IJSRM
INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY
An Official Publication of Human Journals

Human Journals
Review Article
August 2020 Vol.:16, Issue:2
© All rights are reserved by Gilka Rocha Barbosa et al.

Risks Factors and Critical Success Factors in Academic Projects: A Systematic Mapping of the Literature

IJSRM
INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY
An Official Publication of Human Journals

Gilka Rocha Barbosa*[1], Cristine Martins Gomes de Gusmão[2], Hermano Perrelli de Moura[3], Agnes Rodrigues Maciel[4]

[1]Av. Beira Rio, 1219/101 – Madalena - Recife - PE – Brasil - CEP: 50610-100
University of Pernambuco - Polytechnic School
Federal University of Pernambuco, Center of Informatics, Brazil
[2]Av. Prof. Moraes Rego, 1235 - Cidade Universitária, Recife - PE – Brasil - CEP: 50670-901
Federal University of Pernambuco, Department of Biomedical Engineering, Brazil
[3]Av. Prof. Moraes Rego, 1235 - Cidade Universitária, Recife - PE – Brasil - CEP: 50670-901
Federal University of Pernambuco, Center of Informatics, Brazil
[4]R. do Príncipe, 526 - Boa Vista, Recife - PE, 50050-900, Catholic University of Pernambuco, Brazil

Submission: 20 July 2020
Accepted: 27 July 2020
Published: 30 August 2020

HUMAN JOURNALS
www.ijsrm.humanjournals.com

Keywords: Critical Success Factor, Risk Factor, Risk Management, Higher Education Institution

ABSTRACT

A significant step in project management is to identify risks and critical success factors. Identifying such factors contributes to the success or failure of the project is fundamental to its management. Managing these factors helps control their effects, increase the success rate, and reduce potential project costs. On the other hand, aspects such as the dynamics of globalization, knowledge-based economy, and the new communication technologies are profoundly transforming and bringing new missions and functions to Higher Education Institutions (HEI), increasing their importance. A vital strategy for shaping and adapting to these changes is implementing project management approaches and the associated risks. However, academic environments still seem to neglect project risk management, leading projects to failure. This study presents research through a systematic mapping of literature to help to know and understand the risk factors, success factors, and their management in academic projects in HEI. The survey identified 60 risk factors and critical success factors, also pointed out the scarcity of studies that address risk management in academic projects, understanding the need to develop works focused on this field of knowledge.

INTRODUCTION

The search for social contributions has generated strong demand for management procedures that improve the academic projects and support institutions to fulfill their commitments, keeping them productive and competitive [1]. In this context, Higher Education Institution (HEI) faces more competition every day and constant need to increase their productivity [2]. Project management is an alternative for improving quality in planning, infrastructure, academic assessment, and employee retention[3]. Project is often subject to risks whose meaning depends on their nature. Project management activities, especially risk management, support to achieve the goals of a project according to time and cost rules usually imposed, and aim to maximize the positive and minimize the negative consequences [4-5]. For successful risk management, all its elements and processes must be well known; risks, dangers, and possible consequences must be previously identified and classified [6]. Because the importance of to get a full view of Risk Factors (RF) and Critical Success Factors (CSF) in the environment of HEI, this paper shows the result of a Systematic Mapping of Literature (SML) whose primary purpose was to find and categorize evidence of these factors in academics projects.

A project is a temporary task that has a defined beginning, end, scope, and resources. It is unique since there is no routine operation that can define its development process. However, it has a specific set of operations designed to accomplish a singular goal [7-10], which requires skillful management.

Project management is valuable because it increases stakeholder satisfaction, reduces costs, and improves productivity [1]. However, it is not a simple task, and a set of quantitative and qualitative factors is needed to improve performance or guarantee the success of the project [11]. Risks are one of these factors. Their identification and management help minimize the possibility of project failures[12]. Risk analysis is a job for specialists; it is necessary to identify, evaluate, and anticipate actions to avoid, eliminate, or minimize them [6].

RF is an issue, topic or concern that can drive the behavior of the project's schedule and cost measures in at least one of its objectives [7] and can give rise to one or more project risks. In decision theory, risk can lead to positive or negative consequences [13-18]. Despite this, most of the literature on risk management has traditionally focused on negative outcomes [19].

Risk can cause out unwanted negative consequences, affecting at the minimum one of the objectives of the project[7] [20]. Consistent with the focus on negative results, in this work, we consider the RF as an occurrence that poses a threat to the successful completion of the project's development.

CSF is a condition, event, and circumstance that contributes to project results. Belassi [13] defines four areas of CSF: external environment, project manager and team members, organization, and the project. Identifying critical factors can lead to a better evaluation of projects, and this cause-effect relationship must improve project performance.

Academic project is a kind of project that aims the production of knowledge, free from ideological, political, or economic regard, focused on social contributions [1]. It is an interactive process between intellectual potential from human resources teams, material, technical, informational, organizational, financial, chronological, and other factors, in interdependent processes for service/product development, and knowledge and innovation creation in an HEI [21]. Projects in HEI may lead with several kinds of risks such as team members, financial, budget, managerial, or organizational related, that put their reputation at risk [22]. According to Ruzic-Dimitrijevic [6], academic risk management leads to a differentiation in the provision of academic excellence in the general quality of the higher education sector and the performance of higher education for society in general. The top three risks for higher education are damage to reputation/brand, economic slowdown/slow recovery, and increasing competition. For Deloitte [23], academic risk management aims to provide academic excellence, overall quality of the higher education sector, and the performance of higher education for society in general. Higher education's top three risks are damage to reputation or brand, economic slowdown or slow recovery, and increasing competition.

MATERIALS AND METHODS

Research methods provide a solid foundation of research and innovation activities as it can help in designing and executing research projects in the academic environment [24].

This research realized an SML, extensive review of primary studies that cover a specific research area to identify the available evidence. SML aims to ensure that the literature review

is unbiased, strict, and auditable [25]. Its process comprises three main phases, conducted iteratively: Review Planning, Review Conduction, and Results Publication.

The following subsections briefly present aspects of the SML protocol for this work.

Objectives

The SML had as its purpose to identify RFs, CSFs, and the existence of methods, tools, and other mechanisms of support for risk management in academic projects in HEIs.

Research Questions

Transformations occurrences at the HEIs in the last years have been demanding attention to improve their projects and haw them face project risks. However, at HEIs, the projects' management seems to be incipient still, and this factor may be determinative for the success of their projects. Thus, knowing the risks inherent in academic projects is fundamental to achieving efficient risk management and, consequently, the projects. Therefore, this research question is **"Which are the risk factors and critical success factors that occur in academic projects?**". In addition to the answers to this question, this research sought to identify what characterizes processes and mechanisms used to support risk management. These interests guided the planning, execution, and synthesis of this SML.

Search Strategy

The research strategy defines rules for collecting and organizing data, covering aspects such as determining the research chain, research sources, selection criteria, and study selection process.

Search String

The strings consider the structures of the questions and, sometimes, adaptations to each research base's specificities. The research string used a combination of key terms and logical connectors, as shown in Table 1.

Table No. 1: String Terms

Population	“Project”	AND
Intervention	“Success Factor” OR “Risk Factor” OR “Risk Management”	AND
Context	“Academic” AND “Higher Education”	

Thereby, the search string is ("Project") AND ("Risk Factor" OR "Risk Management" OR "Success Factor") AND ("Higher Education") AND ("Academic").

Search Sources

The search strategy did not include only automatic searches and specific documents in manual searches [26]. Considering the databases that Dybå *et al.* [27] suggest, this study examined the Indexers SpringerLink, Scopus, Science Direct, and Web of Science; and the Digital Libraries IEEExplorer, and ACM Digital.

Inclusion and Exclusion Criteria

The studies included in the research met the criteria of being primary studies and addressed risk factors and critical success factors in HEI's academic projects. Was excluded paper that satisfied at least one of the following exclusion criteria (i) Published before 2013. (ii) Was not in a complete format. (iii) Did not answer any research questions. (iv) Did not present concluded results. (v) Was not in the English Language. (vi) Was not available for free. (vii) Was in duplicate. (viii) Was excerpts presentations, reports, books, dissertations, thesis, incomplete papers, experience reports, minutes, works focused on teaching projects, tutorials, secondary and tertiary studies. These defined criteria help in the process of selecting the studies.

Studies Quality Evaluation Criteria

It is also essential to evaluate the studies' quality to have the best possible database for the evolution, results, and quality of the research.

According to Dybå and Dingsøyr [28] and Marshall *et al.* [29], criteria for evaluating the quality of studies estimate the answer to whether (i) There is a clear statement of the research objectives. (ii) There is an adequate description of the context. (iii) The research project fits the research objectives. (iv) The research approach is clear. (v) The research strategy is

adequate to achieve the research objectives. (vi) Data collection addresses the research issue. (vii) The data analysis is sufficiently rigorous. The evaluation of the quality of the study considers the score attributed to each of these criteria. Besides, according to the Scimago Journal & Country Rank (SJR) [30], was also used the H index to assess the quality of publications.

Studies Selection Process

After defining the search terms and the research sources, the selection of studies followed the steps: Phase 1: Research of primary studies. Searching the selected sources, applying inclusion and exclusion criteria, exporting, and registering studies adhering to the criteria. Phase 2: Evaluation by reading the title and keywords. Separation of the studies selected in Phase 1 into two groups, delivered to two pairs of researchers, who read the title and abstract independently, applied the inclusion and exclusion criteria and selected the appropriate studies. Phase 3: More detailed reading. Evaluation of the studies selected in Phase 2 by reading the title, keywords, summary, introduction, and conclusion, or even the full text, resulting in a new set of selected studies. Phase 4: Quality assessment. Review of all studies selected in Phase 3, according to the quality criteria established for this work. Phase 5: Data analysis and synthesis. Analysis and synthesis of data extracted from selected articles. After the execution of the phase, it was possible publishing the results from SML.

RESULT AND DISCUSSION

This section shows the results of the phases detailed previously. Initially, Table 2 shows the results of the applied SML phases.

Table No. 2: Database Search Results

Database	Found	Selected Phase 1	Selected Phase 2	Selected Phase 3
ACM Digital Library	2	2	1	
IEEE	1	1	1	
Springer Link	4444	821	67	3
Scopus	37	34	34	6
ScienceDirect	2011	341	8	2
Web of Science	2	2	1	1
TOTAL	**6497**	**1201**	**112**	**12**

Studies Quality Evaluation Criteria

The quality criteria' application indicated that each selected article's quality level was above the average, which is 6.3, according to the score table of the quality criteria in Beecham [31]. The studies presented essential structural requirements and methodological aspects to support their results. Besides, most of the studies selected for Phase 5 had a higher H-Index than the overall average SJR publication rate [30], which is currently 28.19,

Evidence of Success Factors and Risk Factors in Academic Projects

This work mapped 60 different RFs (Table 3) and CSFs (Table 4). These factors were categorized according to the classification proposed by TenStep's risk taxonomy [32], a flexible and scalable methodology for managing work as a project [33].

Table No. 3: Risk Factors in an academic project

TenStep® Class	Risk Factor	Reference
Development Environment	Infrastructure	[34]
Organization Management	Human resources	
	Different cultures	
	Ethical approval	
	Operational management for offshore program delivery	[34] [35] [36] [37]
	Quality assurance mechanism	
	Market failure	
	Reputational	
Project Parameters	Limitation of finance	
	Funding availability	
	Reduction of Investment Opportunities	[34] [37] [38] [39]
	Academic long-term research *versus* industry short term research	[40] [41]
	Disbursement of resources	
Sense of Decisions	Political situations	[37] [38]
	Social situations	
Team Members	Limited time for academicians	
	Differences in language	
	Regular communication	[34] [37]
	Time differences between countries	
	Individual priorities	

Ramli [34] describes two types of barriers oriented by culture - resources and guidance - as risks that affect collaboration between higher education institutions and industries. The

resource barrier is the limitation of finances, human resources, and infrastructure in implementing collaboration in Research and Development (R & D) between universities and industries. Guidance barrier addresses the different missions between the two sides. HEI focuses more on generating new knowledge, while industrial sectors focus on generating profits from research activities [34],[42]. As they have different missions, the project must be attractive to both sides; otherwise, it can become an RF. The lack of time for academics negatively influences the development of effective collaboration. Another aspect is the limited time for academics to collaborate with the industry, mainly because they need to focus on their students, teaching, and other administrative tasks. Another risk is the long period it is sometimes necessary to research the university. On the other hand, industrial research is carried out in short periods because the institution requires that short-term results remain competitive in the market and achieve a competitive advantage [34].

The studies of Ramli and Senin [34], Iqbal et al. [42], and Nokkala et al. [43] point to the university's dependence on financial support from both the government and industry sectors to implement R&D activities. Cultural differences are possible risks too; among them are blocked expertise transfer, different interpretation of processes, interpersonal barriers, and lack of acceptance.

Brew [37] focuses on international research collaborations. Aspects such as the complex interaction of the funding structure and agency in the universal context, to explore how to manage the risks and the time of production of the research, to minimize the agency and structural risks, and threats of groups from different national and institutional institutions contexts working together for everyday purposes. They also warn about conditions related to ethical estimation, which prolongs the research time; differences in language and culture, which interferes with the progress of research processes; and other RFs, such as political and social situations, individual risk, time differences between countries and availability of funding and regular communication.

Internationalization of higher education may lead to risks that involve directly funding capacity. External risks that may affect new projects, such as political changes in the host country that can alter the government's priorities and influence the goals of the project directly, funding increasing costs during the project life cycle and political climate are RFs [38].

Risks in academic projects must consider the way researchers ask for funds. Grant writing can be a RF when developing a project since acquiring funds for projects depends on the research proposal's success, too [41].

Table No. 4: Critical Success Factors in academic projects

TenStep® Class	Critical Success Factor	Reference
Development Environment	Government and private companies support for human capacity building and infrastructure	[34] [40]
	Provide directly or outsourced facilities for university research	
Development Process	Research methods	[24]
Mission and Objectives	Clearly defined goals and commitments by key stakeholders	[39]
	Effective logistics management	
Organization Management	Culture of innovation	[34] [36]
	Support for researchers in R&D activities	[39] [40]
	Identification of academic and managerial niches	
	Coordination and collaboration	
	Collaboration from Foreign academicians	
	Sufficient mobilization	
	Commercialization of higher education	
	Create new academic programs	
	R&D funded both by HEIs and Industry	
Project Parameters	Discounts for university researchers	[34] [44]
	Donor-driven support	[40] [41]
	Self-funding	[45]
	Foreign funding	
	Peer learning for grant proposals	
	Shared standards and norms for grant writing	
	Quality Factors	
	Easy to use	
	Role of Course Design	
Sense of Decisions	Government regulations and policy over transnational education	[36] [39]
	Supportive laws and regulations	
Team Members	Skills	[24] [34]
	HEIs full-time staff for R&D activities	[39] [40]
	Research method skills	[41] [45]
	Training of new assistants	[46]
	Leadership skills and personal qualities	
	Competencies of managers and team members	
	Invest in students to study abroad and return with new skills and knowledge	
	Professionalization of grant writing	
	Effective information management system	
	Effective consultation with key stakeholders and target	

TenStep® Class	Critical Success Factor	Reference
	beneficiaries	
	Effective communication mechanism	
	Team Work Culture	
	Motivation	
	Meeting Challenges	
	Mentoring Relationship	

Among the CFS found, the improvement of the skills of the research method refers to optimize the research and innovation capacities and develop strategies, training, and capacity structure [24]. In this context, skilled and efficient researchers considerably increase the likelihood of improvement in the quantity and quality of project results [47]; experienced teams also have a meaningful relationship with successful collaborations [43].

According to Chen [36], another scenario involves universities on a transnational scale that have their own risk by the nature of collaboration. Issues developing projects on a transnational scale in Taiwan Universities reveals that identifying the academic and managerial niches in the competitive market of the transnational education mainly dominated by the western university at the initial stage has a significant impact on its success. However, it is necessary to identify the challenges associated with its implementation, including operational management for the delivery of offshore programs, human resources agreements, and quality assurance mechanisms, together with adjustments made accordingly. Chen [36] still points that in addition to the institutional adaptation and innovation, the revisions of the regulations and policy over transnational education from the government authority are believed to be pertinent and necessitated for providing a better gateway for universities' case to move internationally. Highlighting the fact that the Taiwan Universities found an opportunity to foster closer collaborations transnationally due to government policies that helped increase the country's foreign direct investments, including greater cooperation between Taiwan's Universities and foreign ones. In this sense, in UK universities, Healey [35] highlights the risk of market failure linked to reputational risk to the home university.

Research funding and higher education landscape and their association with the rise of computing research in East Africa are approached in Harsh [40]. Their success is mainly the commercialization of higher education and donor support, administration initiative to create new academic programs designed explicitly for self-funded students besides government-funded students, and the direct donor support for capacity building and infrastructure

provided by the government and private companies. Another critical factor in the rise of research centers was leadership, attracting foreign donors, and offering students an opportunity.

This research found evidence that political factors, such as commercialization of higher education and growth of entrepreneurship combined with a culture of innovation and enterprise, contributed to creating a more diverse and dispersed. The industry can have played a vital role by providing funding, building partnerships with universities, establishing research centers and innovation hubs, and employing graduates of the computer science programs. Start-up culture played an essential role in developing capacity, as has an endorsement from the government. Leadership skills and personal qualities helped establish lasting relations with other actors in the system [40].

One hypothesis was that peer learning is the most important strategy for learning to apply for funding, young researchers integrated into a group with a high density of successful and productive copywriters are more likely to learn the skill than their isolated colleagues. It is worth mentioning the importance of the financing programs' institutional properties for the way of involving the scientific fields with grant writing [41].

The inclusion of Information and Communication Technologies (ICT) in teaching has emerged as a success factor for higher education. Almaiah [44] suggests that the development of mobile learning systems is an efficient tool. Higher education environments can use these benefits while optimizing the learning process. Attracting students with mobile educational systems may improve factors directly as self-study, freedom, mobility, availability, facilitating student-teacher interaction between others. Creating software projects for academic learning has CSF such as quality factors (information quality, system quality, and service quality) and individual factors (perceived usefulness and ease of use). These factors directly influence satisfaction and intention to use, which may lead to academic project success.

Still, in that contour, the use of ITC systems within academic environments offers multiple benefits, including studying distant from the physical, academic center *via* online courses. Designing and creating online courses can be a challenge when it comes to trying to simulate and offer high-quality content via the Internet. The integration of the constructivist approach

shows off as a crucial factor for the success of online courses. While designing online courses, teamwork culture, course design, and learning and skills are CSF during the lifecycle of online course design [45].

Another technological approach that leads HEI to achieve a higher quality educational delivery is to support integration into the teaching practices of the faculty members. Five CSF play crucial roles in the success of technology mentoring in higher education: motivation, meeting a challenge, nature of the mentoring relationship, communication channels, and support. Sustaining a vision of technology integration requires the involvement of administrators, faculty, and students, among other actors in the academic environment. Technology mentoring may catalyze the innovation process by establishing a community around technology-enriched classrooms [46].

CONCLUSION

This work has presented research whose objective was to map RFs and CSFs in the HEIs academic projects. After performing the LME phases and assessing quality, 12 relevant studies resulted in identified 60 RF and CFS, categorized according to the TenStep® taxonomy [33].

The results indicate that few studies directly address this topic. It is worth noting that this SML focuses on academic projects, that is, projects for teaching, research, or extension in HEI; were outside the scope of this inquire the administrative or managerial projects.

This work showed that most of the RF and CSF for an academic project is associated with inter institutional, international, and transnational projects. This kind of project show a high degree of relevance, complexity, and peculiarity, and its result can bring deep, vast, and significant consequences for those involved. There were also many mentions of CSF and RFs related to team skills and project funding. These results lead to the understanding that the organization's management and project parameters play a fundamental role and can become a significant obstacle to ensuring project risk management's success. On the other hand, there are external factors as political and social factors that can directly influence the sense of decisions during the project's development and affect its results. Different cultures and languages can also be barriers as they can delay the development of the project.

The primary analysis of the data indicates that the theme covers great, above-expected content, which still needs to deepen knowledge. This work's main contribution is the identification and categorization of risks and CSF in academic projects. This classification aims to help researchers/teachers to obtain practical support for risk management in academic projects in HEIs, bringing better results for the project and the involved.

REFERENCES

[1] H. Riol e D. Thuillier, "Project management for academic research projects: balancing structure and flexibility", *Int. J. Proj. Organ. Manag.*, vol. 7, nº 3, p. 251, 2015.
[2] E. Maccari, C. Barsalini, G. Costa, e C. Therezinha, "Project Management in Higher Education Institutions: Pro-Administration Case", nº November 2014.
[3] P. Partners, "Five Steps for Successful Project Management in Higher Education", 2018.
[4] M. L. M. Marinho, "Uncertainty management in software projects", 2015.
[5] C. M. G. de Gusmão, "Um Modelo de Processo de Gestão de Riscos para Ambientes de Múltiplos Projetos de Desenvolvimento de Software", UNIVERSIDADE FEDERAL DE PERNAMBUCO, 2007.
[6] L. Ruzic-dimitrijevic e J. Dakic, "The Risk Management in Higher Education Institutions", *Online J. Appl. Knowl. Manag.*, vol. 2, nº 1, p. 137–152, 2014.
[7] S. Bettuzzi, "A Guide to the Project Management Body of Knowledge", *Adv. Cancer Res.*, vol. 104, p. 1–8, 2009.
[8] M. Wanderley, J. Menezes, C. Gusmão, e F. Lima, "Proposal of risk management metrics for multiple project software development", vol. 64, p. 1001–1009, 2015.
[9] T. P. Investigator e T. Pi, "Research Project Management", nº March 2016.
[10] PMI, *Project Management Institute. Um guia do conhecimento em gerenciamento de projetos (Guia PMBoK).*, 6ª. Newtown Square: Project Management Institute Inc., 2018.
[11] J. Menezes, C. Gusmão, e H. Moura, "Risk factors in software development projects : a systematic literature review", 2018.
[12] T. Kendrick, *Identifying and managing project risk: essential tools for failure-proofing your project*. Amacom New York, NY, USA, 2003.
[13] W. Belassi e O. I. Tukel, "A new framework for determining critical success/failure factors in projects", *Int. J. Proj. Manag.*, vol. 14, nº 3, p. 141–151, 1996.
[14] P. L. Bannerman, "The Journal of Systems and Software Risk and risk management in software projects : A reassessment", vol. 81, p. 2118–2133, 2008.
[15] L. A. Ika, A. Diallo, e D. Thuillier, "Critical success factors for World Bank projects: An empirical investigation", *Int. J. Proj. Manag.*, vol. 30, nº 1, p. 105–116, Jan. 2012.
[16] UNDP, "Handbook on Planning, Monitoring and Evaluating", *UNDP*, p. 1–232, 2009.
[17] M. U. Farooq, M. J. Thaheem, e H. Arshad, "Improving the risk quantification under behavioural tendencies: A tale of construction projects", *Int. J. Proj. Manag.*, vol. 36, nº 3, p. 414–428, 2018.
[18] T. Raz e D. Hillson, "A Comparative Review of Risk Management Standards", *Risk Manag.*, vol. 7, nº 4, p. 53–66, 2005.
[19] M. Keil, P. E. Cule, K. Lyytinen, e R. C. Schmidt, "A framework for identifying software project risks", *Commun. ACM*, vol. 41, nº 11, p. 76–83, 1998.
[20] T. Aven, "Risk assessment and risk management: Review of recent advances on their foundation", *Eur. J. Oper. Res.*, vol. 253, nº 1, p. 1–13, 2016.
[21] A. N. Schmeleva e M. G. Umnova, "Enhancement of Academic Research Activity in Higher Education Institutions with the Usage of Foresight Methodology", *Int. Rev. Manag. Mark.*, vol. 7, nº 1, p. 442–451, 2017.
[22] M. Huber, "The Risk University Risk identification at higher education institutions in England", nº July 2011.
[23] Deloitte's, "Global Risk Management Survey", *Deloitte Univ. Press*, p. 1–76, 2017.
[24] R. Thakore, C. Liyanage, D. Amartunga, R. Haigh, e A. Mustapha, "Strengthening Skills in Research

Methods in Higher Education Institutions to Improve Societal Resilience to Disasters", *Procedia Eng.*, vol. 212, nº 2017, p. 946–953, 2018.
[25] B. A. Kitchenham, D. Budgen, e O. P. Brereton, "Using mapping studies as the basis for further research - A participant-observer case study", *Inf. Softw. Technol.*, vol. 53, nº 6, p. 638–651, 2011.
[26] K. BA e S. Charters, "Guidelines for performing Systematic Literature Reviews in Software Engineering", vol. 2, Jan. 2007.
[27] T. Dybå, T. Dingsøyr, e G. Hanssen, *Applying Systematic Reviews to Diverse Study Types: An Experience Report*. 2007.
[28] T. Dybå e T. Dingsøyr, *Strength of Evidence in Systematic Reviews in Software Engineering*. 2008.
[29] C. Marshall, B. Kitchenham, e P. Brereton, "Tool Features to Support Systematic Reviews in Software Engineering - A Cross Domain Study", *E-Informatica Softw. Eng. J.*, vol. 12, Jan. 2018.
[30] SRJ, "Scimago Journal & Country Rank (SJR).", 2020. [Online]. Available at: https://www.scimagojr.com/.
[31] S. Beecham, N. Baddoo, T. Hall, H. Robinson, e H. Sharp, "Motivation in Software Engineering: A systematic literature review", *Inf. Softw. Technol.*, vol. 50, nº 9–10, p. 860–878, 2007.
[32] M. J. Mochal T., "Background: The TenStep Project Management Process. In: Lessons in Project Management. Apress, Berkeley, CA", Apress, Berkeley, CA, 2003.
[33] TENSTEP, "TenStep – You Can Manage". [Online]. Available at: https://tenstep.com/. [Acessado: 10-ago-2019].
[34] M. F. Ramli e A. A. Senin, "Success Factors to Reduce Orientation and Resources-related Barriers in University-industry R&D Collaboration Particularly during Development Research Stages", *Procedia - Soc. Behav. Sci.*, vol. 172, p. 375–382, 2015.
[35] N. M. Healey, "Towards a risk-based typology for transnational education", *High. Educ.*, vol. 69, nº 1, p. 1–18, 2015.
[36] P.-Y. Chen, "University's Transnational Expansion: Its Meaning, Rationales and Implications", *Procedia - Soc. Behav. Sci.*, vol. 171, p. 1420–1427, 2015.
[37] A. Brew, D. Boud, L. Lucas, e K. Crawford, "Reflexive deliberation in international research collaboration: Minimising risk and maximising opportunity", *High. Educ.*, vol. 66, nº 1, p. 93–104, 2013.
[38] B. Beecher e B. Streitwieser, "A Risk Management Approach for the Internationalization of Higher Education", *J. Knowl. Econ.*, p. 1404–1426, 2017.
[39] N. Mohammed, R. Edwards, e A. Gale, "Optimisation of Flooding Recovery for Malaysian Universities", *Procedia Eng.*, vol. 212, nº 2017, p. 356–362, 2018.
[40] M. Harsh, R. Bal, J. Wetmore, G. P. Zachary, e K. Holden, "The Rise of Computing Research in East Africa: The Relationship Between Funding, Capacity and Research Community in a Nascent Field", *Minerva*, vol. 56, nº 1, p. 35–58, 2018.
[41] K. Serrano Velarde, "The Way We Ask for Money… The Emergence and Institutionalization of Grant Writing Practices in Academia", *Minerva*, vol. 56, nº 1, p. 85–107, 2018.
[42] A. M. Iqbal, A. S. Khan, S. Iqbal, e A. A. Senin, "Designing of Success Criteria-based Evaluation Model for Assessing the Research Collaboration between University and Industry", *Int. J. Bus. Res. Manag.*, vol. 2, nº 2, p. 59–73, 2011.
[43] T. Nokkala, B. Heller-Schuh, e M. Paier, "Internal integration and collaboration in European R&D projects", *NEMO Work. Pap. #13*, vol. 028875, nº October 2008.
[44] M. A. Almaiah e O. A. Alismaiel, "Examination of factors influencing the use of mobile learning system : An empirical study", p. 885–909, 2019.
[45] Z. A. G. A. Z. İ, "Aproach into online course designs in distance education institute at Eastern Mediterranean University", vol. 8, nº 2, 2009.
[46] E. Baran, "Investigating faculty technology mentoring as a university-wide professional development model", *J. Comput. High. Educ.*, vol. 28, nº 1, p. 45–71, 2016.
[47] A. Banal-Estañol, I. Macho-Stadler, e D. Pérez-Castrillo, "Research Output From University-Industry Collaborative Projects", *Econ. Dev. Q.*, vol. 27, nº 1, p. 71–81, 2013.