

- "Collaboration model of software development," *Electrical Engineering and Informatics (ICEEI)*, pp. 1-6, 2011.
- [11] C. Verma and S. A. Amin, "Significance of healthy organizational culture for superior risk management during software development," *Developments in E-systems Engineering (DESE)*, pp. 182-189, 2010.
- [12] Y. Tao, "A study of software development project risk management," *Future Information Technology and Management Engineering*, pp. 309-312, 2008.
- [13] J. Münch, "Risk management in global software development projects: Challenges, solutions, and experience," in *Global Software Engineering Workshop (ICGSEW)*, 35, 2011.
- [14] M. A. Jashki, R. Zafarani and E. Bagheri, "Towards a More Efficient Static Software Change Impact Analysis Method," in *Proceedings of the 8th ACM SIGPLAN-SIGSOFT Workshop on Program analysis for Software Tools and Engineering*, Atlanta, Georgia, 2008.
- [15] J. Hassine, J. Rilling, J. Hewitt and R. Dssouli, "Change Impact Analysis for Requirement Evolution Using Use Case Maps," *Proceeding of the 8th International Workshop on Principles of Software Evolution*, September 2005.
- [16] Y. Li, J. Li, Y. Yang and L. Mingshu, "Requirement-centric Traceability for Change Impact Analysis: A Case Study in Making Globally Distributed Software Development a Success Story," vol. 5007, 2008.
- [17] B. Breech, A. Danalis, S. Shindo and L. Pollock, "Online Impact Analysis via Dynamic Compilation Technology," in *Proceedings of the 20th IEEE International Conference on Software Maintenance*, Washington, 2004.
- [18] J. Law and G. Rothermal, "Incremental Dynamic Impact Analysis for Evolving Software Systems," in *Proceedings of the 14th International Symposium on Software Reliability Engineering*, Washington, 2003.
- [19] J. Biolchini, P. Gomes Mian, A. C. Cruz Natali and G. Horta Travassos, *Systematic Review in Software Engineering*, Brasil: Systems Engineering and Computer Science Department, 2005.
- [20] B. Kitchenham and S. Charters, "Guidelines for performing Systematic Literature Reviews in Software Engineering," *Elsevier*, 2007.
- [21] R. Van Solingen and E. Berghout, *The Goal/Question/Metric Method: a practical guide for quality improvement of software development.*, London: McGraw-Hill Publishing Company, 1999.
- [22] C. M. da Costa Santos, C. A. de Mattos Pimenta and M. R. Cuce Nobre, "A estratégia PICO para a construção da pergunta de pesquisa e busca de evidências," *Revista Latino-Americana de Enfermagem*, vol. 15, no. 3, June 2007.
- [23] B. D. Rouhani, M. N. Mahrin, F. Nikpay, R. B. Ahmad and P. Nikfard, "A systematic literature review on Enterprise Architecture Implementation Methodologies," *Information and Software Technology*, vol. 62, pp. 1-20, Junio 2015.
- [24] J. Popay, H. Roberts, A. Sowden, M. Petticrew, L. Arai, M. Rodgers, N. Britten, K. Roen and S. Duffy, "Guidance on the conduct of narrative synthesis in systematic reviews," *A product from the ESRC methods programme*, 2006.
- [25] P. Diebold and T. Zehler, "The agile practices impact model: idea, concept, and application scenario", *ICSSP 2015 Proceedings of the 2015 International Conference on Software and System Process*, pp. 92-96, 2015.

Apéndice

A. Artículos Seleccionados

Se procede a presentar la relación de artículos seleccionados durante el proceso.

ID	Biblioteca	Título	Autor	Año	Tipo de Documento
1	SCOPUS	The agile practices impact model: Idea, concept, and application scenario	Diebold, P.; Zehler, T.	2015	Conference Paper
2	SCOPUS	Automatic impact analysis of software architecture migration on model driven software development	Agirre, J.; Etxeberria, L.; Sagardui, G.	2013	Journal Article
3	SCOPUS	Change impact analysis of indirect goal relations: Comparison of NFR and TROPOS approaches based on industrial case study	Teka, A.a; Condori-Fernández, N.a; Kurtev, I.a; Quartel, D.b; Engelsman, W.b	2012	Conference Paper
4	SCOPUS	CIASYS - Change impact analysis at system level	Tóth, G.a; Nagy, C.a; Jász, J.a; Beszédes, A.a; Fülöp, L.J.b	2011	Conference Paper
5	SCOPUS	Towards predictive models of technology impact on software design productivity	Lowry, M.R.	2010	Journal Article
6	SCOPUS	Assessing impact analysis practice to improve change management capability	Kilpinen, M.a; Eckert, C.b; Clarkson, P.J.a	2009	Journal Article
7	SCOPUS	On the relationship between process maturity and geographic distribution: An empirical analysis of their impact on software quality	Cataldo, M.a; Nambiar, S.b	2009	Journal Article
8	SCOPUS	Impact of budget and schedule pressure on software development cycle time and effort	Nan, N.a; Harter, D.E.b	2009	Conference Paper
9	SCOPUS	Structural analysis of the impact of knowledge creation and knowledge embedding on software process capability	Ravichandran, T.a; Rai, A.b	2003	Journal Article
10	SCOPUS	Supporting impact analysis and change propagation in software engineering environments	Han, Jun	1997	Conference Paper
11	SCOPUS	Agenda for research in the managerial evaluation of computer-aided software engineering (CASE) tool impacts	Kemerer, Chris F.	1989	Journal Article
12	SCIENCE DIRECT	Studying the impact of uncertainty in operational release planning – An integrated method and its initial evaluation	Al-Emran, Ahmed; Kapur, Puneet; Pfahl, Dietmar; Ruhe, Guenther	2010	Journal Article
13	IEEE	Analyzing the impacts of data quality and availability on system stability analysis using single machine equivalents	Saunders, C. S.; Taylor, G. A.; Liu, Y.; Liu, J.	2014	Journal Article
14	IEEE	Autonomous impact damage detection and isolation prediction for aerospace structures	Roemer, M. J.; Ge, Jianhua; Liberson, A.; Tandon, G. P.; Kim, R. Y.	2005	Conference Paper
15	EBSCO	An empirical study of the effect of file editing patterns on software quality.	Feng, Zhang; Foutse, Khomh; Ying, Zou; Hassan, Ahmed E.	2015	Journal Article
16	EBSCO	Virtual communities as a resource for the development of OSS projects: the case of Linux ports to embedded processors.	Toral, S. L.; Martinez-Torres, M. R.; Barrero, F. J.	2009	Conference Paper
17	EBSCO	Who You Know vs. What You Know: The Impact of Social Position and Knowledge on Team Performance.	Ashworth, Michael J.; Carey, Kathleen M.	2006	Conference Paper

B. Formularios de extracción

Se procede a presentar todos los formularios de extracción de la información relevante de los estudios primarios seleccionados.

Criterio	Detalle	Relevancia
Identificador	1	General
Fuente	SCOPUS	PB-1
Título	The agile practices impact model: Idea, concept, and application scenario	PB-1
Autores	Diebold, P.; Zehler, T.	PB-1
Publicación	International Conference on Software and System Process	PB-1
Año de publicación	2015	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Agile practices impact model (APIM)	PI-1
Objetivo del análisis	Build an overall model that includes the impact of at least the most commonly used agile practices	PI-2
Características de los modelos	APIM is a model for representing the influence (impact) of agile practices on different characteristics. It consists of different elements and necessary connections between these elements to present the influencing impact.	PI-2
Atributos analizados por los modelos	development time, development costs, productivity, quality (product and process), customer (involvement, satisfaction and communication, organization, infrastructure, risks	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	2	General
Fuente	SCOPUS	PB-1
Título	Automatic impact analysis of software architecture migration on model driven software development	PB-1
Autores	Agirre, J.; Etxeberria, L.; Sagardui, G.	PB-1
Publicación	2nd Workshop on the Analysis of Model Transformations	PB-1
Año de publicación	2013	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Automatic impact analysis model for software architecture migration	PI-1
Objetivo del análisis	Perform automated analysis of the impact of software architecture changes due to evolution, concretely software architecture migrations, on model driven code generation systems	PI-2
Características de los modelos	The solution uses a differential model of the models representing the code to establish the adaptations that must be made in the transformation rules	PI-2
Atributos analizados por los modelos	Traceability model, difference model, weaving model	PI-3
Dominio de aplicación	Model Transformation	-

Criterio	Detalle	Relevancia
Identificador	3	General
Fuente	SCOPUS	PB-1
Título	Change impact analysis of indirect goal relations: Comparison of NFR and TROPOS approaches based on industrial case study	PB-1
Autores	Teka, A.a; Condori-Fernández, N.a; Kurtev, I.a; Quartel, D.b; Engelsman, W.b	PB-1
Publicación	Model-Driven Requirements Engineering Workshop	PB-1
Año de publicación	2012	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	TROPOS, NFR	PI-1
Objetivo del análisis	To extend a metamodel of already existing requirements and goal modeling language	PI-2
Características de los modelos	Use a number of predefined satisfaction levels and contribution types for goals and relations	PI-2
Atributos analizados por los modelos	Goal satisfaction, satisfaction level, contribution type	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	4	General
Fuente	SCOPUS	PB-1
Título	CIASYS - Change impact analysis at system level	PB-1
Autores	Tóth, G.a; Nagy, C.a; Jász, J.a; Beszédes, A.a; Fülöp, L.J.b	PB-1
Publicación	Proceedings of the European Conference on Software Maintenance and Reengineering	PB-1
Año de publicación	2011	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	CIASYS, Static analysis, Dynamic analysis	PI-1
Objetivo del análisis	NSI	PI-2

Criterio	Detalle	Relevancia
Características de los modelos	Set up an evaluation environment; implement static and dynamic techniques that will be combined in a hybrid analysis system which will be able to analyze the dependencies of large systems at system level.	PI-2
Atributos analizados por los modelos	code, code execution logs, relation between software components (modules, procedures, statements, variables, etc), relations between lower levels of a system (statements and data), relations between higher level dependencies	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	5	General
Fuente	SCOPUS	PB-1
Título	Towards predictive models of technology impact on software design productivity	PB-1
Autores	Lowry, M.R.	PB-1
Publicación	Proceedings of the FSE/SDP workshop on Future of software engineering research	PB-1
Año de publicación	2010	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Software cost and defect model	PI-1
Objetivo del análisis	To investigate and argue that even predictive models based on rough empirical correlations can clarify research investment decisions	PI-2
Características de los modelos	NSI	PI-2
Atributos analizados por los modelos	Cost, schedule, defects	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	6	General
Fuente	SCOPUS	PB-1
Título	Assessing impact analysis practice to improve change management capability	PB-1
Autores	Kilpinen, M.a; Eckert, C.b; Clarkson, P.J.a	PB-1
Publicación	International Conference on Engineering design	PB-1
Año de publicación	2009	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Traceability, dependency and experimental IA	PI-1
Objetivo del análisis	Systematically elicit and assess IA practice in systems and software engineering to identify trends and gaps in change management	PI-2
Características de los modelos	The quality of IA results can vary directly, given that IA techniques range in rigor. IA results may only indicate fractions of the necessary changes stemming from an initiating modification.	PI-2
Atributos analizados por los modelos	Design or Change Documentation, Requirement Traceability Relationships, Requirement or Software Design Models, Software Architecture or Code, Design or Change Review Meeting, Informal Team Discussions, Individual Engineering Judgment	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	7	General
Fuente	SCOPUS	PB-1
Título	On the relationship between process maturity and geographic distribution: An empirical analysis of their impact on software quality	PB-1
Autores	Cataldo, M.a; Nambiar, S.b	PB-1
Publicación	Proceedings of the 7th joint meeting of the European software engineering conference and the ACM SIGSOFT symposium on The foundations of software engineering	PB-1
Año de publicación	2009	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Analysis based on research questions	PI-1
Objetivo del análisis	To achieve a better understanding of the relationship between software process maturity and geographic distribution	PI-2
Características de los modelos	Statistical analysis based on formulas was applied to analyze the distribution of the variables declared	PI-2
Atributos analizados por los modelos	Quality, process maturity, spatial distribution, temporal distribution, people dispersion, number of locations	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	8	General
Fuente	SCOPUS	PB-1
Título	Impact of budget and schedule pressure on software development cycle time and effort	PB-1
Autores	Nan, N.a; Harter, D.E.b	PB-1

Criterio	Detalle	Relevancia
Publicación	IEEE TRANSACTIONS ON SOFTWARE ENGINEERING	PB-1
Año de publicación	2009	PB-1
Tipo de publicación	Journal Article	PB-2
Modelos de análisis de impacto	Analysis based on hypothesis formulation	PI-1
Objetivo del análisis	To understand how the pressure created by budget and schedule compression affects the actual cycle time and cost of software development	PI-2
Características de los modelos	Hypothesis were formulated in order to achieve some understanding on the effects caused by the declared variables	PI-2
Atributos analizados por los modelos	Budget, schedule	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	9	General
Fuente	SCOPUS	PB-1
Título	Structural analysis of the impact of knowledge creation and knowledge embedding on software process capability	PB-1
Autores	Ravichandran, T.a; Rai, A.b	PB-1
Publicación	IEEE Transactions on Engineering Management	PB-1
Año de publicación	2003	PB-1
Tipo de publicación	Journal Article	PB-2
Modelos de análisis de impacto	Direct-impact model, Mediated-impact model	PI-1
Objetivo del análisis	Examine the antecedents of software process capability.	PI-2
Características de los modelos	Direct-impact model points that both knowledge creation and knowledge embedding have a direct and positive effect on software process capability. Mediated-impact model suggests that knowledge embedding completely mediates the relationship between knowledge creation and process capability.	PI-2
Atributos analizados por los modelos	Knowledge creation and knowledge embedding.	PI-3
Dominio de aplicación	Software Engineering	-

Criterio	Detalle	Relevancia
Identificador	10	General
Fuente	SCOPUS	PB-1
Título	Supporting impact analysis and change propagation in software engineering environments	PB-1
Autores	Han, Jun	PB-1
Publicación	Software Technology and Engineering Practice	PB-1
Año de publicación	1997	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Change impact analysis	PI-1
Objetivo del análisis	Predict the system-wide impact of a change request before actually carrying out modifications to the system, so that appropriate decisions related to the change request can be made.	PI-2
Características de los modelos	Analysis starts with a set of initial modifications to some software artifacts and/or dependencies. Potential consequent modifications are identified. Whether a potential modification is required can be decided by the system or the user. The modification is regarded as a new initiating modification to identify further consequent modifications. The process continues until no further consequent modifications can be identified.	PI-2
Atributos analizados por los modelos	NSI	PI-3
Dominio de aplicación	Software Technology	-

Criterio	Detalle	Relevancia
Identificador	11	General
Fuente	SCOPUS	PB-1
Título	Agenda for research in the managerial evaluation of computer-aided software engineering (CASE) tool impacts	PB-1
Autores	Kemerer, Chris F.	PB-1
Publicación	Proceedings of the Twenty-Second Annual Hawaii International Conference on System Sciences	PB-1
Año de publicación	1989	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Formal experiments, Single site field studies, Multi site surveys	PI-1
Objetivo del análisis	To propose a series of research initiatives to address the shortfalls in the ability to evaluate CASE tools	PI-2
Características de los modelos	Data quality, data quantity, validity	PI-2
Atributos analizados por los modelos	Productivity, quality, work force, tool measurement	PI-3
Dominio de aplicación	Computer Science	-

Criterio	Detalle	Relevancia
Identificador	12	General
Fuente	SCIENCE DIRECT	PB-1
Título	Studying the impact of uncertainty in operational release planning – An integrated method and its initial evaluation	PB-1
Autores	Al-Emran, Ahmed; Kapur, Puneet; Pfahl, Dietmar; Ruhe, Guenther	PB-1
Publicación	Information and Software Technology	PB-1
Año de publicación	2010	PB-1
Tipo de publicación	Journal Article	PB-2
Modelos de análisis de impacto	Risk analysis framework ProSim/ORP (Operational release planning)	PI-1
Objetivo del análisis	To investigate uncertainty factors impact in software engineering	PI-2
Características de los modelos	Five step procedure that applies modeling, baseline construction, simulation and analysis of ORP	PI-2
Atributos analizados por los modelos	Effort, productivity, number of new features, developer availability	PI-3
Dominio de aplicación	Software Technology	-

Criterio	Detalle	Relevancia
Identificador	13	General
Fuente	IEEE	PB-1
Título	Analyzing the impacts of data quality and availability on system stability analysis using single machine equivalents	PB-1
Autores	Saunders, C. S.; Taylor, G. A.; Liu, Y.; Liu, J.	PB-1
Publicación	Power Engineering Conference (UPEC), 2014 49th International Universities	PB-1
Año de publicación	2014	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Single Machine equivalent modeling (SIME)	PI-1
Objetivo del análisis	To analyze the effects which errant or missing data may have on the stability analysis of a system during transient events	PI-2
Características de los modelos	NSI	PI-2
Atributos analizados por los modelos	Data quality, reliability	PI-3
Dominio de aplicación	Power Engineering	-

Criterio	Detalle	Relevancia
Identificador	14	General
Fuente	IEEE	PB-1
Título	Autonomous impact damage detection and isolation prediction for aerospace structures	PB-1
Autores	Roemer, M. J.; Ge, Jianhua; Liberson, A.; Tandon, G. P.; Kim, R. Y.	PB-1
Publicación	IEEE Aerospace Conference	PB-1
Año de publicación	2005	PB-1
Tipo de publicación	Conference Paper	PB-2
Modelos de análisis de impacto	Feature based and model based	PI-1
Objetivo del análisis	To present an impact damage identification and prognosis approach for aerospace structures	PI-2
Características de los modelos	Monitoring approach based on acceleration measurements analyzed using advanced signal processing	PI-2
Atributos analizados por los modelos	Velocity, frequency	PI-3
Dominio de aplicación	Aerospace engineering	-

Criterio	Detalle	Relevancia
Identificador	15	General
Fuente	EBSCO	PB-1
Título	An empirical study of the effect of file editing patterns on software quality.	PB-1
Autores	Feng, Zhang; Foutse, Khomh; Ying, Zou; Hassan, Ahmed E.	PB-1
Publicación	Working Conference on Reverse Engineering	PB-1
Año de publicación	2015	PB-1
Tipo de publicación	Journal Article	PB-2
Modelos de análisis de impacto	Analysis based on research questions	PI-1
Objetivo del análisis	To understand the impact of multiple file editing patterns on software quality	PI-2
Características de los modelos	NSI	PI-2
Atributos analizados por los modelos	Concurrent, parallel, extended, interrupted	PI-3
Dominio de aplicación	Reverse Engineering	-

Criterio	Detalle	Relevancia
Identificador	16	General
Fuente	EBSCO	PB-1

Criterio	Detalle	Relevancia
Título	Virtual communities as a resource for the development of OSS projects: the case of Linux ports to embedded processors.	PB-1
Autores	Toral, S. L.; Martínez-Torres, M. R.; Barrero, F. J.	PB-1
Publicación	BEHAVIOUR & INFORMATION TECHNOLOGY	PB-1
Año de publicación	2009	PB-1
Tipo de publicación	Journal Article	PB-2
Modelos de análisis de impacto	Analysis based on hypothesis formulation	PI-1
Objetivo del análisis	To analyze the activity of virtual communities	PI-2
Características de los modelos	NSI	PI-2
Atributos analizados por los modelos	Communities of practice, community structure, active developer, betweenness	PI-3
Dominio de aplicación	Information Technology	-

Criterio	Detalle	Relevancia
Identificador	17	General
Fuente	EBSCO	PB-1
Título	Who You Know vs. What You Know: The Impact of Social Position and Knowledge on Team Performance.	PB-1
Autores	Ashworth, Michael J.; Carey, Kathleen M.	PB-1
Publicación	Journal of Mathematical Sociology	PB-1
Año de publicación	2006	PB-1
Tipo de publicación	Journal Article	PB-2
Modelos de análisis de impacto	Analysis based on research questions	PI-1
Objetivo del análisis	To investigate the relative effect of social network theory and resource dependency theory as predictors of individuals' contributions to team performance	PI-2
Características de los modelos	Integration of theory has intuitive and empirical appeal	PI-2
Atributos analizados por los modelos	Reliability, acceptability, resource dependency, proximity	PI-3
Dominio de aplicación	Mathematics	-

