



Extended Abstract

## Mechanisms to Achieve Competitive Advantage of Petroleum Geomechanics in the First-level Universities in Tehran

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### Keywords

Petroleum geomechanics, competitive intelligence, competitive advantage, first level universities

### Abstract

This study examines and presents the mechanisms of achieving a competitive advantage in the field of petroleum geomechanics of first-level industrial universities of Tehran. The purpose of the present study is to use its results to achieve a competitive advantage of the field of geomechanics of first-level universities of Tehran at the national and international level. The approach used in this study was mixed (with a sequential exploratory design that started with the review of articles and books related to competitive intelligence and competitive advantage and interviews and then continued with quantitative work). Achieving competitive advantage mechanisms was implemented in two qualitative and quantitative stages. In the qualitative part, in addition to the review of related texts and articles, interviews were also conducted with faculty members related to petroleum geomechanics and related trends. The interviewees were selected in a purposeful way, and the mechanisms were identified. The identified mechanisms include education and information mechanisms, research mechanisms, market research mechanisms, executive mechanisms, monitoring and evaluation mechanisms. To determine the importance of each of the mechanisms, a questionnaire was prepared and distributed among faculty members related to petroleum geomechanics, managers and experts of the petroleum industry, and students and graduates of the orientation. Finally, 53 questionnaires were obtained which were analyzed using fuzzy Delphi statistical methods and t-test. The results of the study showed that among the proposed mechanisms, the mechanisms of compiling and implementing educational programs, the development of intra- and extra-academic communication and the holding of joint and continuous meetings with industry representatives are of the highest importance.

### 1. Introduction

Petroleum geomechanical engineering is one of the interdisciplinary branches in the fields of mining engineering, civil engineering, petroleum engineering, mechanical engineering, geology and geophysics at the master's level, and it is an educational and research course composed of theoretical and practical modules that trains students in order to increase the efficiency of relevant experts and create a situation for understanding and developing what is happening

in the technological boundaries in this field, and its main goal is to cultivate talents and improve the required skills in the oil industry in this field.

Considering its importance in the country of Iran, it should train specialists in such a way that they are superior to their counterparts at the national and international level without the need of specialists from other countries [1].

One of the tools that can help researchers in this direction is the competitive intelligence, followed by achieving a competitive advantage that guides

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the activities of universities like a radar [2].

In general, it can be concluded that competitive intelligence is a key success tool for the country's universities. This is despite the fact that few studies have been conducted on competitive intelligence in the country's universities.

## 2. Methodology

In terms of purpose, this research is considered as applied research based on its findings. In order to determine the mechanisms of competitive advantage, the study first started by reading related articles and books and determined the dimensions and components of competitive advantage, and then adjusted some of them during interviews with academic staff members. figure 1 shows the implementation stages of the research.

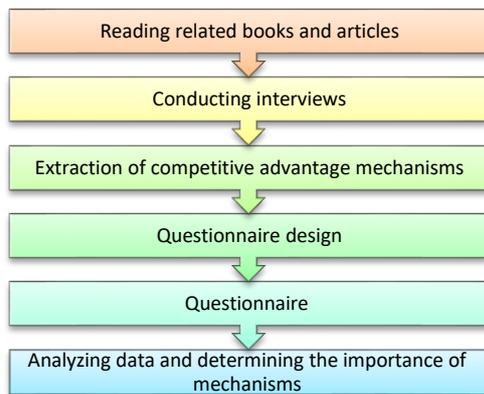


Fig. 1. Implementation steps of the research

## 3. Results and Conclusions

After distributing and collecting the questionnaires, fuzzy Delphi method was used to determine the most important factors and specify the importance of each of the mechanisms.

The results of the study show that the majority of the statistical community participating in the study have acknowledged the importance of the mechanisms of competitive advantage in petroleum geomechanics. 55% of the members participating in the study have considered the mechanisms of education and information very important and 26% have considered it important. Only 4% considered the role of education and information mechanisms to be very unimportant. Also, 52% of the members considered the role of research mechanisms to be very important and 41% considered it to be important, and none of the members considered the role of research

mechanisms to be very unimportant. Examining the results of the market research responses shows that 59% of the members considered the role of market research mechanisms to be very important and 33% considered it important, 33% percent considered the monitoring and evaluation mechanisms very important and 52% considered it very important, and none of the people considered the role of monitoring and evaluation mechanisms very important, which shows the importance of this mechanism and its related components. In addition, the results of executive mechanisms show its importance in the strategic plan of petroleum geomechanics trend in drawing the future map of the trend.

## 4. References

[1] <https://mine.ut.ac.ir/oil>.

[2] Tarokh, Mohammad Jaafar (2010), Competitive Intelligence, Khajeh Nasireddin Tusi University of Technology Publications.