ASSESSING THE IMPACTS OF THE SCIENTIFIC RESEARCH SUPPORT POLICY ON STUDENTS' RESEARCH ACTIVITIES IN THUONGMAI UNIVERSITY

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Abstract:

This research aims to assess the impacts of support policies on students' scientific research activities in Thuongmai University. The data is collected from 220 students through structured survey, which measures four groups of support policies: finance, facilities, skill training and administrative-professional support. The quantitative method is used along with several analysis techniques including Cronbach's Alpha, Exploratory Factor Analysis and multiple linear regression.

The findings show that all four factors have positive impacts on students' scientific research activities. To be more specific, financial support ($\beta = 0.276$) and facilities ($\beta = 0.263$) have the biggest impacts. The correction coefficient R^2 is 53.1%, indicating that the research model can well explain the dependent variables. The ratio of students engaged in scientific research is 85.9%, showing their interest in this activity and the support policies have shown to be effective to a certain extent.

On that basis, the research proposes some measures to enhance policy effectiveness such as expanding financial support, investing in research infrastructure, standardizing skills training programs, and building more consistent administrative support processes. The research findings serve as a practical basis for universities in general to improve their policies to comprehensively develop students' research capacity.

Keywords: scientific research policy, student, higher education, research support

1. INTRODUCTION

In the current context of globalization and digital transformation, scientific research is not only an important academic activity in universities but also a key tool to improve the quality of training and develop students' critical thinking and creativity. According to the Communist Party of Vietnam (2021), one of the strategic goals of higher education is to "strengthen the development of high-quality human resources, especially human resources serving the fourth industrial revolution and international integration". In which, students play a core role as a potential young research force, needing effective support and orientation.

In Vietnam, many universities have issued policies to promote students' participation in scientific research activities such as granting scholarships, providing financial support, investing in facilities, organizing scientific seminars and training programs for research skills. However, the practical effectiveness of these policies is still unclear, as many students do not yet realize the importance of scientific research, or face barriers in accessing resources and support from the school. Some previous studies have also shown that the level of student participation in scientific research is still limited by factors such as lack of finance, lack of orientation, inadequate facilities and lack of connection between students and specialized research groups.

Thuongmai University – one of the leading universities in economics and management – has implemented many policies to support scientific research for students. However, there have not been many systematic studies evaluating the impact of these policies on students' motivation and research results. Based on that reality, this article aims to clarify: (1) how the scientific research support policies at the University of Commerce are currently being implemented; (2) what impact do these policies have on the level of participation and research effectiveness

of students; and (3) what factors need to be adjusted to increase the effectiveness of research support.

Evaluating the impact of policies not only contributes to improving management tools in higher education but also helps create a positive academic environment, encouraging students to actively conduct research, thereby contributing to improving training quality and innovation capacity.

2. THEORETICAL BACKGROUND

2.1. Concept of scientific research in higher education

Scientific research is a systematic process of discovery to understand the nature and laws of phenomena in nature, society and human thinking. According to Vu Cao Dam (2005), scientific research is a creative activity with the goal of finding new things, contributing to expanding scientific knowledge and practical applications. In the university education environment, scientific research is not only the task of lecturers but also an important means to help students develop critical thinking capacity, creativity and application of knowledge into practice (Bui Trung Hung et. al., 2016).

Participating in scientific research helps students improve their self-study ability, practice teamwork, analysis and problem-solving skills, and create a foundation for their future academic and professional careers. Scientific research is also one of the criteria for assessing the quality and reputation of higher education institutions (Alipina & Kitapbayeva, 2024).

2.2. Policies to support scientific research

According to the 2013 Law on Science and Technology, science and technology policy is a set of solutions of the State and competent agencies to facilitate the promotion of research, technology development and innovation. In the field of higher education, policies to support scientific research often include: financial support (research funds, scholarships), investment in facilities, organization of academic conferences, training in research skills, and facilitating the publication of research results.

Hung (2017) believes that higher education policy is a system of orientations issued at all levels (national, sectoral, educational institutions) to ensure the goal of sustainable development, improve the quality of training and research. Scientific research support policies need to be designed in accordance with the characteristics of each training institution, ensuring fair and transparent access and the ability to motivate learners.

2.3. Relations between support policies and students' scientific research activities

Empirical studies at home and abroad show a positive relationship between support policies and the level of student participation in scientific research. According to Do Minh Cuong (2021), students who receive financial support, have the opportunity to participate in research seminars and are closely supervised by lecturers are often able to complete their projects with better quality and tend to publish higher research results. In addition, a research environment built on the coordination between policies, facilities and academic orientation will create favorable conditions for students to develop their capacity (Yan & Firetto, 2023).

The theoretical framework in this particular research is developed based on the following hypothesis: (1) financial support policy, (2) equipment and facilities, (3) research skill training program, and (4) the university's administrative and professional support all positively affect students' scientific research activities. The levels of impact of each factor is evaluated in practical survey and statistical analysis.

2.4. Research model

Based on the theoretical basis and literature review, the research model in this project includes four support policy factors that are capable of affecting students' scientific research activities, including (1) financial support, (2) facilities and equipment, (3) research skill training, and (4) administrative – professional support. These factors are assumed to have impacts on students' engagement and effectiveness in doing scientific research in Thuongmai University.

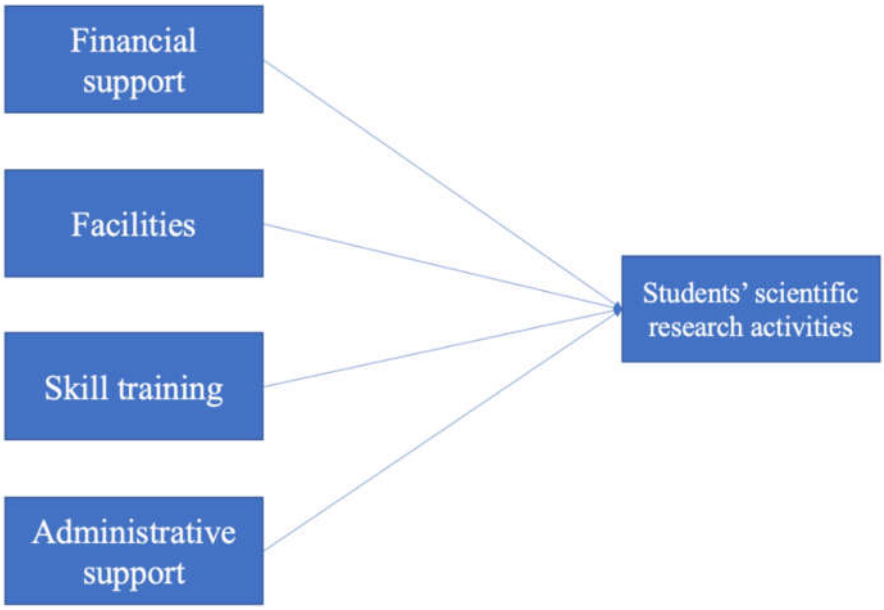

Figure 1. Research model

(Authors' recommendation)

Explanation of the research model

Independent variables include:

Financial support: Including policies such as research funding, student research scholarships, or publication cost support. This factor is assumed to have a positive impact on students' ability to engage in and sustain research activities, especially in contexts where many students have limited economic resources. This result is found in the review by Do Minh Cuong (2021), Thai Nguyen University of Sciences (2023) and Hu and Bordan (2025).

Facilities and equipment: Including facility conditions for research activities such as libraries, laboratories, data processing software, internet connection, and academic space. Facilities are considered as fundamental conditions, affecting the quality and efficiency of the research process. This result is found in the overview by Bui Trung Hung and his colleagues (2016) and Wang and Lv (2025).

Research skill training: Reflected through the organization of courses, conferences and training programs on scientific research methodology, scientific journal article writing skills or data analysis. Acquiring research skills is vital for students to enhance their practical skills and academic thinking development. This result is found in the review by Alipina and Kitapbayeva (2024), Nam Dinh University of Nursing (2025) and National Conference of State Legislatures (2024).

Administrative – professional support: Including supervision from lecturers, project registration procedure support, scientific conference organization and reward mechanism. This factor plays a supporting role throughout the process of students conducting research, contributing to improving convenience and reducing barriers in the implementation process. This result is found in the review by Hu and Borden (2025) and Tyton Partners (2023).

Dependent variable: Students' scientific research activities

This is measured through such criteria as students' engagement in a scientific project, the number of published articles, their satisfaction for research activities and their academic development capacity. This result is found in the review by Alipina and Kitapbayeva (2024), and Hanover Research (2023).

The research model of this paper assumes that all of the four aforementioned factors simultaneously and positively affect students' scientific research activities. This relation is tested through statistical analysis using real survey data.

3. RESEARCH METHODOLOGY

3.1. Research design

The research uses quantitative methods with cross-sectional survey design with the view to measuring the levels of impact of scientific research

support policies on students' research activities through factors including financial support, facilities – equipment, research skill training and administrative – professional support.

3.2. Research subject and sample

The research subjects are Thuongmai University students who have engaged in scientific research activities. The sample size is 220 students selected with convenient random sampling method, but still ensuring inclusion of all cohorts. To be more specific, there are 87 male students (39.5%) and 133 female students (60.5%), and sophomores and juniors account for the highest percentage (respectively 25.9% and 25.0%).

3.3. Data collecting tools

The data is collected through structured questionnaire including four major groups:

Group 1: Financial support policy (coded as QT1–QT7)

Group 2: Scholarship and research motivation (coded as HB1–HB7)

Group 3: Facilities and research conditions (coded as CSVC1–CSVC8)

Group 4: Research training (coded as DT1–DT8)

Dependent variable: Engagement and effectiveness in scientific research (coded as NCKH1–NCKH6)

The questionnaire items are in the form of five-level Likert-scale ones (1 = totally disagree and 5 = totally agree). Before official administration, the questionnaire had been tested and adjusted with expert consultation.

3.4. Reliability testing and data analysis

The collected data is coded and processed with SPSS 26 software. The analysis steps include:

Measurement scale reliability testing with Cronbach's Alpha: all independent variables have Alpha > 0.88, meaning the scales are highly reliable.

Exploratory factor analysis: this is carried out to determine the latent factor structure of the variable groups. Their KMO all exceeds 0.83 with the total variance explained ≥ 60%, proving the suitability of data for factor analysis.

Multiple linear regression analysis: this is used to identify the levels of impact of the factors on the dependent variable of students' research effectiveness. The regression model is evaluated through Beta, sig. test and adjusted R^2.

4. FINDING AND DISCUSSION

4.1. Level of engagement in scientific research

The total participants are 220 students, in which there are 189 ones already engaged in scientific research. This means 85.9% have been engaged in at least one scientific research activity, while there is only 14.1% of them never involved in any projects.

This shows that the engagement ratio is high with nearly 86% of the students that have participated in at least one project. This can be inferred that scientific research has become a common activity and received attention from students in Thuongmai University. This is a positive sign showing that the university's support policies have an impact on the students to a certain extent. However, there are still some students who have not gained access to or not realized the role of scientific research. Therefore, support policies need to continue to improve in terms of coverage, communication and the ability to create intrinsic motivation.

4.2 Impacts of support policies on students' scientific research activities

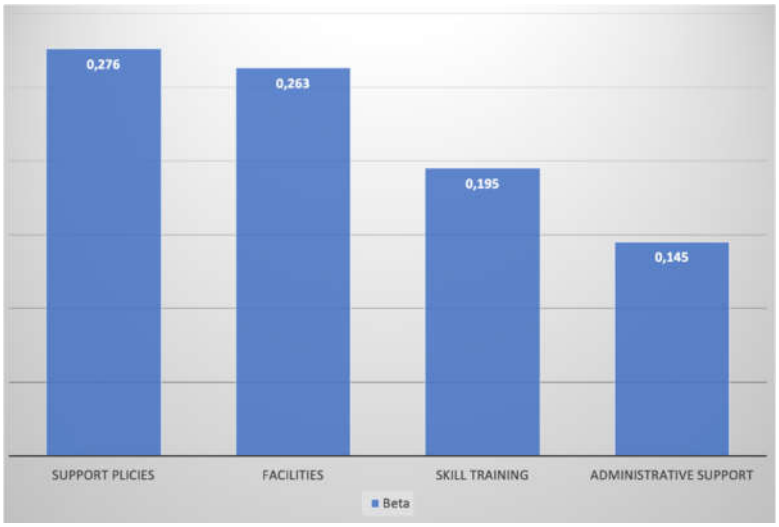

Figure 2. Impacts of support policies

Based on the survey results of 220 Thuongmai University students, the research evaluates the levels of impact of the four groups of support policies (finance, facilities, skill training and administrative support) on students' scientific research activities. The results are presented below.

4.2.1. Financial support policy

This is the factor that has the biggest impact on students' scientific research activities. More than 75% of the students agree or totally agree that sponsorships, scholarships for scientific research and research funding are encouraging in students' proactiveness in research implementation. The standardized regression coefficient in the model shows that the financial policy group has remarkable impacts ($\beta > 0.27$, $p < 0.01$).

Funding helps to ease students' financial burden and facilitates independent research implementation, enhancing the quality and practicality of research projects.

4.2.2. Facilities and equipment for research

This is the factor with the second biggest influence. There is a big consensus of above 70% in questionnaire items related to academic materials, classrooms, laboratories, Internet and support tools. The statistical effect factor is also significant ($\beta \approx 0.26$, $p < 0.01$).

Favorable physical environment allows students to easily access information and get familiarized with equipment for research and data processing practice, helping to enhance the effectiveness and confidence in doing research.

4.2.3. Research skill training

Approximately 85% of the students think that training programs on research methodology, article writing skills and conference presentation, etc. have positive influence on their engagement in scientific research. However, in the regression model, the impact level is only medium ($\beta \approx 0.19$, $p < 0.05$), lower than the factor of financial support and facilities.

However, despite being highly rated, skill training at present is still fragmented, discontinuous and unsystematic, leading to suboptimal efficiency.

4.2.4. Administrative – professional support

Students give positive response on supervisors' roles, topic review procedures and reward mechanism. However, the impact level in quantitative analysis is not outstanding, possibly due to the lack of synchronization in the implementation process between units in the school.

Professional and administrative support still depends heavily on individual lecturers and has not yet been standardized, making many students feel difficult to access or passive.

Thus, in general, the policies supporting scientific research at the University of Commerce have had a positive and clear impact on students' research activities, especially in the two aspects of finance and facilities. However, to optimize the impact, the school needs to improve the quality of skills training and standardize administrative and professional processes to support students in a more comprehensive and consistent manner.

4.3 Exploratory factor analysis

In order to verify the structure of policy groups supporting scientific research and ensure the representativeness of the measured variables, the study

conducted exploratory factor analysis (EFA) on the survey data set with 4 groups of independent variables: financial support, scholarships – motivation, facilities and research skill training.

4.3.1. KMO testing and Bartlett test

The findings show that KMO = 0.864, which is highly suitable for EFA (value higher than 0.8 is considered very good). The Bartlett test result with Sig. = 0.000, showing that the correlations between the variables are strong enough to conduct factor analysis.

4.3.2. Factor extraction

The author used the Principal Component Analysis extraction method with Varimax rotation, EFA has reduced 4 main factors, corresponding to four theoretical policy groups:

Factor 1: Financial support (variables QT1–QT7)

Factor 2: Scholarships and research motivation (variables HB1–HB7)

Factor 3: Research facilities and equipment (variables CSVC1–CSVC8)

Factor 4: Research skill training (DT1–DT8)

The total variance extracted of the four factors is 64.7%, which meets the requirement of higher than 50%, meaning the factors well explain the variance of the original data set.

4.3.3. Factor loading

The factor loading of all variables in each factor exceeds 0.6, highly contributing to the respective factors. No variables were eliminated during the analysis.

The EFA results confirm that the initial theoretical structure of the research model is consistent with the actual data. The grouping of measured variables according to four main support factors (finance, scholarships, facilities, training) has a solid basis both theoretically and empirically. These factors will be used in the next regression analysis steps to determine the level of impact on students' scientific research activities.

4.4. Multiple linear regression analysis

After identifying four main factors from EFA analysis, the study conducted multivariate linear regression analysis to test the level of influence of these factors on students' scientific research activities - measured through variables NCKH1 to NCKH6.

4.4.1. Regression model

The regression model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

In which:

Y: students' scientific research activities

X_1: financial support

X_2: facilities

X_3: skill training

X_4: administrative – professional support

ε: random error

4.4.2. Regression results

The regression model is statistically significant (Sig. < 0.05) with the adjusted R^2 of 53.1%, meaning the model can explain more than half of the variance in the dependent variable.

Financial support is the factor with the strongest impact on students' scientific research activities (β = 0.276), followed by facilities (β = 0.263).

Skill training and administrative – professional support, despite their positive influence, have lower levels of impact, reflecting their supporting role rather than a decisive factor.

Independent variables	Standardized regression coefficient (β)	Sig.
Financial support (X_1)	0.276	0.000
Facilities (X_2)	0.263	0.000
Skill training (X_3)	0.195	0.014
Administrative – professional support (X_4)	0.145	0.038
Adjusted R^2	0.531	

Table 1: Standardized Regression Coefficients of Factors Influencing Students' Research Activities

The regression results confirm that support policies have a positive and significant impact on promoting student participation and improving the effectiveness of scientific research. In particular, policies of a "direct investment" nature such as finance and facilities play a key role. This result provides an important empirical basis for schools to prioritize improving support policies in a substantive direction and focusing on the actual needs of students.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The research has clarified the relations between support policies and students' engagement in scientific research in Thuongmai University. Surveying 220 students and utilizing quantitative analysis methods such as Cronbach's Alpha, EFA and multiple linear regression, the findings show that all policy groups have positive influence on students' scientific research activities with the most outstanding groups of financial support and research facilities.

The ratio of students engaged in scientific research is high (85.9%), showing students' interest and needs in learning, also partly reflecting the effectiveness of the implemented policies. However, factors such as skills training and administrative-professional support still have certain limitations, requiring strong improvements in implementation methods, guidance systems and incentive mechanisms.

The research findings not only confirm the vital role of the policies in motivating students academically, but also serve as the scientific basis for universities in general, and Thuongmai University in particular, to continue to perfect the system of policies to support scientific research in a synchronous, sustainable manner and in accordance with the needs of developing students' research capacity in the context of innovation and integration of higher education

5.2.Recommendations

Based on the research results, the authors propose a number of recommendations to improve the effectiveness of scientific research support policies for students as follows:

Enhancing the effectiveness and scope of financial support policies

It is necessary to expand scholarship programs and research funding funds for students at both the faculty and school levels, ensuring openness, transparency and accessibility. At the same time, there should be a policy to support funding for publishing research results in prestigious conferences or journals to encourage students to pursue a serious academic path.

Strategic investment in research facilities and resources: Universities need to continue to modernize their library systems, laboratories, and information technology infrastructure for research. Developing open academic spaces – where students can study, discuss, and practice research – is a key factor in improving the quality of scientific products.

Standardizing and systematizing research skills training programs: It is necessary to design regular or compulsory courses on scientific research methods, academic writing skills, and scientific report presentation skills for students from the second year onwards. These programs need to be integrated into the training plan to equip learners with a systematic foundation of research thinking.

Establish a clear and effective administrative and professional support mechanism: The school needs to issue a unified scientific research process guideline, which clearly states the role of the supervisor, the criteria for selecting topics, the review, evaluation and publication procedures of results. At the same time, it is necessary to promote the role of academic clubs, student research support centers and official academic consulting channels.

Strengthen internal communication and recognition of research achievements: The widespread dissemination of policies, opportunities and scientific research achievements among students should be promoted through the school's communication channels. At the same time, it is necessary to establish a reward mechanism, adding training points or adding credits for students with excellent research achievements, thereby creating sustainable academic motivation.

Limitations of the research: Although the study has provided important results on the impact of support policies on students' scientific research activities, there are still certain limitations as follows:

Limitations of the research scope: The research was only conducted at the University of Commerce, so the conclusions mainly reflect the characteristics, policies and academic environment of a specific educational institution. Therefore, the results may not fully reflect the current situation and impact of scientific research support policies at other universities in the Vietnamese higher education system.

Cross-sectional research design: Data were collected at a single point in time, so it does not reflect changes over time or the long-term effectiveness of support policies. This limits the ability to assess the in-depth impact or development trends of scientific research activities among students.

REFERENCES

[1] Alipina, A., & Kitapbayeva, A. (2024). The role of student research in higher education development. Journal of Education Policy and Practice, 17(2), 88–102.

[2] Bui, T. H., Nguyen, T. L., et. al.. (2016). Solutions to improve the quality of students' scientific research activities. Journal of Education, (393), 42–45.

[3] Vietnam's Communist Party. (2021). Documents of the 13th Congress. National Political Publishing House Truth.

[4] Do, M. C. (2021). The impact of support policies on students' research performance. Journal of Educational Sciences, 19(3), 55–62.

[5] Hung, N. V. (2017). Higher education policy – Theory and practice. Hanoi National University Publishing House.

[6] Vietnam's National Assembly. (2013). Luật Khoa học và Công nghệ. Văn phòng Quốc hội.

[7] Thai Nguyen University of Sciences. (2023). Summary report on student scientific research activities for the 2022-2023 academic year.

[8] Vu, C. D. (2005). Scientific research methodology. Science and Technology Publishing House.

[9] Yan, L., Firetto, C. M., Starrett, E., Kingsbury, J. S., Penkrot, T. A., & Hyatt, J. P. K. (2023). Exploring supports or incentives to promote undergraduate students' use of cooperative study groups. International Journal of Educational Research Open, 4, 100252.

Hanover Research.

https://doi.org/10.1016/j.ijedro.2023.100252Arizona State University

[10] Hu, T.-L., & Borden, V. M. H. (2025). Bridging the Divide: Exploring Equity Gaps in Undergraduate Research Participation Among Black and African American and Hispanic and Latinx Students. Research in Higher Education, 66(3), 345–368.SpringerLink

[12] Resch, K. (2023). Student voice in higher education diversity policies: A systematic review. Frontiers in Education, 8, 1039578. https://doi.org/10.3389/feduc.2023.1039578Frontiers

[13] Wang, L., & Lv, Y. (2025). Difference-in-Difference Estimation of the Global Diasporas Attraction Program Effects on International Research Publications in Top Chinese Research Institutions. Higher Education Policy, 38(1), 45–62.www.palgrave.com

[14] National Conference of State Legislatures. (2024). Trends in Higher Education: Understanding Policy and Outcomes. https://www.ncsl.org/education/trends-in-higher-education-understanding-policy-and-outcomesNCSL

[15] Tyton Partners. (2023). Survey: College students don't know about support services. Inside Higher Ed. https://www.insidehighered.com/news/student-success/college-experience/2023/07/20/survey-college-students-dont-know-about-supportInside Higher Ed

[16] Hanover Research. (2023). 2023 Trends in Higher Education. https://www.hanoverresearch.com/reports-and-briefs/higher-education/2023-trends-in-higher-education/