Variables Listing

Questionnaire - internal data

Apart from your questions, you will find in the data record additional variables, as far as you have not deactivated this option when downloading the data record.

CASE Serial number of the subject
REF Reference, if such has been provided in the link to the questionnaire
LASTPAGE Page number of the questionnaire that has been edited and sent last
QUESTNNR ID of the questionnaire that has been edited
MODE Information if the questionnaire has been started by pretest or by a project member
STARTED Time the interviewee opened the questionnaire
FINISHED Information if the questionnaire has been completed up to the last page
TIME_001... Time that an interviewee has spend on a questionnaire page

Please note that you can not read the internal variables of the questionnaire with the function value(). For interview number and reference there are the PHP functions 📖 PHP function caseNumber() and 📖 PHP function reference()

Details about additional variables can be find in the manual: 📖 Additional Variables in the Data Set

Section I0: Introduction

Section D0: Demographics

[D001] Selection
Company Size
"What is your company's size in equivalent full-time employees (FTEs)?"

D001 Company Size
    1 = Micro (<10 employees)
    2 = Small (11-50 employees)
    3 = Medium (51-250 employees)
    4 = Large (251-2499 employees)
    5 = Very Large (>2500 employees)
    -9 = Not answered

[D002] Multiple Choice
Business Area
"What is the main business area of your company?"

D002 Business Area: Residual option (negative) or number of selected options
    Integer
D002_01 Software Development (custom software, i.e., individual solutions)
D002_02 Software Development (standard software, e.g., SAP, Office)
D002_03 System Development (hard- and software, e.g., embedded systems)
D002_04 Consulting/Project Management Support
D002_05 Consulting/Software Process (Management) Support (e.g., process improvement programs, appraisals)
D002_06 IT Consulting, Training, and Services
D002_07 Research & Development
D002_08 Other
    1 = Not checked
    2 = Checked
D002_08a Other (free text)
    Free text

[D003] Selection
Distribution
"Is the project or product your answer refers to carried out in a (globally) distributed manner?"

D003 Distribution
    1 = No
    2 = Yes, nationally (same country)
    3 = Yes, regionally (same continent)
    4 = Yes, globally
    -9 = Not answered

[D004] 🔲 Extended Selection
Country

"In which country are you personally located?"

D004 Country

1 = Afghanistan
2 = Albania
3 = Algeria
4 = American Samoa
5 = Andorra
6 = Angola
7 = Anguilla
8 = Antarctica
9 = Antigua And Barbuda
10 = Argentina
11 = Armenia
12 = Aruba
13 = Australia
14 = Austria
15 = Azerbaijan
16 = Bahamas
17 = Bahrain
18 = Bangladesh
19 = Barbados
20 = Belarus
21 = Belgium
22 = Belize
23 = Benin
24 = Bermuda
25 = Bhutan
26 = Bolivia
27 = Bosnia And Herzegovina
28 = Botswana
29 = Bouvet Island
30 = Brazil
31 = British Indian Ocean Territory
32 = Brunei Darussalam
33 = Bulgaria
34 = Burkina Faso
35 = Burundi
36 = Cambodia
37 = Cameroon
38 = Canada
39 = Cape Verde
40 = Cayman Islands
41 = Central African Republic
42 = Chad
43 = Chile
44 = China
45 = Christmas Island
46 = Cocos (keeling) Islands
47 = Colombia
48 = Comoros
49 = Congo
50 = Congo, The Democratic Republic Of The
51 = Cook Islands
52 = Costa Rica
53 = Cote D'ivoire
54 = Croatia
55 = Cuba
56 = Cyprus
57 = Czech Republic
58 = Denmark
59 = Djibouti
60 = Dominica
61 = Dominican Republic
62 = East Timor
63 = Ecuador
64 = Egypt
65 = El Salvador
66 = Equatorial Guinea
67 = Eritrea
68 = Estonia
69 = Ethiopia
70 = Falkland Islands (malvinas)
71 = Faroe Islands
72 = Fiji
73 = Finland
74 = France
75 = French Guiana
76 = French Polynesia
77 = French Southern Territories
78 = Gabon
79 = Gambia
80 = Georgia
81 = Germany
82 = Ghana
83 = Gibraltar
84 = Greece

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85 = Greenland
86 = Grenada
87 = Guadeloupe
88 = Guam
89 = Guatemala
90 = Guinea
91 = Guinea-bissau
92 = Guyana
93 = Haiti
94 = Heard Island And Mcdonald Islands
95 = Holy See (vatican City State)
96 = Honduras
97 = Hong Kong
98 = Hungary
99 = Iceland
100 = India
[...]
-9 = Not answered
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[D005] Multiple Choice
Target Application Domain
"What is the target application domain of the project or product your answer is related?"

D005 Target Application Domain: Residual option (negative) or number of selected options
  Integer
D005_01 Automotive Software and Systems
D005_02 Aviation
D005_03 Cloud Applications and Services (e.g., data storage, SaaS)
D005_04 Defense Systems
D005_20 Energy (e.g., Smart Grid, renewable energy)
D005_05 Financial Services (e.g. Banking, Insurance, Trading)
D005_06 Games
D005_07 Home Automation and Smart Buildings
D005_08 Logistics and Transportation
D005_19 Media and Entertainment (e.g., photos, TV)
D005_09 Medical Devices and Health Care
D005_10 Mobile Applications
D005_11 Other Embedded Systems and Services
D005_12 Other Information Systems (e.g. ERP, SAP, etc.)
D005_13 Public Sector/Public Contracting
D005_14 Robotics (e.g., autonomous robots, UAVs/drones)
D005_15 Space Systems
D005_16 Telecommunication
D005_17 Web Applications and Services (e.g., portals, shops)
D005_18 Other
  1 = Not checked
  2 = Checked
D005_18a Other (free text)
  Free text

[D006] Multiple Choice
Criticality
"In the project or product you refer to, a software failure conceivably can:"

D006 Criticality: Residual option (negative) or number of selected options
  Integer
D006_01 ... threaten human health or life
D006_02 ... lead to a complete system loss
D006_03 ... lead to system (service) degradation
D006_04 ... lead to financial loss
D006_05 ... have legal consequences (civil law)
D006_10 ... have legal consequences (criminal law)
D006_06 ... impact the environment
D006_07 ... impact your company's reputation
D006_08 ... impact your company's business
D006_09 Other
  1 = Not checked
  2 = Checked
D006_09a Other (free text)
  Free text

[D007] ▫ Selection
Role
"What is the major role you have in this project or product?"

D007 Role
    4 = Analyst/Requirements Engineer
    5 = Architect
    11 = C-level Management (e.g., CIO, CTO, etc.)
    6 = Developer
    2 = Product Manager/Owner
    1 = Project/Team Manager
    3 = Quality Manager
    9 = Scrum Master/Agile Coach
    7 = Tester
    8 = Trainer
    10 = Other:
    -9 = Not answered

D007_10 Other
    Free text

[D008] Text Input
Project/Product
"Please describe the project or product your answer is related to in a few words (less than 100), or provide ..."

D008_01 [01]
    Free text

[D009] Selection
Project/Product Size
"What is the size of the project or product to which the your answer is related?"

D009 Project/Product Size
    1 = Very Small (<2 person weeks)
    2 = Small (2 person weeks - 2 person months)
    3 = Medium (2 person months - 6 person months)
    4 = Large (6 person months - 1 person year)
    5 = Very Large (more than 1 person year)
    -9 = Not answered

[D010] Selection
Experience
"How many years of experience do you have in software and systems development?"

D010 Experience
    1 = <1 year
    2 = 1-2 years
    3 = 3-5 years
    4 = 6-10 years
    5 = >10 years
    -9 = Not answered

Section PU: ProcessUse

[PU01] ▫ Selection
Company-Wide Process
"Does your company define a company-wide standard process for software and system development?"

PU01 Company-Wide Process
    1 = Yes, all projects of the company are operated according to the same (potentially customized) standard process or process portfolio
    2 = Each business unit has its own approaches/standards, which all projects of this unit have to follow
    3 = Each project can individually select the process to be used
    -9 = Not answered

[PU04] ▫ Selection
Combination
"Do you combine different development approaches in the development of one project or product?"

PU04 Combination
    1 = Yes
    2 = No
    -9 = Not answered

[PU05] ▫ Scale (fully labeled)
Degree
"For the following standard activities in the project or product development, please indicate to which degree..."

PU05_01 Project Management

PU05_02 Quality Management

PU05_03 Risk Management

PU05_04 Configuration Management

PU05_05 Change Management

PU05_06 Requirements Analysis/Engineering

PU05_07 Architecture and Design

PU05_08 Implementation/Coding

PU05_09 Integration and Testing

PU05_10 Transition and Operation

PU05_11 Maintenance and Evolution

> 1 = Fully Traditional
> 2 = Mainly Traditional
> 3 = Balanced between Traditional and Agile
> 4 = Mainly Agile
> 5 = Fully Agile
> -1 = Don't know
> -9 = Not answered

[PU06] Text Input
Motivation
"Is there a further/other motivation to combine the different development frameworks, methods, and practices?"

PU06_01 [01]
> Free text

[PU07] ⊡ Multiple Choice
How Combination
"How were the combinations of development frameworks, methods, and practices in your company developed?"

PU07 How Combination: Residual option (negative) or number of selected options
> Integer

PU07_01 Planned as part of a process improvement program

PU07_02 Evolved as learning from past projects over time

PU07_03 Situation-specific, please briefly explain
> 1 = Not checked
> 2 = Checked

PU07_03a Situation-specific, please briefly explain (free text)
> Free text

[PU08] ⊡ Selection
Selection
"How was your project-specific development approach defined?"

PU08 Selection
> 1 = Specific practices and methods are selected in the project on demand
> 2 = Specific practices and methods are selected according to customer demands
> 3 = A project manager tailors the process in the beginning of a project
> 4 = Project-specific process selection and tailoring follows defined rules
> 5 = Project-specific process selection and tailoring is supported by tools
> 6 = The process is not tailored at all
> 7 = Other:
> -9 = Not answered

PU08_07 Other
> Free text

[PU09] ⊡ Scale (fully labeled)
Frameworks/Methods
"Which of the following frameworks and methods do you use?"

PU09_01 Classic Waterfall Process

PU09_02 Crystal Family

PU09_03 DevOps

PU09_04 Domain-Driven Design

PU09_05 Dynamic Systems Development Method (DSDM)

PU09_06 eXtreme Programming (XP)

PU09_07 Feature Driven Development (FDD)

PU09_08 Iterative Development

PU09_09 Kanban

PU09_10 Large-Scale Scrum (LESS)

PU09_11 Lean Software Development
PU09_12 Model-Driven Architecture (MDA)
PU09_13 Nexus
PU09_14 Personal Software Process
PU09_15 Phase / Stage-gate model
PU09_16 PRINCE2
PU09_17 Rational Unified Process
PU09_18 Scaled Agile Framework (SAFe)
PU09_19 Scrum
PU09_20 ScrumBan
PU09_21 Spiral Model
PU09_22 Structured Systems Analysis and Design Method (SSADM)
PU09_23 Team Software Process
PU09_24 V-shaped Process (V-Model)

    1 = Do not know the framework
    2 = Do not know if we use it
    3 = We never use it
    4 = We rarely use it
    5 = We sometimes use it
    6 = We often use it
    7 = We always use the framework
    -9 = Not answered

[PU10] ▣ Scale (fully labeled)
Practices
"Which of the following practices do you use?"

PU10_01 Architecture Specifications
PU10_02 Automated Code Generation
PU10_03 Automated Theorem Proving
PU10_04 Automated Unit Testing
PU10_05 Backlog Management
PU10_06 Burn-Down Charts (as Progress Monitoring Practice)
PU10_07 Code review
PU10_08 Coding standards
PU10_09 Collective code ownership
PU10_10 Continuous deployment
PU10_11 Continuous integration
PU10_12 Daily Standup
PU10_13 Definition of done / ready
PU10_14 Design Reviews
PU10_15 Destructive Testing
PU10_16 Detailed Designs/Design Specifications
PU10_18 End-to-End (System) Testing
PU10_19 Expert/Team based estimation (e.g. Planning Poker)
PU10_20 Formal estimation (e.g. COCOMO, FP)
PU10_21 Formal Specification
PU10_22 Iteration Planning
PU10_23 Iteration/Sprint Reviews
PU10_17 Limit Work-in-Progress (e.g., using Kanban board)
PU10_24 Model Checking
PU10_25 On-Site Customer
PU10_26 Pair Programming
PU10_27 Prototyping
PU10_28 Refactoring
PU10_29 Release planning
PU10_30 Retrospectives
PU10_31 Scrum-of-Scrums
PU10_32 Security Testing
PU10_33 Test-driven Development (TDD)
PU10_36 Use Case Modeling (as Requirements Engineering Practice)
PU10_34 User Stories (as Requirements Engineering Practice)
PU10_35 Velocity-based planning

    1 = Do not know the practice
    2 = Do not know if we use it

3 = We never use it
4 = We rarely use it
5 = We sometimes use it
6 = We often use it
7 = We always use the practice
-9 = Not answered

[PU11] Selection
Deviation
"Do you intentionally deviate from defined policies?"

PU11 Deviation
1 = No
2 = Yes, we intentionally deviate from the defined process, because of:
-9 = Not answered
PU11_02 Yes, we intentionally deviate from the defined process, because of
Free text

[PU12] ☐ Multiple Choice
Goals
"What are the overall goals that you aim to address with your selection and combination of development approa..."

PU12 Goals: Residual option (negative) or number of selected options
Integer
PU12_01 Improved client involvement
PU12_02 Improved planning and estimation (cost, time, etc.)
PU12_03 Improved project monitoring and controlling (real-time statistics, efficient decision-making, etc.)
PU12_04 Improved reuse for project artifacts (models, code, tests, etc.)
PU12_05 Improved tool-support
PU12_06 Improved frequency of delivery to customers (rapid deliveries)
PU12_07 Improved external product quality (perceived by customers)
PU12_08 Improved internal artifact quality (requirements, tests, code quality, etc.)
PU12_09 Improved knowledge transfer and learning
PU12_10 Improved employee satisfaction
PU12_11 Improved adaptability and flexibility of the process to react to change
PU12_12 Improved productivity (reduction of effort, cost, etc.)
PU12_13 Improved staff education and development (personal skill development)
PU12_14 Improved ability of the company to develop critical systems (ability to certify a product)
PU12_15 Improved maturity of the company (ability to adhere to a standard, compliance)
PU12_16 Improved risk management (i.e., decrease risk)
PU12_17 Improved return-on-investment cycles (i.e., faster ROI)
PU12_18 Improved time-to-market
1 = Not checked
2 = Checked

[PU13] Slider
Goals Adressed
"To what degree did the combination of approaches help you to achieve the your goals?"

PU13_01 Improved client involvement
PU13_02 Improved planning and estimation (cost, time, etc.)
PU13_03 Improved project monitoring and controlling (real-time statistics, efficient decision-making, etc.)
PU13_04 Improved reuse for project artifacts (models, code, tests, etc.)
PU13_05 Improved tool-support
PU13_06 Improved frequency of delivery to customers (rapid deliveries)
PU13_07 Improved external product quality (perceived by customers)
PU13_08 Improved internal artifact quality (requirements, tests, code quality, etc.)
PU13_09 Improved knowledge transfer and learning
PU13_10 Improved employee satisfaction
PU13_11 Improved adaptability and flexibility of the process to react to change
PU13_12 Improved productivity (reduction of effort, cost, etc.)
PU13_13 Improved staff education and development (personal skill development)
PU13_14 Improved ability of the company to develop critical systems (ability to certify a product)
PU13_15 Improved maturity of the company (ability to adhere to a standard, compliance)
PU13_16 Improved risk management (i.e., decrease risk)
PU13_17 Improved return-on-investment cycles (i.e., faster ROI)
PU13_18 Improved time-to-market

1 = Not achieved at all
10 = Fully achieved
-9 = Not answered

[PU14] Text Input
Further Frameworks
"Do you use further frameworks and methods?"

PU14_01 [01]
Free text

[PU15] Text Input
Further Practices
"Do you use further practices?"

PU15_01 [01]
Free text

Section PS: ProcessUse and Standards

[PS01] ⊡ Selection
External Standards
"Do you implement external standards in your company?"

PS01 External Standards
1 = We do NOT implement any external standard
2 = Yes, we DO implement external standards, in particular:
-9 = Not answered
PS01_02 Yes, we DO implement external standards, in particular
Free text

[PS02] ⊡ Multiple Choice
Reason
"Why have you implemented the aforementioned standards?"

PS02 Reason: Residual option (negative) or number of selected options
Integer
PS02_01 Due to requirements of the company/project business (e.g., project- or system types in the portfolio)
PS02_02 Due to external triggers (e.g., laws, customer requirements)
PS02_03 Due to internal company policy (e.g., quality management, company strategy)
PS02_04 Other
1 = Not checked
2 = Checked
PS02_04a Other (free text)
Free text

[PS03] ⊡ Multiple Choice
Assessment
"How is the compliance of the development process assessed?"

PS03 Assessment: Residual option (negative) or number of selected options
Integer
PS03_01 Internal Project Assessments
PS03_02 External Project Assessments
PS03_03 Constructive measures (e.g., templates or checklists)
PS03_04 Analytical measures (e.g., milestone-based inspection as part of quality gates)
PS03_05 Compliance is not controlled
PS03_06 Other
1 = Not checked
2 = Checked
PS03_06a Other (free text)
Free text

[PS04] ⊡ Selection
Agility
"Does agility challenge the implementation of the standards you have to apply?"

PS04 Agility
1 = No, agility is easy to implement in our context
2 = Yes, agility challenges the implementation, in the following way:
-9 = Not answered

PS04_02 Yes, agility challenges the implementation, in the following way
    Free text

[PS05] Selection
Subject to certification
"Is the project or product your answer relates to also subject to certification?"

PS05 Subject to certification
    1 = No, the referred project or product is not subject to certification
    2 = Yes, the referred project or product is subject to certification, in particular:
    -9 = Not answered
PS05_02 Yes, the referred project or product is subject to certification, in particular
    Free text

Section EX: Experience

[EX01] ▪ Scale (fully labeled)
Statements
"Based on your personal experience, please rate the following statements:"

EX01_04 The current development approach is suitable to support our project business (e.g., regarding internal or customer goals)
EX01_07 The current development approach helps us to achieve good product quality
EX01_08 The current development approach helps us to achieve fast product time-to market
EX01_03 The current development approach provides me with sufficient support in my work
EX01_02 The current development approach is adequately addressing the external requirements (e.g., standards) we face
EX01_01 The level of agility in the current development approach is sufficient
EX01_05 I'm generally satisfied with the current development approach
EX01_06 If I could, I would change/improve the current development approach
    1 = Strongly disagree
    2 = Somewhat disagree
    3 = Neither agree nor disagree
    4 = Somewhat agree
    5 = Strongly agree
    -1 = Don't know
    -9 = Not answered

[EX02] Text Input
Problems
"Based on your personal experience, please specify any problems that have arisen regarding your current proce..."

EX02_01 [01]
    Free text

Section C0: Closing

[C001] Text Input
Comments
"Do you have any further comments or issues not addressed so far?"

C001_01 [01]
    Free text

[C002] Collect Email Addresses Separately
Mail
"If you want to be informed about the study's outcomes and possible future iterations (with in-depth intervie..."

[C003] ▪ Selection
Future participation
"In future iterations, we plan to complement this survey with in-depth interviews. Would you be willing to p..."

C003 Future participation
    1 = Yes
    2 = No
    -9 = Not answered

[C004] Selection
H1 participation
"Have you already participated in stage 1 of the HELENA survey?"

C004 H1 participation

    1 = Yes
    2 = No
    -9 = Not answered

[C005] ◘ Selection
Multiple answers
"Have you filled in the questionnaire more than once (i.e., for more than one project/product)?"

C005 Multiple answers

    1 = Yes
    2 = No
    -9 = Not answered

[C006] Text Input
Company name
"For which company/organization do you work?"

C006_01 [01]

    Free text

[C007] Selection
Company visibility
"Are we allowed to name your company in the list of participants?"

C007 Company visibility

    1 = Yes
    2 = No
    3 = Don't know, please contact our company using this contact:
    -9 = Not answered

C007_03 Don't know, please contact our company using this contact

    Free text

[C008] ◘ Selection
Survey trigger
"How did you learn about this survey/how were you contacted?"

C008 Survey trigger

    1 = ResearchGate
    2 = LinkedIn
    3 = Twitter
    4 = Mailinglist
    5 = Personal Contact
    6 = Other:
    -9 = Not answered

C008_06 Other

    Free text