Identifier	Author	Title	Abstract Keywords Access	ible English Short/Full Paper Peer-Reviewed Secondary Literatu Semantic Duplicate R1	R2 R3 R4 inclu	ide Comments Year	DOI Journal Booktitle
Acher2014a	Abbas, N.; Andersson, J. Abilio, Ramon; Padilha, Juliana; Figueiredo, Eduardo; Costa, Heitor Acher, M.; Lopez-Herrejon, R. E.; Rabiser, R.	Architectural reasoning support for product-lines of self-adaptive software systems - A case study Detecting Code Smells in Software Product Lines - An Exploratory Study A survey on teaching of software product lines	Software architecture serves as a foundation for the design and development of software systems. Desiç Computer software; Qualil {Code smells are symptoms that something is wrong in the source code. They have been catalogued ¿ {Software Product Lines; (With around two decades of existence, the community of Software Product Line (SPL) researchers and Industrial projects; Researchers and Industrial pro	No N	No N	20 20	 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE ARCHITECTURE (ECSA 2015)} https://doi.org/10 Proceedings - 12th International Conference on Information Technology: New Generati {2015 12TH INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY - N https://doi.org/10 ACM International Conference Proceeding Series
Ahmed2008a Ahmed2008c	Afzal, U.; Mahmood, T.; Shaikh, Z. Ahmed, Faheem; Capretz, Luiz Femando; Jaffar, Ahmad Ahmed, Z.; Asghar, S.	Intelligent software product line configurations: A literature review The Business of Software Product Family: An Empirical Survey A framework for mapping an ERP to a software product line	A software product line (SPL) is a set of industrial software-intensive systems for configuring similar soft Artificial intelligence; Com {The software product family approach aims at curtailing the concept of ``reinventing the wheel{"} in sc DP industry; software deve During the last two decades, software reuse has been the most widely researched area. Software Produ Enterprise resource plann	Yes No No No No	Yes Yes Yes Yes Yes No	20 20	6 https://doi.org/10 Computer Standards and Interfaces 8 https://doi.org/10 Proceedings of the International Conference on Computer Science and Information Tec {PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON COMPUTER SCIEN International Conference on Enterprise Information Systems and Web Technologies 2008, EISWT 2008 10
	Ahmed, Faheem; Bouktif, Salah; Capretz, Luiz Fernando Ahn, Hwi; Kang, Sungwon; Lee, Jihyun Aiello, M.; Bulanov, P.; Groefsema, H.	Organizational Behavior \& Software Product Line Engineering: An Empirical Study A Case Study Comparison of Variability Representation Mechanisms with the HeRA Product Line A survey of variability management requirements	{Software product line engineering is an interdisciplinary concept. It spans over the dimensions of busi organisational aspects;prc {Software product line engineering (SPLE) is a software development approach that attempts to maxin {software product line eng no abstract available	No N	No No No No No No No No No	20 20	https://doi.org/10 2009 IEEE/ACS International Conference on Computer Systems and Applications, AIC {2009 IEEE/ACS INTERNATIONAL CONFERENCE ON COMPUTER SYSTEMS AND https://doi.org/10 Proceedings - 16th IEEE International Conference on Computational Science and Engi {2013 IEEE 16TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL SCIENCE https://www.win.t CEUR Workshop Proceedings
	Aleixo, F. A.; Freire, M.; Alencar, D.; Campos, E.; Kulesza, U. Aleixo, F. A.; Kulesza, U.; Oliveira, E. A. Aleksić, D. S.; Janković, D. S.; Stoimenov, L. V.	A Comparative Study of Compositional and Annotative Modelling Approaches for Software Process Lines Modeling variabilities from software process lines with compositional and annotative techniques: A quantitative study A case study on the object-oriented framework for modeling product families with the dominant variation of the topology in the one-of-a-kind production	This paper presents a comparative study of compositional and annotative modeling approaches for softv software process improve A software process line (SPrL) represents a set of software process that share a common base of roles, Common-base; Comparat Traditional configuration-based product family modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling techniques do not yield favorable solutions for m Mass customization; Modeling	V V V V V V V V V V V V No No	uncertainNoNoNoNoNoYesNoNoNoNoNo	20 20	 https://doi.org/10 Proceedings - 2012 Brazilian Symposium on Software Engineering, SBES 2012 2012 26th Brazilian Symposium on Software Engineering https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {PRODUCT-FOCUSED SOFTWARE PROCESS IMPROVEMENT} https://doi.org/10 International Journal of Advanced Manufacturing Technology
	Alferez, G. H.; Pelechano, V. Ali, Muhammad Sarmad; Babar, Muhammad Ali; Schmid, Klaus Ali, Shaukat; Yue, Tao; Briand, Lionel; Walawege, Suneth	Systematic Reuse of Web Services through Software Product Line Engineering A Comparative Survey of Economic Models for Software Product Lines A Product Line Modeling and Configuration Methodology to Support Model-Based Testing: An Industrial Case Study	In SOA, reusability logic is divided into services to support reuse. However, SOA lacks support for syster service-oriented architectu {Software product line engineering aims at achieving systematic reuse by exploiting commonalities am {software product lines; ec Product Line Engineering (PLE) is expected to enhance quality and productivity, speed up time-to-marke behavioral variability, aspe	V V V V V V V V No No	NoNoNoNoYesNoNoNoNoNoNo	20	https://doi.org/10 Proceedings - 9th IEEE European Conference on Web Services, ECOWS 2011 2011 IEEE Ninth European Conference on Web Services Conference Proceedings of the EUROMICRO (2009 35TH EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING AND AD) https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel Proceedings of the 15th International Conference on Model Driven Engineering Language
Alvessandimeleuterio2016a	Alves, V.; Niu, N.; Alves, C.; Valença, G. Alves Sandim Eleuterio, Jane Dirce; Gaia, Felipe Nunes; Bondavalli, Andrea; Lollini, Paolo; Rodrigue Anda, Bente C. D.; Sjoberg, Dag I. K.; Mockus, Audris	Requirements engineering for software product lines: A systematic literature review es, On the Dependability for Dynamic Software Product Lines A Comparative Systematic Mapping Study Variability and Reproducibility in Software Engineering: A Study of Four Companies that Developed the Same System	Context: Software product line engineering (SPLE) is a growing area showing promising results in resea Computer software; Requisional Regional Regi	Yes Yes You will be a second of the second o	Yes Yes Yes Yes Yes Yes Yes Yes No No No No	20	 https://doi.org/10 Information and Software Technology https://doi.org/10 Proceedings - 42nd Euromicro Conference on Software Engineering and Advanced Ap {2016 42ND EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING AND AD https://doi.org/10 {IEEE TRANSACTIONS ON SOFTWARE ENGINEERING}
Apel2013a	Apel, S.; Beyer, D. Apel, S.; von Rhein, A.; Wendler, P.; Größlinger, A.; Beyer, D. Ardimento, P.; Boffoli, N.; Superbo, G.	Feature cohesion in software product lines: an exploratory study Strategies for product-line verification: Case studies and experiments Multi software product lines: A systematic mapping study	Software product lines gain momentum in research and industry. Many product-line approaches use feat pattern clustering;software Product-line technology is increasingly used in mission-critical and safety-critical applications. Hence, re: C language;Java;product Even if Software Product Line (SPL) is an established technique in software engineering, there are seve Mapping; Software design	No N	NoNoNoNoNoNoNoYesYesYesYes	20	https://doi.org/10 Proceedings - International Conference on Software Engineering 2011 33rd International Conference on Software Engineering (ICSE) https://doi.org/10 Proceedings - International Conference on Software Engineering 2013 35th International Conference on Software Engineering (ICSE) https://doi.org/10 ENASE 2020 - Proceedings of the 15th International Conference on Evaluation of Novel Approaches to Software Engineering
Ardis2000a Arkin2016a	Ardis, M.; Daley, N.; Hoffman, D.; Siy, H.; Weiss, D. Arkin, E.; Tekinerdogan, B. Asadi, Mohsen; Bagheri, Ebrahim; Mohabbati, Bardia; Ga\v{s}evi\'{c}, Dragan	Software product lines: A case study Model-driven product line engineering for mapping parallel algorithms to parallel computing platforms Requirements Engineering in Feature Oriented Software Product Lines: An Initial Analytical Study	A software product line is a family of products that share common features to meet the needs of a marke Computer architecture; Computing parallel algorithms to parallel computing platforms requires several activities such as the analyst parallel algorithms; program Requirements engineering is recognized as a critical stage in software development lifecycle. Given the evaluation criteria, require	No N	No Yes No	20 20	https://doi.org/10 Software - Practice and Experience https://doi.org/10 MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driv 2016 4th International Conference on Model-Driven Engineering and Software Develop https://doi.org/10 MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Develop https://doi.org/10 MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Develop https://doi.org/10 MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Develop https://doi.org/10 MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Develop
Assuncao2014a Assuncao2017a	Assun\c{c}\ {a}o, Wesley Klewerton Guez; Vergilio, Silvia Regina Assunção, W. K. G.; Lopez-Herrejon, R. E.; Linsbauer, L.; Vergilio, S. R.; Egyed, A. Avitabile, Peter; Hunnell, J. M.; Frank, A.; DeVlaminck, J.	Feature Location for Software Product Line Migration: A Mapping Study Reengineering legacy applications into software product lines: a systematic mapping Study of different analytical model configurations to account for manufacturing variability using model correlation tools	Developing software from scratch is a high cost and error-prone activity. A possible solution to reduce tin reengineering, reuse, evol Software Product Lines (SPLs) are families of systems that share common assets allowing a disciplined Application programs; Cor Dynamic analysis of commercial appliances using finite element models for noise and vibration issues is Correlation methods; Dom	Yes Yes You	Yes Yes No Yes Yes Yes Yes Yes No No No No No	20	4 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 18th International Software Product Line Conference: Companion \ This://doi.org/10 Empirical Software Engineering Proceedings of SPIE - The International Society for Optical Engineering {IMAC-XVIII: A CONFERENCE ON STRUCTURAL DYNAMICS, VOLS 1 AND 2, PROCEEDING ACM International Software Product Line Conference: Companion \ This://doi.org/10 Empirical Software Engineering Proceedings of the 18th International Software Product Line Conference: Companion \ This://doi.org/10 Empirical Software Engineering Proceedings of SPIE - The International Society for Optical Engineering
Axelsson2009a Ayora2015a	Axelsson, Jakob Ayora, C.; Torres, V.; Weber, B.; Reichert, M.; Pelechano, V. Azzolini, R. P.; Rubira, C. M. F.; Tizzei, L. P.; Gaia, F. N.; Montecchi, L.	Evolutionary Architecting of Embedded Automotive Product Lines: An Industrial Case Study VIVACE: A framework for the systematic evaluation of variability support in process-aware information systems Evolving a software products line for e-commerce systems: A case study	{In the automotive industry, embedded systems and software play an increasingly important role in def automobile industry; produ Context: The increasing adoption of process-aware information systems (PAISs) such as workflow mana Enterprise resource mana Software Product Lines engineering is a technique that ex-plores systematic reuse of software artifacts in Application programs; Cor	No No Yes	No No No No Yes Yes Yes No No	Yes 20	https://doi.org/10 2009 Joint Working IEEE/IFIP Conference on Software Architecture and European Cor {2009 JOINT WORKING IEEE/IFIP CONFERENCE ON SOFTWARE ARCHITECTURE https://doi.org/10 Information and Software Technology https://doi.org/10 ACM International Conference Proceeding Series
Bakar2015a Bale2017b	Bakar, N. H.; Kasirun, Z. M.; Salleh, N. Bale, S. J.; Campos, P. B.; Trefzer, M. A.; Walker, J. A.; Tyrrell, A. M.	Feature extraction approaches from natural language requirements for reuse in software product lines: A systematic literature review An evolutionary approach to runtime variability mapping and mitigation on a multi-reconfigurable architecture	Abstract Requirements for implemented system can be extracted and reused for a production of a new s Automation; Computation; Intrinsic device variability has become a significant problem in deep sub-micron technology nodes. The s evolutionary computation;	Yes No	Yes Yes Yes Yes No No No No	20 20	 https://doi.org/10 Journal of Systems and Software https://doi.org/10 Proceedings of the 2017 Design, Automation and Test in Europe, DATE 2017 Design, Automation Test in Europe Conference Exhibition (DATE), 2017
Bastos2011a Batory2002a	Barros, F. J. Bastos, J. F.; da Mota Silveira Neto, P. A.; de Almeida, E. S.; de Lemos Meira, S. R. Batory, D.; Johnson, C.; Macdonald, B.; Von Heeder, D.	On the representation of product lines using pluggable software units: Results from an exploratory study Adopting software product lines: a systematic mapping study Achieving extensibility through product-lines and domain-specific languages: A case study	The effective development of software product lines (SPLs) requires the ability to create a large variety c Basic building block; Explc Context: The benefits of taking a product line approach in order to achieve significant reductions in cost a Capability Maturity Model; This is a case study in the use of product-line architectures (PLAs) and domain-specific languages (DSL Aspects; Domain-specific	No N	No N	No - not accessable 20	3 http://toc.proceec Simulation Series {SYMPOSIUM ON THEORY OF MODELING \& SIMULATION - DEVS INTEGRATIVE 15th Annual Conference on Evaluation Assessment in Software Engineering (EASE 20 2 https://doi.org/10 ACM Transactions on Software Engineering and Methodology
Baumgart2016a Becker2018a	Batory, D.; Börger, E. Baumgart, Stephan; Froberg, Joakim Becker, Martin; Zhang, Bo	Modularizing theorems for software product lines: The jbook case study Functional Safety in Product Lines - A Systematic Mapping Study How Do Our Neighbours Do Product Line Engineering? A Comparison of Hardware and Software Product Line Engineering Approaches from an Industrial Perspective	A gvvoal of software product lines is the economical assembly of programs in a family of programs. In th {ASM; features; compositi {Software product line engineering is a widely used approach to plan and manage reuse of software. V {Functional Safety; Product Product line engineering (PLE) approaches have been followed in industry for hardware and software sc SPLC, academia, industry	V V V V V V V V V V No	No No No No No Yes Yes uncertain Yes No No No No	20 20	https://doi.org/10 Journal of Universal Computer Science https://doi.org/10 Proceedings - 42nd Euromicro Conference on Software Engineering and Advanced Ap {2016 42ND EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING AND AD Proceedings of the 22nd International Systems and Software Product Line Conference
Bellorini2015a	Beckmann, G.; Gebhardt, N.; Krause, D. Bellorini, Edmar; Oyamada, Marcio S.; Hexsel, Roberto A.; Giron, Alexandre A.; Gimenes, Itana M. S. Benduhn, F.; Thüm, T.; Lochau, M.; Leich, T.; Saake, G.	Transfer of methods for developing modular product families into practice - An interview study S. Case study of product line approach to provide embedded and desktop-based applications A survey on modeling techniques for formal behavioral verification of software product lines	Many methods for developing modular product families exist in academia, but are rarely transferred into product families, method t {The development of embedded systems requires methodologies to enable the integration of different {Embedded systems; Proc As software product lines are increasingly used for safety-critical systems, researchers have adapted for Computer software; Formatical systems and systems are increasingly used for safety-critical systems.	No No No No No Yes	NoNoNoNoNoNouncertainNoYes	20	 https://www.desic Proceedings of International Design Conference, DESIGN https://doi.org/10 Proceedings - 2015 Brazilian Symposium on Computing Systems Engineering, SBESC {2015 BRAZILIAN SYMPOSIUM ON COMPUTING SYSTEMS ENGINEERING (SBESIDE) https://doi.org/10 ACM International Conference Proceeding Series
Benni2020a	Benlachgar, Anir; Belouadha, Fatima-Zahra Benni, Benjamin; Mosser, S\'{e}bastien; Caissy, Jean-Philippe; Gu\'{e}h\'{e}neuc, Yann-Ga\{e}I" Berger, T.; She, S.; Lotufo, R.; Czarnecki, K.; Wąsowski, A.	Review of Software Product Line Models Used to Model Cloud applications Can Microservice-Based Online-Retailers Be Used as an SPL? A Study of Six Reference Architectures Feature-to-code mapping in two large product lines	{The Cloud computing presents advantages of reutilization, multi usage and resources sharing, and es {cloud computing; SaaS; s Microservices are deployable software artifacts that combine a set of business features and expose ther microservice architecture, Large software product lines have complex build systems that enable compiling the source code into diff Product-lines; Software Pr	Yes Yes No No No	Yes No Yes Yes uncertain No No No No No	20.	https://doi.org/10 Proceedings of IEEE/ACS International Conference on Computer Systems and Applica {2013 ACS INTERNATIONAL CONFERENCE ON COMPUTER SYSTEMS AND APPL Proceedings of the 24th ACM Conference on Systems and Software Product Line: Volu https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE PRODUCT LINES: GOING BEYOND}
Berger2013b	Berger, Thorsten; She, Steven; Lotufo, Rafael; Wasowski, Andrzej; Czarnecki, Krzysztof Berger, T.; Rublack, R.; Nair, D.; Atlee, J. M.; Becker, M.; Czarnecki, K.; Wąsowski, A. Berger, Thorsten and Lettner, Daniela and Rubin, Julia and Gr\"{u}nbacher, Paul and Silva, Adeline a	A Study of Variability Models and Languages in the Systems Software Domain A survey of variability modeling in industrial practice and What is a Feature? A Qualitative Study of Features in Industrial Software Product Lines	{Variability models represent the common and variable features of products in a product line. Since the {Empirical software engine Over more than two decades, numerous variability modeling techniques have been introduced in acader Actual use; Application so The notion of features is commonly used to describe the functional and non-functional characteristics of Computer software; Softw	No No No No No	NoNoYesNoNoNoYesNoNoNoNoNo	20	 https://doi.org/10 {IEEE TRANSACTIONS ON SOFTWARE ENGINEERING} https://doi.org/10 ACM International Conference Proceeding Series https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 19th International Conference on Software Product Line
Bhardwaj2021a	Berger, T.; Steghöfer, JP.; Ziadi, T.; Robin, J.; Martinez, J. Bhardwaj, C.; Vyas, G.; Sharma, A.; Pareek, A. Bhushan, M.; Negi, A.; Samant, P.; Goel, S.; Kumar, A.	The state of adoption and the challenges of systematic variability management in industry Developing a Quality Model to Study the Impact of Variability Over the Reusability and Maintainability of Software Product Line Variability Models A classification and systematic review of product line feature model defects	Handling large-scale software variability is still a challenge for many organizations. After decades of rese Industrial management; In Software Product Line (SPL) is focused on representing the variability and commonality of a software far Maintainability; Reusability Product line (PL)-based development is a thriving research area to develop software-intensive systems. Software engineering, Apr	No N	uncertainNoYesYesuncertainNoNoNoYesYesuncertainYes	Yes? - gives overview 20.	https://doi.org/10 Empirical Software Engineering https://doi.org/10 Advances in Intelligent Systems and Computing https://doi.org/10 Software Quality Journal
	Bilic, Damir; Sundmark, Daniel; Afzal, Wasif; Wallin, Peter; Causevic, Adnan; Amlinger, Christoffer Bilic, Damir; Sundmark, Daniel; Afzal, Wasif; Wallin, Peter; Causevic, Adnan; Amlinger, Christoffer; E Bindewald, Carlos Vinicius; Freire, Willian M.; Amaral, Aline M. M. Miotto; Colanzi, Thelma Elita	Model-Based Product Line Engineering in an Industrial Automotive Context: An Exploratory Case Study	Product Line Engineering is an approach to reuse assets of complex systems by taking advantage of colorthogonal variability mode {Many organizations developing software-intensive systems face challenges with high product complex {Product Line Engineering Software Product Lines (SPLs) is a reuse approach in which a family of products is generalized in a com Product Line Architecture,	No N	No N	20 20	8 https://doi.org/10 Proceedings of the 22nd International Systems and Software Product Line Conference (ISOFT: PROCEEDINGS OF THE 13TH INNOVATIONS IN SOFTWARE ENGINEERIN https://doi.org/10 ACM International Conference Proceeding Series https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the XXXIII Brazilian Symposium on Software Engineering
	Bittner, M.; Reiser, MO.; Weber, M. Bobuk, A.; Slingerland, L. A.; Simpson, T. W.; Ben, D.; Reichard, K. Borba, C.; Silva, C.	A case study on tool-supported multi-level requirements management in complex product families Validating the generational variety index (GVI) through product family optimization: A preliminary study A comparison of goal-oriented approaches to model software product lines variability	[Context & Motivation] Despite numerous advancements in product family engineering over the past dec Automotive domains; Con Effective product platforms must strike an optimal balance between commonality and variety. Increasing Complementary sets; Con In the requirements engineering for software product lines (SPL), feature modeling is used to capture co Feature configuration; Feature	No N	No N	20 20	 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {REQUIREMENTS ENGINEERING: FOUNDATION FOR SOFTWARE QUALITY} https://doi.org/10 Proceedings of the ASME Design Engineering Technical Conference https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {ADVANCES IN CONCEPTUAL MODELING - CHALLENGES PERSPECTIVES}
Bosch1999a Bosch1999d	Bosch, Jan Bosch, J.; Högström, M.	Product-line architectures in industry: A case study Evolution and composition of reusable assets in product-line architectures: A case study Product instantiation in software product lines: A case study	In this paper, a case study investigating the experiences from using product-line architectures is present. Computer architecture; Co {In this paper, a case study investigating the experiences from evolution—and modification of reusable a {reusable assets; product-Product instantiation is one of the less frequently studied activities in the domain of software product line Software engineering, Arc	No N	No N	19 19	https://link.spring
	Bragança, A.; Machado, R. J. Breivold, H. P.; Larsson, S.; Land, R.	Automating mappings between use case diagrams and feature models for software product lines Migrating Industrial Systems towards Software Product Lines: Experiences and Observations through Case Studies	Features have been widely used by the product line community to model variability. They represent the c Unified Modeling Languag Software product line engineering has emerged as one of the dominant paradigms for developing variety product development;softv	No No No No	No No No No No	20 20	https://doi.org/10 Proceedings - 11th International Software Product Line Conference, SPLC 2007 https://doi.org/10 EUROMICRO 2008 - Proceedings of the 34th EUROMICRO Conference on Software I 2008 34th Euromicro Conference Software Engineering and Advanced Applications
Brink2016a Buregio2010a	Brevet, D.; Saber, T.; Botterweck, G.; Ventresque, A. Brink, C.; Heisig, P.; Wackermann, F. Burégio, V. A.; Meira, S. L.; de Almeida, E. S.	Preliminary study of multi-objective features selection for evolving software product lines Change impact in product lines: A systematic mapping study Characterizing dynamic software product lines – A preliminary mapping study	When dealing with software-intensive systems, it is often beneficial to consider families of similar system Computer software; Gene A product line (PL) supports and simplifies the development process of (software) systems by reusing as Mapping, Change impact Background: Dynamic Software Product Lines (DSPL) has gained significant attention in key conference Software design, Classific	Yes No	Yes Yes No Yes No	No - not accessable 20	6 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SEARCH BASED SOFTWARE ENGINEERING, SSBSE 2016} 6 https://doi.org/10 Communications in Computer and Information Science {INFORMATION AND SOFTWARE TECHNOLOGIES, ICIST 2016} 6 https://www.acad SPLC 2010 - Proceedings of the 14th International Software Product Line Conference
Cafeo2012a Cafeo2016a	Byron, Bethany M.; Shooter, Steven B. Cafeo, B. B. P.; Dantas, F.; Gurgel, A.; Guimarães, E.; Cirilo, E. R.; Garcia, A.; Lucena, C. J. P. Cafeo, B. B. P.; Cirilo, E.; Garcia, A.; Dantas, F.; Lee, J.	A review of software solutions for the management of new product development and product family planning Analysing the Impact of Feature Dependency Implementation on Product Line Stability: An Exploratory Study Feature dependencies as change propagators: An exploratory study of software product lines	{The field of new product development has a number of difficult challenges with which it must contend: {new product developmen The evolution of software product lines (SPLs) is particularly challenging. SPL functionalities, usually dec Java; product developmen Context A Software Product Line (SPL) is a set of software systems that share common functionalities, s Computer software; Maint	No N	No N	20 20	https://doi.org/10 https://doi.org/10 Proceedings - 2012 Brazilian Symposium on Software Engineering, SBES 2012 https://doi.org/10 Information and Software Technology PROCEEDINGS OF THE ASME INTERNATIONAL DESIGN ENGINEERING TECHNI 2012 26th Brazilian Symposium on Software Engineering
Carvalho2014a	Carbonnel, J.; Huchard, M.; Gutierrez, A. de Carvalho, D. D.; Chagas, L. F.; Lima, A. M.; Reis, C. A. L. Carvalho, M. L. L.; da Silva, M. L. G.; Gomes, G. S. D. S.; Santos, A. R.; Machado, I. D. C.; Souza, I.	Variability representation in product lines using concept lattices: Feasibility study with descriptions from Wikipedia's product comparison matrices Software process lines: A systematic literature review M. L On the implementation of dynamic software product lines: An exploratory study	Several formalisms can be used to express variability in a product line. Product comparison matrix is a c Information analysis; Web Software Process Line (SPrL) has been claimed as a suitable paradigm for tailoring and reuse of software Computer science; Computer Software Product Line (DSPL) engineering is a paradigm aimed at handling adaptations at runt Aspect oriented programm	V V V V V V V V V V No	No No No No No Yes Yes Yes No No	20	 https://hal-lirmm. CEUR Workshop Proceedings https://doi.org/10 Communications in Computer and Information Science https://doi.org/10 Journal of Systems and Software
Carvalho2019a Chaconluna2020a Chen2004a	Carvalho, Luiz; Garcia, Alessandro; Assun\c{c}\ {a}o, Wesley K. G.; Bonif\'{a}cio, Rodrigo; Tizzei, Lec Chacón-Luna, A. E.; Gutiérrez, A. M.; Galindo, J. A.; Benavides, D. Chen, Y.; Gannod, G. C.; Collofello, J. S.; Sarjoughian, H. S.	ona Extraction of Configurable and Reusable Microservices from Legacy Systems: An Exploratory Study Empirical software product line engineering: A systematic literature review Using simulation to facilitate the study of software product line evolution	Microservices is an emerging industrial technique to promote better modularization and management of microservice architecture, Context: The adoption of Software Product Line Engineering (SPLE) is usually only based on its theoreti Computer software, Applic A product line approach is a disciplined methodology for strategic reuse of source code, requirement spe Codes (symbols); Comput	V V V V V V V V No	No No No No Yes Yes No No No No		9 https://doi.org/10 Proceedings of the 23rd International Systems and Software Product Line Conference 10 https://doi.org/10 Information and Software Technology 11 International Workshop on Principles of Software Evolution (IWPSE) 12 Proceedings of the 23rd International Systems and Software Product Line Conference 13 Proceedings of the 23rd International Systems and Software Product Line Conference 14 International Workshop on Principles of Software Evolution, 2004.
Chen2009a Chen2011a Cirilo2011a	Chen, Lianping; Ali Babar, Muhammad; Ali, Nour Chen, L.; Ali Babar, M. Cirilo, E.; Nunes, I.; Garcia, A.; De Lucena, C. J. P.	Variability Management in Software Product Lines: A Systematic Review A systematic review of evaluation of variability management approaches in software product lines Configuration knowledge of software product lines: A comprehensibility study	Variability Management (VM) in Software Product Line (SPL) is a key activity that usually affects the deg software product lines, val Context: Variability management (VM) is one of the most important activities of software product-line enc Computer software, Empil The configuration knowledge is a key element to the success of software product lines, as it defines con: Coarse-grained; Configura	Yes Yes You will be a second of the second o	Yes Yes No Yes Yes Yes Yes Yes No No No Yes	20	http://hdl.handle. Proceedings of the 13th International Software Product Line Conference https://doi.org/10 Information and Software Technology https://doi.org/10 Proceedings of the 2nd International Workshop on Variability and Composition, VariComp 2011
Constantino2016a	Constantino, K.; Pereira, J. A.; Padilha, J.; Vasconcelos, P.; Figueiredo, E. Costa, Diogo Matheus; Teixeira, Eldanae Nogueira; Lima Werner, Claudia Maria Costa, Ana Claudia L. A. I.; Colanzi, Thelma E.; Marcolino, Anderson S.; Barbosa, Ellen F.	An empirical study of two software product line tools Software Process Definition using Process Lines: A Systematic Literature Review Microservice-oriented Product Line Architecture Design: An Exploratory Study	In the last decades, software product lines (SPL) have proven to be an efficient software development te Computer software reusal {Software processes have been the focus of discussion in literature, but defining a software process re {Software Process Line; P {Microservice has been successfully employed in software industry {[]}1, 11], as they provide modulariz Availability; Modular const	No Yes	No No No No Yes Yes Yes No No No No	20 20	6 https://doi.org/10 ENASE 2016 - Proceedings of the 11th International Conference on Evaluation of Nove {ENASE: PROCEEDINGS OF THE 11TH INTERNATIONAL CONFERENCE ON EVAL 8 https://doi.org/10 Proceedings - 2018 44th Latin American Computing Conference, CLEI 2018 9 https://doi.org/10 ACM International Conference Proceeding Series \$ SBCARS'19: PROCEEDINGS OF THE XIII BRAZILIAN SYMPOSIUM ON SOFTWAR
Couto2011a Cu2019a Czarnecki2012a	Couto, Marcus Vinicius; Valente, Marco Tulio; Figueiredo, Eduardo Cu, Cuong; Ye, Xin; Zheng, Yongjie Czarnecki, K.; Grünbacher, P.; Rabiser, R.; Schmid, K.; Wąsowski, A.	Extracting Software Product Lines: A Case Study Using Conditional Compilation XLineMapper: A Product Line Feature-Architecture-Implementation Mapping Toolset Cool features and tough decisions: A comparison of variability modeling approaches	{Software Product Line (SPL) is a development paradigm that targets the creation of variable software {software product lines; cc This paper presents an Eclipse-based toolset named xLineMapper to automatically manage the relations architecture-centric product Variability modeling is essential for defining and managing the commonalities and variabilities in software Application engineering; C	No N	No No No No No Yes No Yes	20 20	https://doi.org/10 Proceedings of the European Conference on Software Maintenance and Reengineering Proceedings of the 41st International Conference on Software Engineering Proceedings of the 41st International Conference on Software Engineering Proceedings of the 41st International Conference on Software Engineering Proceedings of the 41st International Conference Proceedings Companion https://doi.org/10 ACM International Conference Proceeding Series
D1eneckere2011a Damotasilveiranete2011a Damotasilveiranete2011a	D1eneckère, R.; Rychkova, I.; Nurcan, S. Da Mota Silveira Neto, P. A.; Carmo MacHado, I. D.; McGregor, J. D.; De Almeida, E. S.; De Lemos Da Mota Silveira Neto, P. A.; Do Carmo MacHado, I.; McGregor, J. D.; De Almeida, E. S.; De Lemos	Modeling the role variability in the MAP process model Mei A systematic mapping study of software product lines testing	Business process modeling is a valuable technique helping organizations to specify their processes, to a business data processing; Context: In software development, Testing is an important mechanism both to identify defects and assure Further development; Mar no abstract available	No No Yes	No No No No Yes No Yes No	20 20	2 https://doi.org/10 ACM International Conference Proceeding Series 11 https://hal.archive 2011 FIFTH INTERNATIONAL CONFERENCE ON RESEARCH CHALLENGES IN INF 11 https://doi.org/10 Information and Software Technology 2 https://doi.org/10 Information and Software Technology
	Dantas, F.; Nunes, C.; Garcia, A.; Kulesza, U.; Lucena, C. Da Silva, I. F.; Da Mota Silveira Neto, P. A.; O'Leary, P.; De Almeida, E. S.; De Lemos Meira, S. R. Da Silva, I. F.; Da Mota Silveira Neto, P. A.; O'Leary, P.; De Almeida, E. S.; Meira, S. R. D. L.	Stability of software product lines with class-aspect interfaces: A comparative study Agile software product lines: A systematic mapping study	Stability is a key driving requirement in incremental development of systems that are strategic to organiz Computer software; Softw Background: Software product lines and Agile methods have been an effective solution for dealing with t Agile methods; Agile pract	No No Yes	No No No No Yes No Yes	20 20	SPLC 2010 - Proceedings of the 14th International Software Product Line Conference 1 https://doi.org/10 Software - Practice and Experience
Dasilva2016a Deandrade2014a	Da Silva, L. M. P.; Bezerra, C. I. M.; Andrade, R. M. C.; Monteiro, J. M. S. De Andrade, H. S.; Almeida, E.; Crnkovic, I.	Software product line scoping and requirements engineering in a small and medium-sized enterprise: An industrial case study Requirements engineering and variability management in DSPLs domain engineering: A systematic literature review Architectural bad smells in Software Product Lines: An exploratory study	Software product line (SPL) engineering has been applied in several domains, especially in large-scale s Agile methods; Communic Recently, Software Product Lines (SPLs) have been used successfully for building products families. Ho Computer software; Inform The Software Product Lines (SPL) paradigm has arisen for taking advantage of existing common aspect Computer software selecti	Yes No	Yes Yes Yes Yes No No No	20 20	4 https://doi.org/10 Journal of Systems and Software 6 https://doi.org/10 ICEIS 2016 - Proceedings of the 18th International Conference on Enterprise Informatination (PROCEEDINGS OF THE 18TH INTERNATIONAL CONFERENCE ON ENTERPRISE https://doi.org/10 ACM International Conference Proceeding Series
Debaud1999b Deelstra2005a	deBaud, J; Schmid, K. DeBaud, Jean-Marc; Schmid, Klaus Deelstra, S.; Sinnema, M.; Bosch, J.	A systematic approach to derive the scope of software product lines Systematic approach to derive the scope of software product line Product derivation in software product families: A case study	Product line scoping is a critical activity because it elicits the common realms upon which the different pr business data processing; The PuLSE-Eco, a technique especially developed to address product line scoping, is introduced. Its ma Computer software reusal From our experience with several organizations that employ software product families, we have learned Costs; Interfaces (computed to the computer of t	No N	No N	19 20	Proceedings of the 1999 International Conference on Software Engineering (IEEE Cat. https://doi.org/10 Proceedings - International Conference on Software Engineering https://doi.org/10 Journal of Systems and Software
Devi2016a	Del Rosso, C. Devi, U.; Sharma, A.; Kesswani, N. Devine, T. R.; Goseva-Popstajanova, K.; Krishnan, S.; Lutz, R. R.; Li, J. J.	Software performance tuning of software product family architectures: Two case studies in the real-time embedded systems domain A review on quality models to analyse the impact of refactored code on maintainability with reference to software product line An Empirical Study of Pre-release Software Faults in an Industrial Product Line	Software performance is an important non-functional quality attribute and software performance evaluati Computer software mainted. Code cloning is a major problem in object oriented methodology and advanced software methodologies software maintenance; sof. There is a lack of published studies providing empirical support for the assumption at the heart of produc object-oriented programm.	Image: Control of the con	NoNoNoNoNoNoNoNoNo	20 20	https://doi.org/10 Journal of Systems and Software https://doi.org/10 Journal of Systems and Software https://ieeexplore Proceedings of the 10th INDIACom; 2016 3rd International Conference on Computing 2016 3rd International Conference on Computing for Sustainable Global Development https://doi.org/10 Proceedings - IEEE 5th International Conference on Software Testing, Verification and Validation
Dhungana2006a Dhungana2011a Dias2016a	Dhungana, D.; Rabiser, R.; Grünbacher, P.; Prähofer, H.; Federspiel, C.; Lehner, K. Dhungana, D.; Grünbacher, P.; Rabiser, R. Dias, J. W.; Oliveira, E., Jr.	Architectural knowledge in product line engineering: An industrial case study The DOPLER meta-tool for decision-oriented variability modeling: A multiple case study Modeling variability in software process with EPF Composer and smartyspem: An empirical qualitative study	Capturing and sharing architectural knowledge is already a complex endeavor when dealing with conver Computer software; Custo The variability of a product line is typically defined in models. However, many existing variability modeling Business software; Decision Nowadays, organizations are increasingly seeking to customize their software processes according to the Information systems, Annotation systems.	No No No No No No No	NoNoNoNoNoNouncertainNoNo	20	https://doi.org/10 Proceedings - 32nd Euromicro Conference on Software Engineering and Advanced Ap {32ND EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING AND ADVANC https://doi.org/10 Automated Software Engineering https://doi.org/10 ICEIS 2016 - Proceedings of the 18th International Conference on Enterprise Informati {PROCEEDINGS OF THE 18TH INTERNATIONAL CONFERENCE ON ENTERPRISE
Diaz2014a	Díaz, J.; Pérez, J.; Alarcon, P. P.; Garbajosa, J. Díaz, J.; Pérez, J.; Garbajosa, J. Díaz, J.; Pérez, J.; Garbajosa, J.	Agile product line engineering - A systematic literature review Agile product-line architecting in practice: A case study in smart grids A model for tracing variability from features to product-line architectures: A case study in smart grids	Software Product Line Engineering (SPLE) demands upfront long-term investment in (i) designing a corr Agile process; Agile software Context Software Product Line Engineering implies the upfront design of a Product-Line Architecture (PL Agile product-line enginee In current software systems with highly volatile requirements, traceability plays a key role to maintain the Computer software; Electr	Yes Yes No No No	Yes Yes No Yes No No No No No	20	 https://doi.org/10 Software - Practice and Experience https://doi.org/10 Information and Software Technology https://doi.org/10 Requirements Engineering
•	Djebbi, O.; Salinesi, C.; Fanmuy, G. Dong, J.; Shi, N. Dove, Rick; Schindel, William; Hartney, Robert (Will)	Industry survey of product lines management tools: Requirements, qualities and open issues A study on framework and realizing mechanism of ISEE based on product line Case Study: Agile Hardware/Firmware/Software Product Line Engineering at Rockwell Collins	PLM approaches are becoming a prominent approach in the Software Engineering and Systems Engine Benchmarking; Concurren Using product line automatic production procedure and the management system of modern manufacturii Automatic production; Cor {Rockwell Collins, in Cedar Rapids, Iowa, is using a product line approach for a family of radios they pi {agile systems engineering}	No N	No No No No No No No No No	20	https://doi.org/10 Proceedings - 15th IEEE International Requirements Engineering Conference, RE 200 15th IEEE International Requirements Engineering Conference (RE 2007) https://doi.org/10 Journal of Software https://doi.org/10 {2017 11TH ANNUAL IEEE INTERNATIONAL SYSTEMS CONFERENCE (SYSCON)}
Dura2009a	Dubinsky, Yael; Rubin, Julia; Berger, Thorsten; Duszynski, Slawomir; Becker, Martin; Czarnecki, Krz Dura, Oezlem; Yilmaz, Asim Egemen E-Amin, Fazal; Mahmood, A. K.; Oxley, A.		{Many companies develop software product lines-collections of similar products-by cloning and adaptir {software product line; closely {Software product line concept has been a key area of concern due to its impacts on reducing the cost product development; software product orientation is an emerging technique which provides a solution to the implementation of concerns Computer software; Object	No N	No N	20 20	3 https://doi.org/10 Proceedings of the European Conference on Software Maintenance and Reengineerin {PROCEEDINGS OF THE 17TH EUROPEAN CONFERENCE ON SOFTWARE MAINT 9 https://doi.org/10 2009 24th International Symposium on Computer and Information Sciences, ISCIS 200 {2009 24TH INTERNATIONAL SYMPOSIUM ON COMPUTER AND INFORMATION SO https://doi.org/10 Information Technology Journal
Echeverria2016a Echeverria2021a Edded2019a	Echeverría, J.; Pérez, F.; Abellanas, A.; Panach, J. I.; Cetina, C.; Pastor, O. Echeverría, J.; Pérez, F.; Panach, J. I.; Cetina, C. Edded, S.; Sassi, S. B.; Mazo, R.; Salinesi, C.; Ghezala, H. B.	Evaluating Bug-Fixing in Software Product Lines: An Industrial Case Study An empirical study of performance using Clone & Own and Software Product Lines in an industrial context Collaborative configuration approaches in software product lines engineering: A systematic mapping study	[Background] Bug-fixing could be complex in industrial practice since thousands of products share feature Computer software; Dome Context: Clone and Own (CaO) is a widespread approach to generate new software products from existi Calcium oxide; Cloning; C In the context of software product line engineering, collaborative configuration is a decision-making proce Computer software; Decis	No N	No No No No No No No Yes Yes Yes Yes	20 20	6 https://doi.org/10 International Symposium on Empirical Software Engineering and Measurement 1 https://doi.org/10 Information and Software Technology 9 https://doi.org/10 Journal of Systems and Software
Eichelberger2013a Eichelberger2015a Elfaki2013a	Eichelberger, Holger; Schmid, Klaus Eichelberger, H.; Schmid, K. Elfaki, A. O.; Abouabdalla, O. A.; Fong, S. L.; Gapar, M. D.; Johar, M. D.; Teow Aik, K. L.; Bachok, R.	A Systematic Analysis of Textual Variability Modeling Languages Mapping the design-space of textual variability modeling languages: a refined analysis	Industrial variability models tend to grow in size and complexity due to ever-increasing functionality and textual variability modeling Variability modeling is a major part of modern product line engineering. Graphical or table-based approar Abstracting; Computer pro	V V No Yes	No No No No Yes Yes	20 20	3 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 17th International Software Product Line Conference 5 https://doi.org/10 International Journal on Software Tools for Technology Transfer
	El-Sharkawy, Sascha; Krafczyk, Adam; Schmid, Klaus El-Sharkawy, S.; Yamagishi-Eichler, N.; Schmid, K.	An Empirical Study of Configuration Mismatches in Linux Metrics for analyzing variability and its implementation in software product lines: A systematic literature review	Context: Software Product Line Engineering (SPLE) has emerged as a thriving approach for software pri Automation; Research, Au Ideally the variability of a product line is represented completely and correctly by its variability model. Ho empirical software engined Context: Software Product Line (SPL) development requires at least concepts for variability implementat Codes (symbols); Comput	No No Yes	uncertainNoNoNoNoNoNoNoNoNoNoNoYesYesYes	20 20	2 http://www.jatit.or Journal of Theoretical and Applied Information Technology 7 https://doi.org/10 Proceedings of the 21st International Systems and Software Product Line Conference 9 https://doi.org/10 Information and Software Technology
Engstroem2011a Engstroem2013a Eriksson2009a	Engström, E.; Runeson, P. Engström, E.; Runeson, P. Eriksson, M.; Börstler, J.; Borg, K.	Software product line testing - A systematic mapping study Test overlay in an emerging software product line-An industrial case study Managing requirements specifications for product lines - An approach and industry case study	Context: Software product lines (SPL) are used in industry to achieve more efficient software developme Mapping; Software design Context: In large software organizations with a product line development approach, system test planning Complex task; Decision su Software product line development has emerged as a leading approach for software reuse. This paper d Cloning; Linguistics; Spec	Yes Yes No No	Yes Yes No Yes No No No No No No	20 20	https://doi.org/10 Information and Software Technology https://doi.org/10 Information and Software Technology https://doi.org/10 Journal of Systems and Software
F.coutinho2020a	Esperguel, Marcelo; Sepulveda, Samuel; Monsalve, Ezequiel Espinel, P.; Espinosa, E.; Urbieta, M. F. Coutinho, E.; I. M. Bezerra, C.	FMxx: a proposal for the creation, management and review of Feature Models in Software Product Lines Software Configuration Management for Software Product Line Paradigm: A Systematic Mapping Study A study on dynamic aspects variability in the SOLAR educational software ecosystem	{One way to represent the variability of a product family in Software Product Lines is through Feature N {Feature models; Software The exponential development of software and the need to reduce time and cost in the construction of so Computer software reusal A Software Ecosystem (SECO) refers to a collection of software products with some degree of symbiotic Computer aided instruction	V V V V V V V V V V No	No No No No No Yes Yes Yes No No	20 20	7 https://doi.org/10 Proceedings - International Conference of the Chilean Computer Science Society, SCC {2017 36TH INTERNATIONAL CONFERENCE OF THE CHILEAN COMPUTER SCIEN https://doi.org/10 Applications in Software Engineering - Proceedings of the 5th International Conference 2016 International Conference on Software Process Improvement (CIMPS) 10
	Famelis, M.; Lúcio, L.; Selim, G.; Di Sandro, A.; Salay, R.; Chechik, M.; Cordy, J. R.; Dingel, J.; Vang Faquih, L. E.; Sbai, H.; Fredj, M. Farahani, F. F.; Ramsin, R.	shel Migrating automotive product lines: A case study Semantic variability modeling in business processes: A comparative study Methodologies for agile product line engineering: A survey and evaluation	Software Product Lines (SPL) are widely used to manage variability in the automotive industry. In a rapic Artificial intelligence; Com Business Process Management (BPM) is an approach that aligns information systems (IT view) with bus business data processing; Agile Product Line Engineering (APLE) is a relatively new approach which has emerged as the result of Software engineering, Agil	Image: Control of the con	No N	20	 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {THEORY AND PRACTICE OF MODEL TRANSFORMATIONS} https://doi.org/10 2014 9th International Conference for Internet Technology and Secured Transactions, I The 9th International Conference for Internet Technology and Secured Transactions (IC https://doi.org/10 Frontiers in Artificial Intelligence and Applications NEW TRENDS IN SOFTWARE METHODOLOGIES, TOOLS AND TECHNIQUES)
Fazaleamin2009a	Faulk, S. R. Fazal-e-Amin; Mahmood, A. K. Fazal-e-Amin; Mahmood, A. K.; Oxley, A.	Product-line requirements specification (PRS): an approach and case study A survey and proposed reusability assessment framework for aspect oriented product line core assets Using open source components in software product lines — An exploratory study	Software product-line engineering can provide significant gains in quality and productivity through syster software reusability;software Software Product Lines (SPL) emerged to promote the strategic, planned reuse that yields predictable re aspect-oriented programmare. The software engineering community has been continuously discussing the concepts of software reuse spublic domain software;so	No N	No No No No No No No No No	20	Proceedings Fifth IEEE International Symposium on Requirements Engineering 2009 IEEE Student Conference on Research and Development (SCOReD) 11 https://doi.org/10 2011 IEEE Conference on Open Systems, ICOS 2011 2011 IEEE Conference on Open Systems
Figueiredo2008a	Ferreira, Gabriel and Malik, Momin and K\"{a}stner, Christian and Pfeffer, J\"{u}rgen and Apel, Sven Figueiredo, E.; Cacho, N.; Garcia, A.; Ferrari, F.; Khan, S.; Sant'Anna, C.; Monteiro, M.; Soares, S.; Filho, Jo\ {a}o Bosco Ferreira; Barais, Olivier; Acher, Mathieu; Baudry, Benoit; Le Noir, J\'{e}r\^{o}me	Filh Evolving software product lines with aspects: An empirical study on design stability	Preprocessors support the diversification of software products with ifdefs, but also require additional effo no keywords available Software product lines (SPLs) enable modular, large-scale reuse through a software architecture addres Computer software reusal Model-based Software Product Line (MSPL) engineering aims at deriving customized models correspon Automated process; Deriv	No No No No No No	No No No No No No No No No	20	6 https://doi.org/10 Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Software Product Line Conference Note: The Proceedings of the 20th International Systems and Systems an
Fischer2018a	Filho, Jo\ {a}o Bosco Ferreira; Allier, Simon; Barais, Olivier; Acher, Mathieu; Baudry, Benoit Fischer, Juliane; Bougouffa, Safa; Schlie, Alexander; Schaefer, Ina; Vogel-Heuser, Birgit Flores, R.; Krueger, C.; Clements, P.	Assessing Product Line Derivation Operators Applied to Java Source Code: An Empirical Study A Qualitative Study of Variability Management of Control Software for Industrial Automation Systems Second-generation product line engineering: A case study at general motors	Product Derivation is a key activity in Software Product Line Engineering. During this process, derivation Codes (symbols); Comput {Software product line engineering (SPLE) provides a systematic approach to manage variants and ve {variability management; r This chapter is the story of a product line engineering effort under way at General Motors. The product line Electronic control systems	No N	No No No No No No No No No	20	5 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 19th International Conference on Software Product Line 8 https://doi.org/10 Proceedings - 2018 IEEE International Conference on Software Maintenance and Evol {PROCEEDINGS 2018 IEEE INTERNATIONAL CONFERENCE ON SOFTWARE MAIN 3 https://doi.org/10 Systems and Software Variability Management: Concepts, Tools and Experiences
Freeman2010a Furtado2019a Gadelhagueiroz2014a	Freeman, G.; Batory, D.; Lavender, G.; Sarvela, J. N. Furtado, V. R.; Vignando, H.; França, V.; Oliveira, E., Jr. Gadelha Queiroz, Paulo Gabriel; Vaccare Braga, Rosana Teresinha	Lifting transformational models of product lines: A case study Comparing approaches for quality evaluation of software engineering experiments: An empirical study on software product line experiments Development of Critical Embedded Systems Using Model-driven and Product Lines Techniques: A Systematic Review	Model driven engineering (MDE) of software product lines (SPLs) merges two increasing important para Code Generation; High-levalue The Software Engineering (SE) research area must provide results of a certain quality for the sake of val Experiments, Quasi-Experage (Several methodologies have been proposed in the last decades to improve the quality of Safety-Critic embedded systems; safety	No No No V V V V V V V V V V V V V V V V	NoNoNoNoNoNoNoYesYes	20	 https://doi.org/10 Software and Systems Modeling https://doi.org/10 Journal of Computer Science https://doi.org/10 Proceedings - 2014 8th Brazilian Symposium on Software Components, Architectures : {2014 EIGHTH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCHITE
Galan2007a Galster2011a Galster2013a	Galan, R.; Racero, J.; Eguia, I.; Garcia, J. M. Galster, M.; Avgeriou, P. Galster, M.; Avgeriou, P.; Tofan, D.	A systematic approach for product families formation in Reconfigurable Manufacturing Systems The notion of variability in software architecture- Results from a preliminary exploratory study Constraints for the design of variability-intensive service-oriented reference architectures - An industrial case study	The aim of this work is to establish a methodology for an effective working of Reconfigurable Manufactur Algorithms; Computer aids Context: In the software product line domain, the concept of variability is well recognized. However, varia Class quality; Expert survs Context: Service-oriented architecture has become a widely used concept in software industry. However Document analysis; e-Gov	No N	No N	20 20	7 https://doi.org/10 Robotics and Computer-Integrated Manufacturing 11 https://doi.org/10 ACM International Conference Proceeding Series 3 https://doi.org/10 Information and Software Technology
	Galster, Matthias; Weyns, Danny; Tofan, Dan; Michalik, Bartosz; Avgeriou, Paris Galster, M.; Avgeriou, P. Ganesan, Dharmalingam; Muthig, Dirk; Knodel, Jens; Yoshimura, Kentaro	Variability in Software Systems-A Systematic Literature Review An industrial case study on variability handling in large enterprise software systems Discovering organizational aspects from the source code history log during the product line planning phase - A case study	{Context: Variability (i.e., the ability of software systems or artifacts to be adjusted for different contexts {Variability; systematic rev Context Enterprise software systems (e.g., enterprise resource planning software) are often deployed in Computer software; Computer software product line engineering (PLE) in the presence of existing stand-alone simi {organizational aspects; so	Yes Yes No	Yes Yes Yes Yes No	20 20	4 https://doi.org/10 {IEEE TRANSACTIONS ON SOFTWARE ENGINEERING} 5 https://doi.org/10 Information and Software Technology 6 https://doi.org/10 {13TH WORKING CONFERENCE ON REVERSE ENGINEERING PROCEEDINGS}
Gao2009a	Gao, F.; Xiao, G.; Chen, JJ. Gauss, L.; Lacerda, D. P.; Cauchick Miguel, P. A. Gebhardt, N.; Beckmann, G.; Krause, D.	Review on product family design for mass customization Module-based product family design: systematic literature review and meta-synthesis Visual representation for developing modular product families - Literature review and use in practice	According to the different emphases, the product family design researches were divided into five aspects Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases, the product family design researches were divided into five aspects. Key technologies; Mass confidence of the different emphases of the different emphases of the different emphases. The different emphases of the diff	No No Yes	No No No No Yes Yes Yes No No	20 20	Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS https://doi.org/10 Journal of Intelligent Manufacturing https://www.desig Proceedings of International Design Conference, DESIGN
Geraldi2015a	Geraldi, R. T.; Oliveira, E., Jr.; Conte, T.; Steinmacher, I. Geraldi, R. T.; Reinehr, S.; Malucelli, A.	Checklist-based inspection of SMarty variability models proposal and empirical feasibility study Software product line applied to the internet of things: A systematic literature review	Software inspection is a particular type of software review applied to all life-cycle artifacts and follows a r Computer software selecti Context: Internet of Things (IoT) is a promising paradigm due to the growing number of devices that may Computer software; Paper	No No Yes	No No No No No Yes Yes uncertain Yes	20 20:	5 https://doi.org/10 ICEIS 2015 - 17th International Conference on Enterprise Information Systems, Proceedings to https://doi.org/10 Information and Software Technology
Gomes2019a	Ghanam, Y.; Maurer, F. Go, K.; Kang, S.; Kim, M.; Lee, J. Gomes, K.; Teixeira, L.; Alves, T.; Ribeiro, M.; Gheyi, R.	Using Acceptance Tests for Incremental Elicitation of Variability in Requirements: An Observational Study A Systematic Test Case Generation Approach for Testing Message Length Variability Characterizing safe and partially safe evolution scenarios in product lines: An empirical study	Variability in software systems refers to the notion that the components constituting the software may val software engineering;accε Variable length messages have been in use for a long time for efficient delivery of information. As there ε electronic messaging;prote Evolving software product lines is often error-prone. Previous works have proposed classifying product li Computer applications; Computer applications.	No No No No No	No No No No No No No	20 20	https://doi.org/10 Proceedings - 2011 Agile Conference, Agile 2011 2011 Agile Conference 11 https://doi.org/10 Proceedings - 4th IEEE International Conference on Software Testing, Verification, and 2011 Fourth IEEE International Conference on Software Testing, Verification and Valida https://doi.org/10 ACM International Conference Proceeding Series {PROCEEDINGS OF THE 13TH INTERNATIONAL WORKSHOP ON VARIABILITY MC
Gomez2010a Groefsema2013a Groher2009a	Gomez, Carolina; Liggesmeyer, Peter; Sutor, Ariane Groefsema, H.; Bucur, D. Groher, I.; Schwanninger, C.; Voelter, M.	Variability Management of Safety and Reliability Models: An Intermediate Model towards Systematic Reuse of Component Fault Trees A survey of formal business process verification from soundness to variability Model-driven, aspect- oriented product line engineering: An industrial case study	{Reuse of fault trees helps in reducing costs and effort when conducting Fault Tree Analyses (FTAs) fo {Component Fault Trees; ' Formal verification of business process models is of interest to a number of application areas, including Administrative data proces Software product line engineering (SPLE) (Pohl et al. 2005; Clements and Northrop 2001) aims to reduc no keywords available	No N	No N	No - variability is not the main focus 20	 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {COMPUTER SAFETY, RELIABILITY, AND SECURITY} http://www.cs.rug BMSD 2013 - Proceedings of the 3rd International Symposium on Business Modeling and Software Design https://doi.org/10 Applied Software Product Line Engineering
Groher2015a Guedes2015a Guo2018a	Groher, I.; Weinreich, R. Guedes, Gabriela; Silva, Carla; Soares, Monique; Castro, Jaelson Guo, Jianmei; Shi, Kai	Variability Support in Architecture Knowledge Management Approaches: A Systematic Literature Review Variability Management in Dynamic Software Product Lines: A systematic mapping To Preserve or Not to Preserve Invalid Solutions in Search-Based Software Engineering: A Case Study in Software Product Lines	Research on software architecture knowledge management (SAKM) within the last 10 years has focuse knowledge management; s {Dynamic Software Product Lines (DSPLs) are SPLs in which the product configuration may occur at r {variability management; c {Multi-objective evolutionary algorithms (MOEAs) have been successfully applied for software product {Search-based software e	Yes Yes Yes No	Yes Yes Yes Yes Yes Yes Yes Yes No No No No	20	5 https://doi.org/10 2015 48th Hawaii International Conference on System Sciences 5 https://doi.org/10 Proceedings - 2015 9th Brazilian Symposium on Software Components, Architectures i {PROCEEDINGS 2015 NINTH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONE https://doi.org/10 Proceedings - International Conference on Software Engineering {PROCEEDINGS 2018 IEEE/ACM 40TH INTERNATIONAL CONFERENCE ON SOFT
Gurgel2011a Gurgel2012a Hammani2014a	Gurgel, Alessandro; Dantas, Francisco; Garcia, Alessandro Gurgel, Alessandro; Dantas, Francisco; Garcia, Alessandro; Sant'Anna, Claudia Hammani, Fatima Zahra	On-Demand Integration of Product Lines: A Study of Reuse and Stability Integrating Software Product Lines: A Study of Reuse versus Stability Survey of Non-Functional Requirements Modeling and Verification of Software Product Lines	The integration of multiple SPLs is increasingly becoming a trend to enable on-demand derivation of nev reuse, software product lir {To achieve large-scale reuse and accelerate time-to-market, integration of multiple software product li {Software Product Lines; I {Undoubtedly, Non-Functional Requirements (NFR) such as security, performance and reliability are cr {Feature; NFR; Reuse; SF	No No No No No No	NoNoNoNoNoNoYesNoYes	20	1 https://doi.org/10 Proceedings - International Conference on Software Engineering Proceedings of the 2nd International Workshop on Product Line Approaches in Software 1 https://doi.org/10 Proceedings - International Computer Software and Applications Conference 2 https://doi.org/10 Proceedings - International Conference on Research Challenges in Information Scienc {2014 IEEE EIGHTH INTERNATIONAL CONFERENCE ON RESEARCH CHALLENGE
Hamza2010a Hamza2017a Hanssen2008a	Hamza, Haitham S.; Aly, Gamal M. Hamza, Mostafa; Walker, Robert J.; Elaasar, Maged Hanssen, G. K.; Fægri, T. E.	Using Product Line Architectures to Leverage Systematic Reuse of Business Knowledge: An Industrial Experience Unanticipated Evolution in Software Product Lines versus Independent Products: A Case Study Process fusion: An industrial case study on agile software product line engineering	Software Product Line Engineering (PLE) exploits systematic reuse by identifying and methodically reusi software product lines, engage and product families need to evolve in ways that are not always—anticipated by a pre-planned design. (Software product lines; upper presents a case study of a software product company that has successfully integrated practic Decision theory; Optimization	No No No No No No No	No No No No No No No No No	20	 https://doi.org/10 Proceedings of the 2010 Workshop on Knowledge-Oriented Product Line Engineering, Proceedings of the 2010 Workshop on Knowledge-Oriented Product Line Engineering, Proceedings of the 2010 Workshop on Knowledge-Oriented Product Line Engineering https://doi.org/10 ACM International Conference Proceeding Series {21ST INTERNATIONAL SYSTEM \& SOFTWARE PRODUCT LINE CONFERENCE (\$ https://doi.org/10 Journal of Systems and Software
Harman2014a Hasbi2018a Heidenreich2009a	Harman, M.; Jia, Y.; Krinke, J.; Langdon, W. B.; Petke, J.; Zhang, Y. Hasbi, Muhamad; Budiardjo, Eko K.; Wibowo, Wahyu C. Heidenreich, F.	Search based software engineering for software product line engineering: a survey and directions for future work Reverse Engineering in Software Product Line - A Systematic Literature Review Towards systematic ensuring well-formedness of software product lines	{This paper(1) presents a survey of work on Search Based Software Engineering (SBSE) for Software {SBSE; SPL; Genetic Protection of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering; system of the information extraction process on system by identifying and analyzing the {Reverse engineering} identified in the information extraction process on system by identifying analyzing the {Reverse engineering} identified in the identified i	Image: Line of the content of the conten	in Yes No uncertain No Yes Yes Yes Yes No No No No	20	4 https://doi.org/10 ACM International Conference Proceeding Series {18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2014), {PROCEEDINGS OF 2018 THE 2ND INTERNATIONAL CONFERENCE ON COMPUT https://doi.org/10 ACM International Conference Proceeding Series {PROCEEDINGS OF 2018 THE 2ND INTERNATIONAL CONFERENCE ON COMPUT https://doi.org/10 ACM International Conference Proceeding Series
Heidenreich2010a Heider2012a Hellebrand2014a	Heidenreich, Florian; Sanchez, Pablo; Santos, Joao; Zschaler, Steffen; Alferez, Mauncio; Araujo, Joa Heider, W.; Vierhauser, M.; Lettner, D.; Grünbacher, P. Hellebrand, Robert; Silva, Adeline; Becker, Martin; Zhang, Bo; Sierszecki, Krzysztof; Savolainen, Jul	ao; Relating Feature Models to Other Models of a Software Product Line A Comparative Study of Feature Mapper and VML A Case Study on the Evolution of a Component-based Product Line ha Coevolution of Variability Models and Code: An Industrial Case Study	{Software product lines using feature models often require the relation between feature models in prob Comparative studies; Feat Product line engineering is an approach that works well for managing the anticipated variability of softwa object-oriented programm {In Software Engineering, reuse of artifacts is essential for high productivity. Different studies have sho {Metrics; coevolution; productivity.	No No No No No No	No No No No No No No No No	20	 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {TRANSACTIONS ON ASPECT-ORIENTED SOFTWARE DEVELOPMENT VII: A CON https://doi.org/10 Proceedings of the 2012 Joint Working Conference on Software Architecture and 6th E 2012 Joint Working IEEE/IFIP Conference on Software Architecture and European Cor https://doi.org/10 ACM International Conference Proceeding Series 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2014),
Heradio2013a Heradio2015a Hmami2019a	Heradio, R.; Fernandez-Amoros, D.; Cerrada, J. A.; Abad, I. Heradio, R.; Perez-Morago, H.; Fernandez-Amoros, D.; Cabrerizo, F. J.; Herrera-Viedma, E. Hmami, A.; Sbai, H.; Fredj, M.	A literature review on feature diagram product counting and its usage in software product line economic models A science mapping analysis of the literature on software product lines Change Mining in Business Process Variability: A Comparative Study	In software product line engineering, feature diagrams are a popular means to represent the similarities (Software product line; feature to compete in the global marketplace, manufacturers try to differentiate their products by focusing on inc Computer aided manufact Process mining is a new approach that links data analysis techniques and business process manageme business data processing;	Yes Yes You will be a second of the second o	Yes No No No Yes Yes Yes	20	 https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering https://doi.org/10 Communications in Computer and Information Science https://doi.org/10 Proceedings of 2019 IEEE World Conference on Complex Systems, WCCS 2019 2019 4th World Conference on Complex Systems (WCCS)
	Hohl, P.; Ghofrani, J.; Münch, J.; Stupperich, M.; Schneider, K. Hohl, P.; Theobald, S.; Becker, M.; Stupperich, M.; Münch, J. Holl, G.; Grünbacher, P.; Rabiser, R.	Searching for common ground: Existing literature on automotive agile software product lines Mapping agility to automotive software product line concerns A systematic review and an expert survey on capabilities supporting multi product lines	The digital transformation of the automotive industry has a signifi-cant impact on how development proce Automotive industry; Com Context: Software product lines are widely used in automotive embedded software development. This sc Computer software reusal Context: Complex software-intensive systems comprise many subsystems that are often based on heter Surveys, Multi product line	Yes Yes Yes Yes	Yes Yes Yes Yes Yes No No No Yes Yes Yes Yes Yes	Yes 20 20	7 https://doi.org/10 ACM International Conference Proceeding Series {ICSSP'17: PROCEEDINGS OF THE 2017 INTERNATIONAL CONFERENCE ON SOF https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 2 https://doi.org/10 Information and Software Technology
Huang2003a Hunsen2016a	Huang, X. M.; Zhao, M. Y. Hunsen, C.; Zhang, B.; Siegmund, J.; Kästner, C.; Leßenich, O.; Becker, M.; Apel, S.	Study on integration and modeling of digital manufacturing environment for production line Preprocessor-based variability in open-source and industrial software systems: An empirical study Requirements for Successful Software Development with Variability: A Case Study	{Production line digital manufacturing environment provides environment for design, engineering applic {digital manufacturing env Almost every sufficiently complex software system today is configurable. Conditional compilation is a sin C (programming language	No N	No N	20 20	THIRD INTERNATIONAL CONFERENCE ON ELECTRONIC COMMERCE ENGINEE 6 https://doi.org/10 Empirical Software Engineering
Ignaim2019a Jabar2013a Jaring2002a	Huysegoms, Tom; Snoeck, Monique; Dedene, Guido; Goderis, Antoon Ignaim, Karam; Fernandes, Joao M. Jabar, M. A.; Zarei, M. B.; Sidi, F.; Sani, N. F. M. Jaring, M.; Bosch, J.	An Industrial Case Study for Adopting Software Product Lines in Automotive Industry An Evolution-Based Approach for Software Product Lines (EVOA-SPL) A review of software product line adoption Representing variability in software product lines: A case study	{According to state of the art literature, software product lines are an effective way to achieve economi {Variability management; {	No No No Yes	No No No No Yes No No No No Yes	20 20	https://doi.org/10 Communications in Computer and Information Science {ENTERPRISE INFORMATION SYSTEMS, PT 1} https://doi.org/10 ACM International Conference Proceeding Series {23RD INTERNATIONAL SYSTEMS AND SOFTWARE PRODUCT LINE CONFERENC http://www.jatit.org/10 Journal of Theoretical and Applied Information Technology https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)
Jaroucheh2010a Jian2011a Jiao2007a	Jaring, M.; Bosch, J. Jaroucheh, Z.; Liu, X.; Smith, S. Jian, C. Jiao, J.; Simpson, T. W.; Siddique, Z.	Mapping Features to Context Information: Supporting Context Variability for Context-Aware Pervasive Applications Study on Product Family Structure Model Based on Visual Graph Product family design and platform-based product development: A state-of-the-art review	Context-aware computing is widely accepted as a promising paradigm to enable seamless computing. S middleware;ontologies (ar Product family structure gives expression to the complicated relation among product family. It's rationality graph theory;product design and platform-based product development has received much attention over the last Decision making; Industria	No N	No No No No No Yes No	20 20	 https://doi.org/10 Decture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) https://doi.org/10 Proceedings - 2010 IEEE/WIC/ACM International Conference on Web Intelligence, WI 2010 IEEE/WIC/ACM International Conference on Web Intelligent Age https://doi.org/10 Proceedings - 2011 4th International Conference on Information Management, Innovati 2011 International Conference on Information Management, Innovation Management a https://doi.org/10 Journal of Intelligent Manufacturing
Johansen2011a John2009a	Johansen, M. F.; Haugen, Ø.; Fleurey, F. John, Isabel; Eisenbarth, Michael	A Survey of Empirics of Strategies for Software Product Line Testing A Decade of Scoping: A Survey	Product family design and platform-based product development has received much attention over the lat Decision making; Industria We should employ a strategy to test product lines. Testing products individually is redundant for product program testing; software products of an organization of an organization of a products, features no keywords available After the industrial revolution, the literature has mentioned different "principles" to allow a better manage Flexible manufacturing system.	No uncerta	in Yes No No No No No No No Yes No uncertain No	No - to short 20 No - scoping out of scope 20	11 https://doi.org/10 Proceedings - 4th IEEE International Conference on Software Testing, Verification, and 2011 IEEE Fourth International Conference on Software Testing, Verification and Validation of the 13th International Software Product Line Conference Proceedings of the 13th International Software Product Line Conference
Kaesmeyer2015a	Jose, A.; Tollenaere, M. Kabbedijk, J.; Jansen, S.; Brinkkemper, S. K\"{a}meyer, Michael and Schulze, Michael and Schurius, Markus Kang, K. C.; Kim, M.; Lee, J.; Kim, B.	Modular and platform methods for product family design: Literature analysis A case study of the variability consequences of the CQRS pattern in online business software A Process to Support a Systematic Change Impact Analysis of Variability and Safety in Automotive Functions Feature-oriented re-engineering of legacy systems into product line assets - a case study	In order to maximize their customer base, business software vendors are trying to offer software product Sales; Software architectu Mostly all innovative driving functions are realized by software and many of them are safety-related. This software product line engi	Yes Yes No No No	No N	20 20	https://doi.org/10 Journal of Intelligent Manufacturing https://doi.org/10 ACM International Conference Proceeding Series https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 19th International Conference on Software Product Line https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel (SOFTWARE PRODUCT LINES, PROCEEDINGS)
Kang2013a Kang2015a	Kang, K. C.; Kim, M.; Lee, J.; Kim, B. Kang, Sungwon; Lee, Jihyun Kang, Sungwon; Baek, Haeun; Kim, Jungmin; Lee, Jihyun Kang, Sungwon; Kim, Jungmin; Baek, Haeun; Ahn, Hwir, Jung, Bileur, Lee, Jihyun	Feature-oriented re-engineering of legacy systems into product line assets - a case study A Systematic Product Line Test Derivation from Activity Diagrams Systematic Software Product Line Test Case Derivation for Test Data Reuse Comparison of Software Product Line Test Derivation Methods from the Pouse Viewpoint	{Home service robots have a wide range of potential applications, such as home security, patient carin Artificial intelligence; Com {The state of the art software product line testing methods attempted test derivation from product lines {component; Software pro {This paper proposes a systematic software product line test case derivation method that reuses test d {Software product line; sol	No N	No N	20 20	https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE PRODUCT LINES, PROCEEDINGS} https://doi.org/10 Proceedings - 16th IEEE International Conference on Computational Science and Engi {2013 IEEE 16TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL SCIENCE https://doi.org/10 Proceedings - International Computer Software and Applications Conference {IEEE 39TH ANNUAL COMPUTER SOFTWARE AND APPLICATIONS CONFERENCE} Thttps://doi.org/10 ACM International Conference Proceedings Sories Proceedings of the 6th International Conference on Software and Computer Applications
Kang2017a Karatas2014a Karimpour2017a	Kang, Sungwon; Kim, Jungmin; Baek, Haeun; Ahn, Hwi; Jung, Pilsu; Lee, Jihyun Karatas, Elif Kamer; Iyidir, Baris; Birturk, Aysenur Karimpour, R.; Ruhe, G.	Comparison of Software Product Line Test Derivation Methods from the Reuse Viewpoint Ontology-based Software Requirements Reuse: Case Study in Fire Control Software Product Line Domain Evolutionary robust optimization for software product line scoping: An explorative study	Product line test development is more complicated than test development for a single application, as the software product line deve {Reuse is a highly favored concept in software engineering community, but it is the essence of success fires;ontologies (artificial ir Background: Software product line (SPL) scoping is an important phase when planning for product line a Commerce; Computer sof	No N	NO N	20 20	7 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 6th International Conference on Software and Computer Application 4 https://doi.org/10 IEEE International Conference on Data Mining Workshops, ICDMW 7 https://doi.org/10 Computer Languages, Systems and Structures 8 https://doi.org/10 Computer Languages, Systems and Structures
	Kato, Tadahisa; Kawakami, Masumi; Myojin, Tomoyuki; Ogawa, Hideto; Hirono, Koji; Hasegawa, Tak Khan, F. Q.; Musa, S.; Tsaramirsis, G.; Bakhsh, S. T. Khurum, M.; Gorschek, T.	A study: selection of model metamodel and SPL tools for the verification of software product lines A systematic review of domain analysis solutions for product lines	Software product line engineering has spread as a technique for promoting the efficient development of document integration, soft One of the key activities in software product line engineering (SPLE) is the software product managemen Model, Metamodel, SPL to Domain analysis is crucial and central to software product line engineering (SPLE) as it is one of the mai Domain analysis; Domain	No No No Yes	NoNoNoNoYesYesNoYesNoYesYes	No - out of scope 20	3 https://doi.org/10 Proceedings of the 17th International Software Product Line Conference 7 https://doi.org/10 International Journal of Information Technology (Singapore) 9 https://doi.org/10 Journal of Systems and Software
Kim2005a Kim2005b Kim2006a	Kim, HK. Kim, S. D.; Chang, S. H.; La, H. J. Kim, Jeong Ah	A study on the mechanism for mobile embedded agent development based on product line A systematic process to design product line architecture Case study of product line engineering in insurance company	In most mobile embedded agent systems (MEAS), agents are required to achieve their own goals. An ac Computer architecture; Er Product Line Engineering is being accepted as a representative software reuse methodology by using cc Architectural design; Com {Since every insurance company has several channels for selling the insurance to customer, it was ver {component; product-line;	No No No No No No	No No No No No No No No No	20 20 20	https://doi.org/10 Lecture Notes in Computer Science {COMPUTATIONAL SCIENCE AND ITS APPLICATIONS - ICCSA 2005, PT 3} https://doi.org/10 Lecture Notes in Computer Science {COMPUTATIONAL SCIENCE AND ITS APPLICATIONS - ICCSA 2005, PT 1} https://doi.org/10 Proceedings of the 2006 IEEE International Conference on Information Reuse and Inte {IRI 2006: PROCEEDINGS OF THE 2006 IEEE INTERNATIONAL CONFERENCE ON
	Kim, K.; Kim, H.; Kim, S.; Chang, G. Kim, J. A. Kim, J. A.	A Case Study on SW Product Line Architecture Evaluation: Experience in the Consumer Electronics Domain Case study of software product line engineering in insurance product Variability Management Case Study in Software Insurance Domain	A well-executed software architecture is one of the most critical factors for achieving the intended effective consumer electronics; process to analyze a set of products and to identify the reusable components in the product factors for achieving the intended effective consumer electronics; processing and process to analyze a set of products and to identify the reusable components in the product factors for achieving the intended effective consumer electronics; processing and process to analyze a set of products and to identify the reusable components in the product factors for achieving the intended effective consumer electronics; processing and process to analyze a set of products and to identify the reusable components in the product factors for achieving the intended effective consumer electronics; processing and pr	No N	No N	20 20	https://doi.org/10 Proceedings - The 3rd International Conference on Software Engineering Advances, IC 2008 The Third International Conference on Software Engineering Advances https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE PRODUCT LINES: GOING BEYOND} https://doi.org/10 Proceedings - 2011 International Conference on Ubiquitous Computing and Multimedia Applications
Kluender2019b	Kim, J. A. Kim, J.; Kang, S.; Lee, J. Klünder, J. AC.; Hohl, P.; Prenner, N.; Schneider, K. Knodel, J.; Muthig, D.	A comparison of software product line traceability approaches from end-to-end traceability perspectives Transformation towards agile software product line engineering in large companies: A literature review The role of rationale in the design of product line architectures-A case study from industry	Software traceability is the ability to provide trace information on requirements, design, and implementati Application programs; Cor Almost all companies struggle with software systems that are getting increasingly complex. Therefore, in Software design, Agile ass Product line engineering aims at an efficient production of variants mainly enabled by large-scale and sy architectural decisions; de	No No No Yes	No No uncertain No	No - No systematic approach 20	 https://doi.org/10 Proceedings - 2011 International Conference on Ubiquitous Computing and Multimedia Applications https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering https://doi.org/10 Journal of Software: Evolution and Process https://doi.org/10 Rationale Management in Software Engineering
Kolb2005a	Knodel, J.; Muthig, D. Kolb, R.; Muthig, D.; Patzke, T.; Yamauchi, K. Kolb, R.; Muthig, D.; Patzke, T.; Yamauchi, K. Kolesnikov, S.; Roth, J.; Apel, S.	The role of rationale in the design of product line architectures-A case study from industry A case study in refactoring a legacy component for reuse in a product line Refactoring a legacy component for reuse in a software product line: A case study On the relation between internal and external feature interactions in feature-oriented product lines: A case study	Product line engineering aims at an efficient production of variants mainly enabled by large-scale and sy architectural decisions; de This paper describes activities performed to systematically improve the design and implementation of an software reusability;softwath Product lines are a promising approach to improve conceptually the productivity of the software develop. Code analysis; Refactoring The feature-interaction problem has been explored for many years. Still, we lack sufficient knowledge ab Computer programming, E	No N	No N	20 20	https://doi.org/10 Rationale Management in Software Engineering https://doi.org/10 IEEE International Conference on Software Maintenance, ICSM 21st IEEE International Conference on Software Maintenance (ICSM'05) https://doi.org/10 Journal of Software Maintenance and Evolution https://doi.org/10 ACM International Conference Proceeding Series
Korhonen2002a Kovse2004a	Kolesnikov, S.; Roth, J.; Apel, S. Korhonen, K. Kovse, J.; Gebauer, C. Koziolek, H.; Weiss, R.; Doppelhamer, J.	On the relation between internal and external feature interactions in feature-oriented product lines: A case study Empirical study on an experimental DSL for product-line development VS-Gen: A case study of a product line for versioning systems Evolving industrial software architectures into a software product line: A case study	The feature-interaction problem has been explored for many years. Still, we lack sufficient knowledge ab Computer programming, E {There has been a lot of discussion among researchers in the field of software development whether o {dontain-specific language} {This paper describes our experience with developing a product line for middleware-based versioning : Middleware; Unified Mode Industrial software applications have high requirements on performance, availability, and maintainability. Core asset; Diverse applic	No N	No N	20 20	4 https://doi.org/10 ACM International Conference Proceeding Series {6TH WORLD MULTICONFERENCE ON SYSTEMICS, CYBERNETICS AND INFORM 4 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {GENERATIVE PROGRAMMING AND COMPONENT ENGINEERING 2004, PROCEE 4 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {ARCHITECTURES FOR ADAPTIVE SOFTWARE SYSTEMS})
Koziolek2016a Krishna2006a	Koziolek, H.; Weiss, R.; Doppelhamer, J. Koziolek, H.; Goldschmidt, T.; de Gooijer, T.; Domis, D.; Sehestedt, S.; Gamer, T.; Aleksy, M. Krishna, Arvind S.; Gokhale, Aniruddha S.; Schmidt, Douglas C. Krishna, Arvind S.; Gokhale, Aniruddha; Schmidt, Douglas C.; Ranganath, Venkatesh Prasad; Hatcli	Assessing software product line potential: an exploratory industrial case study Context-Specific Middleware Specialization Techniques for Optimizing Software Product-Line Architectures	Corporate organizations sometimes offer similar software products in certain domains due to former corr Application programs; Correctline architectures (PLAs) are an emerging paradigm for developing software families for distribu specializations, product line	No N	No N	20 20	https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {ARCHITECTURES FOR ADAPTIVE SOFTWARE SYSTEMS} https://doi.org/10 Empirical Software Engineering https://doi.org/10 SIGOPS Oper. Syst. Rev. Proceedings of the 1st ACM SIGOPS/EuroSys European Conference on Computer Systems https://doi.org/10 SIGBED Rev.
Krueger2018a Kumar2016a	Kr\"{u}ger, Jacob and Fenske, Wolfram and Th\"{u}m, Thomas and Aporius, Dirk and Saake, Gunter Kumar, Satendra; Rajkumar	and Apo-Games: A Case Study for Reverse Engineering Variability from Cloned Java Variants Test Case Prioritization Techniques for Software Product Line: A Survey	This paper provides the following contributions to the study of middleware optimization techniques for prino keywords available Software-product-line engineering is an approach to systematically manage reusable software features a case study, extractive app {Software product line (SPL) testing is a tougher work than testing of single systems. Still testing of ear {Software product lines; Tougher to proceed with software product line adoption only once without major reinvestments and Ladoption. Adoption model:	No No No Uncerta	No N	No - not a literature study 20	8 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 22nd International Systems and Software Product Line Conference https://doi.org/10 Proceeding - IEEE International Conference on Computing, Communication and Autorr {2016 IEEE INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION Autorr {2016 IEEE INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION Autorr {2016 IEEE INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION Autorr {2016 IEEE INTERNATIONAL CONFERENCE ON COMPUTING AUTORR {2016 IEEE INTERNATIONAL CONFERENCE OUTORR {2016 IEEE INTERNATIONAL CONFERENCE OUTORR {2016 IEEE INTERNATIONAL CONFERENCE OUTORR {2016 IEEE INTERNATIONAL CONFERENCE OUTOR
Kuvaja2011a Laguna2013a Lam1998a Lamancha2009a	Kuvaja, P.; Similä, J.; Hanhela, H. Laguna, M. A.; Crespo, Y. Lam, W. Lamancha, B. P.; Usaola, M. P.; Velthius, M. P.	Software product line adoption - Guidelines from a case study A systematic mapping study on software product line evolution: From legacy system reengineering to product line refactoring A case-study of requirements reuse through product families Software product line testing - A systematic review	It is possible to proceed with software product line adoption only once without major reinvestments and I adoption; Adoption model; Software product lines (SPLs) are used in industry to develop families of similar software systems. Legar Evolution; Legacy system Increasingly, software organisations are looking towards large-scale reuse as a way of improving product Product Family, Functiona Software product lines constitute a new paradigm where industrial production techniques are adapted at Best practice; Industrial production techniques at Industrial practice; Industrial practice; Indu	No Yes No No	Yes Yes Yes Yes No No No No	20 19	https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) https://doi.org/10 Science of Computer Programming https://doi.org/10 Annals of Software Engineering https://doi.org/10 ICSOFT 2009 - 4th International Conference on Software and Data Technologies. Proc (ICSOFT 2009) PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON Software and Data Technologies.
	Lamancha, B. P.; Usaola, M. P.; Velthius, M. P. Lamancha, B. P.; Polo, M.; Piattini, M. La Rosa, M.; Van Der Aalst, W. M. P.; Dumas, M.; Milani, F. P.	Software product line testing - A systematic review Systematic review on Software Product Line Testing Business process variability modeling: A survey	Software product lines constitute a new paradigm where industrial production techniques are adapted ar Best practice; Industrial pr This article presents a systematic review of the literature about Testing in Software Product Lines. The oi Innovative research; Softw It is common for organizations to maintain multiple variants of a given business process, such as multiple Design; Management; Office of During the past decade a number of methods and techniques for software product line scoping have her Compare and analyze: Es	Yes Yes Yes Yes Yes Yes	Yes No No No Yes Yes	No - out of scope/no white literature 20	https://doi.org/10 ICSOFT 2009 - 4th International Conference on Software and Data Technologies, Proc {ICSOFT 2009: PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON { International International Conference on Software and Data Technologies, Proc {ICSOFT 2009: PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON { International International Journal of Software Engineering and Knowledge Engineering
Lee2012a Lee2019b	Lee, J.; Kang, S.; Lee, D. Lee, Jihyun; Kang, Sungwon; Lee, Danhyung Lee, J.	A comparison of software product line scoping approaches A Survey on Software Product Line Testing An Introductory Study on an Architecture-Based Software Product Line Test Generation Method	During the past decade a number of methods and techniques for software product line scoping have bee Compare and analyze; Es Software product line (SPL) testing consists of two separate but closely related test engineering activities software product line testing. Architecture-based testing allows test engineers to focus on the structure of complicated software and the Application programs; Tes Contact to be defined as a few as a second and line testing (CRLT) test as a second as a few as a fe	No No Yes No No	Yes No No No No	No - out of scope 20	 https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering https://doi.org/10 ACM International Conference Proceeding Series https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering
Lena2009a Leserf2015a	Lee, J.; Kang, S.; Jung, P. Lena, A.; Ola, H. Leserf, P.; De Saqui-Sannes, P.; Hugues, J.; Chaaban, K.	Test coverage criteria for software product line testing: Systematic literature review Digital differentiation, software product lines, and the challenge of isomorphism in innovation: A case study Architecture optimization with sysML modeling: A case study using variability	Context: In software product line testing (SPLT), test coverage criterion is an important concept, as it pro Application programs; Sys This paper examines the adoption of software product line engineering to implement digital differentiation Digital differentiation; Inno Obtaining the set of trade-off architectures from a SysML model is an important objective for the system Constraint satisfaction pro	Yes Yes No No	Yes Yes No Yes No No No No No	20 20 20 20	https://doi.org/10 Information and Software Technology https://aisel.aisne 17th European Conference on Information Systems, ECIS 2009 https://doi.org/10 Communications in Computer and Information Science {MODEL-DRIVEN ENGINEERING AND SOFTWARE DEVELOPMENT (MODELSWARE)
Li2007a Li2017a Liebig2009a	Li, Y.; Zhao, W. Li, Yang; Schulze, Sandro; Saake, Gunter Liebig, J\"{o}rg and Apel, Sven and Lengauer, Christian and Leich, Thomas	Feature oriented approach to mapping from domain requirements to product line architecture Reverse Engineering Variability from Natural Language Documents: A Systematic Literature Review RobbyDBMS: A Case Study on Hardware/Software Product Line Engineering	Architecture is one of important parts in software product line, and architecture comes from domain requ Software architecture; Sof {Identifying features and their relations (i.e., variation points) is crucial in the process of migrating singl {Feature Identification; Value of the development of a highly configurable data management system is a challenging task, especially if it domain engineering, Feature Identification; Value of the development of a highly configurable data management system is a challenging task, especially if it domain engineering, Feature Identification; Value of the development of a highly configurable data management system is a challenging task, especially if it domain engineering, Feature Identification; Value of the development of a highly configurable data management system is a challenging task, especially if it domain engineering, Feature Identification; Value of the development of a highly configurable data management system is a challenging task, especially if it domain engineering, Feature Identification; Value of the development of a highly configurable data management system is a challenging task, especially if it domain engineering, Feature Identification; Value of the development of the devel	No No Yes No	NoNoNoYesYesYesNoNoNo	20 20 20	https://doi.org/10 Jisuanji Yanjiu yu Fazhan/Computer Research and Development https://doi.org/10 ACM International Conference Proceeding Series https://doi.org/10 ACM International Conference Proceeding Series https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the First International Workshop on Feature-Oriented Software Development Proceedings of the First International Workshop on Feature-Oriented Software Development
Lima2016a Lima2018a	Lima, Crescencio; Chavez, Christina	A Systematic Review on Metamodels to Support Product Line Architecture Design arristi Towards an Automated Product Line Architecture Recovery: The Apo-Games Case Study Product line architecture recovery with outlier filtering in software families: the Apo-Games case study	{Product Line Architecture (PLA) design is a key activity for developing successful Software Product Li {Software Product Lines; I {Software Product Line Engineering (SPLE) has been widely adopted for applying systematic reuse in {Software Product Lines; I Software product line (SPL) approach has been widely adopted to achieve systematic reuse in families c Computer software reusal	Yes No No	Yes Yes Yes Yes No No No No No No	20 20	https://doi.org/10 ACM International Conference Proceeding Series KII BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCHITECTURES, A https://doi.org/10 Journal of the Brazilian Computer Society
Ling2016a Linsbauer2014a	Ling, Jimin; Zhang, Li Linsbauer, L.; Angerer, F.; Grünbacher, P.; Lettner, D.; Prähofer, H.; Lopez-Herrejon, R. E.; Egyed, A Lisboa, Liana Barachisio; Nascimento, Leandro Marques; de Almeida, Eduardo Santana; Meira, Ror	Comparison and Variability Analysis in Process Variants Recovering feature-to-code mappings in mixed-variability software systems	{The co-existence of multiple variants of a same process is a common phenomenon in process reposit {Process model; Model co Software engineering methods for analyzing and managing variable software systems rely on accurate foode converters; Codes (software to attend the industry needs, it is necessary to provide more practical issues of real software continuing education; course	V V V No	No N	20 20	https://doi.org/10 Communications in Computer and Information Science {PROCESS-AWARE SYSTEMS} https://doi.org/10 Proceedings - 30th International Conference on Software Maintenance and Evolution, ICSME 2014 https://doi.org/10 Software Engineering Education Conference, Proceedings {21ST CONFERENCE ON SOFTWARE ENGINEERING EDUCATION AND TRAINING
Liu2001a Lobato2012a	Liu, XB.; Dong, JH.; Sun, W. Lobato, L. L.; da Mota Silveira Neto, P. A.; do Carmo Machado, I.; de Alemida, E. S.; de Lemos Meir Lobato, L. L.; Bittar, T. J.; Neto, P. A. D. M. S.; MacHado, I. D. C.; De Almeida, E. S.; Meira, S. R. D.	Study of product family modeling a, S Risk management in software product lines: An industrial case study	Multi-view product modeling for mass customization is proposed. The multi-views include functional view no keywords available Software Product Lines (SPL) adoption can affect several aspects of an organization and it involves sign risk management; software Software Product Line (SPL) Engineering focuses on systematic software reuse, which has benefits suci Industrial case study; Map	No N	No N	20 20	Jisuanji Fuzhu Sheji Yu Tuxingxue Xuebao/Journal of Computer-Aided Design and Computer Graphics https://doi.org/10 2012 International Conference on Software and System Process, ICSSP 2012 - Procedulor 2012 International Conference on Software and System Process (ICSSP) https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering
Loiola2016a	Loiola, E. M.; Da Silveira, D. S.; Araújo, J.; Moreira, A. L\'{o}pez, Nicol\'{a}s; Casallas, Rubby; van der Hoek, Andr\'{e}	Business process families: A case study in the brazilian public sector Issues in Mapping Change-Based Product Line Architectures to Configuration Management Systems	Configurable process models enable reusing existing process models by combining them, significantly re Information systems; Syst Most software product lines are first specified as an architecture, a high-level description of what the ove no keywords available	Yes No	No N	20 20	6 http://ceur-ws.org CEUR Workshop Proceedings 9 https://dl.acm.org Proceedings of the 13th International Software Product Line Conference
Lopeznerrejon2007a Lopezherrejon2008a Lopezherrejon2015a	Lopez-Herrejon, R. E.; Batory, D. Lopez-Herrejon, R. E. Lopez-Herrejon, Roberto E.; Fischer, Stefan; Ramler, Rudolf; Egyed, Alexander Lopez-Herrejon, R. E.; Lipshauer, L.; Egyed, A.	Modeling features in aspect-based product lines with use case slices: An exploratory case study Models, features and algebras: An exploratory study of model composition and software product lines A First Systematic Mapping Study of coarch based software engineering for software product lines	A significant number of techniques that exploit aspects in software design have been proposed in recent Computer simulation; Intelligible Software Product Lines (SPL) are families of related programs distinguished by the features they provide Exploratory studies; Feature (Software Product Lines (SPLs) are families of related software systems—distinguished by the set of features they provide Exploratory studies; Feature (Software Product Lines (SPLs) are families of related software systems—distinguished by the set of features they provide Exploratory studies; Feature (SPSE) is an emerging discipline that focuses on the applic Computer software: Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software: Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the applic Computer software (SPSE) is an emerging discipline that focuses on the application (SPSE) is an emerging discipline that focuses on the application (SPSE) is an emerging discipline that focuses on the application (SPSE) is an emerging discipline that focuses on the application (SPSE) is an emerging discipline that focuses on the application (SPSE) is an emerging discipline that the computer (SPSE) is an emerging discipline that the co	No No Yes	No No No No No Yes Yes No Yes	20 20	https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {MODELS IN SOFTWARE ENGINEERING} https://doi.org/10 ICSOFT 2008 - Proceedings of the 3rd International Conference on Software and Data {ICSOFT 2008: PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE Of https://doi.org/10 2015 IEEE 8th International Conference on Software Testing, Verification and Validation {2015 IEEE EIGHTH INTERNATIONAL CONFERENCE ON SOFTWARE TESTING, VI https://doi.org/10 Information and Software Testinglossy.
Lopezherrejon2015b Lopezherrejon2016a Lopezherrejon2018b	Lopez-Herrejon, R. E.; Linsbauer, L.; Egyed, A. Lopez-Herrejon, Roberto E.; Illescas, Sheny; Egyed, Alexander Lopez-Herrejon, R. E.; Illescas, S.; Egyed, A. Luciano Carvalho, Michelle Larissa; da Silva Gomes, Geovinalda Soares; Concalves da Silva, Mathe	A systematic mapping study of search-based software engineering for software product lines Visualization for Software Product Lines: A Systematic Mapping Study A systematic mapping study of information visualization for software product line engineering Software Product Lines: A Preliminary Study	Context Search-Based Software Engineering (SBSE) is an emerging discipline that focuses on the applic Computer software; Computer Software Product Lines (SPLs) are families of related systems whose members are distinguished by t data visualisation; program Software product Lines (SPLs) are families of related systems whose members are distinguished by the Computer software; Flow (Dynamic Software Product Lines (DSPL) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)) engineering has emerged as a promising strategy to develop (Dynamic Software Product Lines (DSPL)).	Yes Yes Yes Yes Yes	Yes Yes uncertain Yes Yes Yes uncertain Yes Yes Yes uncertain Yes No. No. No. No. No. No.	20 20	 https://doi.org/10 Information and Software Technology https://doi.org/10 Proceedings - 2016 IEEE Working Conference on Software Visualization, VISSOFT 20 {2016 IEEE WORKING CONFERENCE ON SOFTWARE VISUALIZATION} https://doi.org/10 Journal of Software: Evolution and Process https://doi.org/10 Proceedings - 2016 10th Brazilian Symposium on Components Architectures and Pau (PROCEEDINGS OF 2016 X RPAZILIAN SYMPOSIUM ON SOETWARE COMPONENTS)
Lucianocarvalho2016a Lundin2014a Machac2014a	Luciano Carvalho, Michelle Larissa; da Silva Gomes, Gecynalda Soares; Goncalves da Silva, Mathe Lundin, M.; Lejon, E.; Dagman, A.; Näsström, M.; Jeppsson, P. Machac, J.; Steiner, F.	An empirical study of information exchange and design support in product family development Process variability reduction by using the design of experiment - A case study	{Dynamic Software Product Lines (DSPL) engineering has emerged as a promising strategy to develor {Dynamic Software Product An investigation carried out at a Swedish manufacturing company has focused specifically on information Information dissemination Low process variability and capability index might be some of customer's requirements. Therefore it is no Competition; Customer sa	No N	NO N	20 20	6 https://doi.org/10 Proceedings - 2016 10th Brazilian Symposium on Components, Architectures and Reu {PROCEEDINGS OF 2016 X BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONEN 4 https://doi.org/10 Proceedings of the ASME Design Engineering Technical Conference 4 https://doi.org/10 FAIM 2014 - Proceedings of the 24th International Conference on Flexible Automation and Intelligent Manufacturing: Capturing Competitive Advantage via Advanced Manufacturing: 4
Mahdavihezavehi2013a	Machado, I. D. C.; McGregor, J. D.; Cavalcanti, Y. C.; De Almeida, E. S. Maga, C. R.; Jazdi, N. Mahdavi-Hezavehi, S.; Galster, M.; Avgeriou, P.	On strategies for testing software product lines: A systematic literature review Interdisciplinary modularization in product line engineering: A case study Variability in quality attributes of service-based software systems: A systematic literature review	Context Testing plays an important role in the quality assurance process for software product line engine Computer software selecti This contribution proposes an approach for domain engineering and application engineering, which has factory automation;manufa Context: Variability is the ability of a software artifact (e.g., a system, component) to be adapted for a spa Assessing method; Autom	Yes Yes No Yes	Yes Yes No Yes No No No No Yes Yes Yes Yes	20 20 20	 https://doi.org/10 Information and Software Technology https://doi.org/10 2012 IEEE International Conference on Automation, Quality and Testing, Robotics, AQ Proceedings of 2012 IEEE International Conference on Automation, Quality and Testing https://doi.org/10 Information and Software Technology
Mannion2013a Mannion2014a	Makki, Majid; Van Landuyt, Dimitri; Lagaisse, Bert; Joosen, Wouter Mannion, Mike; Savolainen, Juha Mannion, Mike; Savolainen, Juha	Journal First Presentation of a Comparative Study of Workflow Customization Strategies: Quality Implications for Multi-Tenant SaaS Aligning Product Line Business and Technical Strategies: Mapping Product Line Requirements to a Product Line Architecture Mapping Product Line Requirements to a Product Line Architecture	Multi-tenant Software-as-a-Service (SaaS) applications share a single runtime instance among multiple (Multi-tenancy, Software-as In the consumer product market space a commercial challenge is to offer personalization of products an Product lines, industrial examples (This tutorial explores how the prudent use of a set of requirements variability management techniques (variability; requirements;	No N	No No No No No No No No No	20 20 20 20	9 https://doi.org/10 Proceedings of the 23rd International Systems and Software Product Line Conference https://doi.org/10 Proceedings of the 17th International Software Product Line Conference https://doi.org/10 ACM International Conference Proceeding Series 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2014),
Marcolino2014a Marcolino2017a	Marcolino, Anderson; Oliveira, Jr., Edson; Gimenes, Itana Marcolino, A. S.; Oliveira, E., Jr.; Gimenes, I. M. S.; Barbosa, E. F. Marew, T.; Kim, J.; Bae, D. H.	Variability Identification and Representation in Software Product Line UML Sequence Diagrams: Proposal and Empirical Study Variability resolution and product configuration with SMarty: An experimental study on UML class diagrams Case study on systematic functional decomposition in a product line using aspect oriented software development	{Variability management is an essential activity to ensure which products can be instantiated from the ({Sequence diagrams; Soft Variability management is one of the most important activities during software product line development. Class Diagrams, Experiment Systematic configuration management is important for successful software product lines. We can use as Aspect oriented software (Image: Control of the con	No No No No No No No No No	20 20	4 https://doi.org/10 Proceedings - 28th Brazilian Symposium on Software Engineering, SBES 2014 {2014 28TH BRAZILIAN SYMPOSIUM ON SOFTWARE ENGINEERING (SBES 2014)} 7 https://doi.org/10 Journal of Computer Science 8 https://doi.org/10 17th International Conference on Software Engineering and Knowledge Engineering, SEKE 2005

entifier arew2007a	Author Marew, T.; Kim, J.; Bae, D. H.	Title Systematic functional decomposition in a product line using aspect-oriented software development: A case study	Abstract Systematic configuration management is important for successful software product lines. We can use as Feature extraction; Function [20]	ble English Short/Full Paper Peer-Re	viewed Secondary Literatu Semantic Duplicat	No No No	include Comments No	Year DOI Journal Booktitle 2007 https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering 2017 History (Main and Manageria and M
arimuthu2017a arques2019a artinez2018a	Marimuthu, C.; Chandrasekaran, K. Marques, M.; Simmonds, J.; Rossel, P. O.; Bastarrica, M. C. Martinez, Jabier and T\"{e}rnava, Xhevahire and Ziadi, Tewfik	Systematic Studies in Software Product Lines: A Tertiary Study Software product line evolution: A systematic literature review Software Product Line Extraction from Variability-Rich Systems: The Robocode Case Study	{Software product lines are widely used in the software industries to increase the re-usability and to de {software product line; tert Context: Software Product Lines (SPL) evolve when there are changes in the requirements, product stru Computer software reusal The engineering of a Software Product Line (SPL), either by creating it from scratch or through the re-en education, software product			Yes uncertain No Yes Yes Yes Yes uncertain	Yes Yes - Body of knowledge Yes	2017 https://doi.org/10 ACM International Conference Proceeding Series {21ST INTERNATIONAL SYSTEMS \& SOFTWARE PRODUCT LINE CONFERENCE (21ST INTERNATIONAL SY
rtinezruiz2011a rtinezruiz2013a	Martínez-Ruiz, T.; García, F.; Piattini, M.; Münch, J. Martínez-Ruiz, T.; García, F.; Piattini, M.; De Lucas-Consuegra, F.	Modelling software process variability: An empirical study Process variability management in global software development: A case study	Variability in software process models justifies tailoring them to meet the specific goals and characteristic Empirical studies; Empiric Global Software Development (GSD) is set to be the paradigm that will support software industries in the Development process; Global Software Development process pro			No No No No No	No No	2011 https://doi.org/10 IET Software 2013 https://doi.org/10 ACM International Conference Proceeding Series
ns2018a ns2019a ılassi2004a	Martins, L. A.; Freire, A. P.; Parreira, P.A., Jr.; Costa, H. Martins, J.; Bezerra, C. I. M.; Uchôa, A. Matinlassi, M.	Exploratory study on the use of software product lines in the development of quality assistive technology software Analyzing the impact of inter-smell relations on software maintainability [An empirical study with software product lines] Comparison of software product line architecture design methods: COPA, FAST, FORM, KobrA and QADA	The use of Software Product Line for the development of Assistive Technologies has not been widely exp Computer software reusal A Software Product Line (SPL) consists of a systematic reuse strategy to construct systems with less efficomputer software reusal Product line architectures (PLAs) have been under continuous attention in the software research communications; Computer			NoYesNoNoNoNoNoNoNoNoNoYes	No No	2018 https://doi.org/10 ACM International Conference Proceeding Series {PROCEEDINGS OF THE 8TH INTERNATIONAL CONFERENCE ON SOFTWARE 2019 https://doi.org/10 ACM International Conference Proceeding Series 2004 http://doi.org/10 Proceedings - International Conference on Software Engineering Proceedings. 26th International Conference on Software Engineering
alassi2004b ado2008a	Matinlassi, M. Mellado, D.; Fernández-Medina, E.; Piattini, M.	Evaluating the portability and maintainability of software product family architecture: terminal software case study Security Requirements Engineering Process for Software Product Lines: A Case Study	This paper introduces a case study of a driver terminal product family. The terminals are used for fare co software performance eva The majority of the current product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering do not adequately address formal specification; product line practices in requirements engineering e			No No No No No	No No	2004 http://www.neone Proceedings. Fourth Working IEEE/IFIP Conference on Software Architecture (WICS 2008 https://doi.org/10 Proceedings - The 3rd International Conference on Software Engineering Advances, IC 2008 The Third International Conference on Software Engineering Advances
dezacuna2016a donca2019a nelon2019a	Méndez-Acuña, D.; Galindo, J. A.; Degueule, T.; Combemale, B.; Baudry, B. Mendon\c{c}a, Willian D. F.; Assun\c{c}\ {a}o, Wesley K. G.; Vergilio, Silvia R. Michelon, Gabriela Karoline; Linsbauer, Lukas; Assun\c{c}\ {a}o, Wesley K. G.; Egyed, Alexander	Leveraging Software Product Lines Engineering in the development of external DSLs: A systematic literature review Reusing Test Cases on Graph Product Line Variants: Results from a State-of-the-Practice Test Data Generation Tool Comparison-Based Feature Location in ArgoUML Variants	The use of domain-specific languages (DSLs) has become a successful technique in the development o Computer software; Digita Software testing is an essential activity for quality assurance, but, it is an error-prone and effort consumit Software Reuse, Test Cov Identifying and extracting parts of a system's implementation for reuse is an important task for re-engine variants, traceability, softw			YesYesYesNoNoNoNoNoNoNoNo	Yes No No	2016 https://doi.org/10 Computer Languages, Systems and Structures 2019 https://doi.org/10 Proceedings of the IV Brazilian Symposium on Systematic and Automated Software 2019 https://doi.org/10 Proceedings of the 23rd International Systems and Software Product Line Conference
aard2014a aard2015a	Midtgaard, J.; Brabrand, C.; Wąsowski, A. Midtgaard, J.; Dimovski, A. S.; Brabrand, C.; Wąsowski, A.	Systematic derivation of static analyses for software product lines Systematic derivation of correct variability-aware program analyses	A recent line of work lifts particular verification and analysis methods to Software Product Lines (SPL). Ir Abstracting; Computer sof A recent line of work lifts particular verification and analysis methods to Software Product Lines(SPL). In Abstracting; Computer sof			No No No No	No No	2014 https://doi.org/10 MODULARITY 2014 - Proceedings of the 13th International Conference on Modularity (Formerly AOSD) 2015 https://doi.org/10 Science of Computer Programming
a2017a abbati2013a agud2012a	Mjeda, A.; Wasala, A.; Botterweck, G. Mohabbati, B.; Asadi, M.; Gašević, D.; Hatala, M.; Müller, H. A. Montagud, S.; Abrahão, S.; Insfran, E.	Decision spaces in product lines, decision analysis, and design exploration: An interdisciplinary exploratory study Combining service-orientation and software product line engineering: A systematic mapping study A systematic review of quality attributes and measures for software product lines	Context. From recent works on product properties resulting from configurations and the optimisation of the Decision making; Decision Context Service-Orientation (SO) is a rapidly emerging paradigm for the design and development of ada Computer software reusal. It is widely accepted that software measures provide an appropriate mechanism for understanding, monit Computer software reusals.			Yes Yes Yes Yes Uncertain	Yes Yes	2017 https://doi.org/10 ACM International Conference Proceeding Series 2013 https://doi.org/10 Information and Software Technology 2012 https://doi.org/10 Software Quality Journal
lvillo2016a a2011a s2009a	Montalvillo, L.; Díaz, O. Moraga, C.; Moraga, M. A.; Genero, M.; Piattini, M. Morais, Yuri; Burity, Thais; Elias, Gledson	Requirement-driven evolution in software product lines: A systematic mapping study A systematic literature review on software product line quality A Systematic Review of Software Product Lines Applied to Mobile Middleware	CONTEXT. Software Product Lines (SPLs) aim to support the development of a whole family of software Mapping, Evolution; Product This paper provides a summary of a systematic literature review (SLR) which was performed to find out Evaluation and improvement [Mobile computing imposes several restrictions to software development of the diversities in network (Scustomizable middleware)			Yes Yes Yes uncertain Yes Yes No uncertain uncertain No No uncertain	Yes No No - out of scope No No - out of scope	2016 https://doi.org/10 Journal of Systems and Software 2011 <a 10.tyle="https://doi.org/10" doi.org="" href="http://doi.org/10.tyle=" https:="">https://doi.org/10 ICSOFT 2011 - Proceedings of the 6th International Conference on Software and Datal {ICSOFT 2011: PROCEEDINGS OF THE 6TH INTERNATIONAL CONFERENCE OF INFO ON I
ahl2019a ahl2019e	Mordahl, Austin Mordahl, A.; Oh, J.; Koc, U.; Wei, S.; Gazzillo, P.	Toward Detection and Characterization of Variability Bugs in Configurable C Software: An Empirical Study An empirical study of real-world variability bugs detected by variability-oblivious tools	{Variability in C software is a useful tool, but critical bugs that only exist in certain configurations are ea {static analysis; configurated Many critical software systems developed in C utilize compile-time configurability. The many possible core C (programming language			No No No No No	No No	2019 https://doi.org/10 Proceedings - 2019 IEEE/ACM 41st International Conference on Software Engineering (2019 IEEE/ACM 41ST INTERNATIONAL CONFERENCE ON SOFTWARE ENGINE 2019 https://doi.org/10 ESEC/FSE 2019 - Proceedings of the 2019 27th ACM Joint Meeting European Softwar (ESEC/FSE'2019: PROCEEDINGS OF THE 2019 27TH ACM JOINT MEETING ON
ra2020a ra2020b gesupillai2011a	Mortara, Johann and Collet, Philippe and T\"{e}rnava, Xhevahire Mortara, J.; Tërnava, X.; Collet, P. Murugesupillai, Esan; Mohabbati, Bardia; Ga\v{s}evi\'{c}, Dragan	Identifying and Mapping Implemented Variabilities in Java and C++ Systems Using Symfinder Mapping features to automatically identified object-oriented variability implementations: The case of ArgoUML-SPL A Preliminary Mapping Study of Approaches Bridging Software Product Lines and Service-Oriented Architectures	Variability is present in most modern object-oriented softwareintensive systems, despite that they commobject-oriented variability- In Software Product Line (SPL) engineering, mapping domain features to existing code assets is essenti Automatic identification; C Service Oriented Architectures (SOA) and Software Product Lines (SPL) have individually proven to be service-oriented architectures.			NouncertainNoNoNouncertainNoNoYesYesuncertainYes	No No Yes	2020 https://doi.org/10 ACM International Conference Proceeding Series 2020 https://doi.org/10 ACM International Conference Proceeding Series 2021 https://doi.org/10 ACM International Conference Proceeding Series 2021 https://doi.org/10 ACM International Conference Proceeding Series 2022 Proceedings of the 24th ACM International Systems and Software Product Line Conference, Volume 2
at2010a erniemi2006a	Musat, D.; Rodríguez, P. Myllärniemi, V.; Raatikainen, M.; Männistö, T.	Value stream mapping integration in software product lines Inter-organisational approach in rapid software product family development - A case study	In the intense competitive software development environment, the ability to quicker create and deliver sc Software Product Lines (S Software product families provide an efficient means of reuse between a set of related products. Howeve Animation; Computer software			No No No No No	No No	2010 https://doi.org/10 ACM International Conference Proceeding Series 2006 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {REUSE OF OFF-THE-SHELF COMPONENTS, PROCEEDINGS}
erniemi2012a erniemi2013a erniemi2016a	Myll\"{a}rniemi, Varvana and Raatikainen, Mikko and M\"{a}nnist\"{o}, Tomi Myll\"{a}rniemi, Varvana and Savolainen, Juha and M\"{a}nnist\"{o}, Tomi Myll\"{a}rniemi, Varvana and Raatikainen, Mikko and Savolainen, Juha and M\"{a}nnist\"{o}, Tomi	A Systematically Conducted Literature Review: Quality Attribute Variability in Software Product Lines Performance Variability in Software Product Lines: A Case Study in the Telecommunication Domain Purposeful Performance Variability in Software Product Lines: A Comparison of Two Case Studies	Typically, products in a software product line differ by their functionality, and quality attributes are not inte systematic literature review In the research on software product lines, product variants typically differ by their functionality, and qualit software product line, case Within software product lines, customers may have different quality needs. To produce products with pur Computer software; Sales			YesYesYesuncertainNoNoNoNoNoNoNoNo	Yes No No	2012 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 16th International Software Product Line Conference - Volume 1 2013 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 17th International Software Product Line Conference 2016 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 20th International Systems and Software Product Line Conference
niemi2016a 013a	Myllärniemi, V.; Savolainen, J.; Raatikainen, M.; Männistö, T. Nadi, Sarah	Performance variability in software product lines: proposing theories from a case study A study of variability spaces in open source software	In the software product line research, product variants typically differ by their functionality and quality attı Base stations; Commerce Configurable software systems allow users to customize them according to their needs. Supporting such Linux; public domain softw			No No Yes No No Yes	No No	2016 https://doi.org/10 Empirical Software Engineering 2013 https://doi.org/10 Proceedings - International Conference on Software Engineering 2013 35th International Conference on Software Engineering (ICSE)
14a ine2016a 20a	Nadi, S.; Holt, R. Nagamine, Motoi; Nakajima, Tsuyoshi; Kuno, Noriyoshi Nair, Suparna S.; Becker, Martin; Tenev, Vasil	The Linux kernel: A case study of build system variability A Case Study of Applying Software Product Line Engineering to the Air Conditioner Domain A Comparative Study on Variability Code Analysis Technology	Although build systems control what code gets compiled into the final built product, they are often overlo Codes (symbols); Linux; C Software development for embedded products requires high quality, high productivity, and short delivery SPL, embedded system, c Product line engineering is often conducted in an incremental way, in which the variability artifacts evolve software product line, Vari			NoNoNoNoNoNoNouncertainNo	No No No	2014 https://doi.org/10 Journal of Software: Evolution and Process 2016 https://doi.org/10 ACM International Conference Proceeding Series 2020 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 24th ACM International Systems and Software Product Line Conference Proceeding Series
ento2008a uceno2018a	Nepomuceno, Thais S.; OliveiraJr, Edson	A Case Study in Software Product Lines - The Case of the Mobile Game Domain Configuring Software Product Line Specific Products with SMarty and PLUS An Experimental Study on Use Case Diagrams	Software product lines (SPL) processes are gradually being adopted by many companies in several dor application program interface (Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements, I (Experimental Study; Software Product Line (SPL) represents a set of systems that share common and variable elements are common and variable elements.			No No No No	No No	2008 https://doi.org/10 2008 34th Euromicro Conference Software Engineering and Advanced Applications 2018 https://doi.org/10 ACM International Conference Proceeding Series 2008 34th Euromicro Conference Software Engineering and Advanced Applications 4PROCEEDINGS OF THE 17TH BRAZILIAN SYMPOSIUM ON SOFTWARE QUALITY.
iceno2020a iceno2020b 7a	Nepomuceno, T.; OliveiraJr, E.; Geraldi, R.; Malucelli, A.; Reinehr, S.; Silva, M. A. G. Nepomuceno, T.; Oliveira, E.; Penteado, R.; Graciotto Silva, M. A.; Zorzo, A. F. Neto, J. C.; Lopes, T. E. C.; Amaral, A. M. M. M.	Software Product Line Configuration and Traceability: An Empirical Study on SMarty Class and Component Diagrams Empirical Study on Product Configuration and Traceability in UML-based Product-Lines Application of memetic algorithms in the search-based product line architecture design: An exploratory study	A Software Product Line (SPL) represents a set of systems sharing common and variable features. The formal specification; software Software Product Line (SPL) can be defined as a set of systems that share common and variable parts. Class diagrams; Empirical Basic design principles, feature modularization, and SPL extensibility of Product Line Architecture (PLA) Evolutionary algorithms; C			NouncertainNoNoNouncertainNoNoNoNoNoNo	No No	https://doi.org/10 Proceedings - 2020 IEEE 44th Annual Computers, Software, and Applications Confere 2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPS 2020 http://cibse2020. 23rd Iberoamerican Conference on Software Engineering, ClbSE 2020 2017 https://doi.org/10 ICEIS 2017 - Proceedings of the 19th International Conference on Enterprise Information Systems
9b thi2003a	Neto, A. A.; Kalinowski, M.; Garcia, A.; Winkler, D.; Biffl, S. Nidamarthi, S.; Mechler, G.; Karandikar, H.	A preliminary comparison of using variability modeling approaches to represent experiment families A systematic method for designing profitable product families	Background: Replication is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science. Experiment replications reproductions; Construction is essential to build knowledge in empirical science.			No No No No	No No	2019 https://doi.org/10 ACM International Conference Proceeding Series {PROCEEDINGS OF EASE 2019 - EVALUATION AND ASSESSMENT IN SOFTWA 2003 https://doi.org/10 Proceedings of the ASME Design Engineering Technical Conference
13a 2019a auer2018a	Nie, KM.; Zhang, L.; Fan, ZQ. Njima, M.; Demeyer, S. N\"{o}bauer, Markus and Groher, Iris and Seyff, Norbert	Systematic literature review of software product line variability modeling techniques An exploratory study on migrating single-products towards product lines in start-up contexts Feature-Based Reuse in the ERP Domain: An Industrial Case Study	The software product line is one of the most effective strategies for reuse of large-scale software and rar Application engineering; C A majority of technology start-ups fail; inadequate software engineering practices are known to be a cont Computer applications; Cc Enterprise Resource Planning (ERP) system vendors need to customize their products according to the ERP systems, variability, r			No N	No No	2013 https://doi.org/10 Ruan Jian Xue Bao/Journal of Software 2019 https://doi.org/10 ACM International Conference Proceeding Series 2018 https://doi.org/10 ACM International Conference Proceeding Series 2018 Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Proceedings of the 22nd International Systems and Software Proceedings of the 22nd International Systems and Sys
2012a ateixeira2019a	N\"{o}hrer, Alexander and Biere, Armin and Egyed, Alexander Nogueira Teixeira, E.; Aleixo, F. A.; Amâncio, F. D. D. S.; Oliveira Jr, E.; Kulesza, U.; Werner, C.	A Comparison of Strategies for Tolerating Inconsistencies during Decision-Making Software process line as an approach to support software process reuse: A systematic literature review	Tolerating inconsistencies is well accepted in design modeling because it is often neither obvious how to user guidance, inconsister Context: Software Process Line (SPrL) aims at providing a systematic reuse technique to support reuse Decision making, Decision			No No No No Yes Yes Yes	No Yes	2012 https://doi.org/10 Proceedings of the 16th International Software Product Line Conference - Volume 1 2019 https://doi.org/10 Information and Software Technology
7a 3a 09a	Noor, M. A.; Grünbacher, P.; Briggs, R. O. Noor, M. A.; Rabiser, R.; Grünbacher, P. Nunes, Ingrid; Nunes, Camila; Kulesza, Uir{\'a}; Lucena, Carlos	A collaborative approach for product line scoping: A case study in collaboration engineering Agile product line planning: A collaborative approach and a case study Developing and Evolving a Multi-agent System Product Line: An Exploratory Study	Collaboration engineering facilitates the design of work practices for mission-critical tasks which are perf Administrative data proces Agile methods and product line engineering (PLE) have both proven successful in increasing customer's Customer satisfaction; Ind Software Product Line (SPL) approaches motivate the development and implementation of a flexible and Software product lines, mu			NO NO NO NO NO NO NO NO NO	No No	2007 https://citeseerx.i Proceedings of the IASTED International Conference on Software Engineering, SE 20({PROCEEDINGS OF THE IASTED INTERNATIONAL CONFERENCE ON SOFTWARD 2008 https://doi.org/10 Journal of Systems and Software 2009 https://doi.org/10 Agent-Oriented Software Engineering IX
17a 18a	Ochoa, L.; Pereira, J. A.; González-Rojas, O.; Castro, H.; Saake, G. Ochoa, L.; González-Rojas, O.; Juliana, A. P.; Castro, H.; Saake, G.	A survey on scalability and performance concerns in extended product lines configuration A systematic literature review on the semi-automatic configuration of extended product lines	Product lines have been employed as a mass customisation method that reduces production costs and t Computer programming; (Product line engineering has become essential in mass customisation given its ability to reduce producti Cost engineering; Custom			No No No No No No No No Yes Yes	No Yes	2017 https://doi.org/10 ACM International Conference Proceeding Series 2018 https://doi.org/10 Journal of Systems and Software
12a 8a)13a	Oizumi, Willian N.; Contieri Junior, Antonio C.; Correia, Guilherme G.; Colanzi, Thelma E.; Ferrari, Sai Ojeda, M. C. C.; Alegría, J. A. H.; Rodriguez, F. J. L. Okudan, G. E.; Chiu, MC.; Kim, TH.	nd On the Proactive Design of Product-Line Architectures with Aspects: an Exploratory Study An exploratory study for scoping software product lines in a collaborative way Perceived feature utility-based product family design: A mobile phone case study	{A product-line architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (PLA) entails a design reused by a family of products sharing several featu {Software Product Line Architecture (NO NO NO NO NO NO NO NO NO	No No	https://doi.org/10 Proceedings - International Computer Software and Applications Conference {2012 IEEE 36TH ANNUAL COMPUTER SOFTWARE AND APPLICATIONS CONFI 2018 https://doi.org/10 Proceedings - International Conference on Software Engineering {2018 IEEE/ACM 11TH INTERNATIONAL WORKSHOP ON COOPERATIVE AND Handle of Intelligent Manufacturing}
a2014a 017a	Olaechea, Rafael; Rayside, Derek; Guo, Jianmei; Czarnecki, Krzysztof Oliinyk, O.; Petersen, K.; Schoelzke, M.; Becker, M.; Schneickert, S.	Comparison of Exact and Approximate Multi-Objective Optimization for Software Product Lines Structuring automotive product lines and feature models: an exploratory study at Opel	{Software product lines (SPLs) allow stakeholders to manage product—variants in a systematical way a {Software Product Lines; I Automotive systems are highly complex and customized systems containing a vast amount of variability. Requirements engineering			No No No No No	No No	2014 https://doi.org/10 ACM International Conference Proceeding Series {18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2010) https://doi.org/10 Requirements Engineering
a2014a a2015a a2019a	de Oliveira, R. P.; de Almeida, E. S.; da Silva Gomes, G. S. de Oliveira, Raphael Pereira; de Almeida, Eduardo Santana Oliveira, P.; Vale, G.; Afonso, P.; Costa, H.	Evaluating Lehman's laws of software evolution within software product lines: A preliminary empirical study Requirements Evolution in Software Product Lines: An Empirical Study Extraction of a Software Product Line Using Conditional Compilation - An Exploratory Study	The evolution of a single system is a task where we deal with the modification of a single product. Lehma Regression analysis, Emp {The evolution of the requirements specification is a key activity for maintaining the goals of any software Product Lines (\$ Software Product Lines (LPS) is a development approach whose aims is to create a family of software. I feature extraction; geometric software is a single product. Lehma Regression analysis, Emp {The evolution of the requirements specification is a key activity for maintaining the goals of any software Product Lines (\$ Software Product Lines (LPS) is a development approach whose aims is to create a family of software. I feature extraction; geometric software Product Lines (\$ Software P			NO NO NO NO NO NO NO NO NO	No No	https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) https://doi.org/10 Proceedings - 2015 9th Brazilian Symposium on Software Components, Architectures (PROCEEDINGS 2015 NINTH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPO https://doi.org/10 Proceedings - 2019 45th Latin American Computing Conference, CLEI 2019 2019 XLV Latin American Computing Conference (CLEI)
ior2010a ior2013a	Oliveira Junior, Edson A.; Gimenes, Itana M. S.; Maldonado, Jose C. Oliveira Junior, Edson A.; Gimenes, Itana M. S.; Maldonado, Jose C.; Masiero, Paulo C.; Barroca, Leo	Systematic Management of Variability in UML-based Software Product Lines on Systematic Evaluation of Software Product Line Architectures	{This paper presents SMarty, a variability management approach for UML-based software product line {Profile; Stereotypes; UML {The architecture of a software product line is one of its most important artifacts as it represents an abs {Quality attributes; metrics			No No No No	No No	2010 {JOURNAL OF UNIVERSAL COMPUTER SCIENCE} 2013 {JOURNAL OF UNIVERSAL COMPUTER SCIENCE}
017a 2000a 2011a	Oster, S.; Wübbeke, A.; Engels, G.; Schürr, A. Pasetti, A.; Pree, W. Passos, Leonardo; Novakovic, Marko; Xiong, Yingfei; Berger, Thorsten; Czarnecki, Krzysztof; W\k{a}s	A survey of model-based software product lines testing Two novel concepts for systematic product line development so\ A Study of Non-Boolean Constraints in Variability Models of an Embedded Operating System	Software product line (SPL) engineering is an approach to improve reusability of software within a range Automotive industry; Com {Framelets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software frame lets and implementation cases are new concepts to manage the complexity of product line dev {product line; software lets and implementation cases are new concepts and implementation			No No No No No No No No No	No No	2017 https://doi.org/10 Model-Based Testing for Embedded Systems 2000 https://doi.org/10 SOFTWARE PRODUCT LINES: EXPERIENCE AND RESEARCH DIRECTIONS} 2011 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 15th International Software Product Line Conference, Volume 2
s2013a 2012a	Passos, Leonardo; Guo, Jianmei; Teixeira, Leopoldo; Czarnecki, Krzysztof; W\k{a}sowski, Andrzej; Bo Patzke, T.; Becker, M.; Steffens, M.; Sierszecki, K.; Savolainen, J. E.; Fogdal, T.	ort Coevolution of Variability Models and Related Artifacts: A Case Study from the Linux Kernel Identifying improvement potential in evolving product line infrastructures: 3 case studies	Variability-aware systems are subject to the coevolution of variability models and related artifacts. Surprictinux, variability, patterns, Successful software products evolve continuously to meet the changing stakeholder requirements. For s Product Line Code Evoluti			No No No No	No No	2013 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 17th International Software Product Line Conference 2012 https://doi.org/10 ACM International Conference Proceeding Series
2018a 2018c 2015a	Pazin, M. G.; Allian, A. P.; Oliveira, E., Jr. Pazin, M. G.; Geraldi, R. T.; Oliveira, E. Peake, I. D.; Blech, J. O.; Fernando, L.; Sharma, D.; Ramaswamy, S.; Kande, M.	Empirical study on software process variability modelling with SMartySPEM and vSPEM Comparing SmartySpem and VSpem for modeling variability in software processes: A qualitative study Analysis of software binaries for reengineering-driven product line architecture - An industrial case study	With the continuous improvement of software processes, it is possible to increase quality, to address diff Efficiency; Graphic metholic Customizing and reusing software processes is a common practice for addressing the diversity of software Computer software selection. This paper describes a method for the recovering of software architectures from a set of similar (but unre Bins; Cluster analysis; Computer software architectures).			No No No No No No No No No	No No	2018 https://doi.org/10 IET Software 2018 https://doi.org/10 ACM International Conference Proceeding Series 2015 https://doi.org/10 Electronic Proceedings in Theoretical Computer Science, EPTCS
09a 2013a	Pech, Daniel; Knodel, Jens; Carbon, Ralf; Schitter, Clemens; Hein, Dirk Pereira, Juliana Alves; Souza, Carlos; Figueiredo, Eduardo; Abilio, Ramon; Vale, Gustavo; Xavier Cos	Variability Management in Small Development Organizations: Experiences and Lessons Learned from a Case Study sta Software Variability Management An Exploratory Study with Two Feature Modeling Tools	Product line practices promise to reduce development and maintenance efforts, to improve the productiv variability management, p {Software Product Line (SPL) is becoming widely adopted in industry due to its capability of minimizing {software product line; fea			No No No No	No No	Proceedings of the 13th International Software Product Line Conference 2013 https://doi.org/10 Proceedings - 7th Brazilian Symposium on Software Components, Architectures and R {7TH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCHITECTURI
a2014a iin2012a 2018a	Pereira, J. A.; Constantino, K.; Figueiredo, E. Perrouin, G.; Oster, S.; Sen, S.; Klein, J.; Baudry, B.; le Traon, Y. Pesce, Fiorella; Caballero, Sofia; Buccella, Agustina; Cechich, Alejandra	A systematic literature review of software product line management tools Pairwise testing for software product lines: Comparison of two approaches Reusing a Geographic Software Product Line Platform: A Case Study in the Paleontological Sub-domain	Software Product Line (SPL) management is a key activity for software product line engineering. The ide Empowerment of personn Software Product Lines (SPL) are difficult to validate due to combinatorics induced by variability, which ir Alloys; Cerium alloys, Cor {Developing Software Product Lines (SPLs) is a paradigm oriented to reusing software within particula {Software Product Lines; I			Yes Yes Yes Yes No No No No No	Yes No	2014 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 2012 https://doi.org/10 Software Quality Journal 2018 https://doi.org/10 Communications in Computer and Information Science {COMPUTER SCIENCE (CACIC 2017)}
020b adi2011a	Petry, K. L.; OliveiraJr, E.; Zorzo, A. F. Pirmoradi, Z.; Wang, G. G.	Model-based testing of software product lines: Mapping study and research roadmap Recent advancements in product family design and platform-based product development: A literature review	Model-Based Testing (MBT) has been successfully applied to Software Product Lines (SPL). This paper Automation; Mapping; Mo- Increase of demand on product variety has pushed companies to think about offering more and more pre Cost-increases; Design ar			Yes Yes No Yes	Yes Yes	2010 https://doi.org/10 Journal of Systems and Software 2011 https://doi.org/10 Proceedings of the ASME Design Engineering Technical Conference
2012a 020a	Pleuss, Andreas; Hauptmann, Benedikt; Keunecke, Markus; Botterweck, Goetz Pol'la, M.; Buccella, A.; Cechich, A. Qian, Chen; Lau, Kung-Kiu	A Case Study on Variability in User Interfaces Analysis of variability models: a systematic literature review Feature-Oriented Component-Based Development of Software Product Families: A Case Study	Software Product Lines (SPL) enable efficient derivation of products. SPL concepts have been applied s user interface engineering Dealing with variability, during Software Product Line Engineering (SPLE), means trying to allow softwar Application programs; Cor {Feature-Oriented Software Development (FOSD) is widely used in Software Product Line Engineering (SPLE; FOSD; CBD; Enur			No No No No Yes Yes Yes No	No Yes	2012 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 16th International Software Product Line Conference - Volume 1 2020 https://doi.org/10 Software and Systems Modeling 2018 {THIRTEENTH INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING
018a 09a 12a	Qin, Y.; Wei, G. Qin, Y.; Ye, S.	On Mapping Approach of CN to FR in Product Family Improvement On mapping method in product family improvement for extended customer need	Product family improvement is to improve or optimize the existing product family in enterprise. But the ke customer satisfaction;data To solve the mapping of customer need (CN) information to function requirement (FR) in product family i Customer demands; Customer demands;			No No No No No	No No	2009 http://doi.org/10. 2009 International Conference on Measuring Technology and Mechatronics Automation Sciences and Service Sciences
ainen2004a ainen2019a er2018a	Raatikainen, M.; Soininen, T.; Männistö, T.; Mattila, A. Raatikainen, M.; Tiihonen, J.; Männistö, T. Rabicor, Rick: Schmid, Klaus: Rocker, Martin: Rettonwork, Cootz: Calatar, Matthias: Crohar, Iria: Wew	A case study of two configurable software product families Software product lines and variability modeling: A tertiary study and Comparison of Industrial vs. Academic Software Product Line Research Published at SPLC	A configurable software product family allows the deployment of individual products without customer-sp Application programs, Cor Context: A software product line is a means to develop a set of products in which variability is a central p Computer software; Softw			No No No No Yes No No No No Yes	No Yes Yes - body of knowledge	2004 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE PRODUCT-FAMILY ENGINEERING} 2019 https://doi.org/10 Journal of Systems and Software 2019 https://doi.org/10 ACM International Conference Proceedings Series 2019 https://doi.org/10 ACM International
2019a 2019a an2002a	Rabiser, Rick	Feature Modeling vs. Decision Modeling: History, Comparison and Perspectives Improving software quality in product families through systematic reengineering	The study presented in this paper aims to provide evidence for the hypothesis that software product line academia, SPLC, software Modeling variability, i.e., defining the commonalities and variability of reusable artifacts, is a central task feature modeling, variability Software quality is a very subjective attribute and is a complex mixture of several factors. There is no un Computer software selections.			No No No No No	No No	2018 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 23rd International Systems and Software Product Line Conference Proceedings of the 23rd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 22nd International Systems and Software Product Line Conference Proceedings of the 23nd International Systems and Software Product Line Conference Proceedings of the 23nd International Systems and Software Product Line Conference Proceedings of the 23nd International Systems and Software Product Line Conference Proceedings of the 23nd International Systems and Software Product Line Conference Proceedings of the 23nd Internati
guez2019a o2014a	Rodriguez, Germania; Perez, Jennifer; Benavides, David Roško, Z.; Strahonja, V.	Accessibility Variability Model: The UTPL MOOC Case Study A case study of software product line for business applications changeability prediction	(Several approaches to define Variability Models (VM) of non-functional requirements or quality attribut (Software and its engineer The changeability, a sub-characteristic of maintainability, refers to the level of effort which is required to c no keywords available			No No No No	No No	2019 https://doi.org/10 ACM International Conference Proceeding Series {23RD INTERNATIONAL SYSTEMS AND SOFTWARE PRODUCT LINE CONFERE 2014 Journal of Information and Organizational Sciences
el2009a 2018a mler2011a	Rossel, P. O.; Bastarrica, M. C.; Hitschfeld-Kahler, N. Ruiz, Pablo H.; Camacho, Cecilia; Hurtado, Julio A. Rummler, A.; Fiege, L.; Gomes, C.; Ribeiro, R.	A systematic process for defining meshing tool software product line domain model A Comparative Study for Scoping a Software Process Line Case studies for software product line engineering	Once an organization decides to develop a software product line (SPL), one of the first activities that net Complex software; Discrete (Software process lines (SPrL) is an approach for facilitating the adaptation and evolution of a set of re (Software Process Lines; All of the methodologies and tools introduced throughout this book rely on the evaluation of appropriate (Application programs; Ent			No No No No No	No No	2009 Proceedings of the 12th Workshop on Requirements Engineering, WER 2009 2018 https://doi.org/10 2018 ICAI Workshops, ICAIW 2018 - Joint Proceedings of the Workshop on Data Engii {2018 ICAI WORKSHOPS (ICAIW)} 2011 https://doi.org/10 Aspect-Oriented, Model-Driven Software Product Lines: The AMPLE Way
2019b 2014a	Rurua, N.; Eshuis, R.; Razavian, M. Ryan, J.; Sarkani, S.; Mazzuchi, T. Sahid M. Z.; Sultan, A. B. M.; Chani, A. A. A.; Baharam, S.	Representing Variability in Enterprise Architecture: A Case Study Leveraging variability modeling techniques for architecture trade studies and analysis Combinatorial interaction testing of aeftyrate product lines. A mapping study.	Organizations that operate on an international scale have a high variation of business operations, cause {Enterprise architecture; V Increasing complexity in modern systems, as well as cost and schedule constraints, require a new parac Architecture configuration;			No N	No No	2019 https://doi.org/10 Business and Information Systems Engineering 2014 https://doi.org/10 Systems Engineering 2016 https://doi.org/10 Leurnal of Computer Science
l2016a esi2009a hez2012a	Sahid, M. Z.; Sultan, A. B. M.; Ghani, A. A. A.; Baharom, S. Salinesi, Camille; Rolland, Colette; Diaz, Daniel; Mazo, Raul Sánchez, P.; García-Saiz, D.; Zorrilla, M.	Combinatorial interaction testing of software product lines: A mapping study Looking for Product Line Feature Models Defects: Towards a Systematic Classification of Verification Criteria Software product line engineering for e-learning applications: A case study	Software Product Line (SPL) is a software engineering paradigm that is inspired by the concept of reusa Systematic Mapping Study {Product line models (PLM) are important artifacts in product line engineering. Due to their size and co product development; prog As a consequence of the massive adoption of internet, different e-learning platforms, such as Moodle or computer aided instruction			No No No No No	No No	2016 https://doi.org/10 Journal of Computer Science 2009 https://doi.org/10 Proceedings of the IEEE International Conference on Requirements Engineering 2012 2012 International Symposium on Computers in Education, SIIE 2012 2012 International Symposium on Computers in Education (SIIE)
hez2014a hez2014c	Sanchez, Ana B.; Segura, Sergio; Ruiz-Cortes, Antonio Sánchez, A. B.; Segura, S.; Ruiz-Cortés, A.	A Comparison of Test Case Prioritization Criteria for Software Product Lines The Drupal framework: A case study to evaluate variability testing techniques	{Software Product Line (SPL) testing is challenging due to the potentially huge number of derivable prc fault diagnosis; program te Variability testing techniques search for effective but manageable test suites that lead to the rapid detect Automated testing; Featur			No No No No	No No	https://doi.org/10 Proceedings - IEEE 7th International Conference on Software Testing, Verification and {2014 IEEE SEVENTH INTERNATIONAL CONFERENCE ON SOFTWARE TESTIN https://doi.org/10 ACM International Conference Proceeding Series
ez2017a er2013a naneiva2009a	Sánchez, A. B.; Segura, S.; Parejo, J. A.; Ruiz-Cortés, A. Sannier, N.; Acher, M.; Baudry, B. Santana Neiva, Danuza Ferreira; de Almeida, Eduardo Santana; de Lemos Meira, Silvio Romero	Variability testing in the wild: the Drupal case study From comparison matrix to Variability Model: The Wikipedia case study An Experimental Study on Requirements Engineering for Software Product Lines	Variability testing techniques search for effective and manageable test suites that lead to the rapid detec Chemical detection, Auton Product comparison matrices (PCMs) provide a convenient way to document the discriminant features o Internet;matrix algebra;We {Requirements Engineering (RE) activities in Software Product Lines (SPL) are more complex, becaus software reusability;syster			No No No No No	No No	2017 https://doi.org/10 Software and Systems Modeling 2013 https://doi.org/10 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2013 28th IEEE/ACM International Conference on Automated Software Engineering, A 2019 35TH EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING AND A 2019 35TH EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING
s2014a s2015a s2017a	Santos, Ismayle S.; Andrade, Rossana M. C.; Neto, Pedro A. Santos Santos, A. R.; De Oliveira, R. P.; De Almeida, E. S. Santos, Marcelo C. B.; Colanzi, Thelma E.; Amaral, Aline M. M. M.; Oliveira, Jr., Edson	How to Describe SPL Variabilities in Textual Use Cases: A Systematic Mapping Study Strategies for consistency checking on software product lines: A mapping study Preliminary Study on the Correlation of Objective Functions to Optimize Product-Line Architectures	{In the Software Product Line (SPL) paradigm, the variability description is an important issue for the re {use case; systematic map Context. Software Product Lines (SPL) has become one of the most prominents way to promote the syst Computer software; Mapp {The Product Line Architecture (PLA) is one of the most important artifacts of a Software Product Line {Correlation Study; Product Line }			Yes Yes Yes Yes Yes Yes uncertain	Yes Yes	2014 https://doi.org/10 Proceedings - 2014 8th Brazilian Symposium on Software Components, Architectures (2014 EIGHTH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCHITECTURES (2014 EIGHTH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCHITECTURES (2017 https://doi.org/10 ACM International Conference Proceeding Series (XI BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCHITECTURES)
srocha2013a g2010a	Santos, Marcelo C. B., Colanzi, Theima E., Amarai, Aline M. M., Olivella, Jr., Edson Santos Rocha, R. D.; Fantinato, M. Sarang, Nita; Sanglikar, Mukund A.	The use of software product lines for business process management: A systematic literature review Using Decision Structures for Policy Analysis in Software Product-line Evolution - A Case Study	Context: Business Process Management (BPM) is a potential domain in which Software Product Line (P BPM; Business process m {Project management decisions are the primary basis for project success (or failure). Mostly, such deci Intuitive understanding; Lo			Yes Yes Yes Yes No No No No	Yes No	2017 https://doi.org/10 Information and Software Technology 2010 https://doi.org/10 Advanced Techniques in Computing Sciences and Software Engineering 4 ADVANCES TECHNIQUES IN COMPUTING SCIENCES AND SOFTWARE ENGINEERING
nanda2007a ainen2012a ad2013a	Satyananda, T. K.; Lee, D.; Kang, S. Savolainen, Juha; Mannion, Mike Sayyad, A. S.; Menzies, T.; Ammar, H.	A formal approach to verify mapping relation in a software product line Aligning Product Line Business and Technical Strategies (Mapping Product Line Requirements to a Product Line Architecture) On the value of user preferences in search-based software engineering: A case study in software product lines	In software product line development, consistency among artifacts is important because commonalities a Mathematical models; Pro In the consumer product market space a commercial challenge is to offer personalization of products an software product lines, rec Software design is a process of trading off competing objectives. If the user objective space is rich, then evolutionary computation;			No N	No No	2007 https://doi.org/10 CIT 2007: 7th IEEE International Conference on Computer and Information Technology {2007 CIT: 7TH IEEE INTERNATIONAL CONFERENCE ON COMPUTER AND INFO Proceedings of the 16th International Software Product Line Conference - Volume 2 2013 https://doi.org/10 Proceedings of the 16th International Software Product Line Conference - Volume 2 2013 https://doi.org/10 Proceedings - International Conference on Software Engineering 2013 35th International Conference on Software Engineering (ICSE)
12003a 12002a 12004a	Schmid, K. Schmid, K.; John, I.	The product line mapping approach to defining and structuring product portfolios Starting product lines (I) — Systematic product line planning and adoption	{A key activity in product line development is to define and structure the product portfolio which shall be software reusability;software reusability;softwa			No No No No	No No	2013 https://doi.org/10 Proceedings - International Conference on Soltware Engineering 2013 Stiff International Conference on Soltware Engineering (ICSE) 2002 https://doi.org/10 Proceedings of the IEEE International Conference on Requirements Engineering (IEEE JOINT INTERNATIONAL CONFERENCE ON REQUIREMENTS ENGINEERI 2004 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel (SOFTWARE PRODUCT LINES, PROCEEDINGS)
l2005a l2010a l2011a	Schmid, K.; Biffl, S. Schmid, Klaus Schmid, K.; Rabiser, R.; Grünbacher, P.	Systematic management of software product lines Variability Modeling for Distributed Development - A Comparison with Established Practice A comparison of decision modeling approaches in product lines	Software product lines can effectively facilitate large-scale reuse and can thus bring about order of magr Computer simulation; Cos {The variability model is a central artifact in product line engineering. Existing approaches typically trea {Software product lines; value of the product line in the product line engineering can significantly improve the productivity, quality and tim Comparative analysis; Comparative analysis; Comparative engineering can significantly improve the productivity, quality and tim Comparative analysis; Comparative engineering can significantly improve the productivity, quality and tim Comparative engineering can significantly improve the productivity, quality and tim Comparative engineering can significantly improve the productivity engineering can significantly engineering can signif			No No No No Yes	No No Yes Yes - Body of Knowledge	2005 https://doi.org/10 Software Process Improvement and Practice 2010 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE PRODUCT LINES: GOING BEYOND} 2011 https://doi.org/10 ACM International Conference Proceeding Series
nm2015a eder2015a	Schramm, J.; Dohrmann, P.; Kuhrmann, M.	Development of flexible software process lines with variability operations: A longitudinal case study rs Design and Evaluation of a Customizable Multi-Domain Reference Architecture on top of Product Lines of Self- Driving Heavy Vehicles - An Industrial Case Study	Context: Software processes evolve over time and several approaches were proposed to support the rec Software engineering, Lor {Self-driving vehicles for commercial use cases like logistics or overcast mines increase their owners' control engineering computes the second of the seco			No No No No No	No No	2015 https://doi.org/10 ACM International Conference Proceeding Series 2015 https://doi.org/10 Proceedings - International Conference on Software Engineering {2015 IEEE/ACM 37TH IEEE INTERNATIONAL CONFERENCE ON SOFTWARE Engineering}
heiss2020a q2018a 012a	Schulthei, Alexander and Bittner, Paul Maximilian and Kehrer, Timo and Th\"{u}m, Thomas Sebbaq, Hanane; Retbi, Asmaa; Idrissi, Mohammed Khalidi; Bennani, Samir Seidl, Christoph; Heidenreich, Florian; Amann, Uwe	On the Use of Product-Line Variants as Experimental Subjects for Clone-and-Own Research: A Case Study Software Product Line to Overcome the Variability Issue in E-Learning: Systematic Literature Review Co-Evolution of Models and Feature Mapping in Software Product Lines	Software is often released in multiple variants to address the needs of different customers or application clone-and-own, experimer The disparity of educational technologies, pedagogies and learning styles implies a problem of variability heterogeneity, variety, sca Software Product Lines (SPLs) are a successful approach to software reuse in the large. Even though to feature modeling, model to			NoNoNoYesYesYesNoNoNo	Yes	2020 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 24th ACM Conference on Systems and Software Product Line: Volume 1 Proceedings of the 12th International Conference on Intelligent Systems: Theories a Proceedings of the 12th International Conference on Intelligent Systems: Theories a Proceedings of the 16th International Software Product Line Conference - Volume 1
veda2016a suzzoha2017a	Sepúlveda, S.; Cravero, A.; Cachero, C. Shamsuzzoha, A.; Helo, P.	Requirements modeling languages for software product lines: A systematic literature review Development of sustainable platform for modular product family: a case study	Context: Software product lines (SPLs) have reached a considerable level of adoption in the software in Computational linguistics; Defining product platform architecture is a critical issue to design and develop product variants. Different Architecture, Component			Yes Yes Yes Yes No No No No	Yes No	2016 https://doi.org/10 Information and Software Technology 2017 https://doi.org/10 Production Planning and Control
wi2019a 011a a2008a	Shantawi, Anas; Ziadi, Tewfik; Mohamadi, Mohamed Yassin Sharif, S.; Djauhari, M. A. Sharma, Devesh; Aurum, Aybueke; Paech, Barbara	Understanding Source Code Variability in Cloned Android Families: an Empirical Study on 75 Families An application of network topology to understand the signal in process variability: A case study in petrochemical industry Business Value through Product Line Engineering - A Case Study	{Software developers rely on the clone-and-own approach to rapidly develop software product variants {clone-and-own reuse; so This paper deals with a network topology approach for identifying the root causes of an out-of-control sic fertilisers; network theory ({Software Product Line (PL) Engineering has been established in the last decade as a proven way to be DP industry; investment; so			No N	No No	2019 https://doi.org/10 Proceedings - Asia-Pacific Software Engineering Conference, APSEC {2019 26TH ASIA-PACIFIC SOFTWARE ENGINEERING CONFERENCE (APSEC)} 2011 https://doi.org/10 2011 IEEE International Conference on Industrial Engineering and Engineering Man 2008 https://doi.org/10 EUROMICRO 2008 - Proceedings of the 34th EUROMICRO Conference on Software I {PROCEEDINGS OF THE 34TH EUROMICRO CONFERENCE ON SOFTWARE ENGINEERING CONFERENCE O
9b u2009a	Shi, K.; Yu, H.; Fan, G.; Guo, J.; Chen, L.; Yang, X.; Sun, H. Shijia Liu; Yunkai Tang; Luo, S.	Mutation with Local Searching and Elite Inheritance Mechanism in Multi-Objective Optimization Algorithm: A Case Study in Software Product Line A study of product family design DNA based on product style	An effective method for addressing the configuration optimization problem (COP) in Software Product Lii Computer software; Gene In order to solve the problem of product family appearance customization in the product family platform, CAD;product design;product			No No No No No No No No	No No	2019 https://doi.org/10 International Journal of Software Engineering and Knowledge Engineering 2009 https://doi.org/10 Proceeding 2009 IEEE 10th International Conference on Computer-Aided Industrial De 2009 IEEE 10th International Conference on Computer-Aided Industrial Design Con
oungpark2005a a2018a 016a	Shin Young Park; Soo Dong Kim Sinkala, Z. T.; Blom, M.; Herold, S. Sion, Laurens; Van Landuyt, Dimitri; Joosen, Wouter; de Jong, Gjalt	A systematic method for scoping core assets in product line engineering A mapping study of software architecture recovery for software product lines Systematic Quality Trade-off Support in the Software Product-Line Configuration Process	Product line engineering (PLE) is an effective reuse methodology where common features among memt software reusability;software Migrating a family of software systems from ad-hoc development approaches such as 'clone-and-own' to Computer software; Mapp Software product line engineering is a compelling methodology that accomplishes systematic reuse in fa Computer software; Econo			NoNoNoYesYesNouncertainNoNoNo	No No - out of scope	2005 https://doi.org/10 2018 https://doi.org/10 ACM International Conference Proceeding Series 2016 https://doi.org/10 ACM International Conference Proceeding Series 2016 https://doi.org/10 ACM International Conference Proceeding Series 2016 https://doi.org/10 ACM International Conference Proceeding Series 2017 Proceedings of the 20th International Systems and Software Product Line Conference
2008a 2014a	Snook, C.; Poppleton, M.; Johnson, I. Soares, Larissa Rocha; Potena, Pasqualina; Machado, Ivan do Carmo; Crnkovic, Ivica; de Almeida, E	Rigorous engineering of product-line requirements: A case study in failure management Edı Analysis of Non-Functional Properties in Software Product Lines: a Systematic Review	We consider the failure detection and management function for engine control systems as an application Computer system recover {Software Product Lines (SPL) approach has been widely developed in academia and successfully ap {Systematic Literature Rev			No No No No No Yes Yes uncertain	No Yes	2008 https://doi.org/10 Information and Software Technology 2014 https://doi.org/10 Proceedings - 40th Euromicro Conference Series on Software Engineering and Advanc (2014 40TH EUROMICRO CONFERENCE SERIES ON SOFTWARE ENGINEERIN
s2018a scardoso2017a nig2016a	Soares, L. R.; Schobbens, PY.; do Carmo Machado, I.; de Almeida, E. S. Soares Cardoso, Mateus Passos; Lima, Crescencio; de Almeida, Eduardo Santana; Machado, Ivan de Sobernig, S.; Apel, S.; Kolesnikov, S.; Siegmund, N.	Feature interaction in software product line engineering: A systematic mapping study lo Investigating the Variability Impact on the Recovery of Software Product Line Architectures: An Exploratory Study Quantifying structural attributes of system decompositions in 28 feature-oriented software product lines: An exploratory study	Context: Software product lines (SPL) engineering defines a set of systems that share common features Commerce; Computer sof {The Product Line Architecture (PLA) of a Software Product Line (SPL) is the core architecture that rep {Software Product Lines; FA key idea of feature orientation is to decompose a software product line along the features it provides. FAdhesion; Computer prog			YesYesuncertainNoNoNoNoNoNoNoNo	No No	2018 https://doi.org/10 Information and Software Technology 2017 https://doi.org/10 ACM International Conference Proceeding Series 2016 https://doi.org/10 Empirical Software Engineering
004a 006a	Sochos, P.; Philippow, I.; Riebisch, M. Sochos, Periklis; Riebisch, Matthias; Philippow, Ilka	Feature-oriented development of software product lines: Mapping feature models to the architecture The Feature-Architecture Mapping (FArM) method for feature-oriented development of software product lines	{Software product lines (PLs) present a solid approach in large scale reuse. Due to the PLs' inherit cor {software product lines; pr {Software product lines (PLs) are large, complex systems, demanding high maintainability and enhanc object-oriented programm			No No No No	No No	2004 https://doi.org/10 {OBJECT-ORIENTED AND INTERNET-BASED TECHNOLOGIES, PROCEEDINGS 2006 https://doi.org/10 Proceedings of the International Symposium and Workshop on Engineering of Comput {13TH ANNUAL IEEE INTERNATIONAL SYMPOSIUM AND WORKSHOP ON ENG
ngkim2004a nya2015a 2017a	Soo Dong Kim; Soo Ho Chang; Chee Won Chang Soujanya, K. L. S.; Ananda Rao, A. de Sousa, J. A. G.; Machado, Á. R.; da Silva, R. B.; Guesser, W. L.	A systematic method to instantiate core assets in product line engineering A systematic approach for configuration management in software product lines Study of the Variability of the Machinability along the Cross Section of Ductile Iron Produced by Continuous Casting	Product line engineering (PLE) is one of the recent and effective reuse approaches, and it consists of two software reusability; software Product lines achieve significant cost and effort reduction through large scale reuse of software product. Computer software reusable In industry, the increase in the search for new materials is related to the cost and to the strength to weight Nodular cast ironContinuo			No No No No No No No No No	No No	2004 https://doi.org/10 2015 Lecture Notes in Engineering and Computer Science 2017 https://doi.org/10 Procedia Manufacturing
erreira2014a 2012a	Sousa Ferreira, G. C.; Gaia, F. N.; Figueiredo, E.; De Almeida Maia, M. Souza, I. S.; d. Oliveira, R. P.; d. S. Gomes, G. S.; d. Almeida, E. S.	On the use of feature-oriented programming for evolving software product lines - A comparative study On the Relationship between Inspection and Evolution in Software Product Lines: An Exploratory Study	Feature-oriented programming (FOP) is a programming technique based on composition mechanisms, c Codes (symbols); Comput Manage the evolution in Software Product Lines (SPL) can bring some benefits such as keep the trace a formal specification; medic			No No No No No	No No	2014 https://doi.org/10 Science of Computer Programming 2012 https://doi.org/10 Proceedings - 2012 Brazilian Symposium on Software Engineering, SBES 2012 2012 26th Brazilian Symposium on Software Engineering
2013a 2019a eri2016a	Souza, Iuri Santos; Fiaccone, Rosemeire; de Oliveira, Raphael Pereira; de Almeida, Eduardo Santana Souza, I. S.; Gomes, G.; Machado, I.; Chavez, C.; Masiero, P.; Seaman, C.; De Almeida, E. S. Sprovieri, D.	a On the Relationship between Features Granularity and Non-conformities in Software Product Lines: An Exploratory Study Investigating Variability-aware Smells in SPLs: An exploratory study Dynamic re-configuration of software product lines towards an exploratory study on DSPLs	Within Software Product Lines (SPL) features are well-understood and facilitate the communication ar {Software Product Lines; I Variability-aware smell is a concept referring to artifact shortcomings in the context of highly-configurable Odors; Open systems, Co Adaptations need to be considered at design-time (adapting complex systems to new technologies, reen large-scale systems;softw			No No No No No No No No No	No No	2013 https://doi.org/10 Proceedings - 2013 27th Brazilian Symposium on Software Engineering, SBES 2013 {2013 27TH BRAZILIAN SYMPOSIUM ON SOFTWARE ENGINEERING (SBES 2013 2019 https://doi.org/10 ACM International Conference Proceeding Series 2016 https://doi.org/10 Proceedings - International Conference on Research Challenges in Information Scienc 2016 IEEE Tenth International Conference on Research Challenges in Information Scienc 2016 IEEE Tenth International Conference on Research Challenges in Information Science 2016 IEEE Tenth International Conference on Research Challenges in Information Science 2016 IEEE Tenth International Conference on Research Challenges in Information Science 2016 IEEE Tenth International Conference on Research Challenges in Information Science 2016 IEEE Tenth International Conference on Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Science 2016 IEEE Tenth International Conference On Research Challenges Information Information Information Information Information Information Information Informati
en2010a 011a	Svendsen, A.; Zhang, X.; Lind-Tviberg, R.; Fleurey, F.; Haugen, Ø.; Møller-Pedersen, B.; Olsen, G. K. Tajali, Soheila Bashardoust; Radonjic, Vojislav D.; Corriveau, Jean-Pierre	Developing a software product line for train control: A case study of CVL Challenges of Variability in Model-Driven and Transformational Approaches: A Systematic Survey	This paper presents a case study of creating a software product line for the train signaling domain. The \(\) Base models; Software Pr \(\) Variability in software architecture is a multi-facet problem, and \(\) domain-related variation is one of thes \(\) variability; model-driven (No No No No Yes	No No No No - not systematic	2010 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE PRODUCT LINES: GOING BEYOND} 2011 https://doi.org/10 Proceedings - 9th Working IEEE/IFIP Conference on Software Architecture, WICSA 20 {2011 9TH WORKING IEEE/IFIP CONFERENCE ON SOFTWARE ARCHITECTURI
n2009a ot2004a 02a	Than Tun, Thein; Boucher, Quentin; Classen, Andreas; Hubaux, Arnaud; Heymans, Patrick Thevenot, H. J.; Simpson, T. W. Thiel, S.; Hein, A.	Relating Requirements and Feature Configurations: A Systematic Approach A comparison of commonality indices for product family design Systematic integration of variability into product line architecture design	A feature model captures various possible configurations of products within a product family. When confi no keywords available Today's highly competitive and global marketplace is redefining the way companies do business: many c Boundary value problems: Product lines consider related products, their commonalities and their differences. The differences betwee Computer software, Archit			No N	No No	2009 Proceedings of the 13th International Software Product Line Conference 2004 https://doi.org/10 Proceedings of the ASME Design Engineering Technical Conference 2002 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)
02a 2010a 2014a	Thörn, C. Thüm, T.; Apel, S.; Kästner, C.; Schaefer, I.; Saake, G.	Systematic integration of variability into product line architecture design Current state and potential of variability management practices in software-intensive SMEs: Results from a regional industrial survey A classification and survey of analysis strategies for software product lines	Context: More and more, small and medium-sized enterprises (SMEs) are using software to augment the Complex products; High v Software-product-line engineering has gained considerable momentum in recent years, both in industry. Computer programming la			NoNoNoNoNoNoNoNouncertainYesuncertainNoNo	No No No No - not systematic / out of scope	2010 https://doi.org/10 Information and Software Technology 2014 https://doi.org/10 ACM Computing Surveys
nella2007a nella2010a	Thurimella, A. K.; Bruegge, B. Thurimella, AK.; Padmaja, M. T. Tian, K	Empirical evaluation of issue based variability modeling using the experimental survey technique Software product line engineering: A review of recent patents Adding more agility to software product line methods: A feasibility study on its customization using agile practices	Though surveys are effective in data collection, they are rarely used as a technique for empirical evaluat Application programs; Cor Software product line engineering (SPLE) is an emerging paradigm for the development of a family of pr Computer software reusal Software Product Line Methods (SPLMs) have been continuously gaining attention, especially in practice no keywords available			No N	No No	2007 Proceedings of the 11th IASTED International Conference on Software Engineering and Applications, SEA 2007 2010 https://doi.org/10 Recent Patents on Computer Science 2017 https://doi.org/10 Application Development and Design: Concepts, Methodologies, Tools, and Applications
017a 002a 2011b	Tian, K. Tiley, Heather; van Zyl, Jay; Walker, Alistair J. Tizzei, L. P.; Rubira, C. M. F.	Empirical Study of Implementing Product Line Practices in a Software-Producing Organisation Aspect-connectors to support the evolution of component-based product line architectures: A comparative study	Software delivery organisations are required to produce commercially viable innovative products in a shop product line practices, pro Software Product Line architects are concerned not only with traditional software architecture issues, but Comparative studies; Con			No No No No No	No No	2002 Proceedings of the 2002 Annual Research Conference of the South African Institute 2011 https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {SOFTWARE ARCHITECTURE}
015a 010a 013a	Tizzei, Leonardo P.; Azevedo, Leonardo G.; de Bayser, Maximilien; Cerqueira, Renato F. G. Torres, M.; Kulesza, U.; Sousa, M.; Batista, T.; Teixeira, L.; Borba, P.; Cirilo, E.; Lucena, C.; Braga, R.; Torres, V.; Zugal, S.; Weber, B.; Reichert, M.; Ayora, C.; Pelechano, V.	Architecting Cloud Tools using Software Product Line Techniques: an Exploratory Study ; N Assessment of product derivation tools in the evolution of software product lines: An empirical study A qualitative comparison of approaches supporting business process variability	{Multitenant cloud computing tools are usually complex and have to manage variabilities to support cut Cloud computing, Explora Product derivation approaches automate the customization process of software product lines. Over the Empirical studies; Mobile The increasing adoption of Process-Aware Information Systems, together with the reuse of process known Data processing, Behavior			No N	No No No No No - not a systematic literature review	2015 https://doi.org/10 Proceedings of the ACM Symposium on Applied Computing {30TH ANNUAL ACM SYMPOSIUM ON APPLIED COMPUTING, VOLS I AND II} 2010 https://doi.org/10 Proceedings of the 2nd International Workshop on Feature-Oriented Software Development, FOSD'10 2013 https://doi.org/10 Lecture Notes in Business Information Processing {BUSINESS PROCESS MANAGEMENT WORKSHOPS (BPM)}
013a 011a 2011a	Trujillo, Salvador; Alonso, I\ {n}aki; Hamid, Brahim; Gonzalez, David; Blanco, Manuel; Zhang, Huaxi (\ Turnes, L.; Bonif´cio, R.; Alves, V.; Lammel, R.	Techniques for Developing a Product Line of Product Line Tools: A Comparative Study	Security and Dependability (S&D) have become mandatory requirements while engineering embed variability, security, embed Tool support is essential for Application Engineering in Software Product Lines (SPL). Despite a myriad c software tools;product line			No No No No Yes No No No Yes	No No	2011 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 15th International Software Product Line Conference, Volume 2 2011 https://doi.org/10 Proceedings of the 15th International Software Product Line Conference, Volume 2 2011 https://doi.org/10 Proceedings - 5th Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components, Architectures and R 2011 Fifth Brazilian Symposium on Software Components and R 2011 Fifth Brazilian Symposium on Software Components and R 2011 Fifth Brazilian Symposium on Software Components and R 2011 Fifth Brazilian Symposium on Software Components
la 2a	Urli, Simon; Blay-Fornarino, Mireille; Collet, Philippe; Mosser, Sebastien; Riveill, Michel Vale, Tassio; Figueiredo, Gustavo Bittencourt; de Almeida, Eduardo Santana; de Lemos Meira, Silvio	Managing a Software Ecosystem Using a Multiple Software Product Line: a Case Study on Digital Signage Systems Rt A Study on Service Identification Methods for Software Product Lines	{With the advent of Web 2.0, the growth of developer teams and user communities increases the numl Internet; software developed The combination of service-orientation and software product line engineering, called Service-Oriented Pi software product lines, sei			No No No No No No Yes Yes	No No Ves Ves Pody of Vesuals day	2014 https://doi.org/10 Proceedings - 40th Euromicro Conference Series on Software Engineering and Advanc {2014 40TH EUROMICRO CONFERENCE SERIES ON SOFTWARE ENGINEERING 2012 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 16th International Software Product Line Conference - Volume 2
4a 5a 7a	Vale, Gustavo; Figueiredo, Eduardo; Abilio, Ramon; Costa, Heitor Vale, Gustavo; Albuquerque, Danyllo; Figueiredo, Eduardo; Garcia, Alessandro Vale, T.; de Almeida, E. S.; Alves, V.; Kulesza, U.; Niu, N.; de Lima, R.	Bad Smells in Software Product Lines: A Systematic Review Defining Metric Thresholds for Software Product Lines: A Comparative Study Software product lines traceability: A systematic mapping study	{Software product line (SPL) is a set of software systems that share a common, managed set of featur {Bad Smells; Software Product line (SPL) is a set of software systems that share a common and variable set of feature metrics, thresholds, software Context: Traceability in Software Product Lines (SPL) is the ability to interrelate software engineering art Computer software; Comp			YesYesuncertainNoNoNoNoYesYesYesYes	Yes Yes - Body of Knowledge No Yes Yes - Body of Knowledge	https://doi.org/10 Proceedings - 2014 8th Brazilian Symposium on Software Components, Architectures : {2014 EIGHTH BRAZILIAN SYMPOSIUM ON SOFTWARE COMPONENTS, ARCH https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 19th International Conference on Software Product Line https://doi.org/10 Information and Software Technology
015a ezingelmo2019a	Valov, Pavel; Guo, Jianmei; Czarnecki, Krzysztof Vázquez-Ingelmo, A.; García-Peñalvo, F. J.; Therón, R.	Empirical Comparison of Regression Methods for Variability-Aware Performance Prediction Taking advantage of the software product line paradigm to generate customized user interfaces for decision-making processes: A case study on university employability	Product line engineering derives product variants by selecting features. Understanding the correlation be Computer software; Featu University employment and, specifically, employability has gained relevance since research in these field Codes (symbols); Comput			No N	No No	2015 https://doi.org/10 ACM International Conference Proceeding Series Proceedings of the 19th International Conference on Software Product Line 2019 https://doi.org/10 PeerJ Computer Science
ezingelmo2019c maeki2000a sia2017a	Vázquez-Ingelmo, A.; García-Peñalvo, F. J.; Therón, R. Vehkomäki, T.; Känsälä, K. Verdecia, Y. D.; Colanzi, T. E.	Addressing Fine-Grained Variability in User-Centered Software Product Lines: A Case Study on Dashboards A comparison of software product family process frameworks Correlation between similarity & variability metrics in search-based product line architecture: Experimental study & lessons learned	Software product lines provide a theoretical framework to generate and customize products by studying Information systems; Infor A number of product family process frameworks has been published recently. These frameworks focus o Computer science; Computer Product Line Architecture (PLA) plays a central role at the products development from a Software Prinformation systems; Mod			NO NO NO NO NO NO NO NO NO	No No	https://doi.org/10 Advances in Intelligent Systems and Computing https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) http://doi.org/10.t ICEIS 2017 - Proceedings of the 19th International Conference on Enterprise Information Systems
2014a euser2015a	Villela, Karina; Silva, Adeline; Vale, Tassio; de Almeida, Eduardo Santana Vogel-Heuser, Birgit; Mund, Jakob; Kowal, Matthias; Legat, Christoph; Folmer, Jens; Teufl, Sabine; So	A Survey on Software Variability Management Approaches chi Towards Interdisciplinary Variability Modeling for Automated Production Systems Opportunities and Challenges when Applying Delta Modeling: A Case Study	{Variability Management (VM) is a key practice in the development of variant-rich systems. Over the yε {Variability; Variability Mar {Automated production systems involve multiple engineering disciplines and often operate for several ε {Automated Production Sy			No No No Yes No No No No	No No	2014 https://doi.org/10 ACM International Conference Proceeding Series {18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 201 2015 https://doi.org/10 Proceeding - 2015 IEEE International Conference on Industrial Informatics, INDIN 201! {PROCEEDINGS 2015 IEEE INTERNATIONAL CONFERENCE ON INDUSTRIAL III.]
in2018a 013a 014a	Von Rhein, A.; Liebig, J.; Janker, A.; Kästner, C.; Apel, S. Wang, S.; Ali, S.; Yue, T.; Liaaen, M. Wang, Shuai; Buchmann, David; Ali, Shaukat; Gotlieb, Arnaud; Pradhan, Dipesh; Liaaen, Marius	Variability-aware static analysis at scale: An empirical study Using Feature Model to Support Model-Based Testing of Product Lines: An Industrial Case Study Multi-Objective Test Prioritization in Software Product Line Testing: An Industrial Case Study	The advent of variability management and generator technology enables users to derive individual syste Computer operating syste In the context of Model-Based Testing (MBT) of product lines, effort required to develop models can be s finite state machines; prod {Test prioritization is crucial for testing products in a product line considering limited budget in terms of {Test Prioritization; Multi-o			NO NO NO NO NO NO NO NO NO	No No	2018 https://doi.org/10 ACM Transactions on Software Engineering and Methodology 2013 https://doi.org/10 ACM International Conference Proceeding Series 2014 https://doi.org/10 ACM International Conference Proceeding Series 2015 13th International Conference on Quality Software 2016 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2017 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2018 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE CONFERENCE (SPLC 2017) 2019 18TH INTERNATIONAL SOFTWARE PRODUCT LINE (SPLC 201
2016a 2017a	Wang, S.; Ali, S.; Gotlieb, A.; Liaaen, M. Wang, S.; Ali, S.; Gotlieb, A.; Liaaen, M.	A systematic test case selection methodology for product lines: results and insights from an industrial case study Automated product line test case selection: industrial case study and controlled experiment	In the context of product lines, test case selection aims at obtaining a set of relevant test cases for a pro Cost effectiveness; Engine Automated test case selection for a new product in a product line is challenging due to several reasons. Automation; Cost effective			No No No No No	No No	2016 https://doi.org/10 Empirical Software Engineering 2017 https://doi.org/10 Software and Systems Modeling
anwang2007a 12a 019a	Wendan Wang; Xiansheng Qin; Xiutian Yan; Shurong Tong; Quanyou Sha Wu, Y.; Zowghi, D.; Peng, X.; Zhao, W. Ya'u, B. I.; Nordin, A.; Salleh, N.	Developing a Systematic Method for Constructing the Function Platform of Product Family Towards understanding requirement evolution in a software product line an industrial case study Validation of RP-SPF framework: A systematic method for requirements reuse in software product lines	A systematic method to construct the function platform for a specific product family is proposed. Based c product design; product de In most software development practices, software requirements and architecture are addressed simultar DP industry; formal specific Reuse of requirements is crucial activity in software development especially across software product line Software Product Line Eng			NO NO NO NO NO NO NO NO NO	No No	2007 IEEE International Conference on Industrial Engineering and Engineering Man 2012 https://doi.org/10 2012 1st IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Archite 2012 First IEEE International Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Workshop on the Twin Peaks of Requirements and Architecture Works
9a mo2014a	Ye, P.; Peng, X.; Xue, Y.; Jarzabek, S. Yli-Huumo, Jesse; Maglyas, Andrey; Smolander, Kari	A case study of variation mechanism in an industrial product line The Sources and Approaches to Management of Technical Debt: A Case Study of Two Product Lines in a Middle-Size Finnish Software Company	Fudan Wingsoft Ltd. developed a product Line of Wingsoft Financial Management Systems (WFMS-PL) Configuration files; Financ {Fierce competition in the software market forces companies to release their product under tough time {technical debt; software r			No No No No No	No No	https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {FORMAL FOUNDATIONS OF REUSE AND DOMAIN ENGINEERING, PROCEEDI https://doi.org/10 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intel {PRODUCT-FOCUSED SOFTWARE PROCESS IMPROVEMENT, PROFES 2014}
18a g2008b g2011c	Yu, H.; Shi, K.; Guo, J.; Fan, G.; Yang, X.; Chen, L. Zhang, J.; Cai, X.; Liu, G. Zhang, X.; Haugen, Ø.; Moller-Pedersen, B.	Combining Constraint Solving with Different MOEAs for Configuring Large Software Product Lines: A Case Study Mapping Features to Architectural Components in Aspect-Oriented Software Product Lines Model Comparison to Synthesize a Model-Driven Software Product Line	Multi-objective evolutionary algorithm (MOEA) with the constraint solving has been successfully applied. Boolean functions; comput Software product lines (SPLs) based development aims at saving development cost as well as reducing object-oriented programm. Current model-driven software product line development is mostly based on feature/variability modeling formal verification; software			No No No Yes No No No No	No No	https://doi.org/10 Proceedings - International Computer Software and Applications Conference 2018 IEEE 42nd Annual Computer Software and Applications Conference (COMPS/2008 https://doi.org/10 Proceedings - International Conference on Computer Science and Software Engineering 2011 https://doi.org/10 Proceedings - 15th International Software Product Line Conference, SPLC 2011 2011 15th International Software Product Line Conference
2011d 2013a	Zhang, G.; Shen, L.; Peng, X.; Xing, Z.; Zhao, W. Zhang, Bo; Becker, Martin; Patzke, Thomas; Sierszecki, Krzysztof; Savolainen, Juha Erik	Incremental and iterative reengineering towards Software Product Line: An industrial case study Variability Evolution and Erosion in Industrial Product Lines: A Case Study	It is common in practice that a Software Product Line (SPL) is constructed by reengineering a set of exis cost accounting;investmer Successful software products evolve continuously to meet the changing stakeholder requirements. For s variability erosion, industri			No No No No	No No	2011 https://doi.org/10 IEEE International Conference on Software Maintenance, ICSM 2011 27th IEEE International Conference on Software Maintenance (ICSM) 2013 https://doi.org/10 ACM International Conference Proceeding Series 2011 27th IEEE International Conference on Software Maintenance (ICSM) Proceedings of the 17th International Software Product Line Conference
2017a	Zheng, Yongjie; Cu, Cuong; Asuncion, Hazeline U.	Mapping Features to Source Code through Product Line Architecture: Traceability and Conformance	{Existing software product line approaches often develop and evolve product line features, architecture {architecture-implementati	✓		No No No	No	2017 https://doi.org/10 Proceedings - 2017 IEEE International Conference on Software Architecture, ICSA 201 (2017 IEEE INTERNATIONAL CONFERENCE ON SOFTWARE ARCHITECTURE (I