Appendix

Table 3. Search strings used by source

Source	A	B	C
IEEE Xplore Digital Library	*("All Metadata":"best practices" OR "All Metadata":"good practices") AND ("All Metadata":"software engineering" OR "All Metadata":"software development") AND ("All Metadata":"identification" OR "All Metadata":"detection")*	*("All Metadata":"best practices" OR "All Metadata":"good practices") AND ("All Metadata":"software engineering" OR "All Metadata":"software development") AND ("All Metadata":"classification" OR "All Metadata":"organization" OR "All Metadata":"categorization")*	*("All Metadata":"best practices" OR "All Metadata":"good practices") AND ("All Metadata":"software engineering" OR "All Metadata":"software development") AND ("All Metadata":"evaluation" OR "All Metadata":"assessment")*
ACM Digital Library	*[[Abstract: "best practices"] OR [Abstract: "good practices"]] AND [[All: "software engineering"] OR [All: "software development"]] AND [[All: "identification"] OR [All: "detection"]] AND [Publication Date: (01/01/1993 TO 03/31/2020)]*	*[[Abstract: "best practices"] OR [Abstract: "good practices"]] AND [[All: "software engineering"] OR [All: "software development"]] AND [[All: "classification"] OR [All: "organization"] OR [All: "categorization"]] AND [Publication Date: (01/01/1993 TO 03/31/2020)]*	*[[Abstract: "best practices"] OR [Abstract: "good practices"]] AND [[All: "software engineering"] OR [All: "software development"]] AND [[All: "evaluation"] OR [All: "assessment"]] AND [Publication Date: (01/01/1993 TO 03/31/2020)]*
Elsevier Science Direct	*("best practices" OR "good practices")AND("software engineering" OR "software development") AND ("identification" OR "detection")*	*("best practices" OR "good practices") AND ("software engineering" OR "software development") AND ("classification" OR "organization" OR "categorization")*	*("best practices" OR "good practices") AND ("software development" OR "software engineering") AND ("evaluation" OR "assessment")*
Springer Link	*("best practices" OR "good practices")AND("software engineering" OR "software development") AND ("identification" OR "detection")*	*("best practices" OR "good practices") AND ("software engineering" OR "software development") AND ("classification" OR "organization" OR "categorization")*	*("best practices" OR "good practices") AND ("software development" OR "software engineering") AND ("evaluation" OR "assessment")*

Table 7 & 8. Selection Phases by search string and source.

Source: IEEE		Initial Selection			Secondary Selection		Final Selection	
String	**Search Results**	**Eliminated**	**To be determined**	**Included**	**Eliminated**	**Included**	**Eliminated**	**Included**
A	56	39	10	7	49	7	52	4
B	138	93	35	10	123	15	132	6
C	136	114	19	3	126	10	132	4
Source: ACM		**Initial Selection**			**Secondary Selection**		**Final Selection**	
String	**Search Results**	**Eliminated**	**To be determined**	**Included**	**Eliminated**	**Included**	**Eliminated**	**Included**
A	212	191	21	0	204	8	211	1
B	417	377	33	7	404	13	414	3
C	111	94	16	1	109	2	111	0
Source: Elsevier		**Initial Selection**			**Secondary Selection**		**Final Selection**	
String	**Search Results**	**Eliminated**	**To be determined**	**Included**	**Eliminated**	**Included**	**Eliminated**	**Included**
A	370	344	25	1	366	4	368	2
B	604	568	35	1	598	6	604	0
C	16	11	5	0	14	2	15	1
Source: Springer Link		**Initial Selection**			**Secondary Selection**		**Final Selection**	
String	**Search Results**	**Eliminated**	**To be determined**	**Included**	**Eliminated**	**Included**	**Eliminated**	**Included**
A	723	665	58	0	721	2	723	0
B	384	367	17	0	383	1	384	0
C	173	158	15	0	173	0	173	0

Table 9. Included studies by date, title, source and type of publication (DOI included).

ID	Year	Title	Source	Type	DOI
S01	1993	"The Motorola software engineering benchmark program: Organization, directions, and results."	IEEE Xplore.	Conf.	https://doi.org/10.1109/cmpsac.1993.404181
S02	2000	"Software engineering best practices applied to the modeling process"	IEEE Xplore (SB from [16]).	Conf.	https://doi.org/10.1109/wsc.2000.899749
S03	2003	"Industrial strength software and quality: Software and engineering at Siemens."	IEEE Xplore.	Conf.	https://doi.org/10.1109/qsic.2003.1319117
S04	2003	"Précis of best practices for Pakistan's software industry"	IEEE Xplore.	Conf.	https://doi.org/10.1109/inmic.2003.1416769
S05	2003	"The best practice promise and myth"	Journal of Object Technology (SB from [24]).	Journal.	https://doi.org/10.5381/jot.2003.2.4.c5
S06	2005	"An empirical approach to best practice identification and selection: The US Department of Defense acquisition best practices clearinghouse."	IEEE Xplore.	Conf.	https://doi.org/10.1109/isese.2005.1541822
S07	2005	"Best practice: Is this the Cinderella area of software engineering?"	IEEE Xplore.	Conf.	-
S08	2007	"An infrastructure for indexing and organizing best practices"	IEEE Xplore.	Conf.	https://doi.org/10.1109/rebse.2007.2
S09	2009	"Bridge methods: Using a balanced project practice portfolio to integrate agile and formal process methodologies."	IEEE Xplore.	Conf.	https://doi.org/10.1109/hicss.2009.94
S10	2009	"Identifying best practices for a software development organization through knowledge management."	IEEE Xplore.	Conf.	-
S11	2010	"Approach to identify internal best practices in a software organization."	Springer Link (SB from [22]).	Conf.	https://doi.org/10.1007/978-3-642-15666-3_10
S12	2010	"Best practices for technical aspects of software testing in enterprises"	IEEE Xplore.	Conf.	https://doi.org/10.1109/i-society16502.2010.6018823

S13	2010	"Is agility out there? Agile practices in game development."	ACM DL.	Conf.	https://doi.org/10.1145/1878450.1878453
S14	2012	"Evaluation of software engineering management best practices in the Western Cape."	IEEE Xplore.	Conf.	https://doi.org/10.1109/se.2012.6242352
S15	2013	"On the identification of best practices for improving the efficiency or testing activities in distributed software projects."	IEEE Xplore.	Conf.	https://doi.org/10.1109/icgsew.2013.r
S16	2014	"Knowledge extraction tacit for software process improvement in a governmental organization."	IEEE Xplore.	Conf.	https://doi.org/10.1109/cisti.2014.6877004
S17	2014	"Theorizing about software development practices."	Elsevier SD.	Journal.	https://doi.org/10.1016/j.scico.2014.11.012
S18	2015	"Analyzing best practices on web development frameworks: The lift approach."	Elsevier SD.	Journal	https://doi.org/10.1016/j.scico.2014.12.004
S19	2015	"Applying a template for best practice Documentation."	Elsevier SD.	Conf.	https://doi.org/10.1016/j.procs.2015.12.138
S20	2015	"Detection strategies of smells in web software development."	IEEE Xplore.	Conf.	https://doi.org/10.1109/icsm.2015.7332522
S21	2016	"What went right and what went wrong: An analysis of 155 postmortems from game development."	ACM DL.	Conf.	https://doi.org/10.1145/2889160.2889253
S22	2018	"Assessing the integration of software agents and industrial automation systems with ISO/IEC 25010."	IEEE Xplore.	Conf.	https://doi.org/10.1109/indin.2018.8471951
S23	2018	"Digitalization of Swedish government agencies: A perspective through the lens of a software development census."	ACM DL.	Conf.	https://doi.org/10.1145/3183428.3183434
S24	2019	"Industry best practices for open source governance and component reuse."	ACM DL.	Conf.	https://doi.org/10.1145/3361149.3361170

Table 14. Quality assessment score by study.

PS ID	QAQ1	QAQ2	QAQ3	QAQ4	QAQ5	QAQ6	Total
S-01	0.5	1	0.5	1	1	1	5
S-02	1	0	0.5	1	1	1	4.5
S-03	1	1	1	1	1	1	6
S-04	0.5	0.5	0.5	0.5	0.5	0	2.5
S-05	1	0	1	1	0.5	1	4.5
S -06	1	1	1	1	0.5	1	5.5
S-07	1	1	1	1	1	1	6
S-08	1	1	1	1	0.5	1	5.5
S-09	1	1	1	1	0.5	0	4.5
S-10	1	1	1	1	0	0	4
S-11	1	1	1	1	0.5	1	5.5
S-12	1	1	1	1	0.5	0	4.5
S-13	1	0.5	1	1	0.5	1	5
S-14	1	0.5	1	1	0	0	3.5
S-15	0.5	1	1	1	0.5	1	5
S-16	0.5	1	1	1	1	0	4.5
S-17	1	1	1	1	1	1	6
S-18	1	1	1	1	0.5	1	5.5
S-19	1	1	1	1	0.5	1	5.5
S-20	1	1	1	1	0.5	1	5.5
S-21	1	1	1	1	0.5	1	5.5
S-22	1	1	1	1	0.5	1	5.5
S-23	1	1	1	1	0.5	1	5.5
BP-24	1	1	1	1	0.5	0	4.5

Data extraction forms.

S01

Search Type: Automated Search

Title:	"The Motorola software engineering benchmark program: Organization, directions, and results."
Author(s):	Fritsch, J.
Year:	1993
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"Eighteen best practices identified through the benchmarking process, are listed below.(…)"p-286
	"Best practices were determined by Motorola team members based on evidence presented by benchmarked companies, and their testimony of the value in terms of improved quality, cycle time, productivity and cost effectiveness." p.287

Answers:	RQ1		RQ2	■	RQ3	■	RQ4	

S02

Search Type: Snowballing

Title:	"Software engineering best practices applied to the modeling process"
Author(s):	Withers, D.H.
Year:	2000
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"In this context a Best Practice is defined as a management or technical practice that has consistently demonstrated to improve one or more of: Productivity, Cost, Schedule, Quality, User Satisfaction, Predictability of Cost and Schedule (McGrath 1998)"p.433

Answers:	RQ1	■	RQ2		RQ3		RQ4	

S03

Search Type: Automated Search

Title:	"Industrial strength software and quality: Software and engineering at Siemens."
Author(s):	Achatz, R. & Paulisch, F.
Year:	2003
Source:	IEEE Xplore Digital Library

Pub. Type:	Conference.
Data:	"These "best practices" are conveyed in various forms (e.g. internal conferences, workshops, publications, high-level strategic meetings, intranet etc.) and are tailored as necessary to address the various interests(…)"p.4

Answers:	RQ1		RQ2		RQ3	■	RQ4	

S04

Search Type: Automated Search

Title:	"Précis of best practices for Pakistan's software industry"
Author(s):	Lodhi, F., Tariq, A., Naveed, S., et al.
Year:	2003
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference.
Data:	"**A** practice that is beneficial in all or most **of** the projects is considered to be a best practice"p.451 Classification of Best practices.

Answers:	RQ1	■	RQ2	■	RQ3		RQ4	

S05

Search Type: Snowballing

Title:	"The best practice promise and myth"
Author(s):	Dodani, Mahesh H.
Year:	2003
Source:	Journal of Object Technology
Pub. Type:	Journal
Data:	"A proven practice in the given context. In OO software engineering a best practice can be a coding practice, a design pattern, a reference architecture, or a business pattern."p.1 "Among the proven practices, it is the best at achieving some result.(…)"p.1 "It is well documented, used widely by the community, and continually evolving."p.1

Answers:	RQ1	■	RQ2		RQ3		RQ4	

S06

Search Type: Automated Search

Title:	"An empirical approach to best practice identification and selection: The US Department of Defense acquisition best practices clearinghouse."
Author(s):	Shulle, F. & Turner, R.

Year:	2005
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"A practice is a repeatable activity, defined in such a way that someone other than the definer can implement it with demonstrable repeatability"p.134
	"Evidence of practice effectiveness is comprised of a practice, a context and a discernible result."p.134
	"Candidates for best practices to be included in the repository (i.e. leads) can be submitted as ideas from users in the form of suggestions (…)"p.135

Answers: RQ1 ■ RQ2 □ RQ3 ■ RQ4 □

S07

Search Type: Automated Search

Title:	"Best practice: Is this the Cinderella area of software engineering?"
Author(s):	Thompson, J. Barrie & A. Fox
Year:	2005
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"Best Practice and Proven Methodologies. This area is seen as really problematic. There are issues such as: How to test for "best practice"? How to enforce each member society's documentation of Best Practice and Proven Methodologies? Should it build upon existing standards?"p.3
	"After reviewing the information gathered from both literature and questionnaires it became apparent that there was a lack of guidelines on how to approach and execute a software project (…)"p.4

Answers: RQ1 □ RQ2 □ RQ3 ■ RQ4 □

S08

Search Type: Automated Search

Title:	"An infrastructure for indexing and organizing best practices"
Author(s):	Zhu, L., Staples, M. & Gorton, I.
Year:	2007
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"Best practices are usually described in a way that can make them relevant to multiple organisations (…)"p.1

"In this paper, we propose an approach for automatically indexing and organizing best practices. The central repository acts as an information overlay on top of existing repositories." p.1

"A repository for best practices is a form of experience repositories. There are different types of experience repositories." p.2

Answers:	RQ1		RQ2	■	RQ3	■	RQ4	

S09

Search Type: Automated Search

Title:	"Bridge methods: Using a balanced project practice portfolio to integrate agile and formal process methodologies."
Author(s):	Cohen, S.J. & Money, W.H.
Year:	2009
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference.
Data:	"Practices are postulated to have attributes that make them more or less effective under varying project conditions"p.1
	"The Bridge methodology seeks to empirically combine practices to match the project context, and further to specify more concisely when a practice might be more or less useful"p.2
	"This is accomplished by creating classes of practices which group practices by their weighted risk and reward ratio for each phase of the SDLC"p.3-4

Answers:	RQ1		RQ2		RQ3		RQ4	■

S10

Search Type: Automated Search

Title:	"Identifying best practices for a software development organization through knowledge management."
Author(s):	Calvo-Manzano, J.A., Cuevas, G., Muñoz, M., et al.
Year:	2009
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference.
Data:	"Una mejor práctica puede ser una práctica técnica o de gestión que ha demostrado una mejor sobre uno o más aspectos (…)"p.1
	"Este trabajo (…) parte del supuesto que identificar las mejores prácticas de la organización permitirá minimizar la resistencia al cambio(…)"p.3
	This article provides a two-step method to identify best practices in an organization.

Answers:	RQ1	■	RQ2		RQ3	■	RQ4	

S11

Title:	"Approach to identify internal best practices in a software organization."
Author(s):	Calvo-Manzano, J.A., Cuevas, G., Mejía, J., et al.
Year:	2010
Source:	Springer Link
Pub. Type:	Conference
Data:	This paper presents and validates the same method as S10. However this one provides a new case study and different discussion.

Answers: | RQ1 | | RQ2 | | RQ3 | ■ | RQ4 | |

S12

Title:	"Best practices for technical aspects of software testing in enterprises"
Author(s):	Majchrzak, T.A.
Year:	2010
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"We undertook a project with regional enterprises and tried to learn what makes software development projects successful"p.195
	"Best practices can hardly be found with a simple questionnaire. Thus, we conducted semi-structured expert interviews" p.196
	"By finding interdependencies as well as aligning and judging best practices identified by the participants, we extracted recommendations."196

Answers: | RQ1 | | RQ2 | | RQ3 | ■ | RQ4 | |

S13

Title:	"Is agility out there? Agile practices in game development."
Author(s):	Petrillo, F. & Pimenta, M.
Year:	2010
Source:	AMC Digital Library
Pub. Type:	Conference
Data:	"The games industry can benefit tremendously by acquiring knowledge of software engineering, allowing developers to use good and proven practices."p.1

"However, are these practices also found in game development? Which practices are most prominent? How often these practices are found in game projects? (...)"p.9

"The Postmortems Analysis (PMA) is a technique borrowed from Empirical Software Engineering."p.10

Answers:	RQ1		RQ2		RQ3	■	RQ4	

S14

Search Type: Automated Search

Title:	"Evaluation of software engineering management best practices in the Western Cape."
Author(s):	Tighy, G.
Year:	2012
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	" ". . . a best practice is a well-defined method that contributes to a successful step in product development" [7]; or ·". . . a method or technique that [has] consistently shown results superior to those achieved with other means. . . " [8]." p.1
	"The Cater-Steel questionnaire was modified with respect to language usage and South African conditions."p.2

Answers:	RQ1	■	RQ2		RQ3	■	RQ4	

S15

Search Type: Automated Search

Title:	"On the identification of best practices for improving the efficiency or testing activities in distributed software projects."
Author(s):	Camacho, C., Marczak, S. & Conte, T.
Year:	2013
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference.
Data:	"We sought to empirically explore what are the challenges faced by test teams working in distributed settings and what are the best practices they adopt (...)" p.1
	"Our empirical study consisted of a series of interviews conducted both on-site and remotely over the phone."p.2
	"This paper presents preliminary results of an empirical study aiming to investigate the challenges faced and best practices adopted by testing teams."p.4

Answers:	RQ1		RQ2		RQ3	■	RQ4	

S16

Title:	"Knowledge extraction tacit for software process improvement in a governmental organization."
Author(s):	Mejía, J., Muñoz, M., Rojo, G., et al.
Year:	2014
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference.
Data:	This paper presents and validates the same method as S10 and S11. However this one provides a new case study and some slight variations to the method.

Answers: | RQ1 | | RQ2 | | RQ3 | ■ | RQ4 | |

S17

Title:	"Theorizing about software development practices."
Author(s):	Päivärinta, T., & Smolander, K.
Year:	2014
Source:	Elsevier S.D.
Pub. Type:	Journal
Data:	"A practice means a more and less organized situated activity that is conducted recurrently by human agents or, as Bordieu defines them, practices are "the recognizable patterned actions in which both individuals and groups engage. They are not a mechanical reaction to rules, norms or models, but a strategic, yet regulated improvisation responding to the dialectical relationship between a specific situation in a field and habitus"(…)" [27, p.125]

Answers: | RQ1 | ■ | RQ2 | | RQ3 | | RQ4 | |

S18

Title:	"Analyzing best practices on web development frameworks: The lift approach."
Author(s):	Salas-Zárate, M., Alor-Hernández, R., Valencia-García, R. et al.
Year:	2015
Source:	Elsevier Science Direct
Pub. Type:	Journal
Data:	"A best practice is a process, technique, innovative use of technology, or a set of resources with a proven record of success in providing significant improvements in cost, schedule,

quality, performance, safety, environment, or other measurable factors that impact on an organization"p.1

"A best practice is the best way to achieve an outcome. It is well documented, used widely by the community, and continually evolving"p.4

"The main purpose of this paper is to gather and present a list of the most relevant engineering practices that exist in the development community today"p.4

Answers:	RQ1	■	RQ2	■	RQ3		RQ4	

S19

Search Type: Automated Search

Title:	"Applying a template for best practice Documentation."
Author(s):	Alwazae, M., Perjons, E., & Johannesson, P.
Year:	2015
Source:	Elsevier S.D.
Pub. Type:	Conference.
Data:	"A BP can be defined as "the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people" (…)" [29. p.253]
	"Table 1. The final BPDT" [29, p.255]

Answers:	RQ1	■	RQ2	■	RQ3		RQ4	■

S20

Search Type: Automated Search

Title:	"Detection strategies of smells in web software development."
Author(s):	F. Aniche, M.
Year:	2015
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference.
Data:	"RQ. How can we automatically detect the existence of these good and bad practices in web applications?"p.598
	"Best practices tend to emerge from the community. Therefore, the goal of this questionnaire is to find out which best practices are popular among practicioners"p.599

Answers:	RQ1		RQ2		RQ3	■	RQ4	

S21

	Search Type: Automated Search

Title:	"What went right and what went wrong: An analysis of 155 postmortems from game development."
Author(s):	Washburn, M., Sathiyanarayanan, P., Nagappan, M. et al.
Year:	2016
Source:	AMC Digital Library
Pub. Type:	Conference
Data:	"Successes and best practices embody knowledge that can aid future game development e orts and in some cases may generalize to or can be adapted for software development in non-game contexts. "p.280
	"(…)we qualitatively and quantitatively analyze 155 retrospective postmortems published on Gamasutra.com over 16 years."p.280
	"We find that we were able to identify both best practices and pitfalls in game development using the information present in the postmortems."p.289

Answers:	RQ1		RQ2		RQ3	■	RQ4	

S22

	Search Type: Automated Search

Title:	"Assessing the integration of software agents and industrial automation systems with ISO/IEC 25010."
Author(s):	Karnouskos, S., Sinha, R., Leitao, P., et al.
Year:	2018
Source:	IEEE Xplore Digital Library
Pub. Type:	Conference
Data:	"The main steps involved in the proposed methodology for assessing or choosing an appropriate practice(…)"p.62
	"The proposed methodology can be used in several ways – for ranking a set of available practices based on the quality requirements for a project, for identifying the best-fit practice for the project, and to assess and finetune an already operationalized practice."p.66

Answers:	RQ1		RQ2	■	RQ3	■	RQ4	

S23

Title:	"Digitalization of Swedish government agencies: A perspective through the lens of a software development census."
Author(s):	Borg, M., Olsson, T., Franke, U. & Assar, S.
Year:	2018
Source:	AMC Digital Library
Pub. Type:	Conference
Data:	"RQ3. Are common software engineering best practices used?"p.38
	"We conducted a census of software development at Swedish GovAgs, i.e., an inquiry to gather information about every individual in a population"p.39
	"We complemented our census with a questionnaire-based survey of the 93 GovAgs that confirmed software development"p.39
Answers:	RQ1 ☐ RQ2 ☐ RQ3 ■ RQ4 ☐

S24

Title:	"Industry best practices for open source governance and component reuse."
Author(s):	Harutyunyan, N. & Riehle, D.
Year:	2019
Source:	AMC Digital Library
Pub. Type:	Conference
Data:	"The research method we employed is a qualitative survey [13]. Our paper presents an interview-based qualitative survey exploring the open source governance introduction experiences of 15 software development companies"p.2
	"The contribution of our paper is a theory of industry best practices for component reuse and component repository"p.2
	"The resulting best practices and process templates form a practical handbook for FLOSS governance and component reuse"p.2
Answers:	RQ1 ☐ RQ2 ■ RQ3 ■ RQ4 ☐