis on utilization of national R&D reports**
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❖ Introduction

- Recently, major advanced countries in the world have recognized the importance of the opening and recycling of public information and searched for a way to provide and utilize public information in a smooth and efficient manner.
- In the Republic of Korea, despite a significant increase in the number of government-led R&D programs and outcomes, the utilization of these research outcomes is still very low.
- Therefore, it is urgent to figure out how to utilize research results and analyze their economic contribution.
- **There are two purposes of this study. The first purpose is to draw a conclusion by analyzing/investigating the practical uses of the National R&D Reports, and the second purpose is to evaluate economic contributions by the National R&D Reports.**

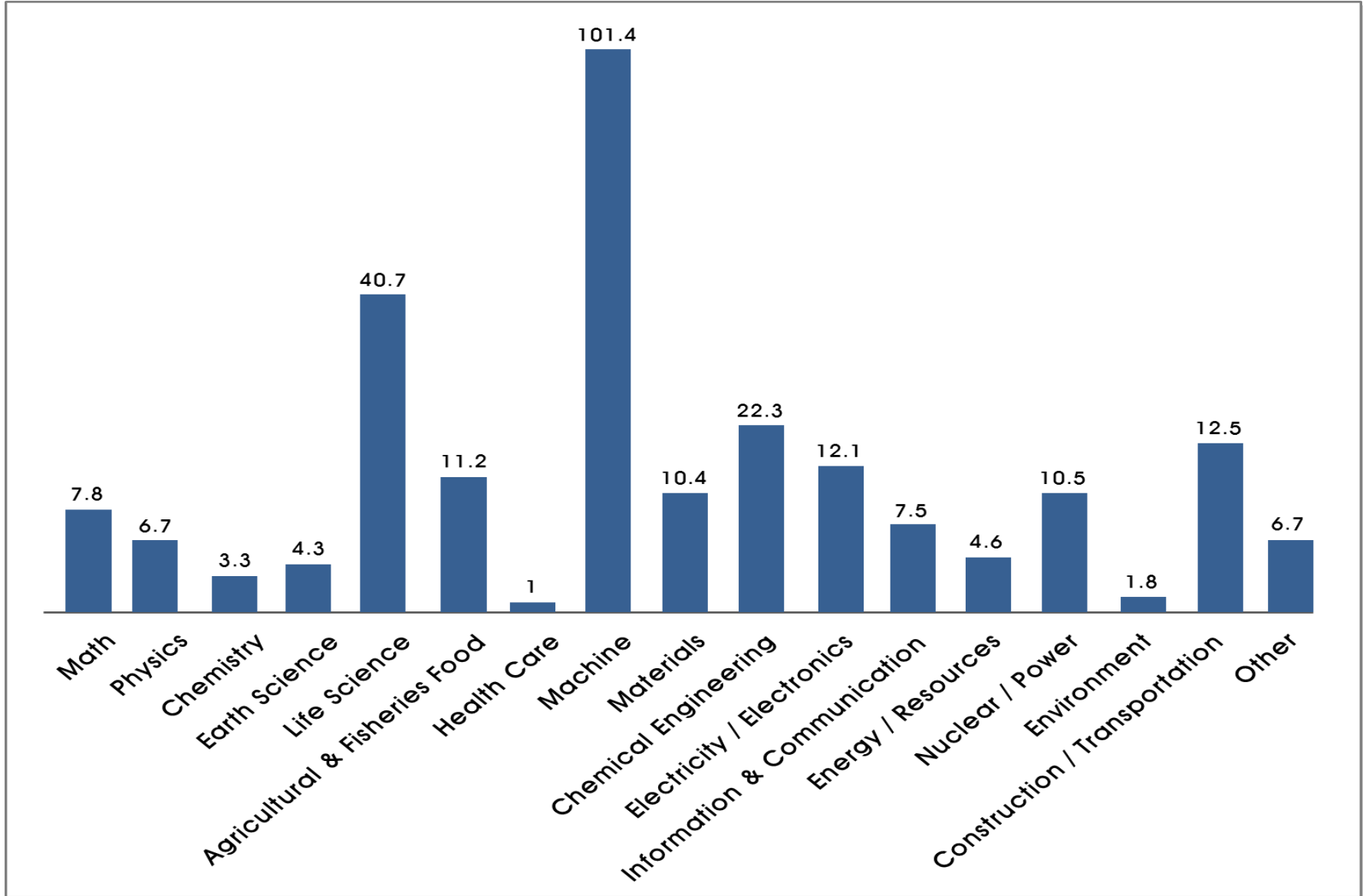
❖ Analysis on the utilization of national R&D reports

➤ **Average Monthly Detailed-view Frequency** of National R&D Reports by **Age and Organization**



❖ Analysis on the utilization of national R&D reports

➤ **Average Monthly Detailed-view Frequency** of National R&D Reports by **Topic**



❖ Economic Evaluation of National R&D Reports

➤ Economic Analysis Indicators of National R&D Reports

Category	Specific Indicators
Qualitative Indicator	<ul style="list-style-type: none"> ▪ Utilization value of national R&D reports
Quantitative Indicator	<ul style="list-style-type: none"> ▪ Utilization value of national R&D reports ▪ Benefit-Cost (B/C) analysis of national R&D reports

➤ For analysis of qualitative indicators, a 7-point Likert scale-based questionnaire survey is used. For calculation formula, the 7-point Likert scale is converted into 100 scores, and the results are analyzed based on the following formula:

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n} \times 100$$

\bar{x} Mean score on a 7-point scale, n=Total number of respondents

❖ Economic Evaluation of National R&D Reports

- For the analysis of utilization value as well, users' utilization value is estimated based on the following calculation formula:

Calculation Formula for the Utilization Value of National R&D Reports

$$UV = CS^{UV} \times N$$

UV: Total utilization value of national R&D reports

CS^{UV} : Utilization value of national R&D reports per capita

N: Total number of subscribers

❖ Economic Evaluation of National R&D Reports

- According to analysis on the utilization value of national R&D reports based on the formula below, total utilization value was KRW 171.3 billion. **As the number of subscribers increased, utilization value also improved.**

Calculation Formula for the Total Utilization Value of National R&D Reports

$$\text{Total NPV} = \sum_{i=2009}^{2014} \text{Values}_{i} \times AC \times MPY \times \text{user}_{i}$$

Values_i = Utilization value of a report(2,908 KRW)♪
AC = Average monthly usage frequency per capita (9.2)♪
MPY = 12 months♪
user_i = No. of subscribers on the ith Year♪

Category	2009	2010	2011	2012	2013	2014	Total
No. of Subscribers	36,614	53,955	78,294	110,509	156,616	188,002	623,990
Utilization Value (x KRW 100 million)	118	173	251	355	503	604	1,713

❖ Economic Evaluation of National R&D Reports

- According to B/C analysis on national R&D reports, the utilization value-based B/C was 15.5 with about 16 times of economic effects.
- In addition, payment value-based B/C was 11.5 with approximately 12 times of economic effects. Even though KRW 11.1 billion is spent annually to provide national R&D reports, their economic value is deemed 12-16 times greater than the costs.
- **Therefore, the development and supply of national R&D reports appear to be economically very efficient.**

Category	2009	2010	2011	2012	2013	2014	Total
Cost	5	7	22	23	21	18	95
Cost (Present Value)	7	10	27	27	23	18	111
Utilization Value (Present Value)	118	173	251	355	503	604	1,713

B/C Present Value of National R&D Reports (Unit: X KRW 100 million)

❖ Conclusion

- **According to economic analysis on national R&D reports, 'utilization value' was the highest with 76.4 scores, followed by 'shared value (75.1)' and 'contribution value (73.0)' in qualitative indicators.**
- These results show that the contribution value to new R&D planning is low. Because the utilization value and shared value with others are also as low as '70-80 scores,' therefore, it is needed to develop a strategy to keep enhancing values.

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Question & Answer

