



Examining project management problems in Iran and the world

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ABSTRACT

Every year, many academic theses are compiled in the field of project management. The problems that are raised as the reason for carrying out these are sometimes derived from the theoretical gap in the existing literature, and achieving the research problem that is derived from the real context of the projects has been neglected. Perhaps one of the reasons is the lack of parallel communication between university and industry. The result is that a lot of research that takes a lot of time and money from students is not practical at that time and does not help the existing problems of industry. As a result, in this research, project management problems in Iran have been collected in 163 academic theses through searching in various databases and the participation of a number of students over five years (2017-2021) to be compared with project management problems in the executive environment of Iran's industry. Also, university project management problems in Iran were compared with project management problems in the world (562 articles published in IJPM and PMJ journals). The results showed that Iran's academic sector focuses more on problems such as project control, sustainability and claims, which have a good convergence with Iran's industrial sector in some problems such as sustainability; If most of the world's orientation is on behavioral, governance and emerging technologies problems.

Keywords

academic thesis, project management, project management problems in the world, university and industry, project management problems in the executive environment of Iran's industry

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1. Introduction

Although there is a deep relationship between the university and the industry in countries with advanced technology, in the developing countries, especially Iran, due to the existence of many obstacles, the knowledge of the university and the industry is not complete and each of them is engaged in the implementation of their activities in a separate way (Mohammadhashemi, 2017). One of the most important obstacles in the relationship between industry and university is that university research is not demand-oriented by industry (Faez & Shahabi, 2010). In conditions where universities spend most of their time on scientific and purely theoretical activities, industries are busy with practical and productive activities (Meredith & Burkle, 2008); As a result, even though Iran is rich in terms of educated human resources, we are still facing a waste of energy and capital in the industrial sector. In Iran, in many cases, the lack of proper interaction between university and industry has caused serious problems in the society (Mohammadhashemi, 2017). In many developing countries, the current university system is mostly unable to respond to the requirements mentioned in industry (Büth et al., 2017). It seems that one of the ways to establish a relationship between the university and the industry is that the research problem arises from the real context in which the phenomena occur and the analysis of the industry based on systematic procedure and purpose is used as the basis of university research (Aithal, 2017). It is expected that the education given to management students can prepare them to manage organizations, which is often not realized (Moradi, 2015).

In the field of project management in Iran, conferences are held every year to connect the academic sector (presentation of research articles) with the industry (workshops and lectures). Despite all these efforts, it seems that there is still no proper assessment of the industry problems to reach the academic research problem, and reaching the research questions through theoretical gaps has flourished a lot. This problem in the context of project management has disrupted the development of project management (Hällgren, 2012); As a result, in the present research, the problems of project management in Iran have been investigated in academic research and compared with the problems raised in the industry and the real context of the projects. In the following, comparisons were also made between the problems of academic research in Iran and the world. As a result, by conducting the present research, an attempt was made to answer the following questions:

- What axes or topics have university researches in the field of project management been focused on?
- To what extent do the project management problems discussed in university research and discussed in Iran's industry move in line with each other?
- What axes or problems have international research project management been focused on?
- To what extent do the project management problems of Iran and the world move in line with each other?

In the rest of the article, the research methodology is stated and then the research findings are presented. At the end, the final discussion and conclusion will be discussed.

2. Research Methodology

The current research community is all published university research in the field of project management in Iranian universities and international researches published between 2017-2021. The sample of the research is the academic theses of the four public universities of Tarbiat Modares, University of Tehran, Shahid Beheshti University and Tehran University of Art, which are the only four public universities in Iran that accept students in the field of project management. Also, the sample selected from the international project management research community is all the articles published between 2017-2021, which are published in the specialized journal of project management. The reason for choosing these two journals was that only these two journals in the world publish articles specifically in the field of project management. The method of data collection is also using library resources and searching in databases, the steps of which are as follows:

2.1. Searching in internal and external databases

first, by checking the digital libraries of four universities of Tarbiat Modares (parseh.modares.ac.ir), Tehran University (utdlib.ut.ac.ir), Art University of Tehran (art.ac.ir) and Shahid Beheshti University (lib.sbu.ac.ir), who specifically accepts students in the field of project management, found 116 theses that were defended or are about to be defended in the period of 2019-2021. Due to the fact that all theses were not registered in these digital databases, a number of students were requested to prepare a list of theses (containing at least the title and abstract) on behalf of their university and provide it to the researcher. A total of 163 theses were identified. In parallel with the aforementioned action, by referring to the specialized website of two journals, IJPM and PMJ, a number of 562 articles were identified in the problems of the last five years (in the period of 2017-2021). A summary of the above explanations is shown in Chart 1.

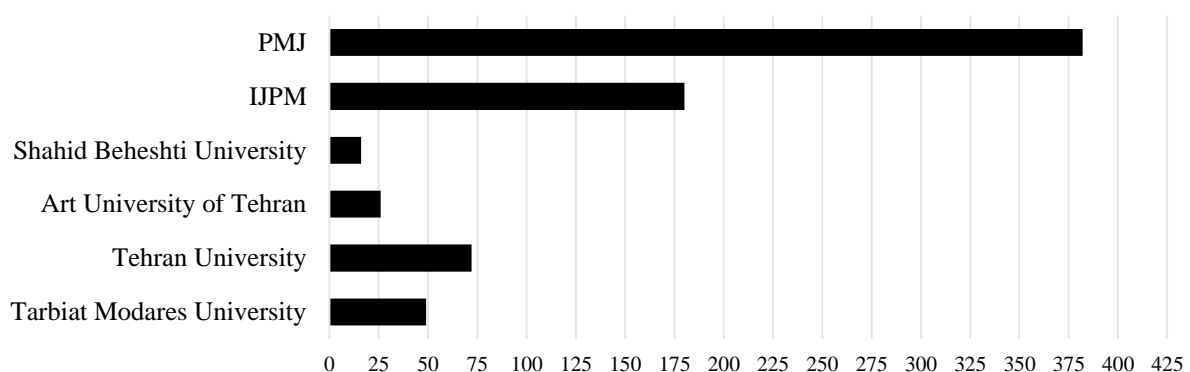


Chart 1. The number of sources reviewed in the current research.

In Chart 2, the number of resources used by year is shown.

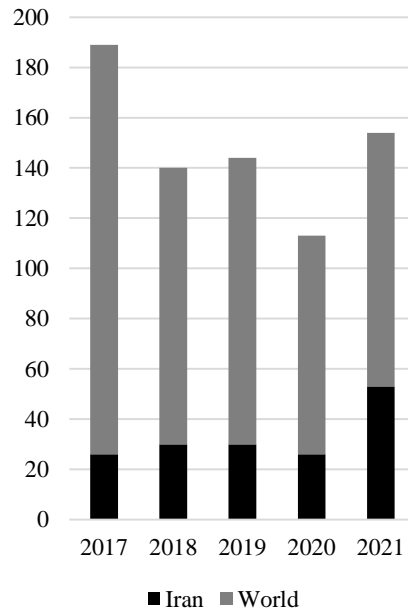


Chart 2. The number of sources reviewed in the current research by year.

2.2. Problem extraction

By studying the title and abstract, the research problems identified in the previous step were extracted. In the next step, according to the most frequent problems, they were labeled and categorized, by studying the title, and abstract of the research and focusing on the problem raised in them, in two stages, as described in tables number one and two, the problems were divided into 16 main categories were placed due to a large number of researches, only four sources have been introduced in Table 1 and to show the problem extraction method, and in Table 2, three related items have been introduced for each type of problem.

Table 1. How to analyze each source to achieve its problem

Row	Title	Reference	A phrase of research that expresses the problem.	Problem	Category
1	Achieving Sustainability in Railway Projects: Major Stakeholder Concerns	(Yuan, 2017)	Achieving sustainability is becoming increasingly critical for measuring the overall success of infrastructure projects. The successful management of sustainability-related targets requires joint efforts from the major stakeholders involved. Nevertheless, these stakeholders often have different, and sometimes even conflicting, concerns regarding the achievement of project sustainability.	Different and sometimes conflicting concerns of variety stakeholders of infrastructure projects in achieving sustainability	Sustainability in railway infrastructure projects ↓ sustainability
2	EXPLAINING THE EFFECTS OF NATIONAL CULTURE DIMENSIONS ON THE ADOPTION OF BUILDING INFORMATION MODELING (BIM) TECHNOLOGY IN TEHRAN PROVINCE	(Taheripour, Azizi, & Eshtehardian, 2021; S Taheripour, M Azizi, & E Eshtehardian, 2022; Sahar Taheripour,	It seems that BIM can help in solving the inefficiency of Iran's construction industry by obtaining the benefits reported from it, but it has an unfavorable reception status.	Unfavorable adoption of BIM in Iran's construction industry	Unfavorable adoption of BIM ↓ technology

Examining project management problems in Iran and the world

Row	Title	Reference	A phrase of research that expresses the problem.	Problem	Category
	CONSTRUCTION	Mojtaba Azizi, & Ehsanallah Eshtehardian, 2022)			
3	Project procurement management: A structured literature review	(de Araújo, Alencar, & de Miranda Mota, 2017)	Selecting the right supplier for an assignment, as well as evaluating this supplier's performance while the contract is being implemented, plays an important role in ensuring a good project outcome.	The importance of selecting the right supplier and evaluating its performance in ensuring a good project outcome	The importance of choosing the right supplier and evaluating its performance ↓ procurement
4	Infrastructure financing with project bond and credit default swap under public-private partnerships	(Li, Abraham, & Cai, 2017)	Governments are facing threats of significant fiscal risks, social inequity, and moral hazards from the private sector when providing debt guarantees.	Governments face financial risks, social inequality, and moral risks from the private sector when providing guarantees	Problems of the public sector in relation to the private sector ↓ finance

Table 2. Classification of investigated research problems

Category	Problem	Reference	Title
governance	Project governance and project-oriented organization	(Turner, 2020)	How Does Governance Influence Decision Making on Projects and in Project-Based Organizations?
	The emergence of governance in university and industry issues	(Derakhshan, Fernandes, & Mancini, 2020)	Evolution of Governance in a Collaborative University–Industry Program
	Relatively good governance of projects	(Unterhitzenberger & Moeller, 2021)	Fair project governance: An organizational justice approach to project governance
sustainability	Sustainability in railway projects	(Yuan, 2017)	Achieving Sustainability in Railway Projects: Major Stakeholder Concerns
	Persuading project managers to be sustainable	(G. Silvius & Schipper, 2020)	Exploring variety in factors that stimulate project managers to address sustainability issues
	Sustainability in extractive industries	(Baba, Mohammad, & Young, 2021)	Managing project sustainability in the extractive industries: Towards a reciprocity framework for community engagement
technology	BIM adoption	(Sahar Taheripour et al., 2022)	Solutions to Facilitate the Acceptance of Building Information Modeling Technology in Iranian Building Companies, Based on the Effects of National Culture Dimensions
	Motivation to implement BIM	(Cao, Li, Wang, & Huang, 2017)	Identifying and contextualising the motivations for BIM implementation in construction projects: An empirical study in China
	Innovation in large inter-company projects	(Steen, Ford, & Verreynne, 2021)	A Dynamic Capabilities Model of Innovation in Large Interfirm Projects

knowledge management	Knowledge integrity in conditions of uncertainty Configuration of project teams' tacit knowledge Lessons learned in project management	(Lin, Müller, Zhu, & Liu, 2019) (Moh'd, Černe, & Zhang, 2021) (McClory, Read, & Labib, 2017)	Choosing suitable project control modes to improve the knowledge integration under different uncertainties An Exploratory Configurational Analysis of Knowledge Hiding Antecedents in Project Teams Conceptualising the lessons-learned process in project management: Towards a triple-loop learning framework
behavior	Competencies of project managers Management of interdisciplinary conflicts Modeling managerial behavior in evaluating options	(Dianat, 2018) (Cheng, Wu, & Chang, 2020) (Andalib, Tavakolan, & Gatmiri, 2018)	Designing a competency model for project managers in the oil industry Interproject Conflict Management Through Cooperation in an Enterprise System Implementation Program Modeling managerial behavior in real options valuation for project-based environments
claim	Resolving construction project disputes BBB and DB system in transportation projects Claim management using lessons learned management	(Ojiako, Chipulu, Marshall, & Williams, 2018) (Park & Kwak, 2017) (Dashab, 2019)	An examination of the 'rule of law' and 'justice' implications in Online Dispute Resolution in construction projects Design-Bid-Build (DBB) vs. Design-Build (DB) in the U.S. public transportation projects: The choice and consequences Solutions to improve the claim management process using lessons learned management in industrial EPC projects
project control	Game theory in improving project management Time management in project-oriented organizations Investment management with accounting relationships	(Rumeser & Emsley, 2019) (Alioua & Simon, 2017) (Focacci, 2017)	Can Serious Games Improve Project Management Decision Making Under Complexity? Managing time pacing in organizations transitioning to a project-based mode – 3 cases studies of two multinational companies Managing project investments irreversibility by accounting relations
value	Value management in projects Creating value through project networks Capturing value with risk management	(Martinsuo, 2020) (Laursen, 2018) (Bos-de Vos, Volker, & Wamelink, 2019)	The Management of Values in Project Business: Adjusting Beliefs to Transform Project Practices and Outcomes Project Networks as Constellations for Value Creation Enhancing value capture by managing risks of value slippage in and across projects
performance	Critical success factors for project performance Critical success factors for project performance Designing performance management systems	(Jitpaiboon, Smith, & Gu, 2019) (Arbabi, Dehghani, & Sobhiyah, 2023) (De Rooij, Janowicz-Panjaitan, & Mannak, 2019)	Critical Success Factors Affecting Project Performance: An Analysis of Tools, Practices, and Managerial Support Investigating the impact of knowledge management on project team performance A configurational explanation for performance management systems' design in project-based organizations
agile	Agile portfolio Agile methods in large projects Agile methods in large projects	(Kaufmann, Kock, & Gemünden, 2020) (Hobbs & Petit, 2017) (Sithambaram, Nasir, & Ahmad,	Emerging strategy recognition in agile portfolios Agile Methods on Large Projects in Large Organizations Issues and challenges impacting the successful management of agile-hybrid

Examining project management problems in Iran and the world

finance	Financing infrastructure projects	(Li et al., 2017)	projects: A grounded theory approach Infrastructure financing with project bond and credit default swap under public-private partnerships
	Financial markets and capital supply in project management	(Styhre, 2020)	Thinly and Thickly Capitalized Projects: Theorizing the Role of the Finance Markets and Capital Supply in Project Management Studies
	External financing	(Parin & Tousi, 2021)	Comparison of foreign financing strategies of oil and gas projects in the country
ppp	Success criteria in PPP	(Osei-Kyei & Chan, 2017)	Comparative Analysis of the Success Criteria for Public-Private Partnership Projects in Ghana and Hong Kong
	PPP studies in infrastructure projects	(Cui, Liu, Hope, & Wang, 2018)	Review of studies on the public-private partnerships (PPP) for infrastructure projects
	Analysis of value for money in PPP	(Almarri & Boussabaine, 2017)	The Influence of Critical Success Factors on Value for Money Viability Analysis in Public-Private Partnership Projects
risk	Response to risk	(Zuo & Zhang, 2018)	Selection of risk response actions with consideration of secondary risks
	Social risk management of urban development projects	(Yu et al., 2017)	Managing social risks at the housing demolition stage of urban redevelopment projects: A stakeholder-oriented study using social network analysis
	Risk response planning	(Ahmadi-Javid, Fatemina, & Gemünden, 2020)	A Method for Risk Response Planning in Project Portfolio Management
procurement	supply chain	(Chaab, 2017)	Designing a two-channel supply chain considering cooperative advertising and pricing with an applied approach in the downstream oil industry
	Project procurement management	(de Araújo et al., 2017)	Project procurement management: A structured literature review
	Deciding on the purchase of facilities	(Asadi, 2018)	Presenting a model for decision-making with multiple criteria in managing the supply of goods and purchasing services for offshore oil and gas facilities, a case study of the upstream development plans of the South Pars gas field
methodology research	Theorizing	(Svejvig, 2021)	A Meta-theoretical framework for theory building in project management
	Development of project management theories	(Niknazar & Bourgault, 2017)	Theories for classification vs. classification as theory: Implications of classification and typology for the development of project management theories
	Plagiarism in studies	(Gerald, 2021)	Plagiarism in Project Studies
other	Project portfolio success	(Kock & Gemünden, 2019)	Project Lineage Management and Project Portfolio Success
	Project transfer	(Locatelli, Zerjav, & Klein, 2020)	Project Transitions—Navigating Across Strategy, Delivery, Use, and Decommissioning
	Work Readiness in project management Degree Programs	(Borg & Scott-Young, 2020)	Priming the Project Talent Pipeline: Examining Work Readiness in Undergraduate Project Management Degree Programs

2.3. Data analysis

To analyze the data and the identified problems, frequency charts were drawn using Microsoft Excel software to determine the focus points of the research, which are discussed in the findings section.

3. Findings

3.1. Problems in the field of project management of the industry of Iran and the world

A problem is a person or something that needs attention and must be dealt with or solved (CambridgeDictionary, 2007); While the research question is raised to help to reach the solution of the problem (Ellis & Levy, 2008). Unfortunately, the researcher could not find a source where the most important problems of project management at the university level can be observed; However, in the context of Iran's industrial problems in the field of project management, the Consulting Engineer Quarterly, in issue 92, focuses on problems such as governance and sustainability, and specifically in the field of governance, titles such as "Familiarization with the infrastructure transparency index and its applications". "The dream of unified governance; mirage or reality?" and "Reflection on water governance" and in the field of sustainability, titles such as "water profile in more than 20 years of thematic observation", "abandonment, release and collection of dams", "water shortage in the country has a solution" and "challenges of water resources management in Iran" (Azadi, 2021). Payam Abadgaran monthly, focused on problems such as the need to pay attention to human resources, claims and budgets, which have been severely affected by the Corona crisis, and specifically in the field of human resources, titles such as "Attention to the position of contractors as producers", in the field of claims, titles such as "The impact of the spread of the Corona virus on construction contracts", "Half-open doors to the exporters of technical and engineering services in Iran" and "The annexation of the Corona virus as an emergency situation of the Corona virus" and in the field of The budget has raised titles such as "Budget Bill 2021" (Iranian syndicate of Construction Companies, 2021). One of the circles of the field of project management where many problems are raised and challenged is the international conference of project management, which has made the focus of the 16th conference "the role of project-oriented governance in sustainable development: the necessity of institutional development". In this regard, meetings with the topics of "project-oriented governance: leadership and accountability for projects, plans and project portfolios", "sustainable development: balanced development leading to economic growth, social justice and environmental protection" and "institutional development: crystallized social knowledge in The written and unwritten rules of governance and social relations" have been defined (ICPM, 2021).

By reviewing some weekly and monthly project management magazines on a global scale, some project management problems were identified. For example, Project Management Magazine today has introduced the problem of agility in the project environment, and in this regard, reports titled "Agility: Unlocking the Potential of Individuals and Teams", "An Agile Approach to Rapid Product Development" and "With Four Disciplines" "Strategic Empowerment of the Workforce to Achieve Agility" (Matthews, 2022). In a report, Northeastern University (2021) cited technological problems such as the necessity of digitization, the formation of virtual teams and artificial intelligence, and behavioral problems including the emphasis on soft skills as the most important project management problems in 2021 (Stobierski, 2021). Bosco and Peek (2021) introduced problems such as risk management and performance among the most important and challenging problems of project management in their project management office during the publication of a newsletter (Bosco & Peek, 2021). Project Management Institute has also introduced software development and application of agile approaches as the latest project management news (PMI, 2021). According to the above explanations, no research has been found that has specifically conducted project management issues in Iran at the university level to compare them with the industrial problems of Iran and the world. As a result, in the present research, the problems raised in the theses of the university department as a representative academic project management problems and articles published in the problems of the

last five years of the two exclusive journals IJPM and PMJ were reviewed as representatives of project management problems at the world level.

3.2. Project management problems of academic research in Iran

Chart 3 shows the most frequent management problems of university research projects in Iran during the years 2017-2021, which shows the horizontal axis, the classification of problems, and the vertical axis shows the frequency of research. As it is clear, in most of the categories, the problem that has grown visibly was not found. The problem of sustainability had a sudden jump in 1999 and is one of the problems that have always been part of students' concerns and has always taken an upward trend regardless of the frequency of 2021. The results of the survey of 32 freeway projects in Iran show that the economic stability is relatively favorable and the social and environmental stability is relatively unfavorable (Ahmadi, 2021). The implementation of green building principles in Iran's construction industry is also not favorable (Tabatabaei, 2021). The results of another research also show that the status of sustainability dimensions in 87 projects of Iran's construction industry is below average (Siyavashpour & Arbabi, 2023). Problems related to the project control category are irregularly on the rise. Among the problems raised in this category is how the researcher responds to the problem of delays in projects and as a result, the waste of money, resources, and opportunities of organizations (Gholizadeh, 2021). Molana (2016) also introduces the increase in the cost of construction projects as an obstacle to the economic and social growth of societies (Molana, 2017). The problem of claims, which has always been one of the problems considered by academics, had a sudden drop in 1999. Nakhai (2016) states that today project lawsuits are accepted as an undeniable reality in legal relations and industrial development contracts, especially oil contracts in the offshore area (Nakhaee, 2017). Dashab (2018) points out the existence of defects in EPC contracts and the occurrence of claims in them, which happened to be the main method of implementing projects in the oil and gas industry (Dashab, 2019). Although many studies have been conducted in the field of claims in projects, due to the lack of understanding of the factors that cause them and also how these factors affect each other, especially in underground projects that have many unknowns, these claims are still prevalent (Parchami Jalal, Golabchi, Bemanian, & Talkhabi, 2021). It seems that the policy of university professors has not been unaffected in the result; in such a way that the professors of the University of Tehran focus more on project control and claims problems in recent years, and perhaps the sudden drop of the bar related to the bar of the claim in 1999 is because a small number of researches of the University of Tehran in 1999 were involved in this research (Chart 2). The problem of financing has also gone through an upward trend. In this regard, Hajiani (2016) states that in recent years, the special and tense conditions of the Middle East region and international sanctions against Iran have caused the financing of Iran's construction projects from foreign sources to be complicated and limited to some countries such as China (Hajiani, Azizi, Eshtehardian, & Naseh, 2018). The development of optimal financial and risk structure in renewable energy projects in crisis-affected countries was also the title of research that was conducted at Tehran University in 1998 (AbdolhasanKate, 2018). Referring to the problem of ineffective foreign financing of oil and gas projects, another researcher compared the foreign financing strategies of the above projects (Parin & Nourzad, 2021). Risk and knowledge management problems had an irregular upward trend. In the field of risk, titles such as "strategic risk prioritization in turbine projects" (NasrollahKermani, 2017), "Risk analysis using Bayesian networks in construction projects" (Arabi, 2020), "Investigating the function of social network analysis in risk management with a stakeholder approach (study case: projects Tehran Metro)" (Valinavaz, 2019) and "Stakeholders' risk modeling in e-government projects" (Badavam, Eshtehardian, Hakamian, & Arbabi, 2022) have been proposed. In the field of knowledge management, one of the graduates of Shahid Beheshti University refers to the challenges of applying knowledge management in construction projects (Nouri, 2019). There is also an insignificant decrease in performance. For

example, Rajablu (2017) points out that currently, organizational performance is facing challenges from the internal and external environment that can lead to business failure (Rajablou, 2018). Knowledge management has focused on improving the performance of the project team in construction projects (Arbabi et al., 2023). The research method problems have not been many and the result is reasonable according to the study of academic research. Sometimes, due to the limitations and consequences of reporting violations, the student population pays less attention to it, and perhaps one of the reasons for the poor treatment of the governance problem is this problem.

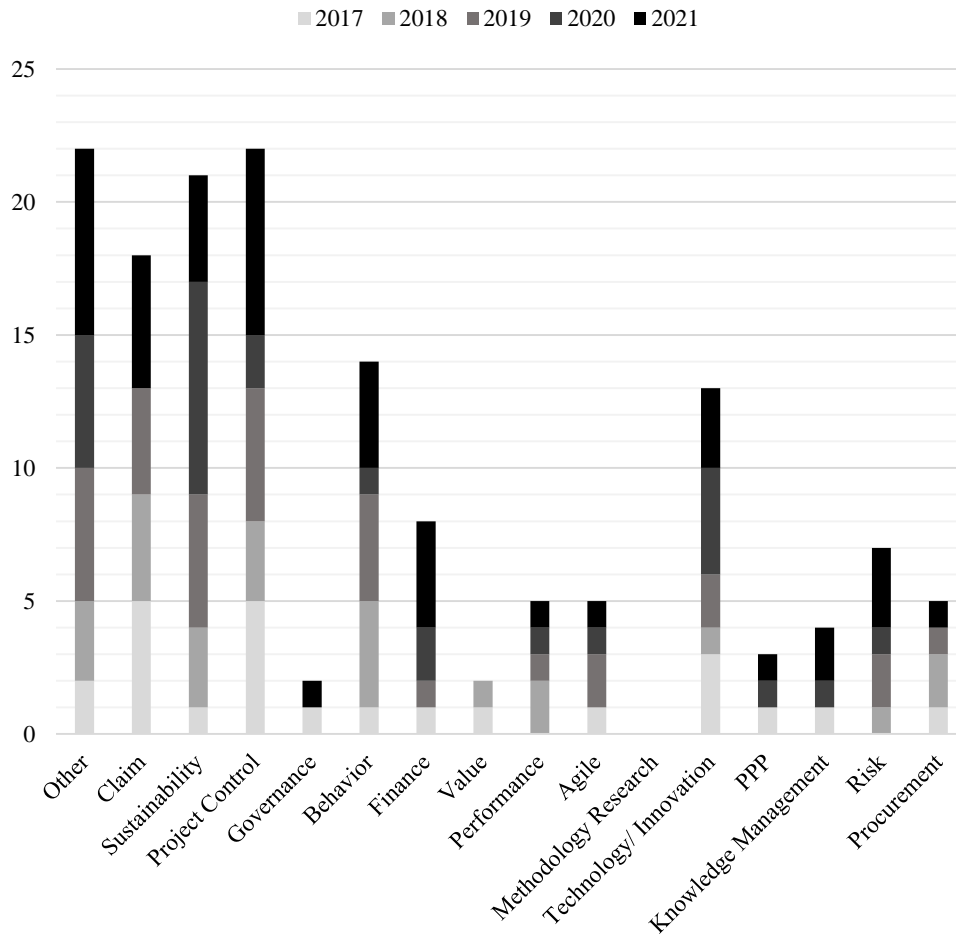


Chart 3. The most frequent management problems of university research projects in Iran.

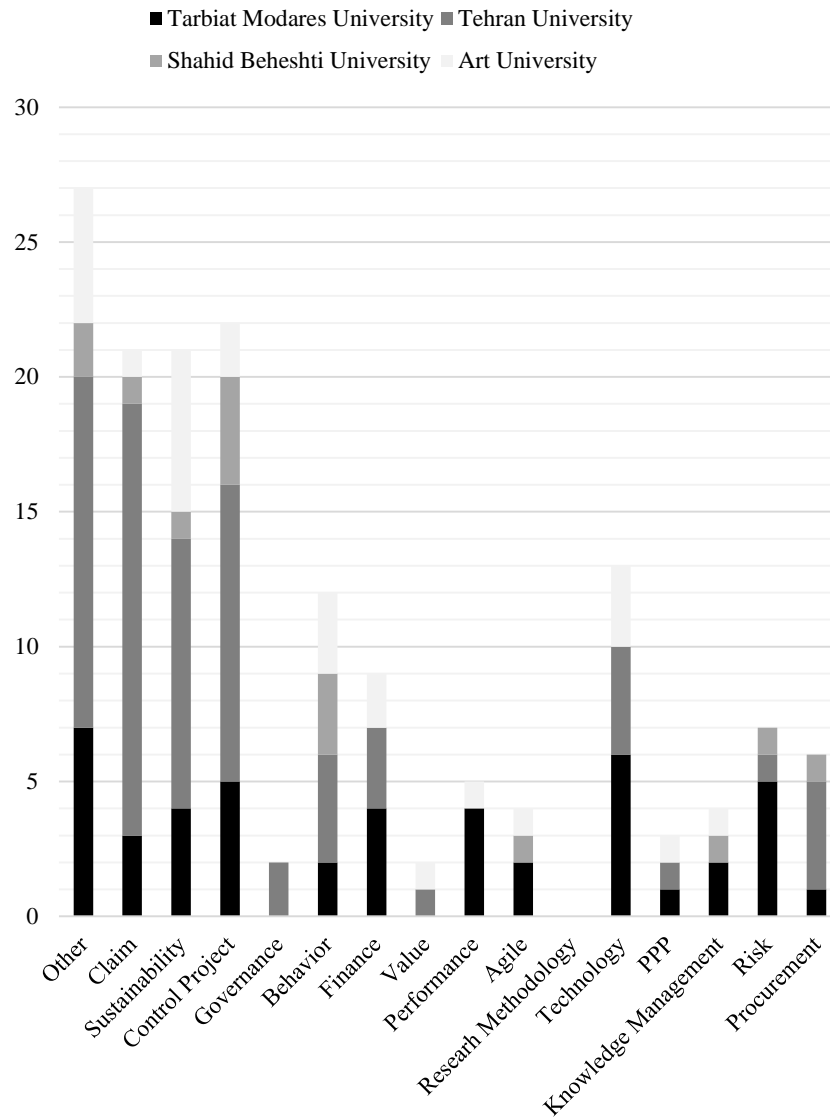


Chart 4. Iranian university research project management problems by universities

A large number of problems are also included in the "other problems" category, which shows that regardless of the categories made, there is a lot of dispersion in the rest of the problem, and university research problems sometimes show great variety and little repetition. The five-year results of Iranian university research project management problems are also shown in Chart 5.

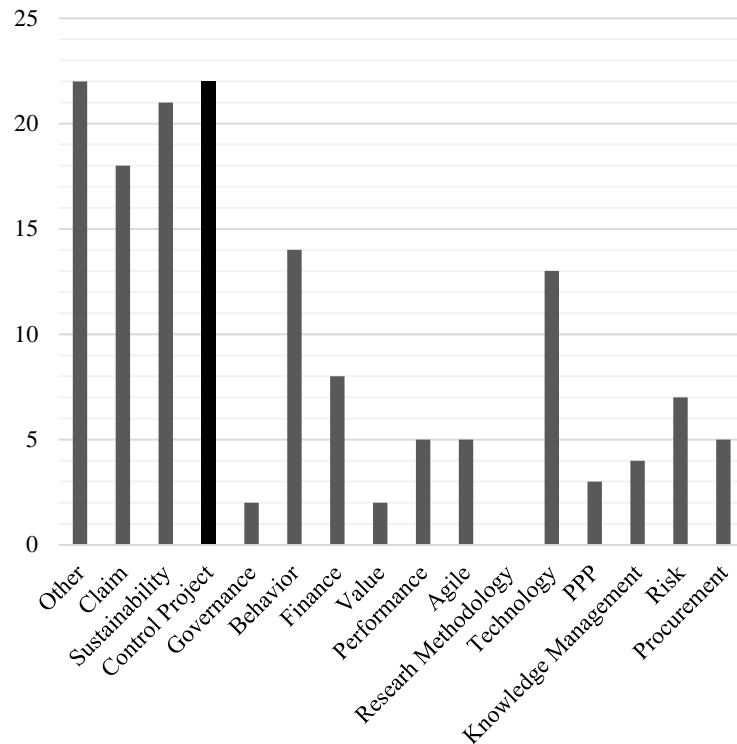


Chart 5. The five-year result of Iranian academic research project management problems

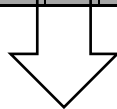
As it is known, the categories of project control, sustainability and claim have the most attention among the categories, respectively. Behavioral classification and then technology are also placed in the next categories. In the field of behavioral issues, there is a wide variety of issues. Among the concerns of these issues, we can mention a research that states the lack of timely replacement of specialists and associates in organizational positions (BalaghiInalou, 2017). Referring to the problem of "lack of proper evaluation of project managers" and the need to pay attention to them, the researcher of Tehran University has proposed a model for the competence of project managers in the oil industry (Dianat, 2018). Pourahmad (2021), referring to the Corona crisis and its effects on the health of project employees (increasing their stress and anxiety levels), has tried to address this issue from the perspective of the behavioral competencies of project managers (Pourahmad, 2021). Alishahi et al. (2020) also state that due to the complexity of stakeholder interactions and the fact that a number of large-scale urban projects have failed due to poor or incorrect communication between stakeholders, the analysis of stakeholders with two interest-power matrix approaches and social network analysis and their comparison (Arbabi, Alishahi, Sobhiyah, & Taheripour, 2020). In the field of technology-related issues, with the emergence of technologies such as Building Information Modeling (BIM), blockchain, Internet of Things, innovations based on data mining, etc., they have attracted more attention from researchers in the world of project management in recent years. For example, researchers in their study pointed out that the adoption of BIM in Iran's construction industry is slow and unfavorable (Sahar Taheripour et al., 2022), and on the other hand, many collective benefits resulting from its implementation have not been realized, the need to pay attention to the issue of unfavorable adoption of BIM with The influence of Hofstede's national culture components on it has been investigated (S Taheripour et al., 2022). Mirzaei (2021) has also investigated the obstacles and solutions of BIM implementation in Iranian design and construction companies (Mirzaei, 2021). Considering that Iran's construction industry is also facing many challenges, including high uncertainty, construction risks, unfavorable speed of communication and weak response to changes,

etc., it is necessary to make a leap in the movement towards intelligent technologies in the construction environment, which in In this regard, IoT technology can be very helpful (Jabbari, 2021).

3.3. Project management issues of university researches and relevant in Iran's industry

In Chart 6, first, the project management problems of Iran's university researchers are shown based on the number of repetitions in Iranian universities, and then the total of these problems are shown based on the number of repetitions in the total number of researches. Is. In the problem of sustainability, there is a common thread between Iran's industrial problems and based on the sources introduced in section 3.1, and it shows the importance of this problem in the industrial community and the academic environment of project management.

Universiyu	Other	Claim	Sustainability	Control Project	Governance	Behavior	Finance	Value	Performance	Agile	Research Methodology	Technology	PPP	Knowledge Management	Risk	Procurement
Tarbiat Modares University	7	3	4	5	0	2	4	0	4	2	0	6	1	2	5	1
Tehran University	13	16	10	11	2	4	3	1	0	0	0	4	1	0	1	4
Shahid Beheshti University	2	1	1	4	0	3	0	0	0	1	0	0	0	1	1	1
Art University	5	1	6	2	0	3	2	1	1	1	0	3	1	1	0	0
Sum	27	21	21	22	2	12	9	2	5	4	0	13	3	4	7	6



Consulting Engineer Quarterly and International Conference of Project Management

Chart 6. The five-year result of Iranian academic research project management problems.

It seems that the intersection of academic and industrial project management problems is the problem of sustainability; An problem that increases in sensitivity every day. Especially, different industries in Iran use natural resources significantly, without paying attention to the future reserves of these resources and the negative effects they have on the environment or human capital. For example, the paper industry is associated with the indiscriminate cutting of forest resources. In the oil and gas industry, significant pollutants are produced as a result of extraction, transportation, storage or improper use processes, which have caused soil pollution. Considering the carcinogenic nature of many pollutants and the possibility of their entering the food cycle of humans, it is necessary to pay attention to the amendment of soils contaminated with organic pollutants. Many rivers of the country, such as Karun, are suffering from the destruction of the quality of water resources. Air pollution and the release of polluting gases are another example of the effects of oil activities that have appeared in oil-rich areas in a specific way and have faced a serious challenge to life in these areas. Some regions of the country, such as Isfahan, with a history of severe subsidence, have become a province with a red status today, and its situation has gone beyond warning and turned into a crisis. Indiscriminate

extraction of water from underground aquifers is one of the factors that have caused the occurrence and intensity of land subsidence in this city. The non-use of modern irrigation methods in the agricultural industry and the cultivation of crops with high water demand and common in most areas of the country has caused the amount of underground water to decrease. According to the statistics and information of the Geological Organization of Isfahan province, in 2015, only two percent of the area of the province was involved in this phenomenon, while the latest studies show that currently, about 10 thousand square kilometers, which is about 10 percent of the area of Isfahan, are in Dangerous conditions have subsided, or even the aggravation of the drought in Khuzestan province and the water tension that has brought a serious crisis to the lives of the people of this province, these days some people have looked towards the role of the Gatund Dam in this tension. Since 1983, it has been known that the water of this dam would be exposed to salt after its construction, but it was built anyway. The submergence of a large amount of high-quality land and some ancient works and the destruction of hundreds of trees are among the other side effects surrounding the water intake of this dam. The dam, which is also known as one of the biggest Karun dam projects, is known as one of the biggest engineering mistakes. The aforementioned cases are only examples of stable crises in Iran, whose prominent role is not hidden from anyone.

3.4. Global research project management problems

Chart 7 shows the problems of global research project management over five years (2017-2021). Regarding research and international project management problems, they cannot be attributed to academia or industry; Because the articles published in international journals, some are extracted from university theses and some are extracted from real industrial experiences, which are not explicitly mentioned in the text of the articles, and in the present research, the world project management problems according to university researches or problems it has not been investigated in the industry.

As it is clear, the problem of sustainability, which is one of the most worrisome problems raised in Iranian academic research, may not be one of the most frequent problems in the world. Previous studies focused more on the environmental aspects of sustainability in project deliverables, while less attention was paid to sustainable project management during project delivery (Kivilä, Martinsuo, & Vuorinen, 2017). The principle of transparency implies that an organization should take appropriate action regarding its policies, decisions, and actions, including its environmental and social effects, necessary actions and policies for the relevant stakeholders, etc. (A. G. Silvius, Kampinga, Paniagua, & Mooi, 2017). In recent decades, governments of developing countries have allocated significant amounts of capital budgets to infrastructure, transportation, and residential projects, which have had profound effects on communities, the environment, and social characteristics compared to other projects (Banihashemi, Hosseini, Golizadeh, & Sankaran, 2017).

Problems such as sustainability, which were specifically raised and indexed in global project management research in 2017, have become common in Iran after a few years (2019). Perhaps one of the reasons is that the topic of immigration and applying for study abroad has become very common among students in recent years, and one of the things that increases the chances of students being accepted is that they research problems of global concern when a problem such as sustainability is raised in a certain year on a global scale, it attracts the attention of this group of students, and until the process of this research is completed, a period of several years is passed, which is the same time difference as in some problems at the global level and it happens nationally. The same thing happened in problems like project control and claims. However, the presence of the problem of governance in Iranian academic research is weak, in global research, it has always been one of the main concerns of researchers. In this regard, researchers state that the purpose of corporate governance is to ensure the protection of stakeholders and the fair treatment of all investors, the balance between the interests of

all stakeholders, the disclosure of accurate information, and the consideration of social and environmental effects. A subject that is sometimes forgotten (Ma, Zeng, Lin, Chen, & Shi, 2017). The personality, professionalism, and benevolence of the horizontal leader influence the combination of trust and control as governance mechanisms. Trust and control are not substitutes for each other, but are carefully selected or combined in situational conditions (Pilkienė, Alonderienė, Chmieliauskas, Šimkonis, & Müller, 2018). A large number of researches also refer to institutional complexity and state that institutional complexity comes from both external environments (macro level) and internal stakeholders (micro level environments) and includes regulatory, political, social, and cultural complexity respectively. It is evolutionary and relational. In addition, we find that the institutional complexity originating from the macro environment leads to a conflict of interest in the macro project organizations, while the different practices and identities of the different micro stakeholders of the project cause organizational conflicts at the level of individuals (Qiu, Chen, Sheng, & Cheng, 2019). Behavioral problems are large and complex projects that involve significant investment, social importance, and a long period. Considering the multitude of stakeholders involved in such projects, trust plays an important role in their delivery (Cerić, Vukomanović, Ivić, & Kolarić, 2021). Trust in project teams also leads to positive project results. However, the role of project managers in facilitating the development of trust in projects is not well understood (Farid, 2021). Another research refers to the competencies of project managers and explains that the competencies of project managers are the basis of effective management at the end of the project, which is defined as the final competence of project managers (i.e. knowledge and skills, management of external stakeholders, leadership in the project team and the ability to communicate effectively at the level organization) which is ignored (Wen & Qiang, 2019). Technological problems have also been of great interest. Among the researches that has been done in this field is the research that has been done in the field of BIM implementation in China. In this research, it is pointed out that the implementation of BIM in some parts of China is relatively low (Cao et al., 2017). In another research, it has been pointed out that technology transfer through projects is relatively low (Oti-Sarpong & Leiringer, 2021). The problems related to the creation of value are also ranked next. For example, researchers have pointed out in research that value creation can be helped through project risk management (Willumsen, Oehmen, Stingl, & Geraldi, 2019). Another research defines value creation through the creation of unity and integration in the project, which reduces rework, redesign, rescheduling, etc., and finally, if value creation is to be summed up in one word, it is They have interpreted it as equivalent to creating money (Pargar, Kujala, Aaltonen, & Ruutu, 2019). In PMBOK 7th, which has just been published, the importance of paying attention to the problem of value is very evident; In such a way that in one of its chapters, the value delivery system has been discussed in detail.

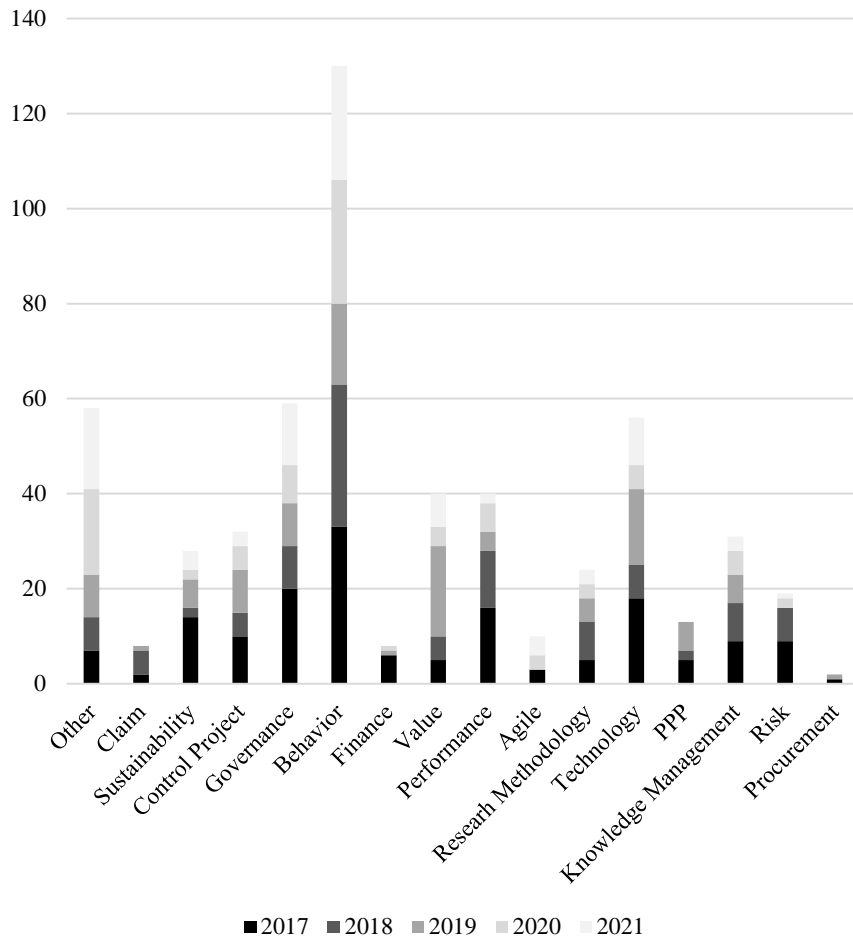


Chart 7. Five-year results of international research project management problems.

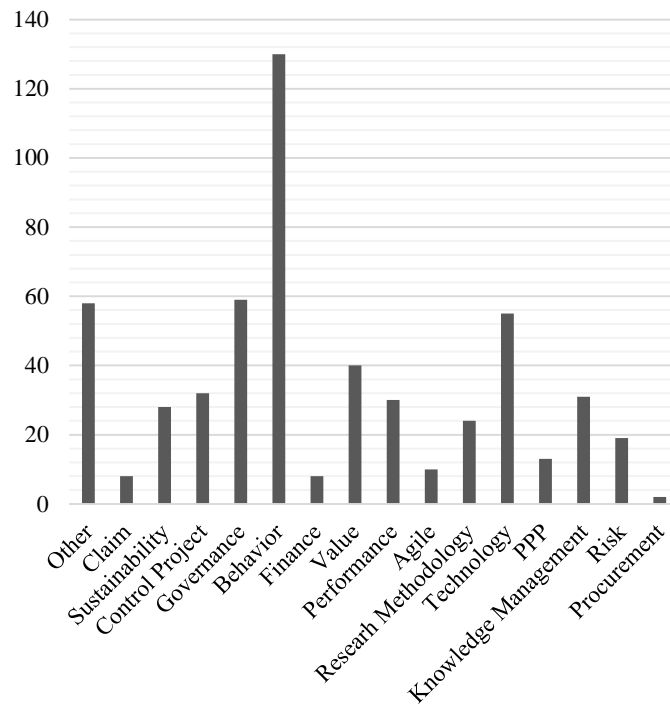


Chart 8. The result of five years of international research project management problems

3.5. Comparison of project management problems of concern to Iran and the world

In Chart 9, the results of the problems in the aforementioned categories were compared for a total of five years, once for Iran and again for the world, to clarify to what extent project management in Iran and the world are converging and progressing parallel to each other. Because the reviewed academic research, the number of reviewed articles are from two journals, IJPM and PMJ, graph number six is drawn proportionally, and the number of global researches was reduced to a ratio for comparison.

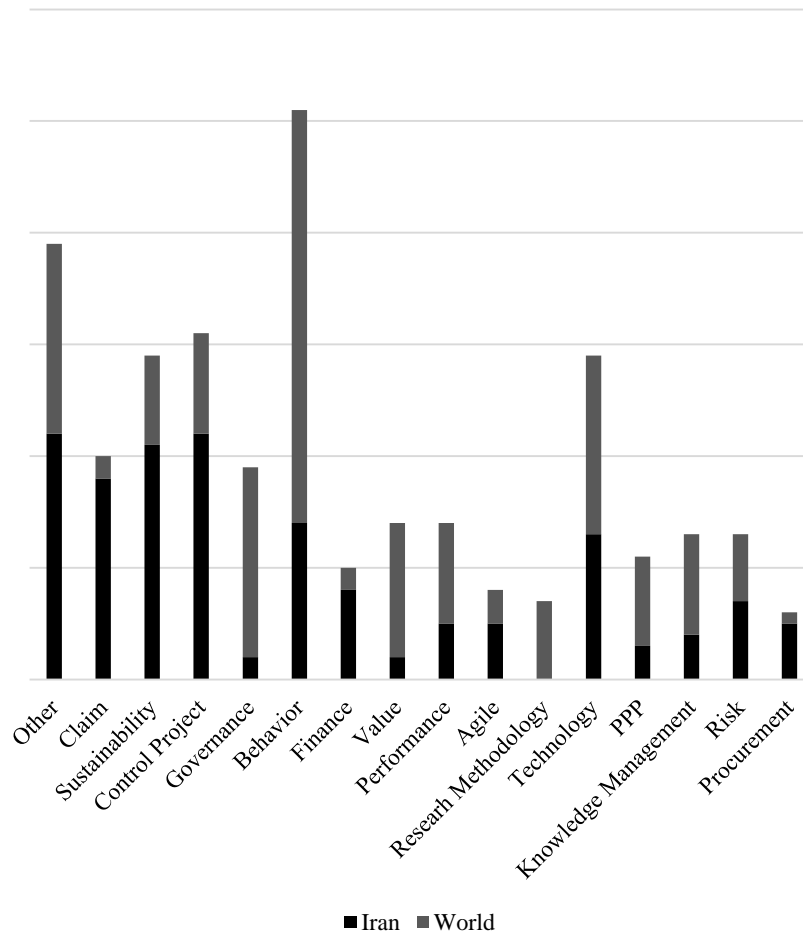


Chart 9. Comparison of project management problems in the academic sector of Iran and the world

4. Discussion and conclusion

In response to the first question of the research, project control, sustainability, and claims of centrality have been given the focus, respectively. But the common denominator of academic research project management problems and industry problems is sustainability; An problem that increases in sensitivity every day. Especially, different industries in Iran use natural resources significantly, without paying attention to the future reserves of these resources and the negative effects they have on the environment or human capital. Also, in response to the third question of the research, behavioral problems, governance, and technology have been the focus of attention. Finally, to answer the fourth question of the research, some problems such as project control, sustainability, and claims, which have been the most worrisome problems of academic research in Iran, in the scope of the articles published in IJPM and PMJ journals, have less attention to Iran, and instead, behavioral problems, governance, and value, which have been the most worrisome problems of international research project management, are not given much attention in Iran.

The findings show that Iranian university researchers pay attention to the problem of sustainability. A problem that has been mentioned by the Consulting Engineers Quarterly and the International Project Management Conference. The sometimes critical conditions that have occurred due to wrong constructions, poor engineering inefficient management of projects and plans, etc., require special attention in this field. A large amount of academic research, which does not have a proper convergence with the problems raised in the industry, sometimes remains unused, and its output is a pile of theses that rot in libraries. Some other problems, such as governance, which have been raised as a specific point of attention both in the context of the Iranian project management industry and in the context of project management research in the world, have a blind spot in Iranian academic research; A problem that in some aspects is closely related to the problem of sustainability. Meanwhile, the comparison of the current situation of Iran in the field of administrative corruption with other countries shows the seriousness and complexity of this problem, which without adopting basic strategies and effective programs, increases the speed of its reproduction and spreads like a chronic disease at the levels of society. In a report in which the level of corruption observed in 168 countries was investigated, the Transparency International Institute announced Iran's rank as 130. Perhaps one of the reasons for this is the governance of relationships instead of rules and the lack of a committed regulatory structure. Perhaps emphasizing the role of institutions as an independent variable is one of the ways to answer this problem. For example, measures such as the preservation and protection of underground water, equitable distribution of water, etc. are among the measures related to the water domain. Problems such as claim and control of the project, which receive a lot of attention in academic research, have been taken from a large number of Tehran University researches. Perhaps the scientific credibility of some professors of this university, who have more references to their research and are better known in the world of science and work more on such problems, is one of the reasons for this. The reasons that students value in choosing a research problem.

One of the limitations of the present research is the lack of participation of all the available sources and the lack of a comprehensive and complete database of academic research and registration of industrial problems; However, it was tried to include the maximum participation of the available and available data in the research. Therefore, other researchers may obtain different results by contributing more data. Nevertheless, the findings of the present research provide valuable information as a general overview of project management problems in the academic sector and the industry of Iran and the world. Provides researchers.

Among the policy proposals of the current research, considering the centrality of the sustainability problem, is that:

- Policymakers should act on the definition and development of sustainability requirements and standards in projects operating in various industries. This action is especially evident in the projects of the oil and gas industry, which are much more related to the environmental aspect of sustainability; Although it seems that measures have been taken in this regard, it is not enough.
- The current conditions show that seminars and conferences on sustainability are held in the Ministry of Oil, but they are held on a very large scale and many organizations are unaware of it; As a result, measures should be taken to spread from macro levels to micro levels and with the support of macro policy makers.
- Considering the centrality of the problem of sustainability, maybe the creation of incentive and foundation policies on behalf of the macro levels of the country for organizations that consider project sustainability as an essential part of their projects will help to solve this problem; Policies such as injecting financial subsidies to such organizations and helping to create a competitive advantage for them.

- Holding periodic meetings with the presence of national and international experts to identify the success factors of projects implemented with a sustainable approach is one of the other measures that are suggested to be carried out by higher institutions and spread to lower levels.

The findings of the current research can help researchers who intend to address the most important and important problem of project management and help them to see the academic research on the problem in recent years. But what is important is that the problems that are chosen respond to practical challenges so that the gap between theory and practice becomes smaller.

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The authors have no conflict of interest.

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