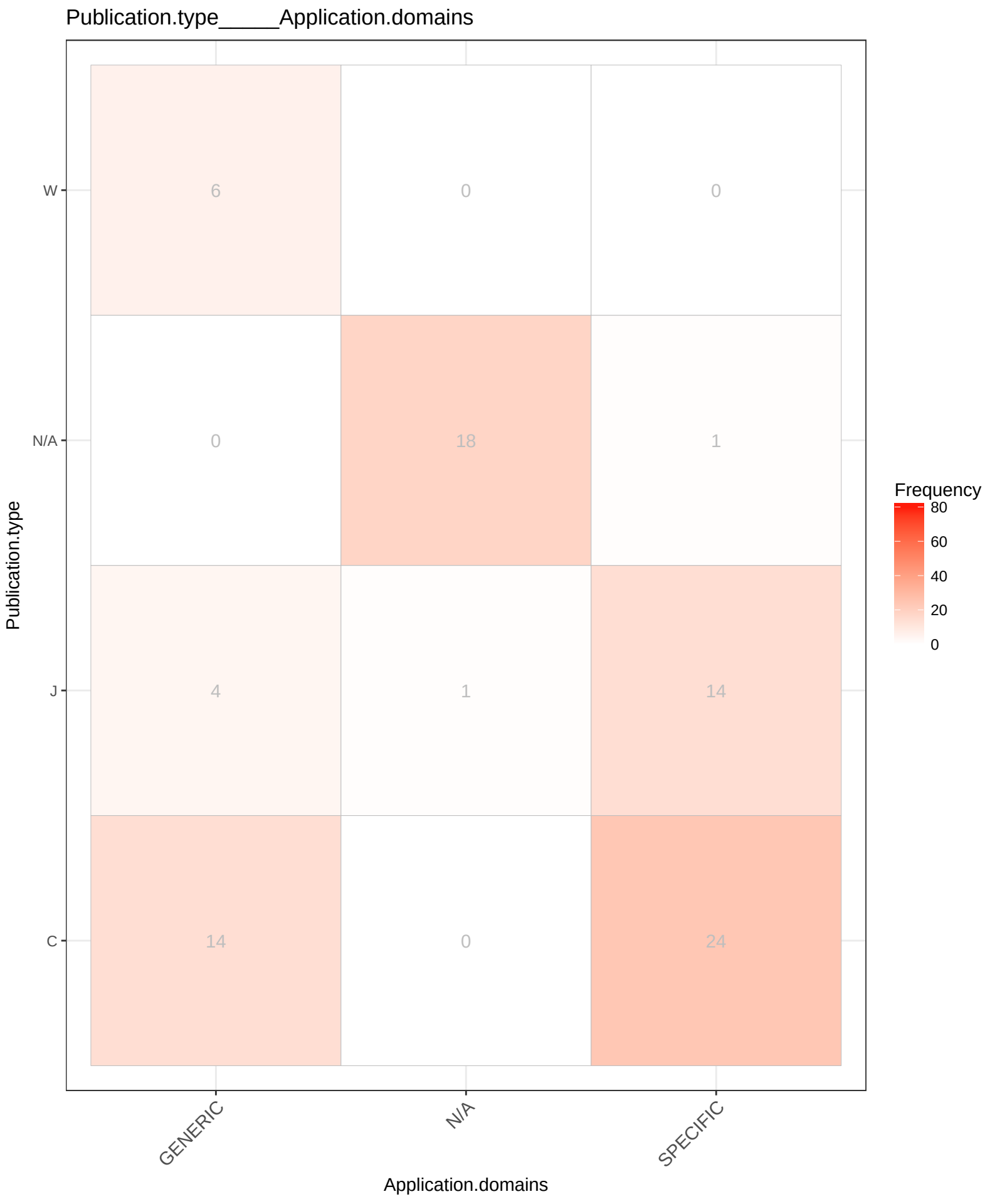
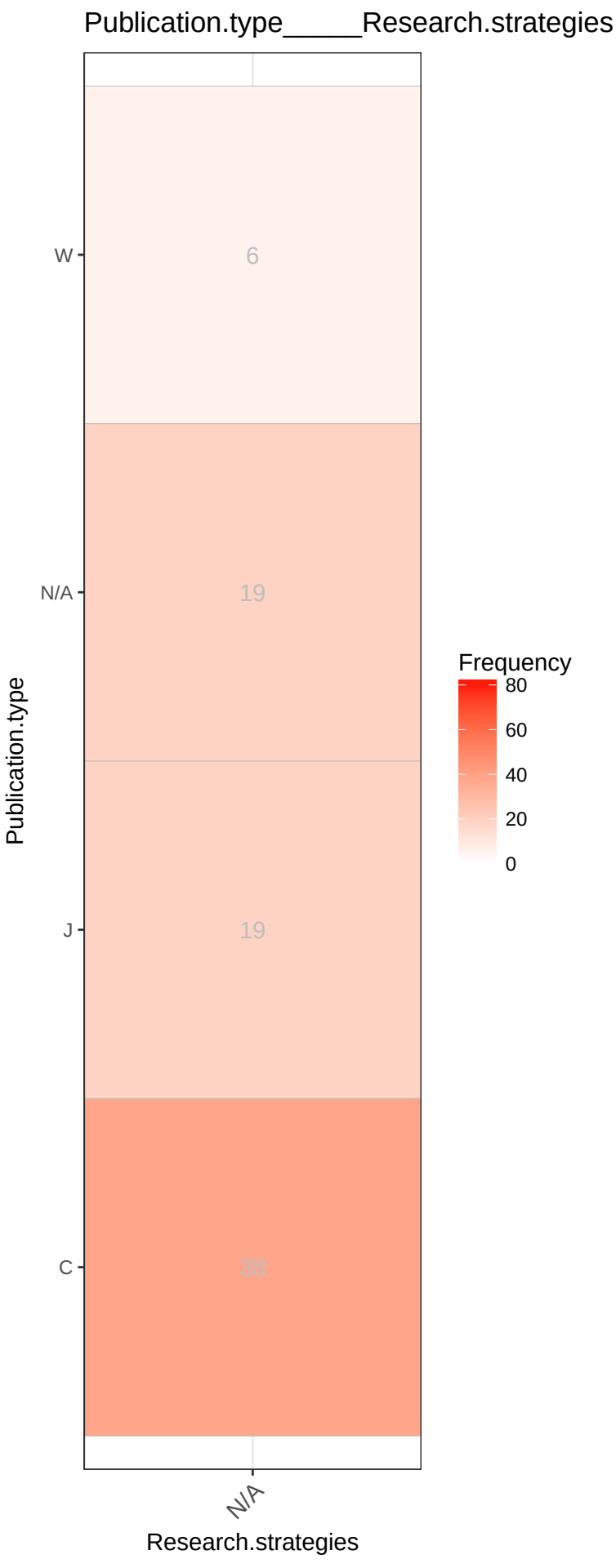
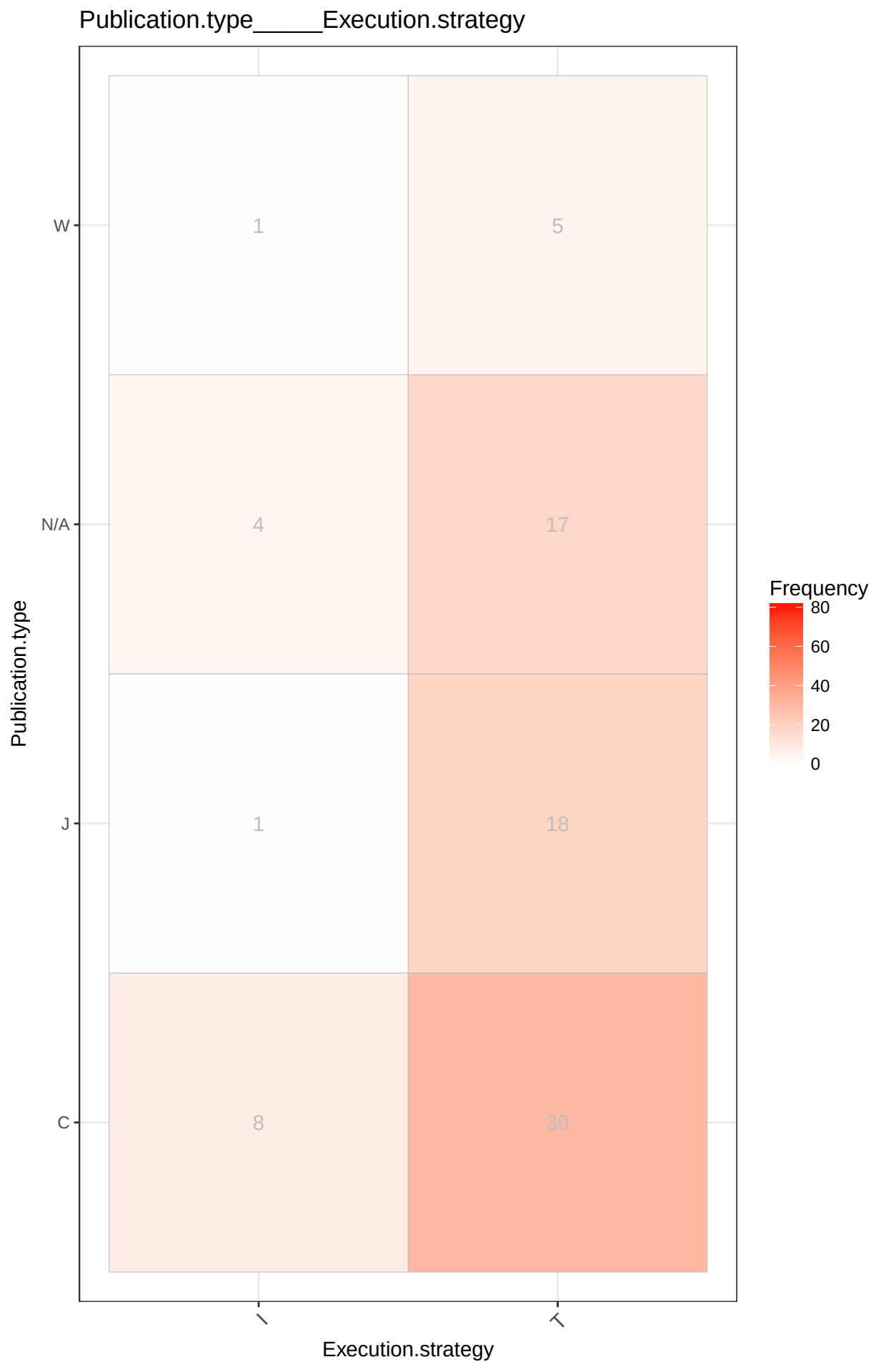
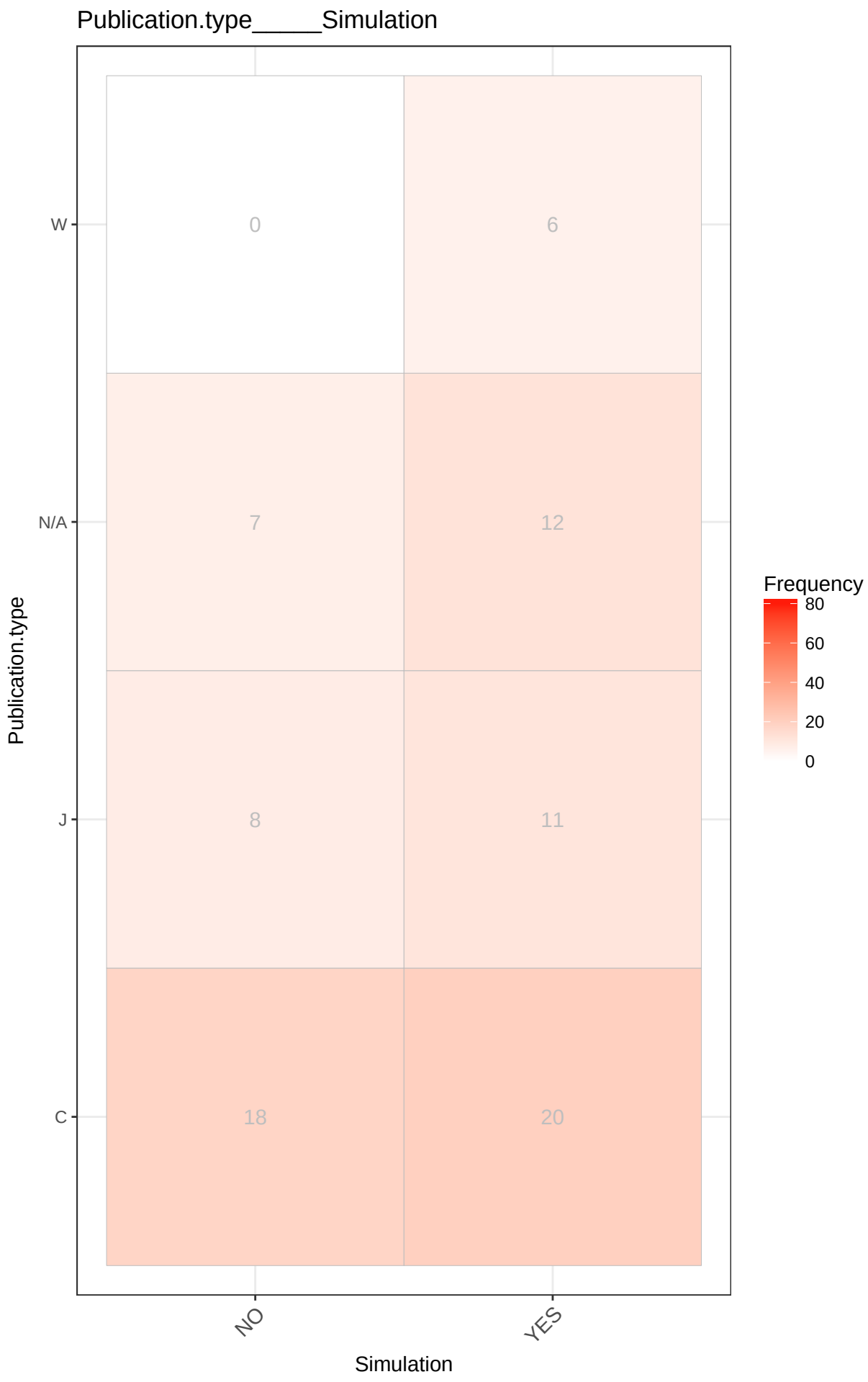
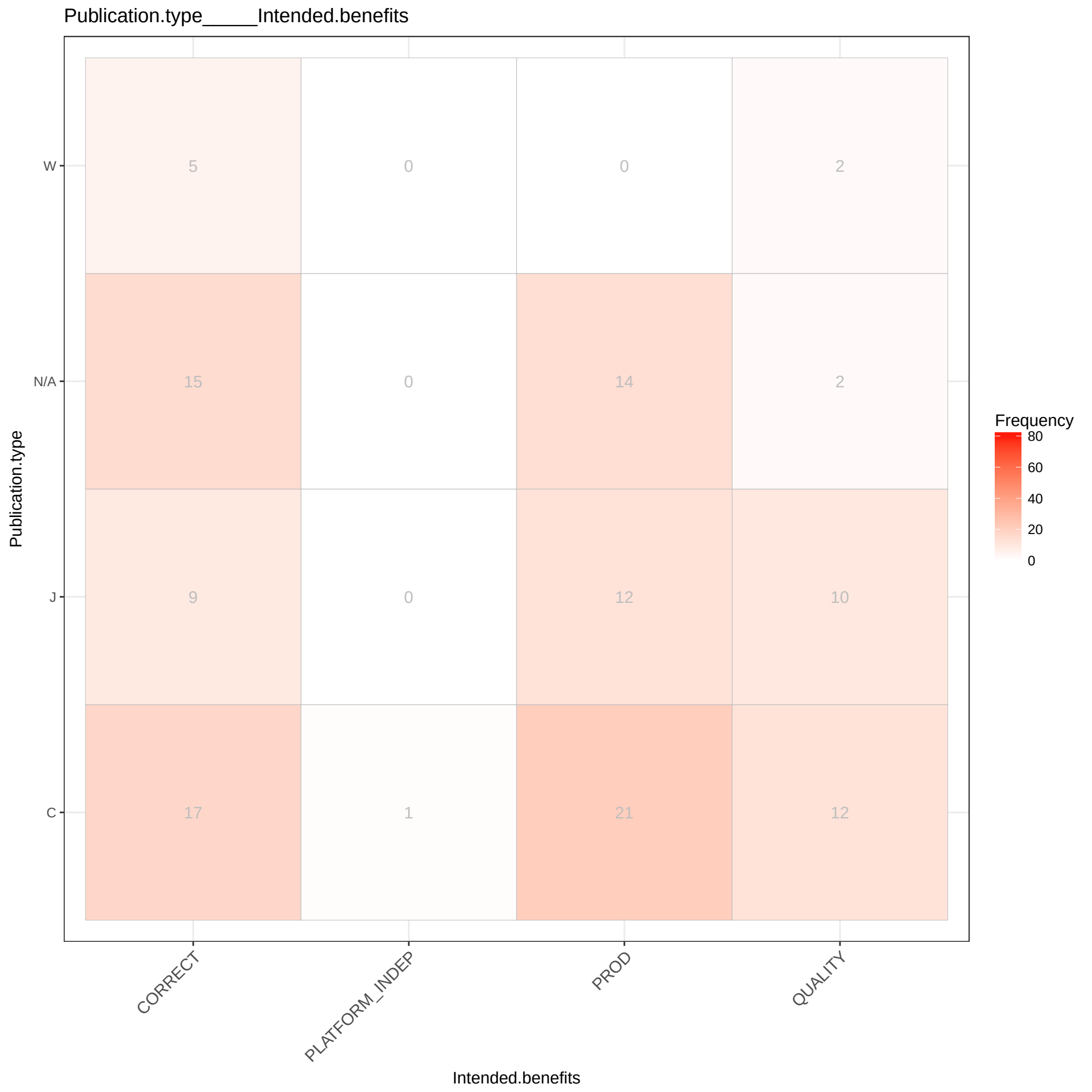
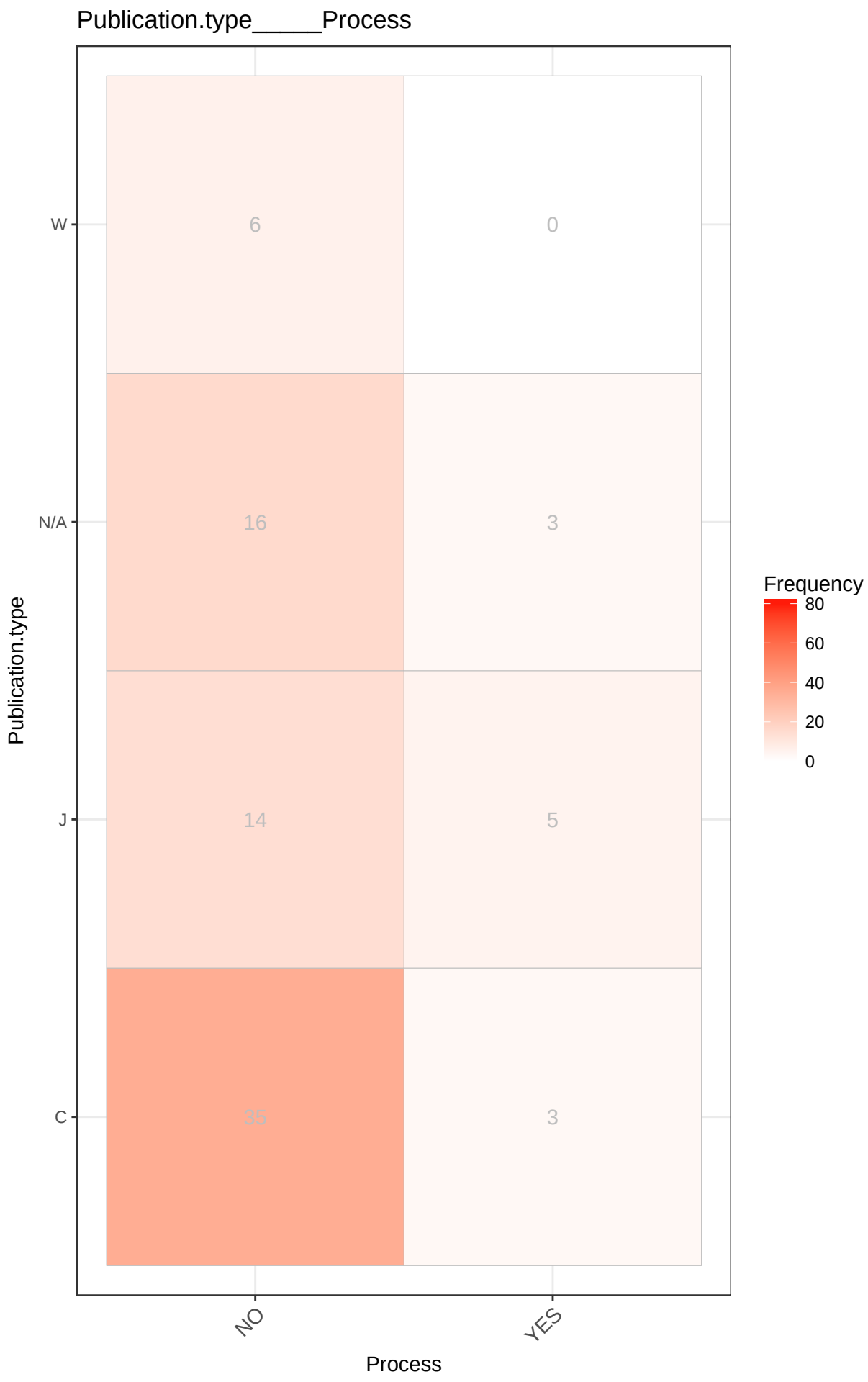

Publication.type_____Application.domains
W
N/A
J
C
Publication.type
6
0
0
0
18
1
4
1
14
14
0
24
GENERIC
N/A
SPECIFIC
Application.domains
Frequency
80
60
40
20
0

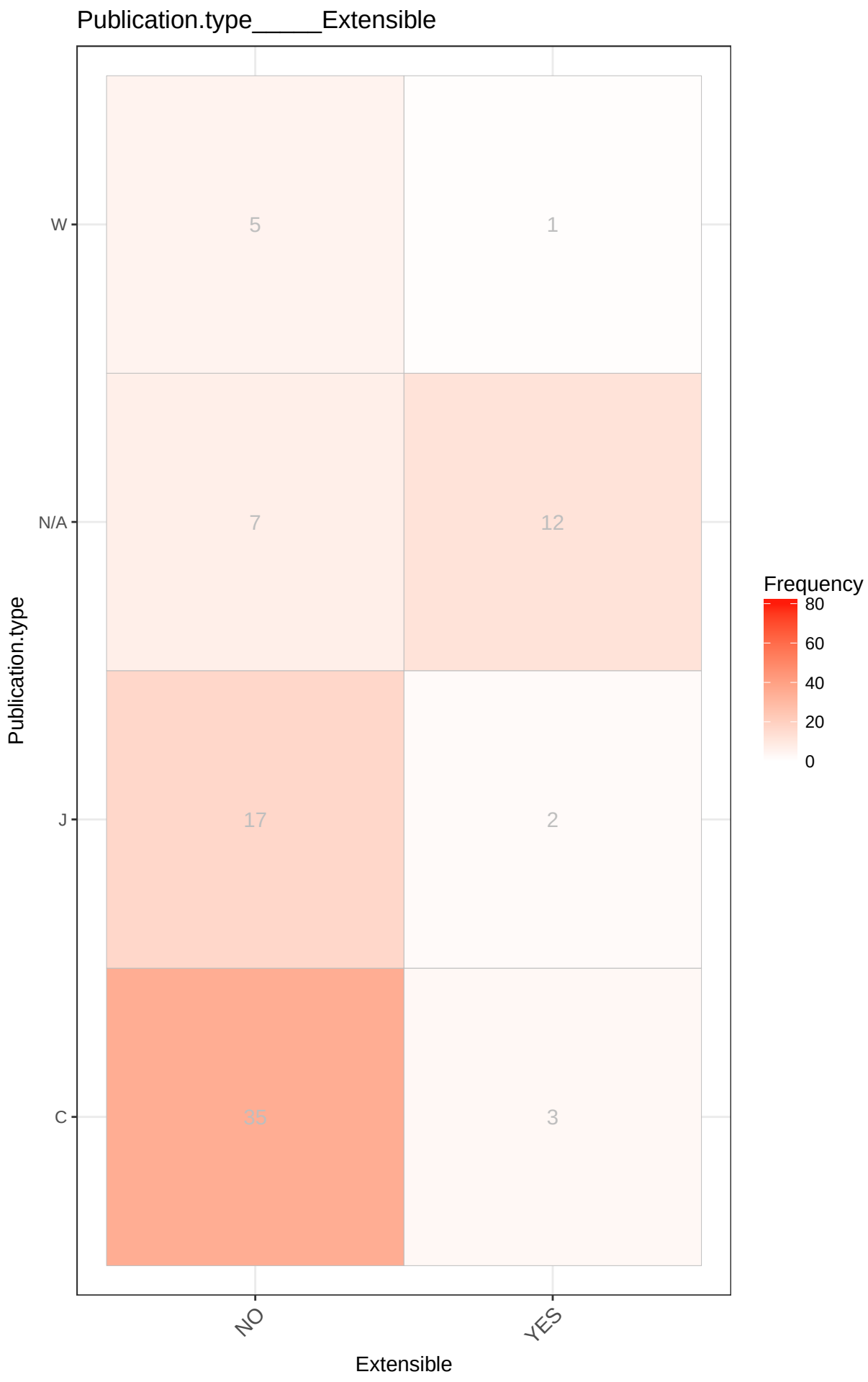

Publication.type_____Research.strategies
W
N/A
J
C
6
19
19
38
Publication.type
Frequency
80
60
40
20
0
N/A
Research.strategies

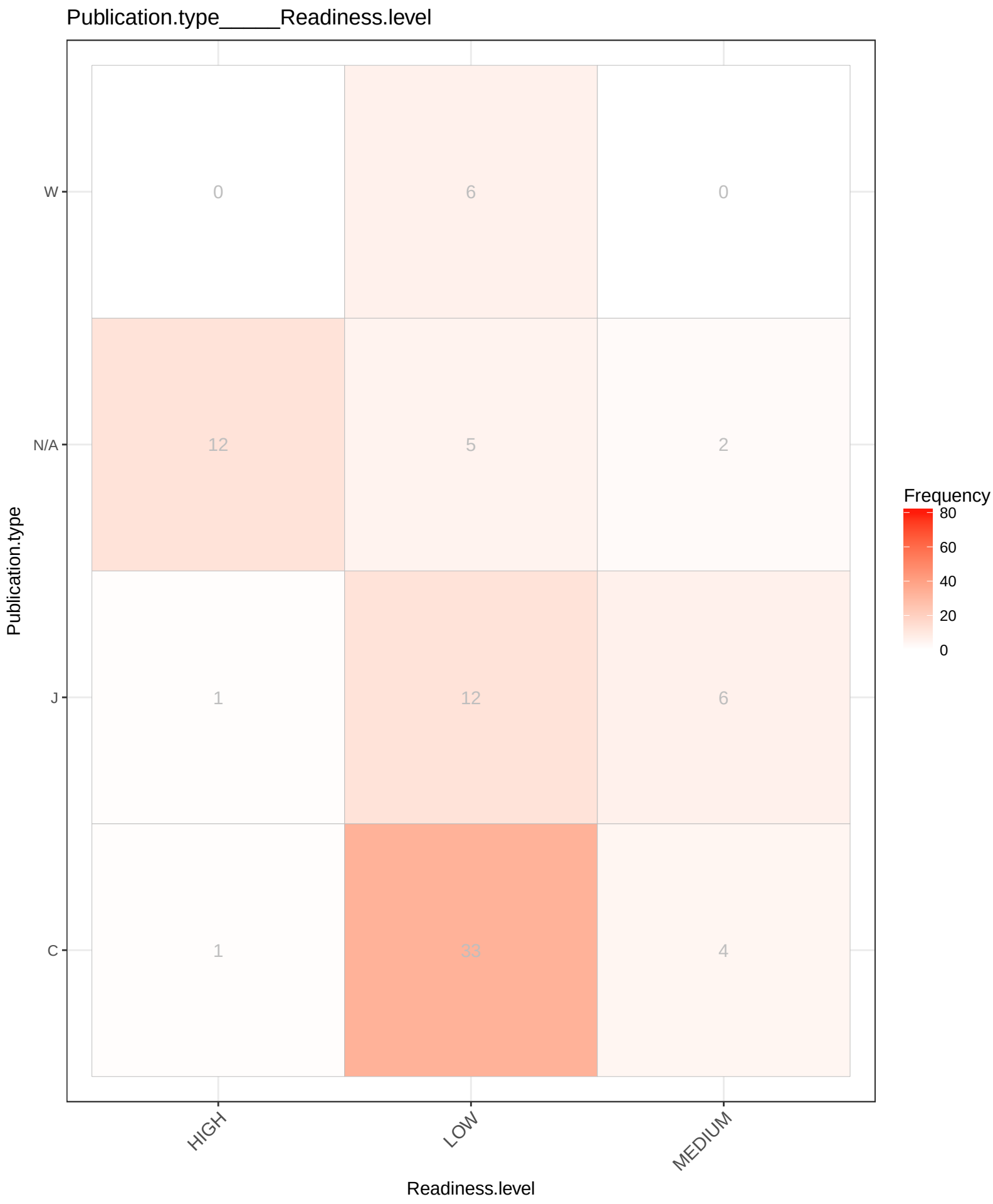

Publication.type_____Execution.strategy
W
N/A
J
C
1
5
4
17
1
18
8
30
Publication.type
I
T
Execution.strategy
Frequency
80
60
40
20
0

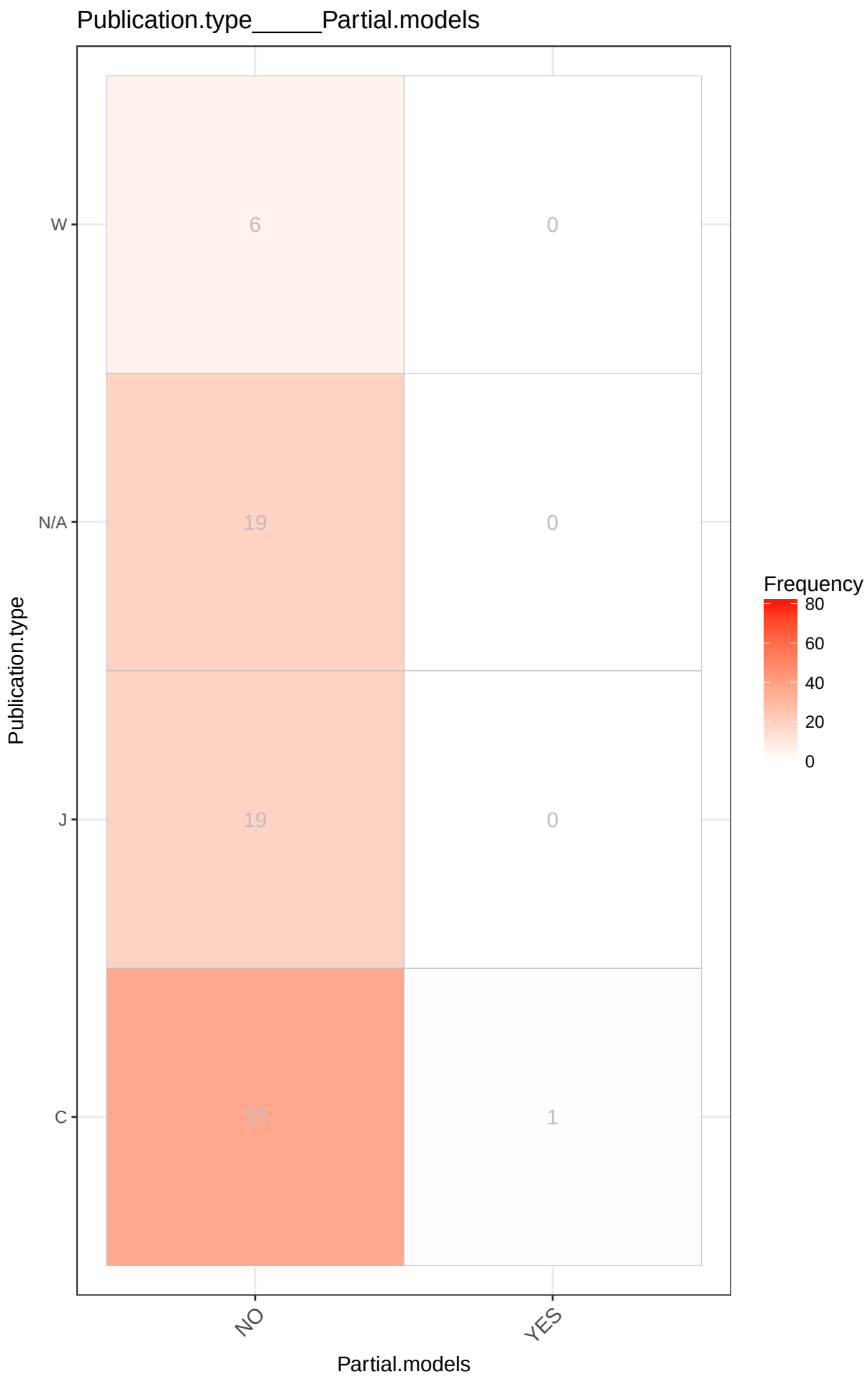

Publication.type_____Simulation
W
N/A
J
C
0
6
7
12
8
11
18
20
Publication.type
NO
YES
Simulation
Frequency
80
60
40
20
0

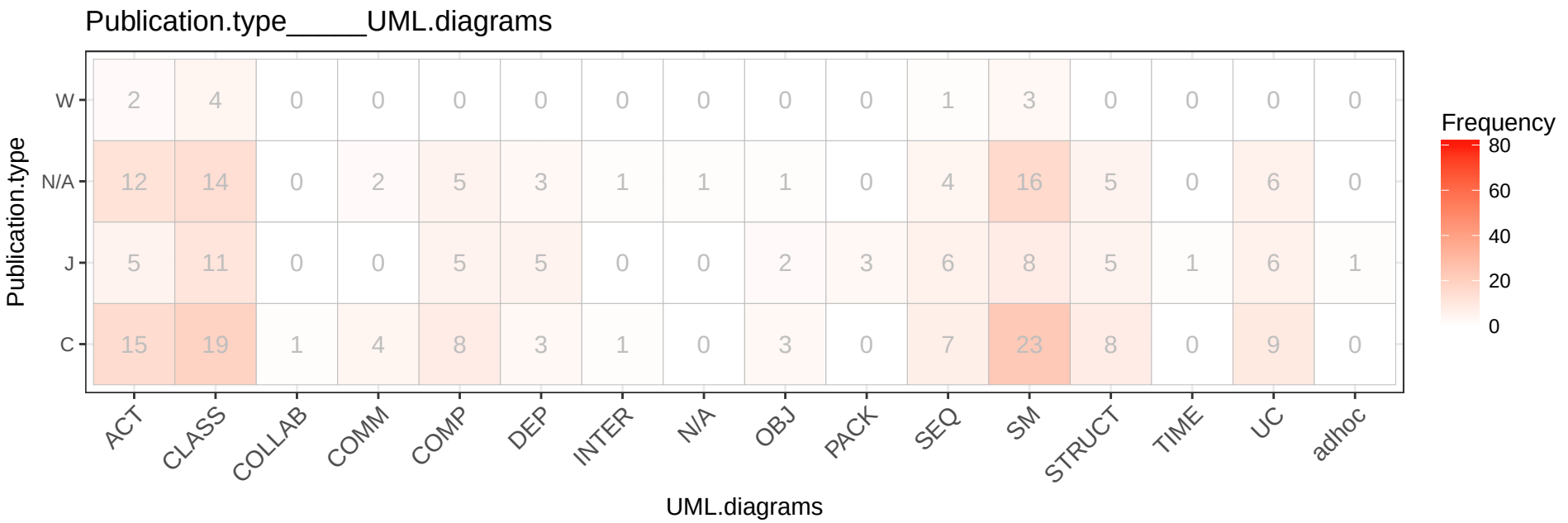

Publication.type_____Intended.benefits
W
N/A
J
C
5
0
0
2
15
0
14
2
9
0
12
10
17
1
21
12
CORRECT
PLATFORM_INDEP
PROD
QUALITY
Publication.type
Intended.benefits
Frequency
80
60
40
20
0

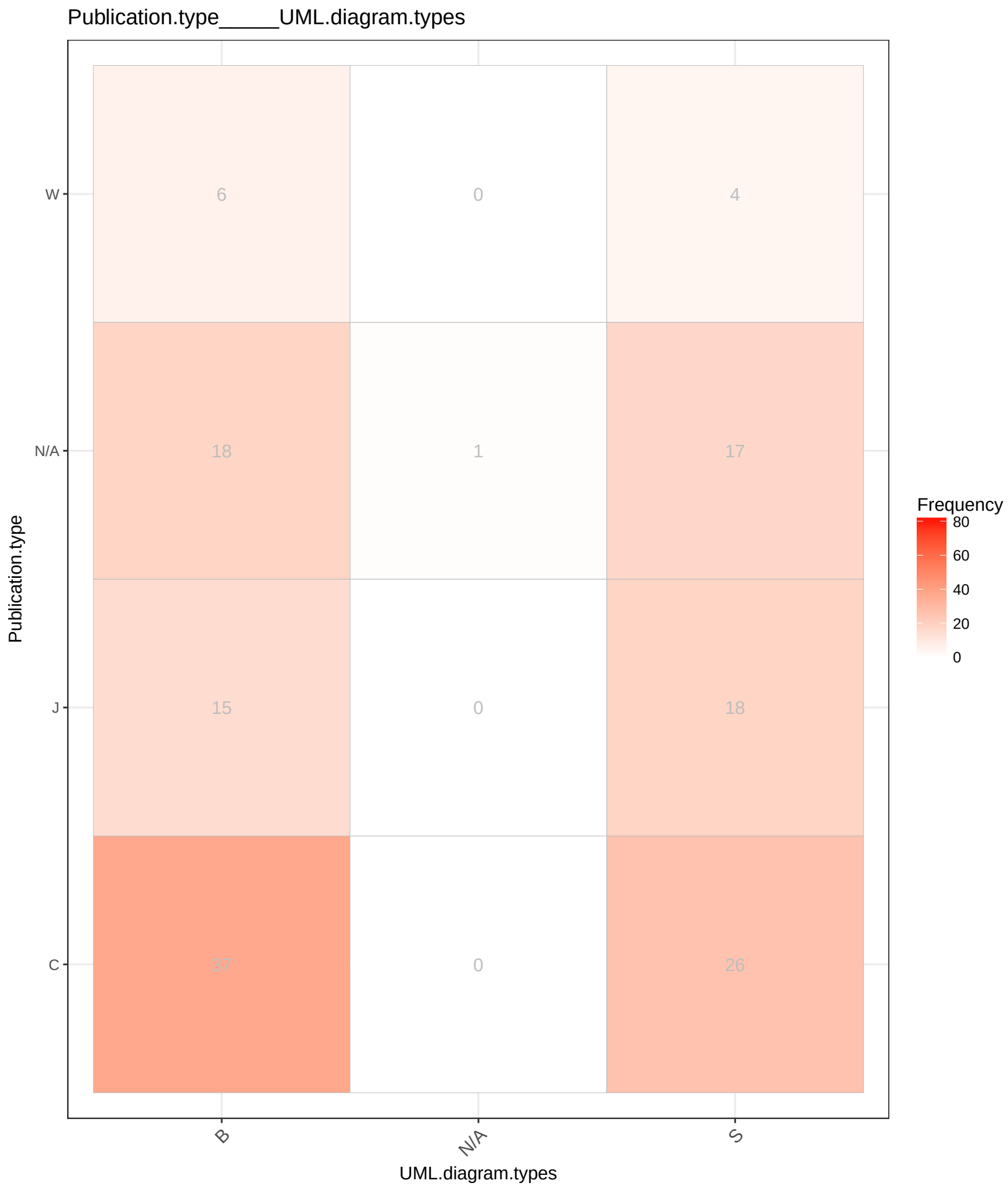

Publication.type_____Process
W
N/A
J
C
6
0
16
3
14
5
35
3
Publication.type
NO
YES
Process
Frequency
80
60
40
20
0

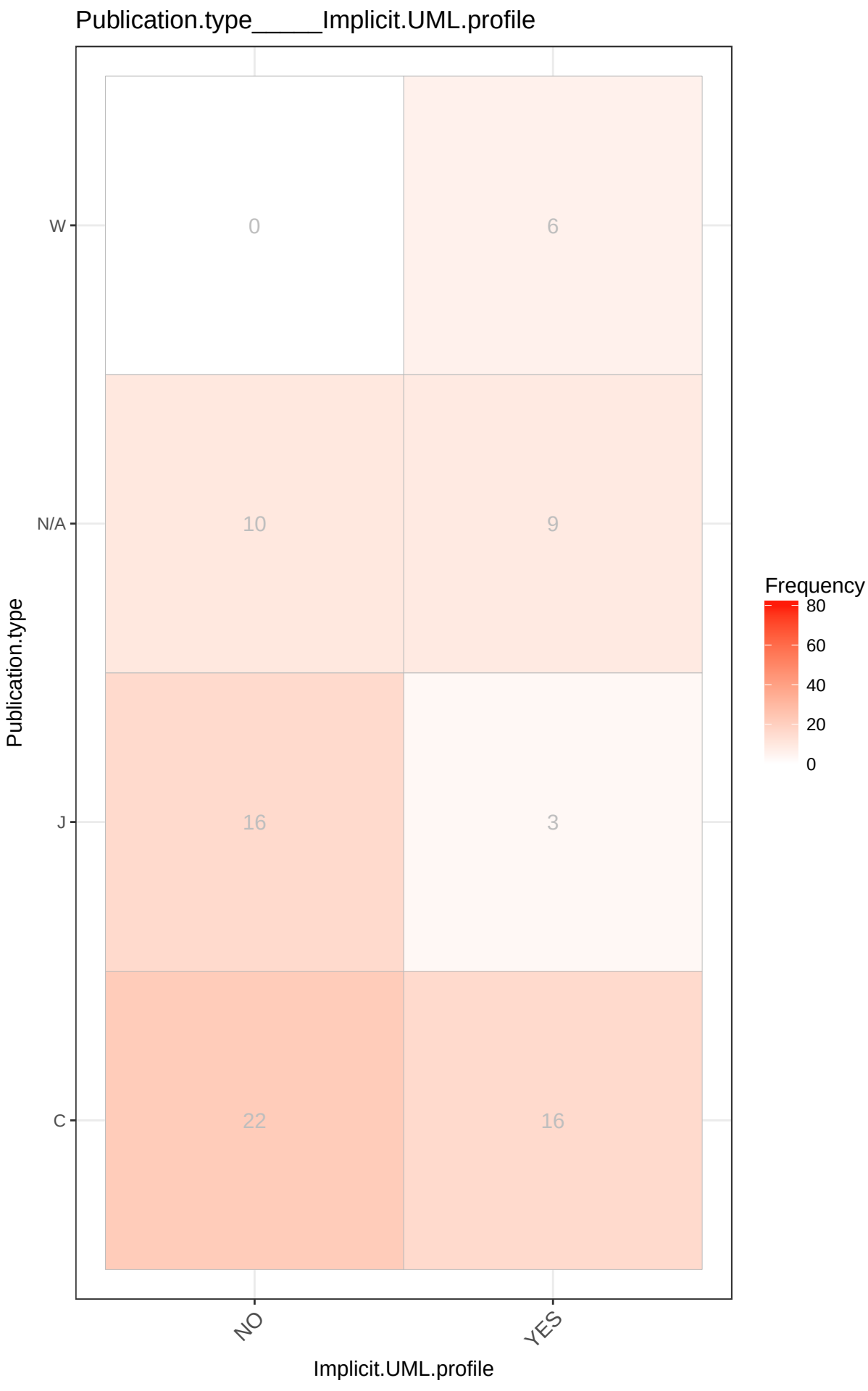

Publication.type_____Extensible
W
N/A
J
C
5
1
7
12
17
2
35
3
Publication.type
NO
YES
Extensible
Frequency
80
60
40
20
0

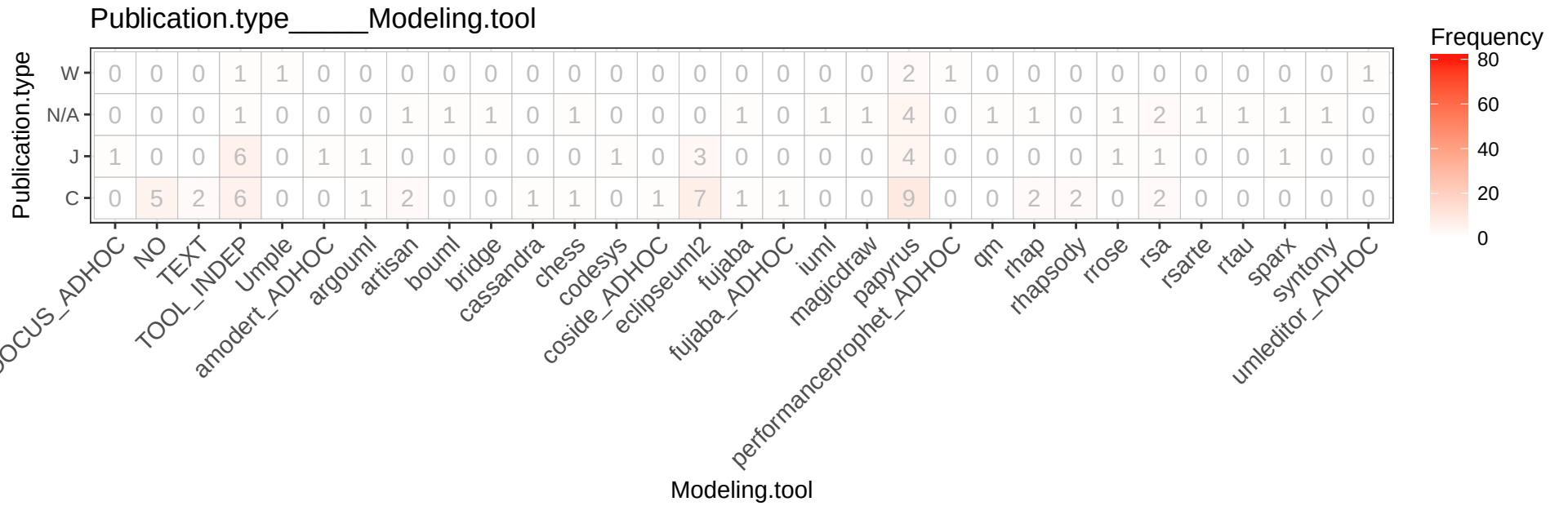

Publication.type_____Readiness.level
W
N/A
J
C
0
6
0
12
5
2
1
12
6
1
33
4
Publication.type
HIGH
LOW
MEDIUM
Readiness.level
Frequency
80
60
40
20
0

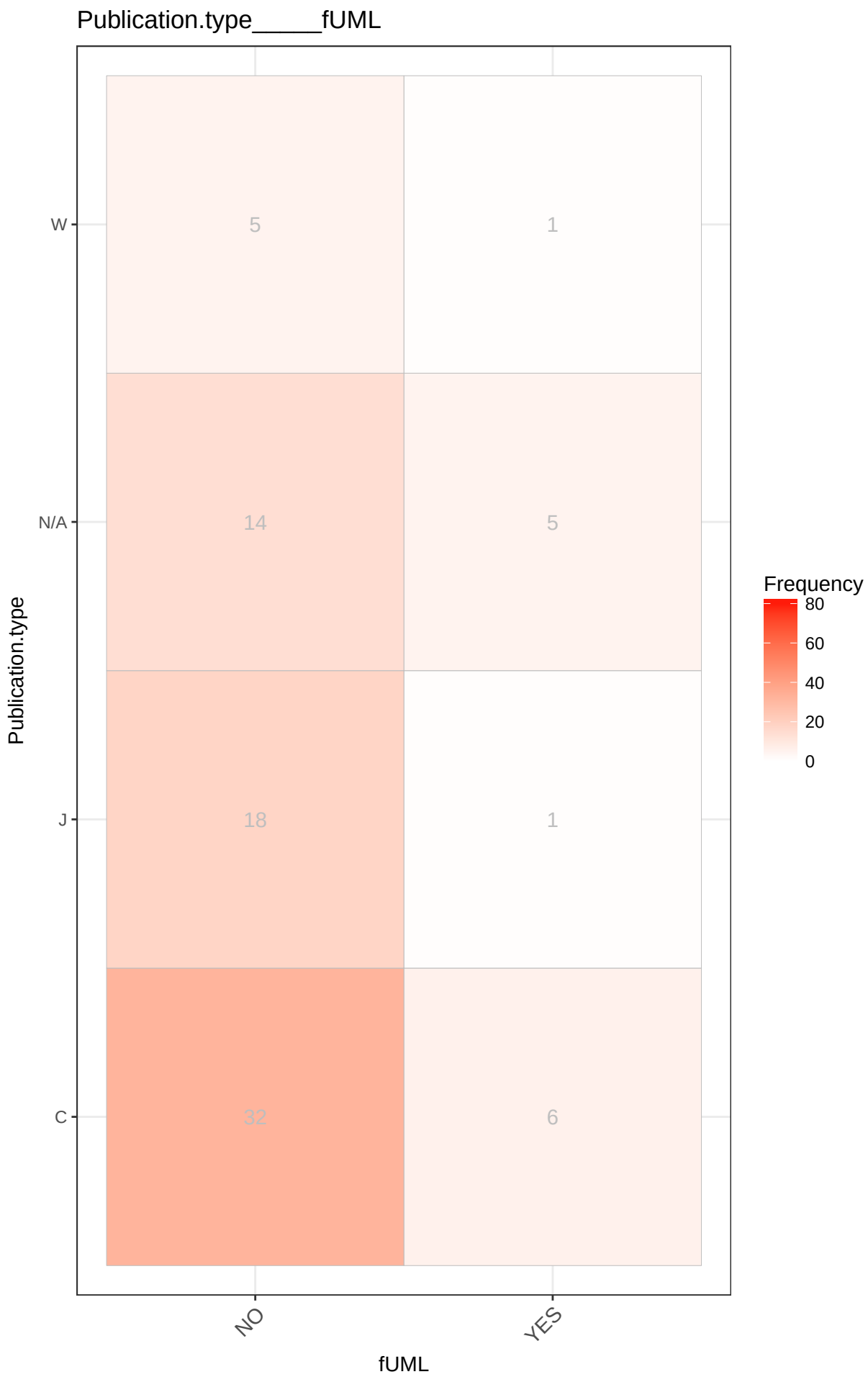

Publication.type_____Partial.models
W
N/A
J
C
6
0
19
0
19
0
37
1
Publication.type
NO
YES
Partial.models
Frequency
80
60
40
20
0

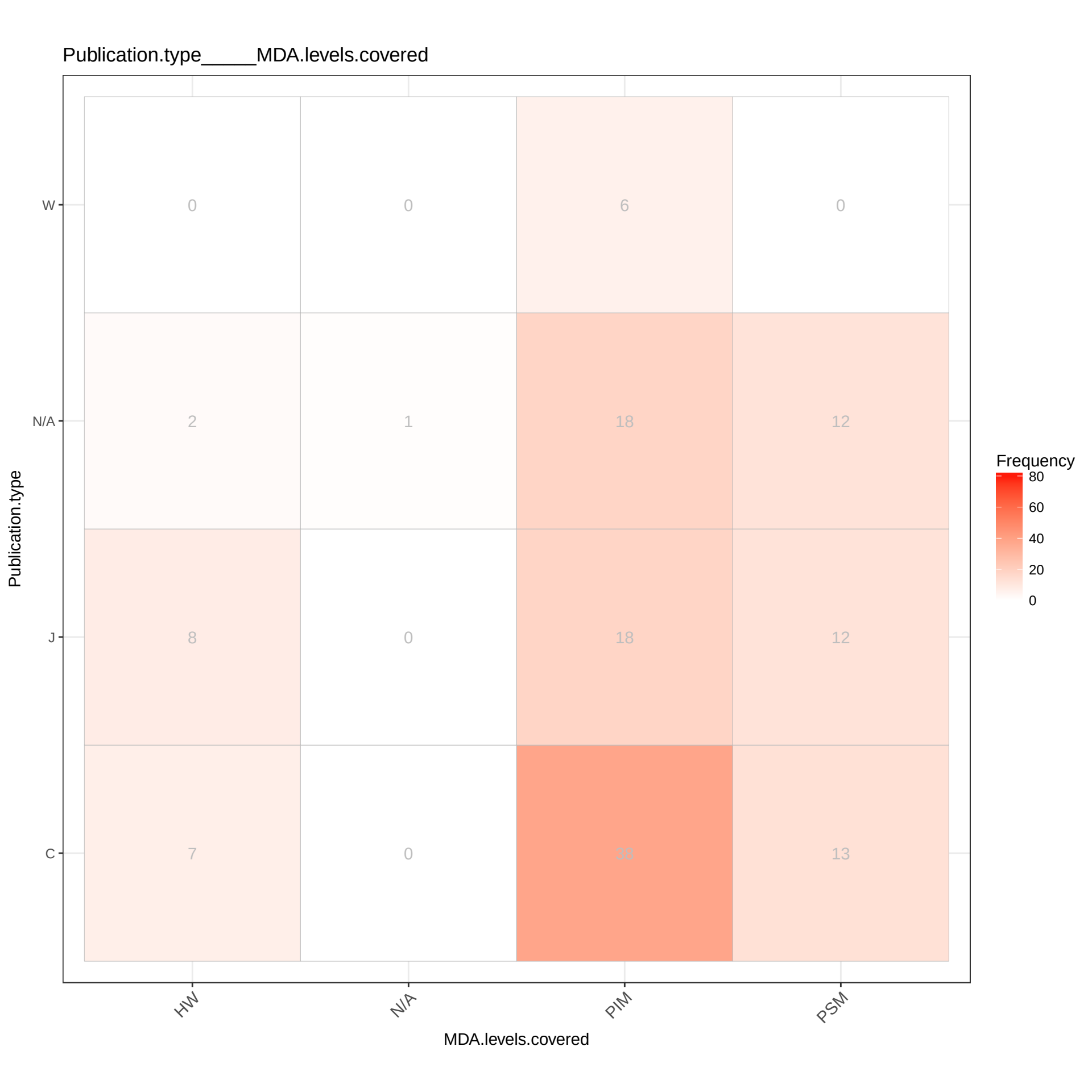

Publication.type_____UML.diagrams
Publication.type
W
N/A
J
C
2 4 0 0 0 0 0 0 0 0 1 3 0 0 0 0
12 14 0 2 5 3 1 1 1 0 4 16 5 0 6 0
5 11 0 0 5 5 0 0 2 3 6 8 5 1 6 1
15 19 1 4 8 3 1 0 3 0 7 23 8 0 9 0
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

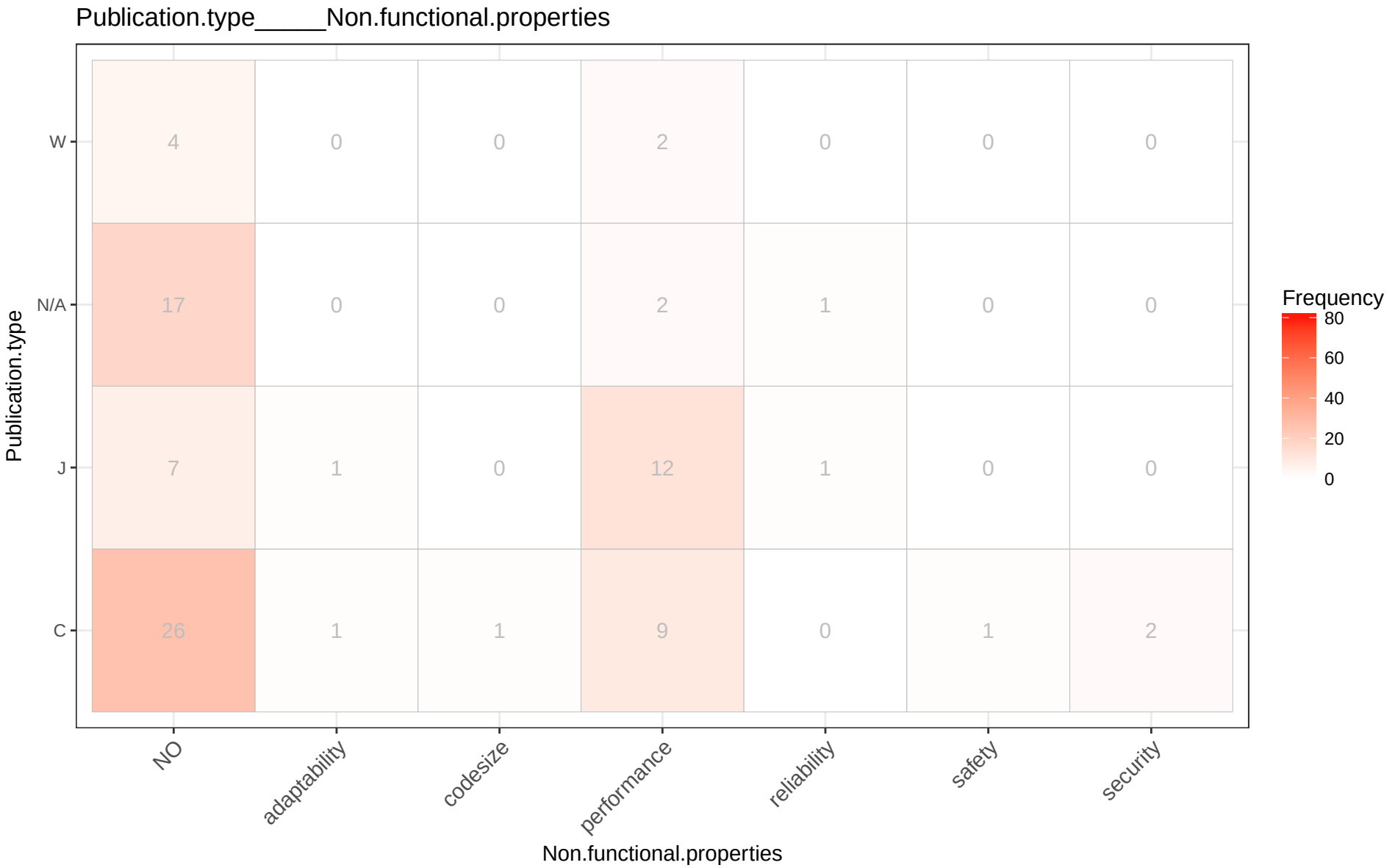

Publication.type_____UML.diagram.types
W
N/A
J
C
6
0
4
18
1
17
15
0
18
37
0
26
Publication.type
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

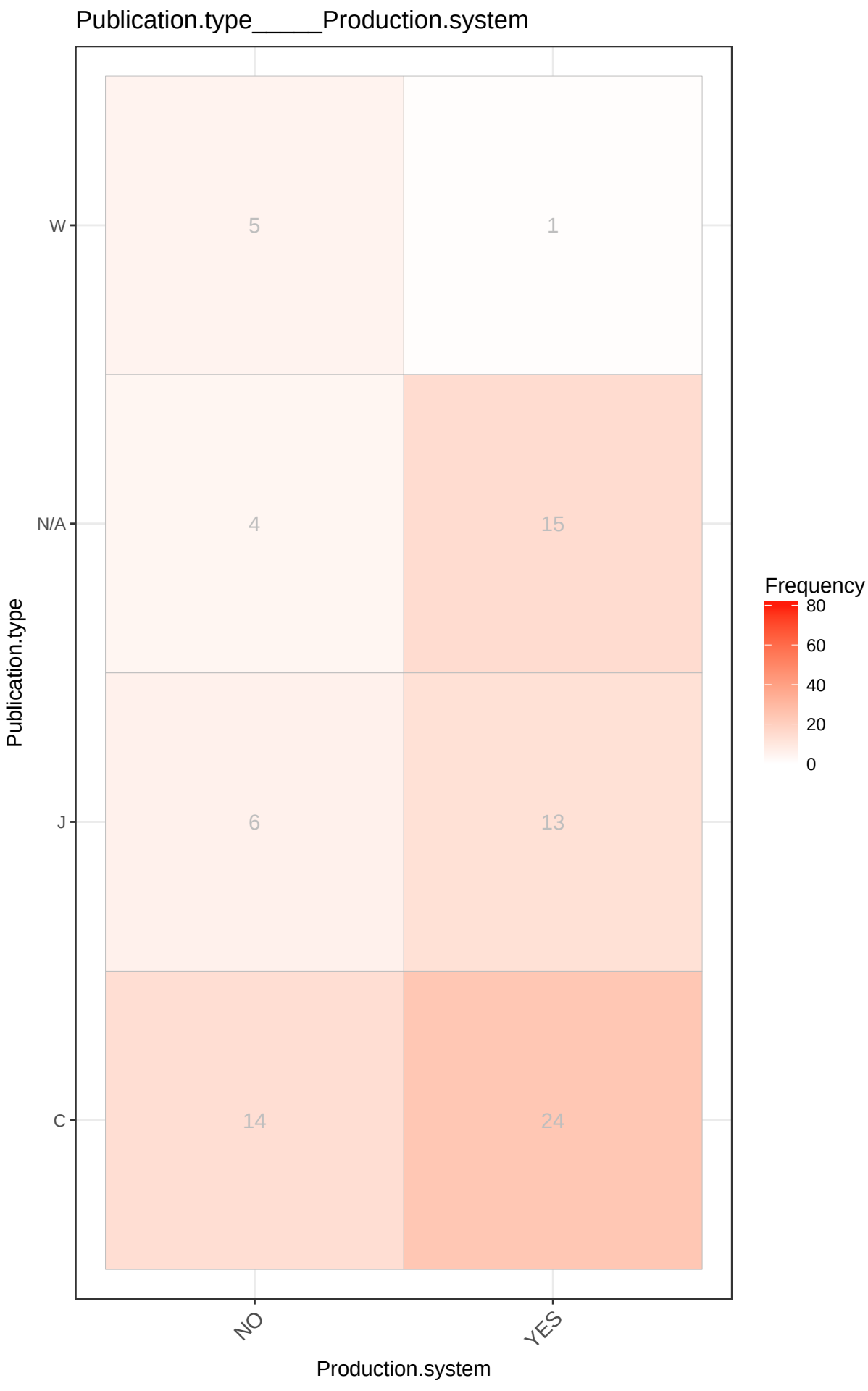

Publication.type_____Implicit.UML.profile
W
N/A
J
C
0
6
10
9
16
3
22
16
Publication.type
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

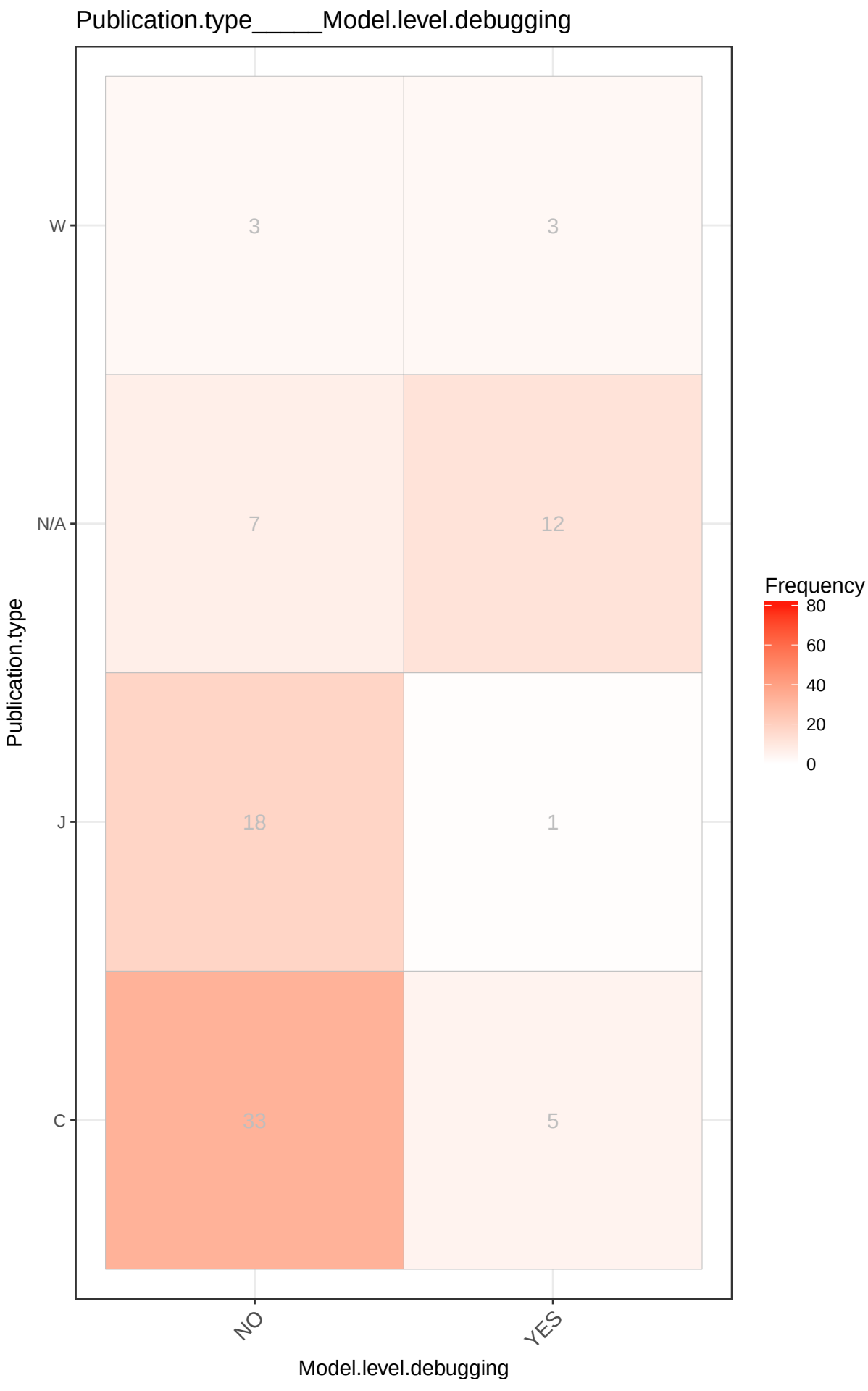

Publication.type_____Modeling.tool
Publication.type
W
N/A
J
C
0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 1 0 0 0 0 0 0 0 0 0 1
0 0 0 1 0 0 0 1 1 1 0 1 0 0 0 1 0 1 1 4 0 1 1 0 1 2 1 1 1 1 0
1 0 0 6 0 1 1 0 0 0 0 0 1 0 3 0 0 0 0 4 0 0 0 0 1 1 0 0 1 0 0
0 5 2 6 0 0 1 2 0 0 1 1 0 1 7 1 1 0 0 9 0 0 2 2 0 2 0 0 0 0 0
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

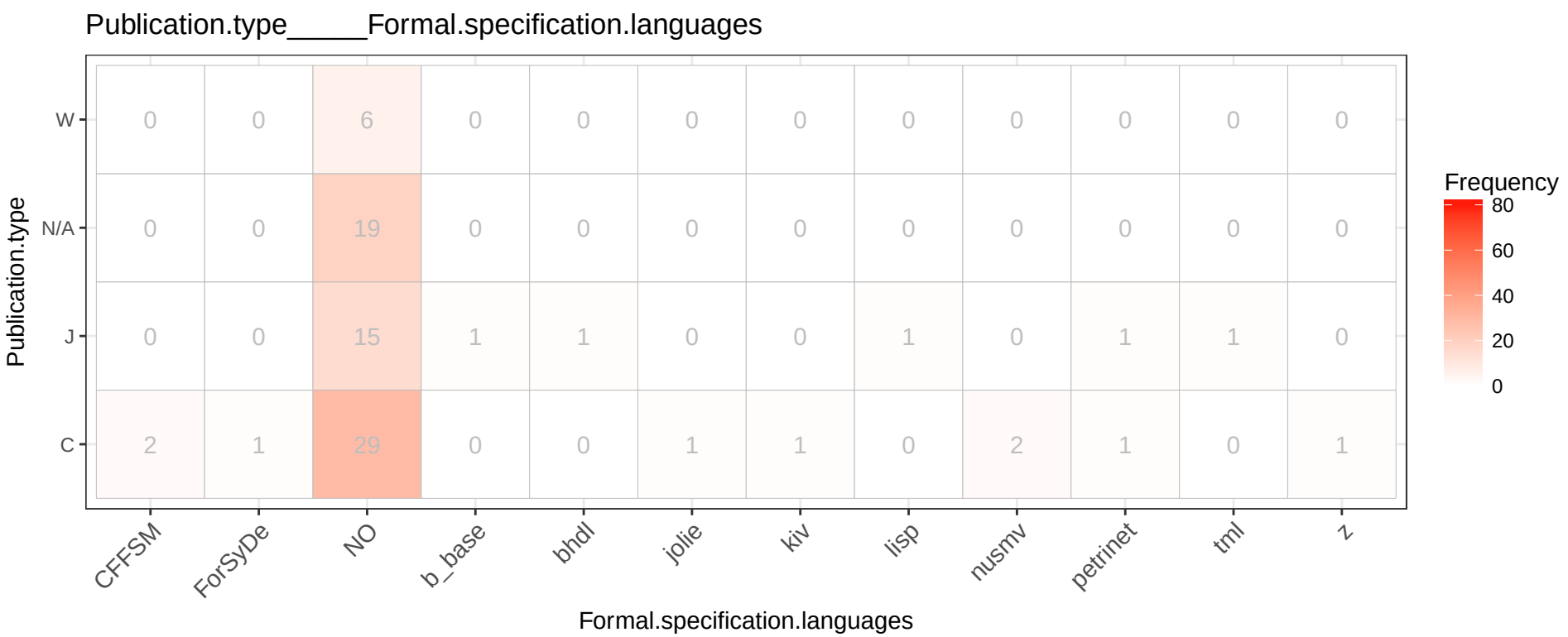

Publication.type_____fUML
W
N/A
J
C
5
1
14
5
18
1
32
6
Publication.type
NO
YES
fUML
Frequency
80
60
40
20
0

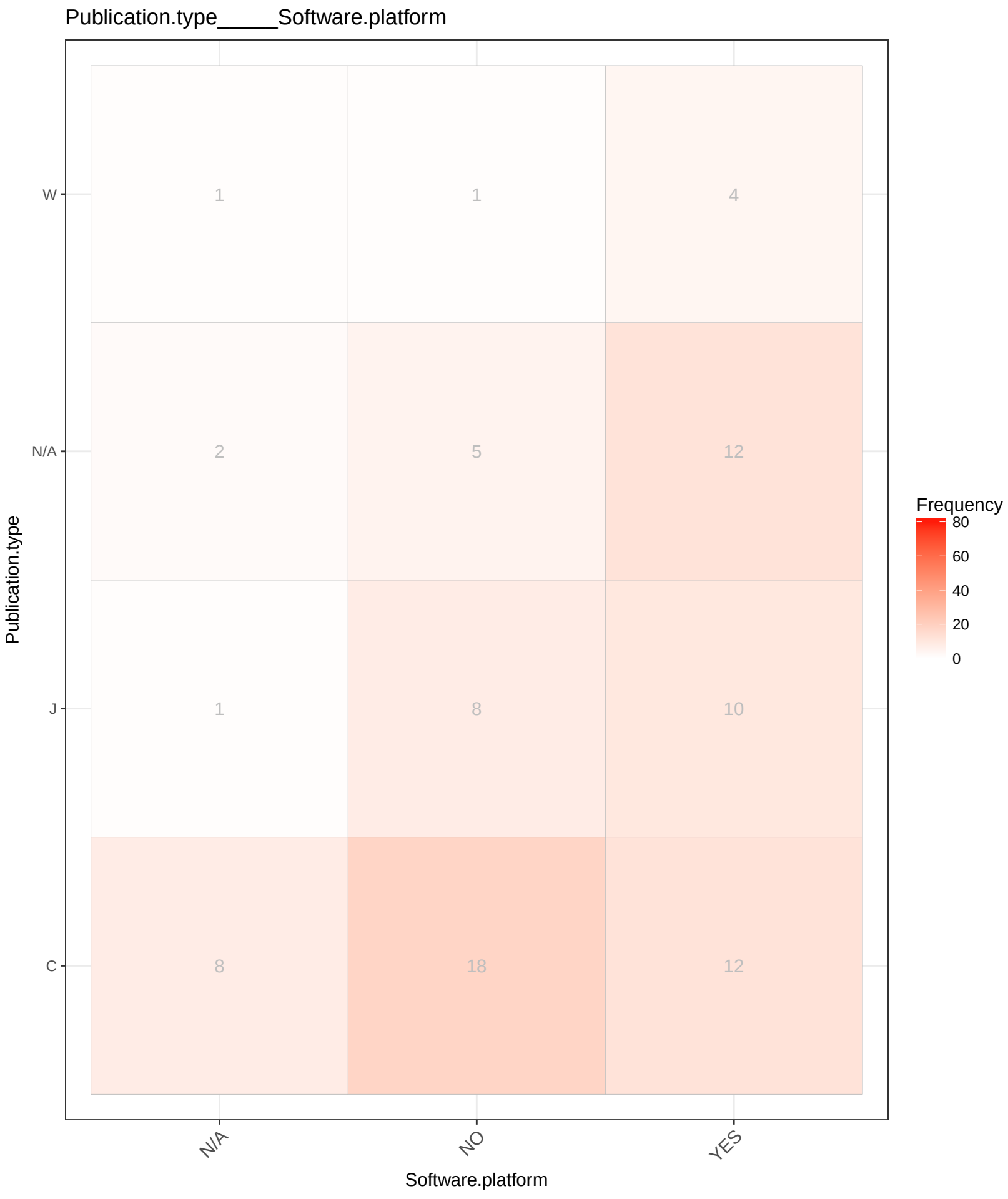

Publication.type_____MDA.levels.covered
W
N/A
J
C
Publication.type
0
0
6
0
2
1
18
12
8
0
18
12
7
0
38
13
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

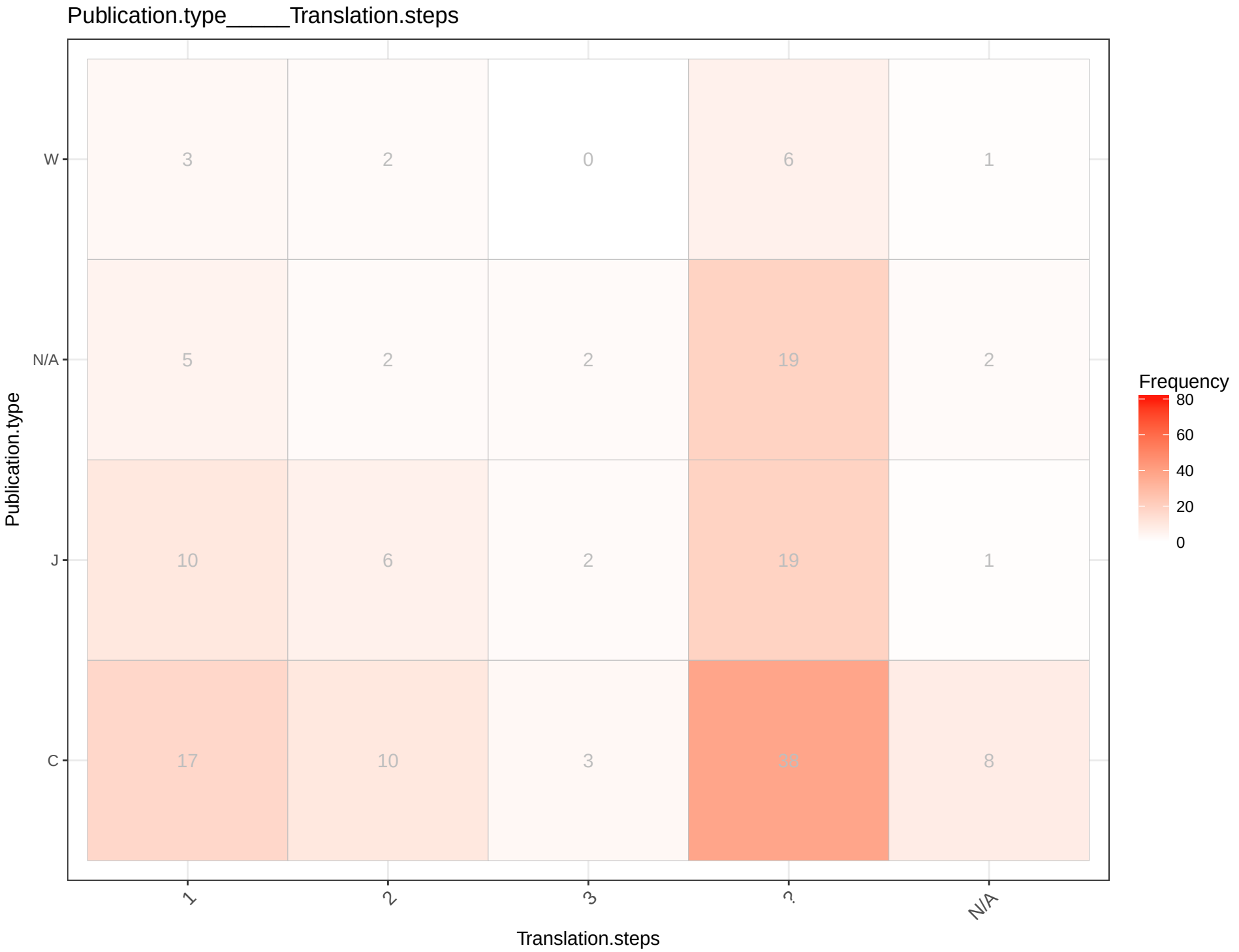

Publication.type_____Non.functional.properties
Publication.type
W
N/A
J
C
4
0
0
2
0
0
0
17
0
0
2
1
0
0
7
1
0
12
1
0
0
26
1
1
9
0
1
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

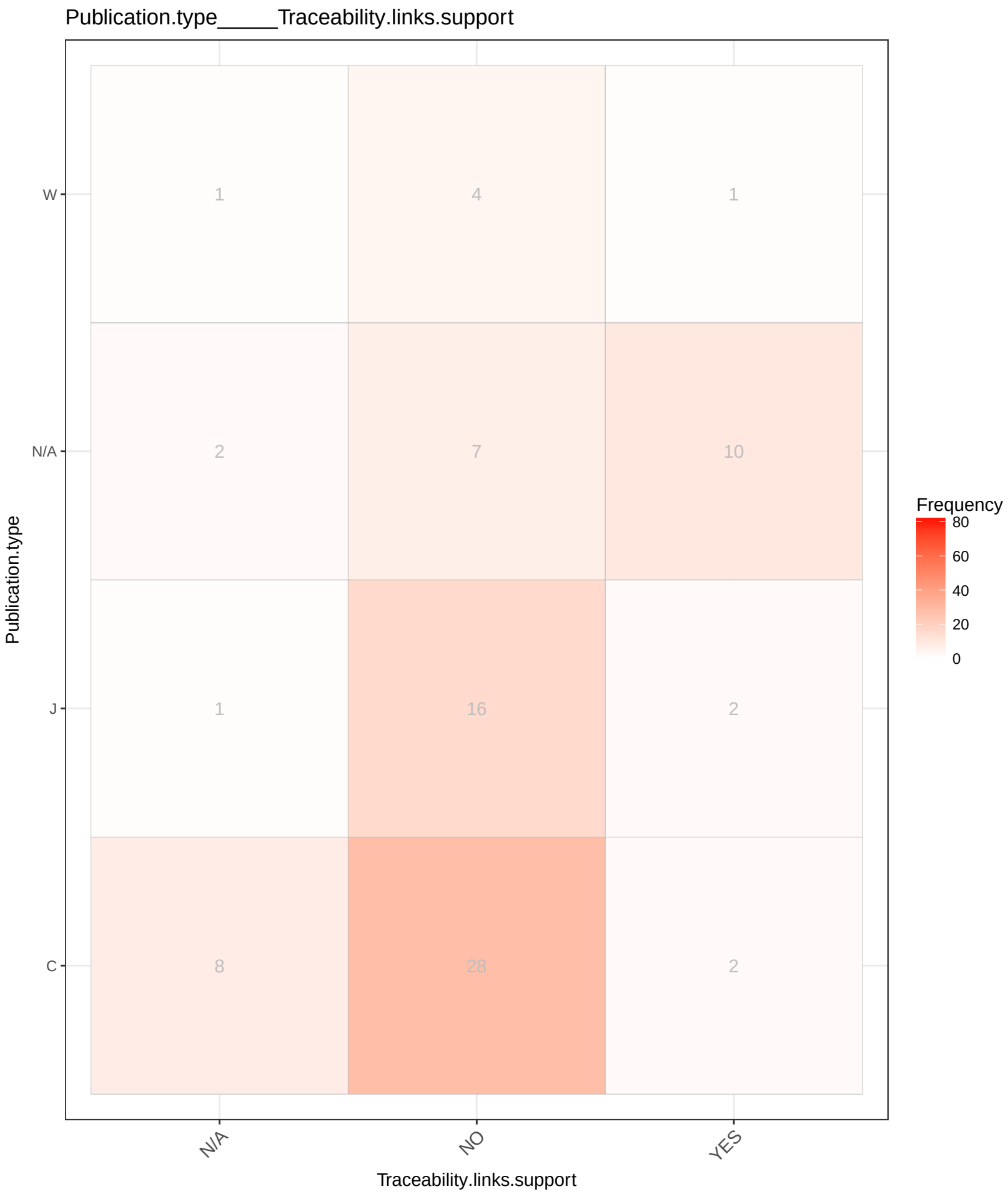

Publication.type_____Production.system
W
N/A
J
C
5
1
4
15
6
13
14
24
Publication.type
NO
YES
Production.system
Frequency
80
60
40
20
0

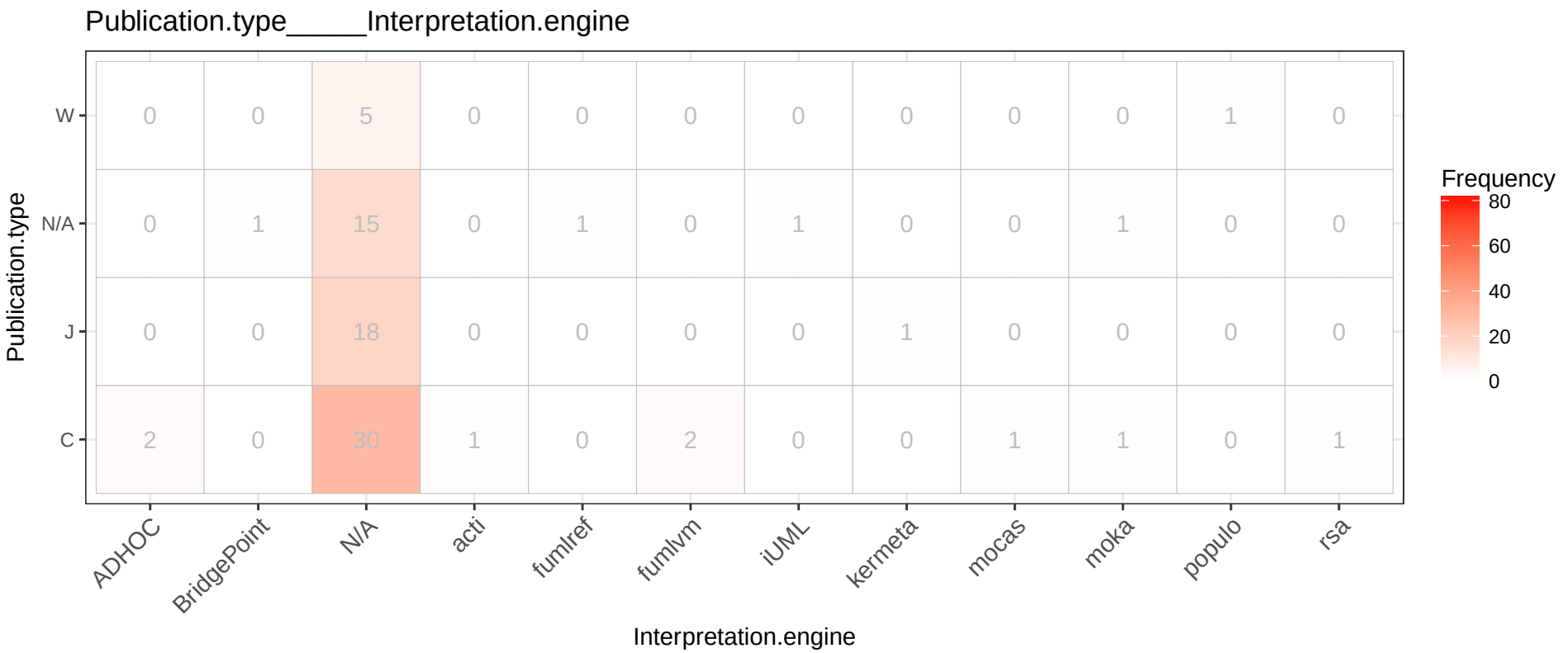

Publication.type_____Model.level.debugging
W
N/A
J
C
3
3
7
12
18
1
33
5
Publication.type
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

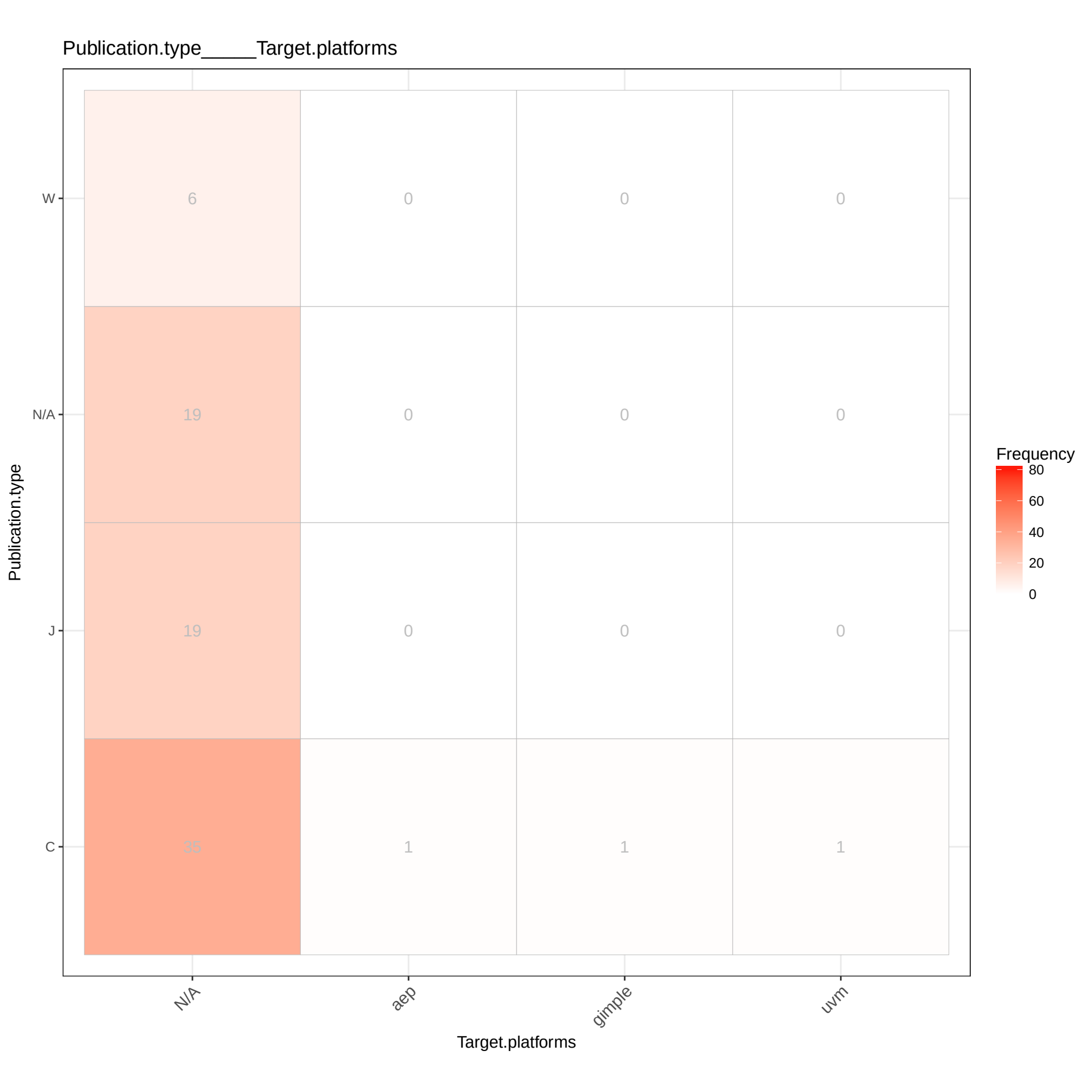

Publication.type_____Formal.specification.languages
Publication.type
W
N/A
J
C
0 0 6 0 0 0 0 0 0 0 0 0
0 0 19 0 0 0 0 0 0 0 0 0
0 0 15 1 1 0 0 1 0 1 1 0
2 1 29 0 0 1 1 0 2 1 0 1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

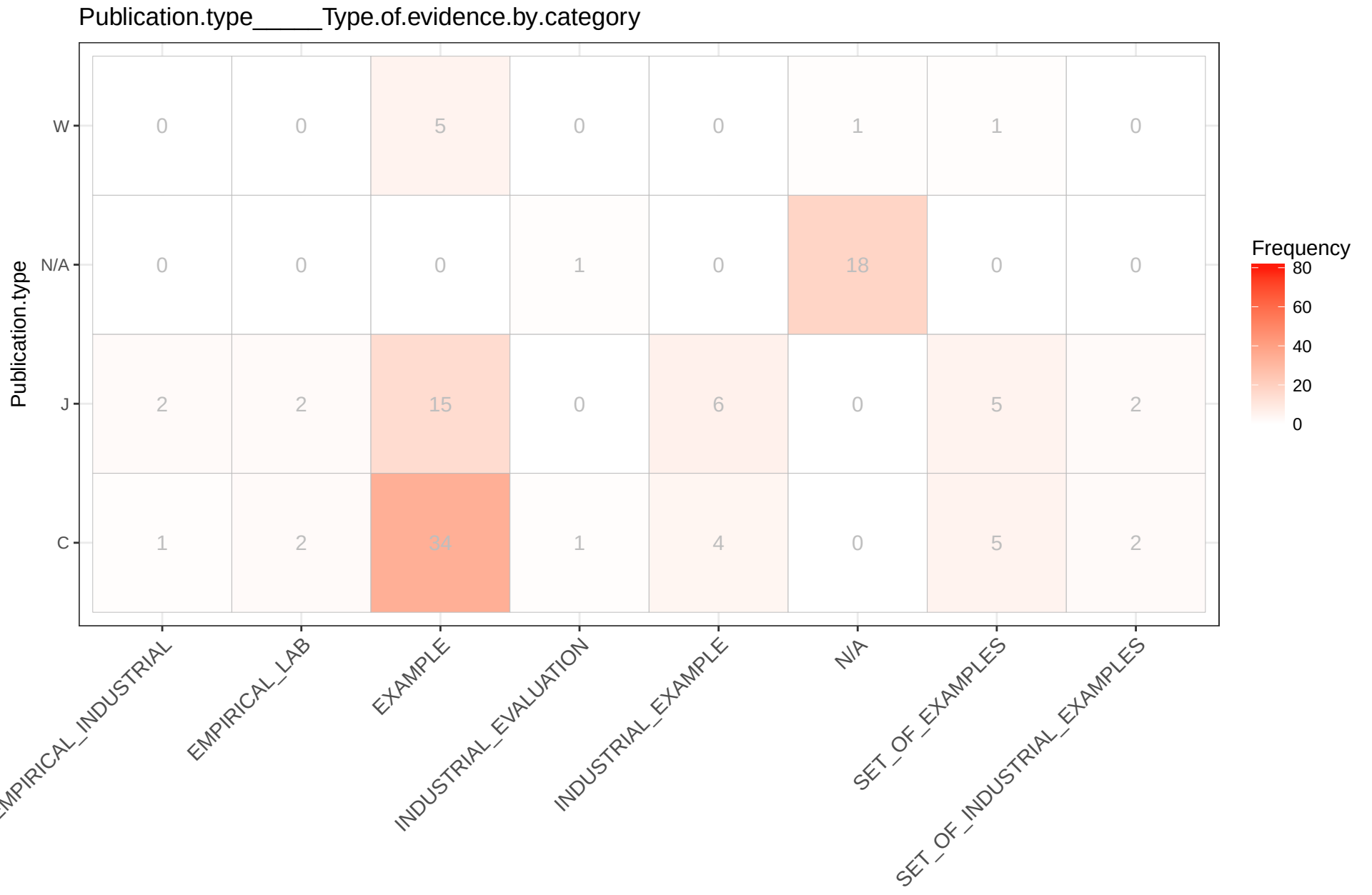

Publication.type_____Software.platform
W
N/A
J
C
1
1
4
2
5
12
1
8
10
8
18
12
Publication.type
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

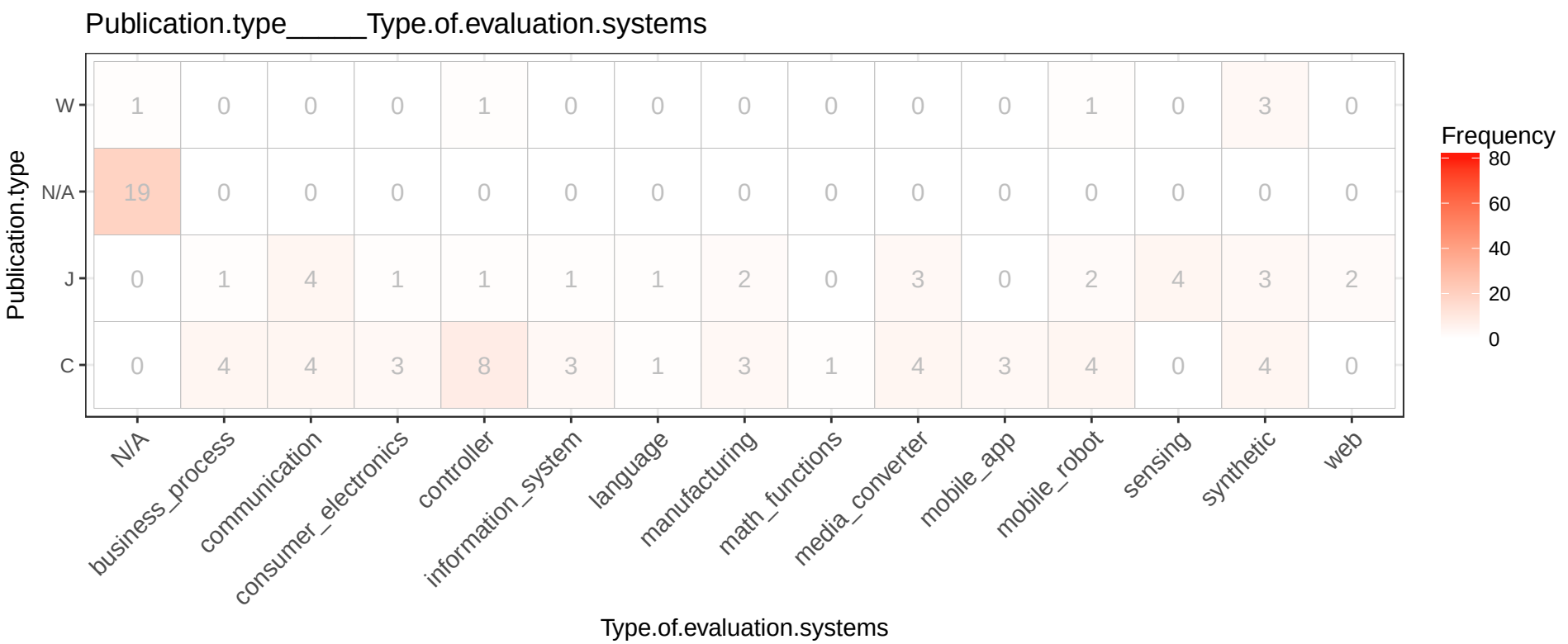

Publication.type_____Translation.steps
W
N/A
J
C
Publication.type
3
2
0
6
1
5
2
2
19
2
10
6
2
19
1
17
10
3
38
8
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

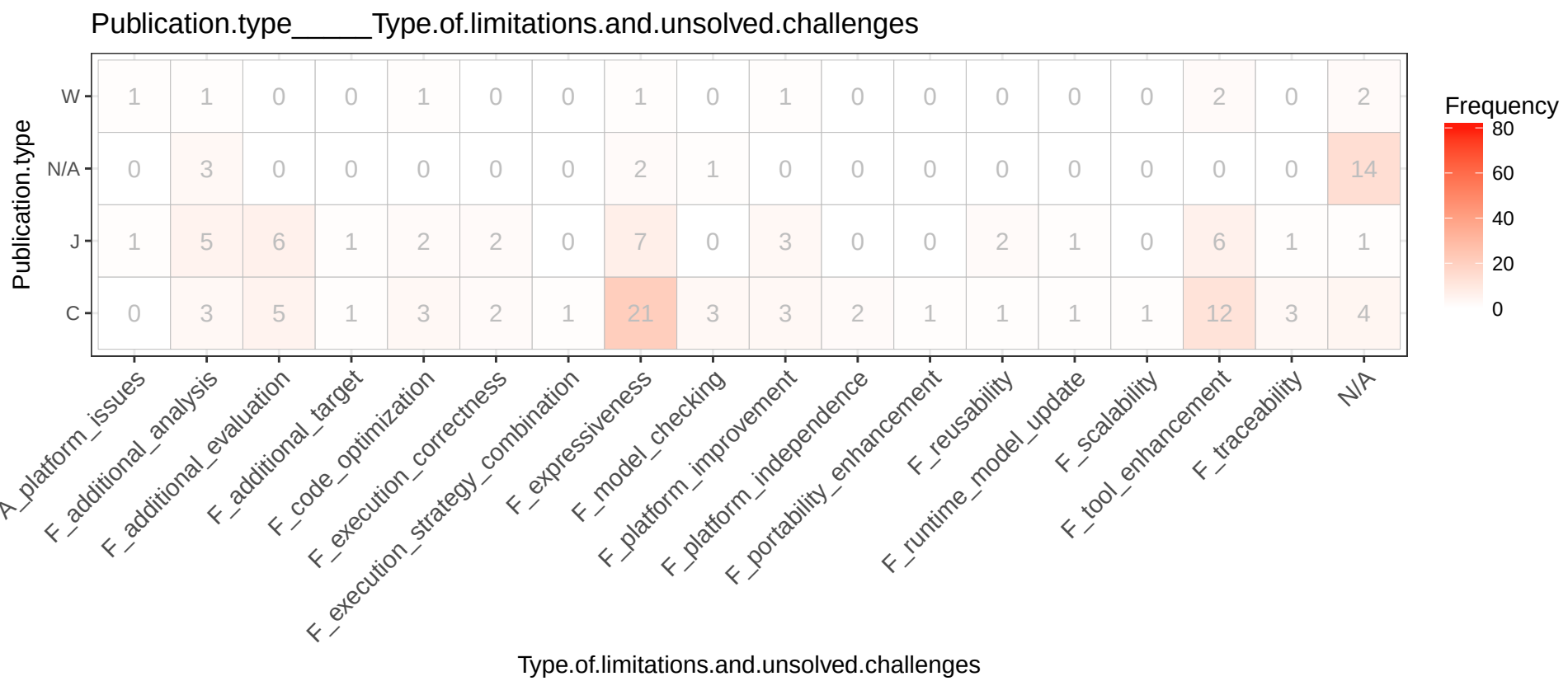

Publication.type_____Traceability.links.support
W
N/A
J
C
1
4
1
2
7
10
1
16
2
8
28
2
Publication.type
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

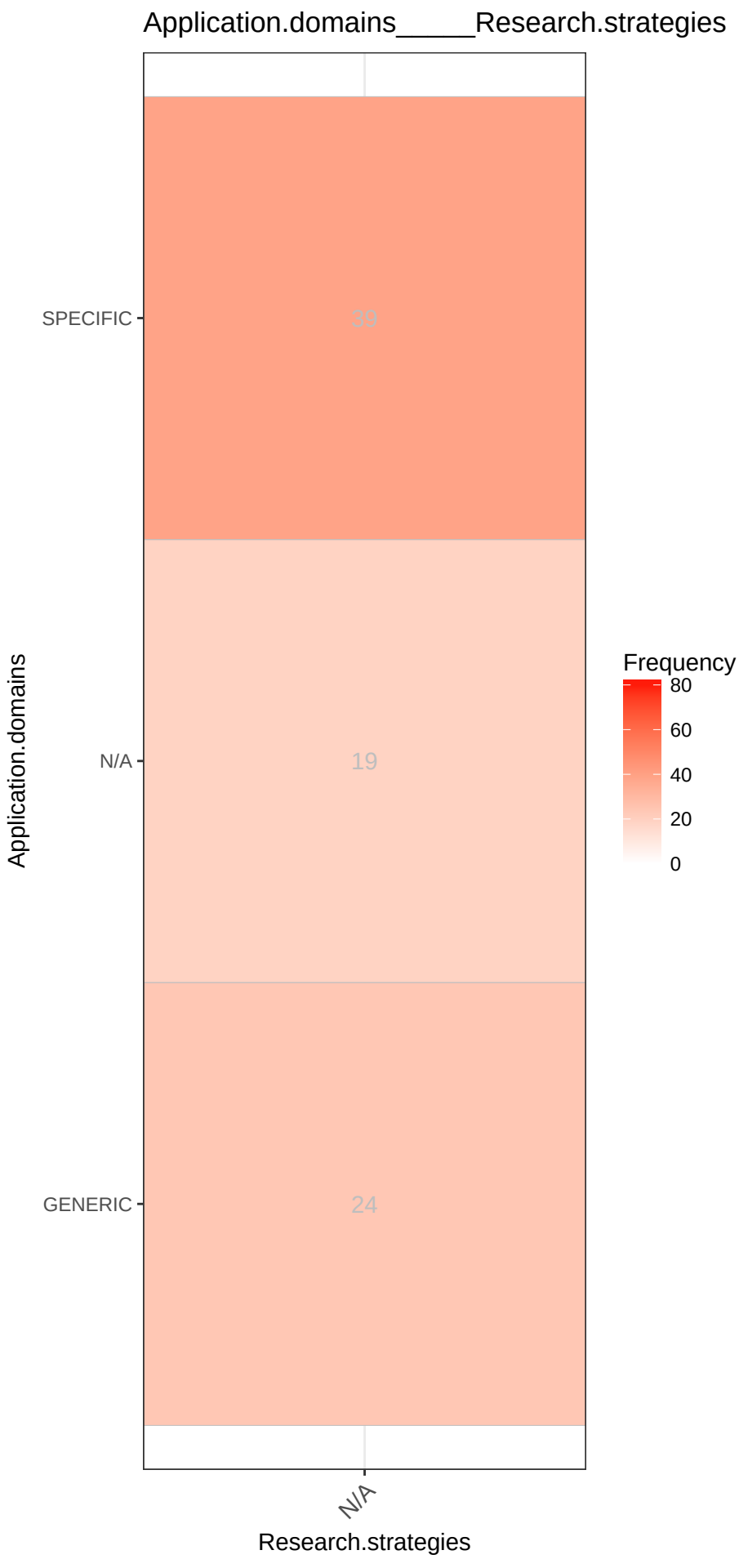

Publication.type_____Interpretation.engine
Publication.type
W
N/A
J
C
0 0 5 0 0 0 0 0 0 0 1 0
0 1 15 0 1 0 1 0 0 1 0 0
0 0 18 0 0 0 0 1 0 0 0 0
2 0 30 1 0 2 0 0 1 1 0 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

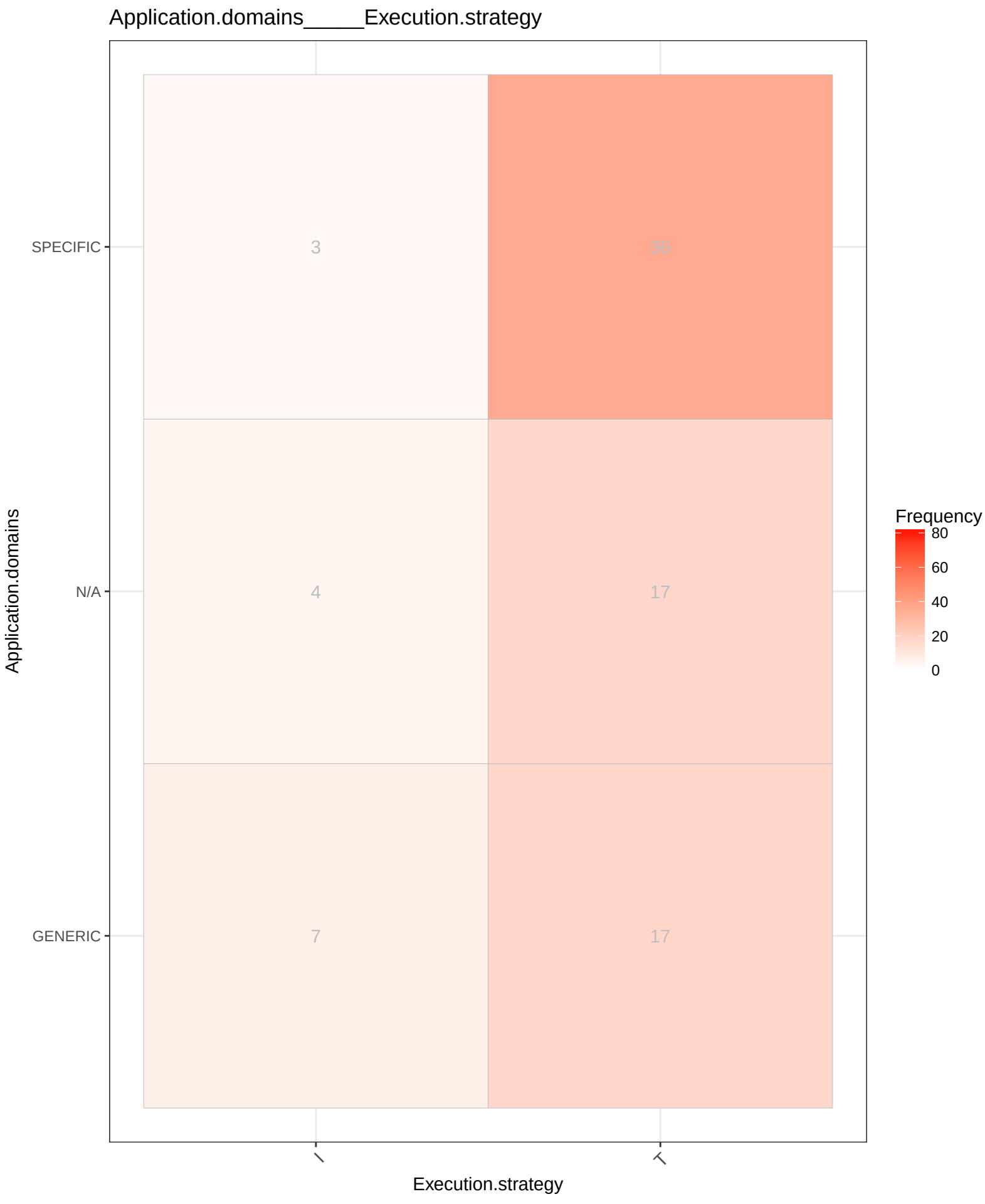

Publication.type_____Target.platforms
W
N/A
J
C
Publication.type
6
0
0
0
19
0
0
0
19
0
0
0
35
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

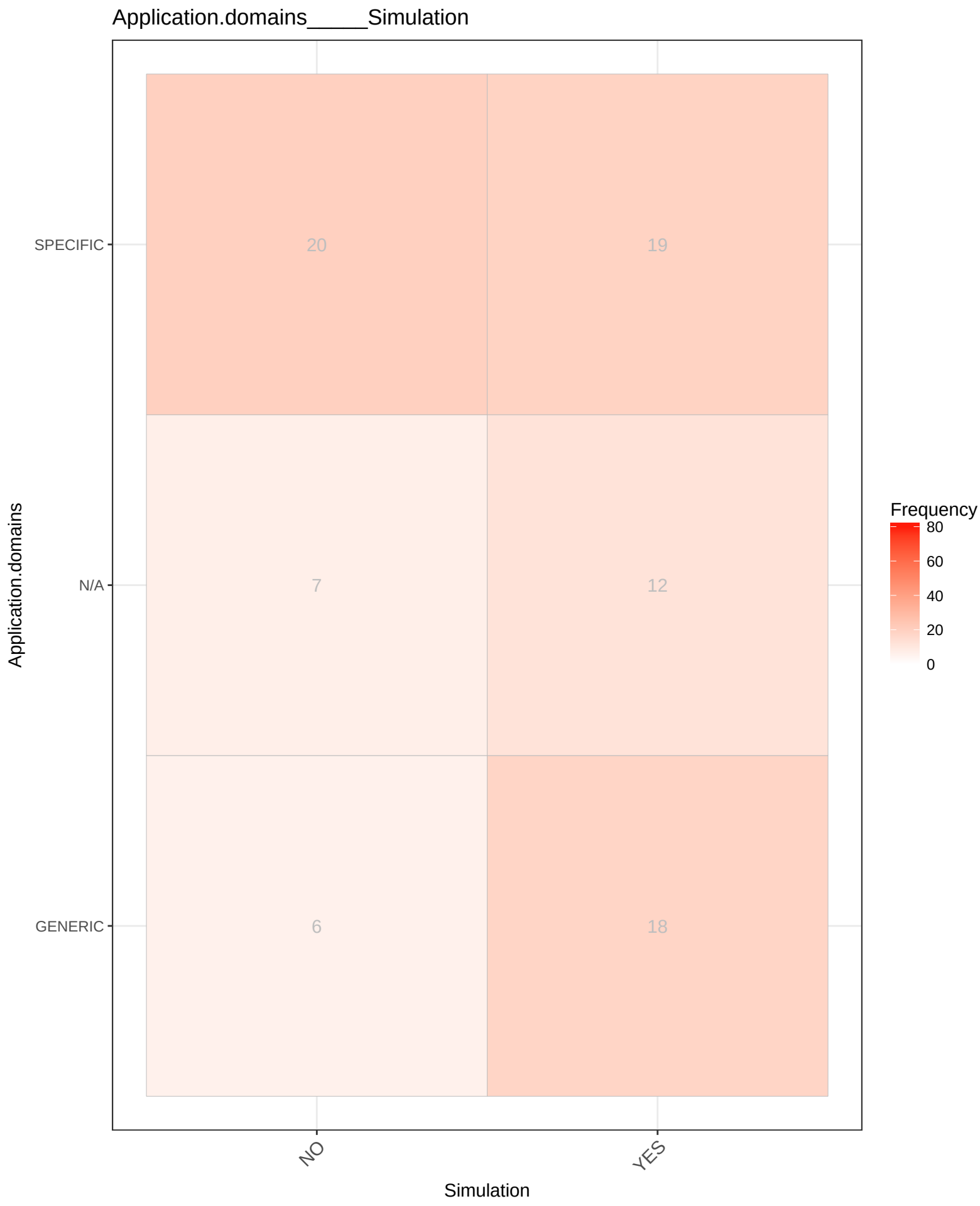

Publication.type_____Type.of.evidence.by.category
Publication.type
W
N/A
J
C
0 0 5 0 0 1 1 0
0 0 0 1 0 18 0 0
2 2 15 0 6 0 5 2
1 2 34 1 4 0 5 2
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

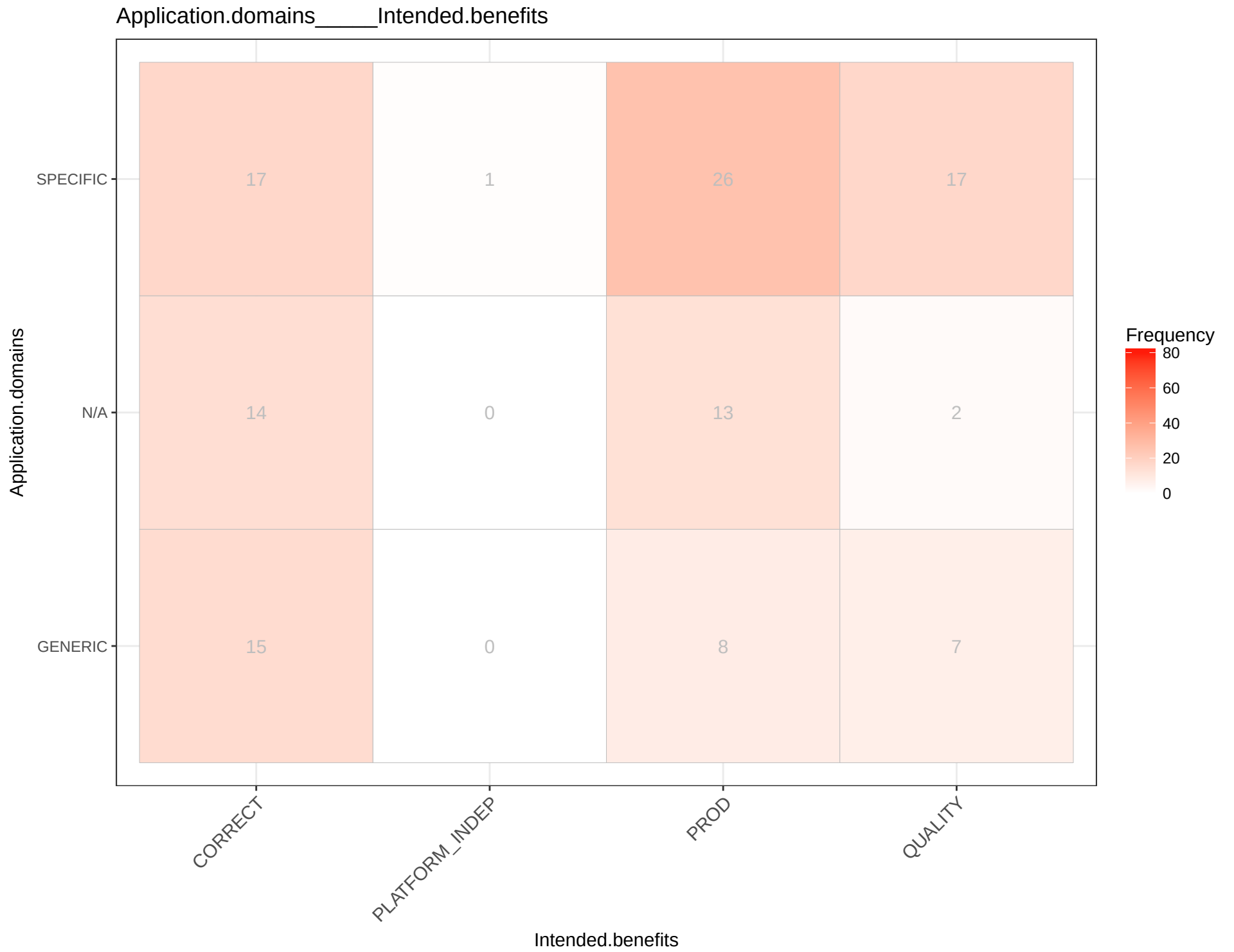

Publication.type_____Type.of.evaluation.systems
Publication.type
W
N/A
J
C
1 0 0 0 1 0 0 0 0 0 0 1 0 3 0
19 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 4 1 1 1 1 2 0 3 0 2 4 3 2
0 4 4 3 8 3 1 3 1 4 3 4 0 4 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

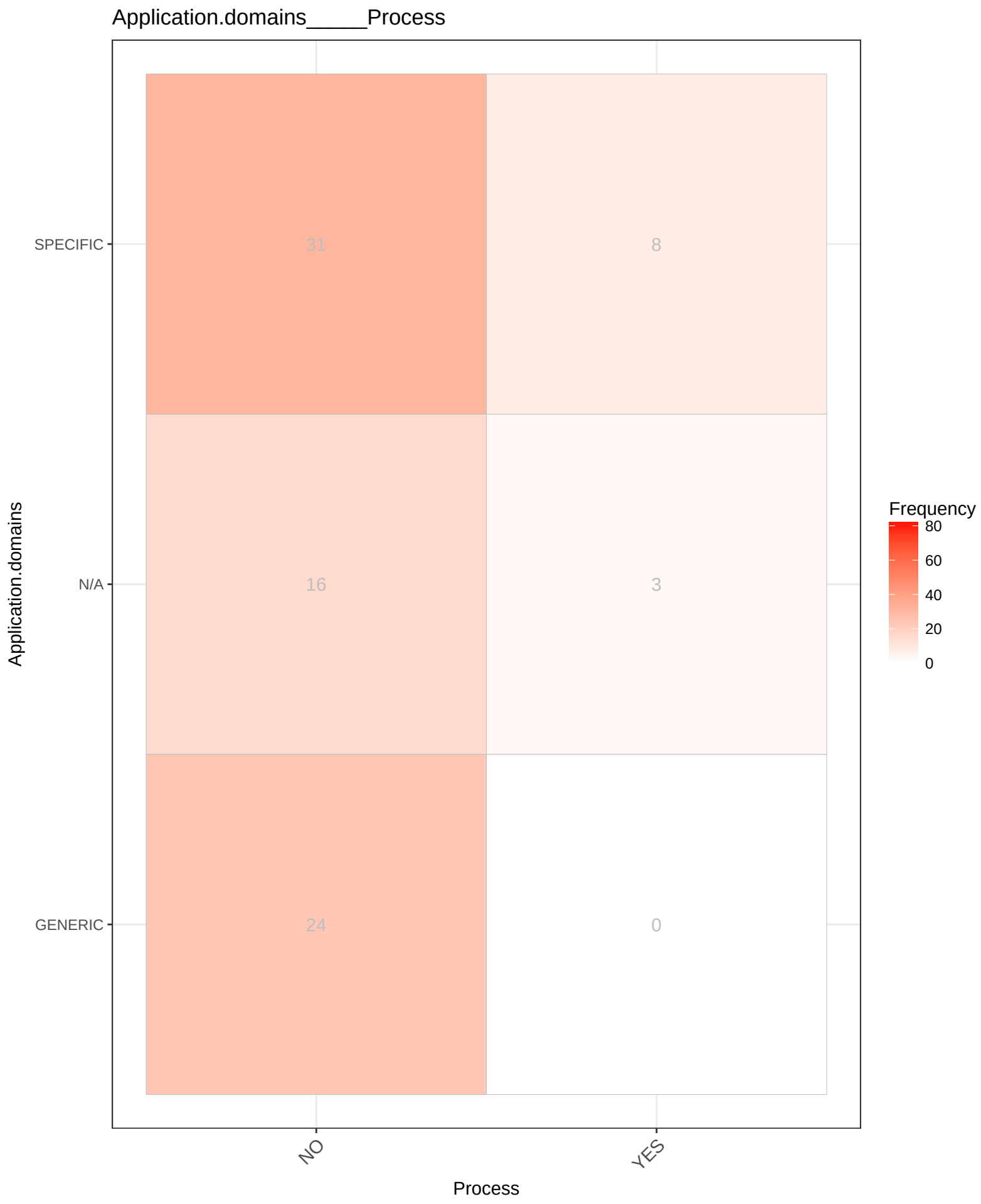

Publication.type_____Type.of.limitations.and.unsolved.challenges
Publication.type
W
N/A
J
C
1 1 0 0 1 0 0 1 0 1 0 0 0 0 0 2 0 2
0 3 0 0 0 0 0 2 1 0 0 0 0 0 0 0 0 14
1 5 6 1 2 2 0 7 0 3 0 0 2 1 0 6 1 1
0 3 5 1 3 2 1 21 3 3 2 1 1 1 1 12 3 4
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

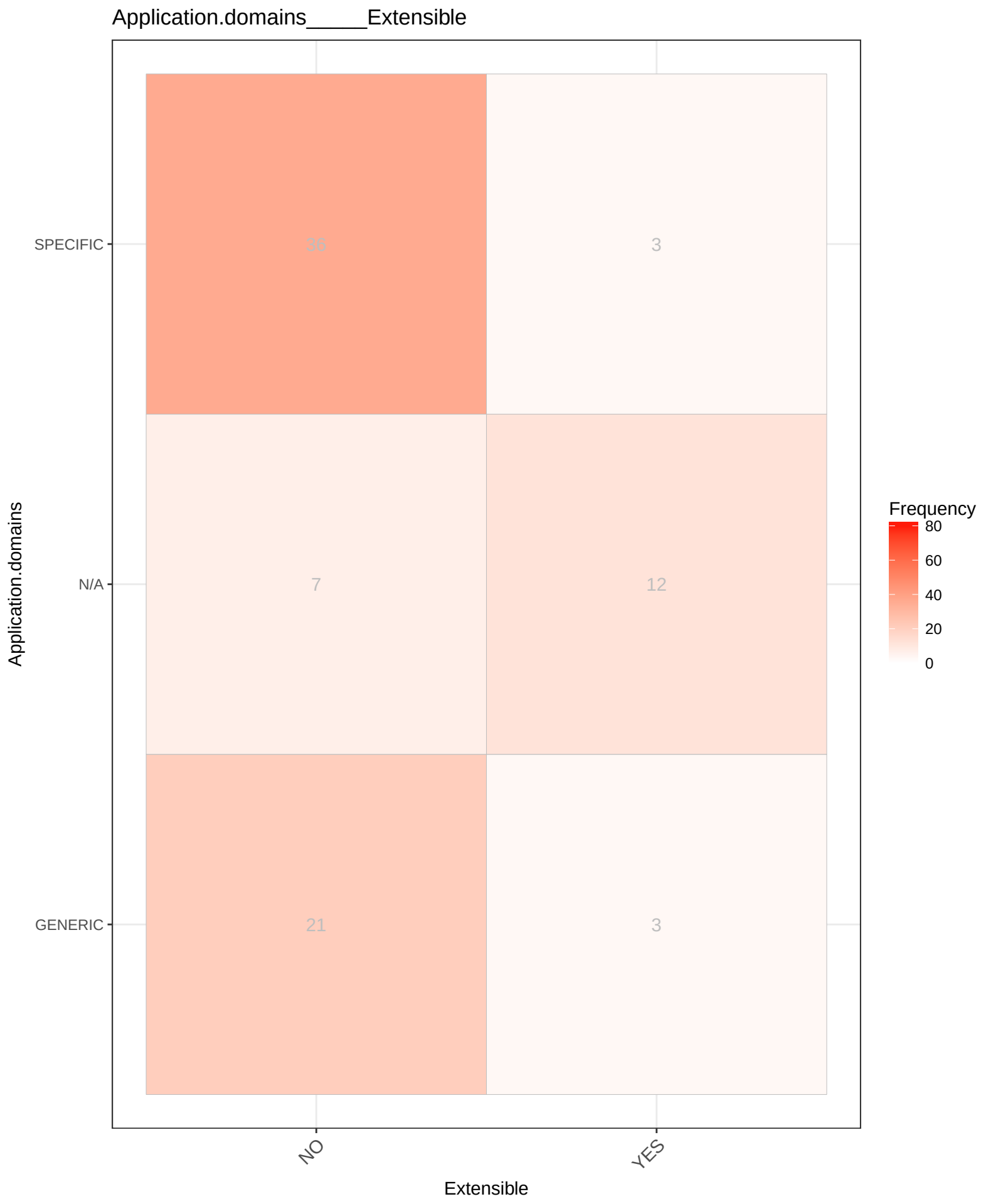

Application.domains_____Research.strategies
SPECIFIC
N/A
GENERIC
39
19
24
Application.domains
N/A
Research.strategies
Frequency
80
60
40
20
0

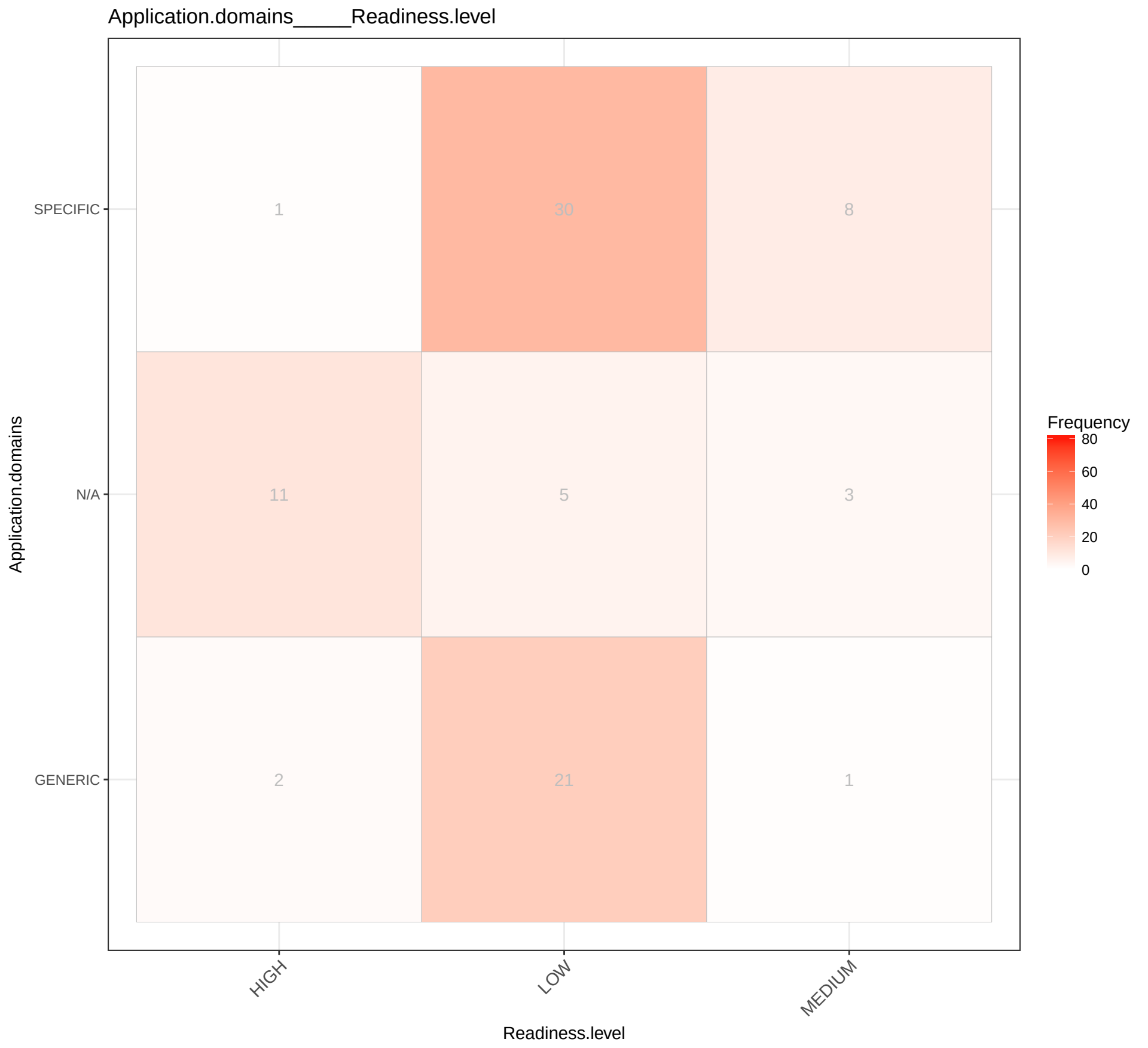

Application.domains_____Execution.strategy
SPECIFIC
N/A
GENERIC
3
36
4
17
7
17
Application.domains
I
T
Execution.strategy
Frequency
80
60
40
20
0

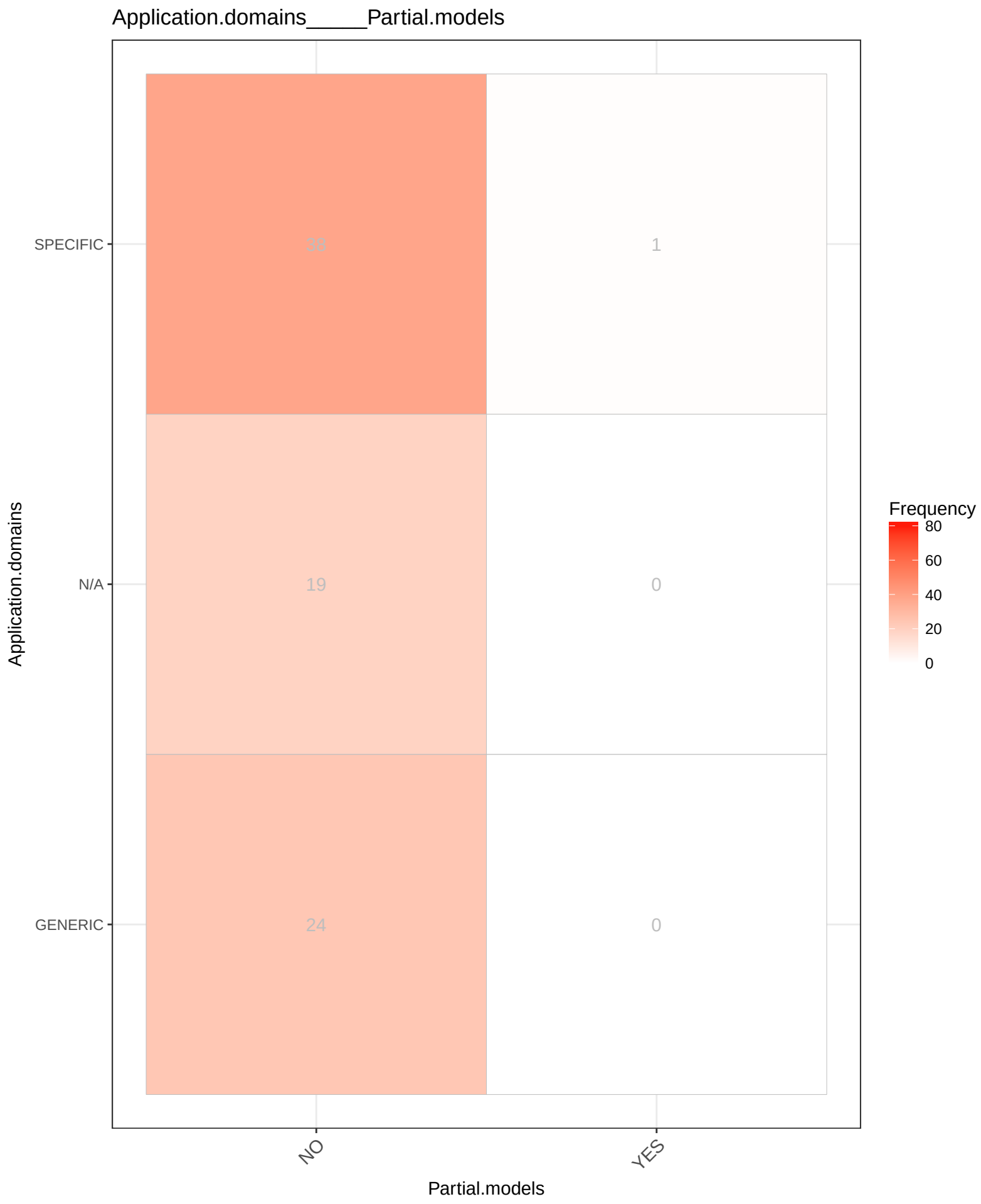

Application.domains_____Simulation
SPECIFIC
N/A
GENERIC
20
19
7
12
6
18
Application.domains
NO
YES
Simulation
Frequency
80
60
40
20
0

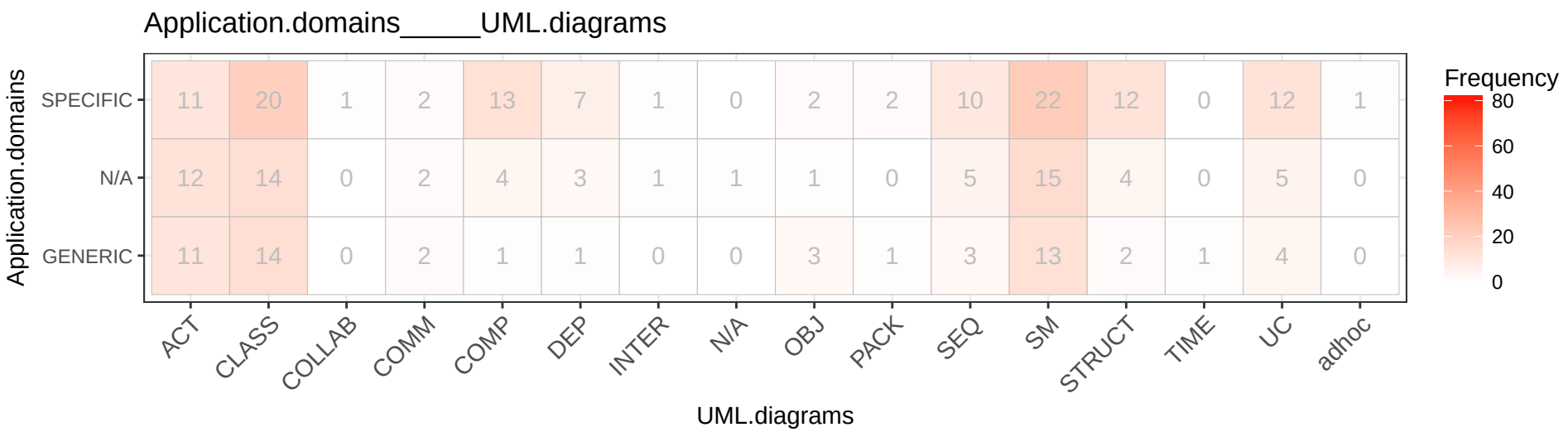

Application.domains_____Intended.benefits
SPECIFIC
N/A
GENERIC
17
1
26
17
14
0
13
2
15
0
8
7
CORRECT
PLATFORM_INDEP
PROD
QUALITY
Application.domains
Intended.benefits
Frequency
80
60
40
20
0

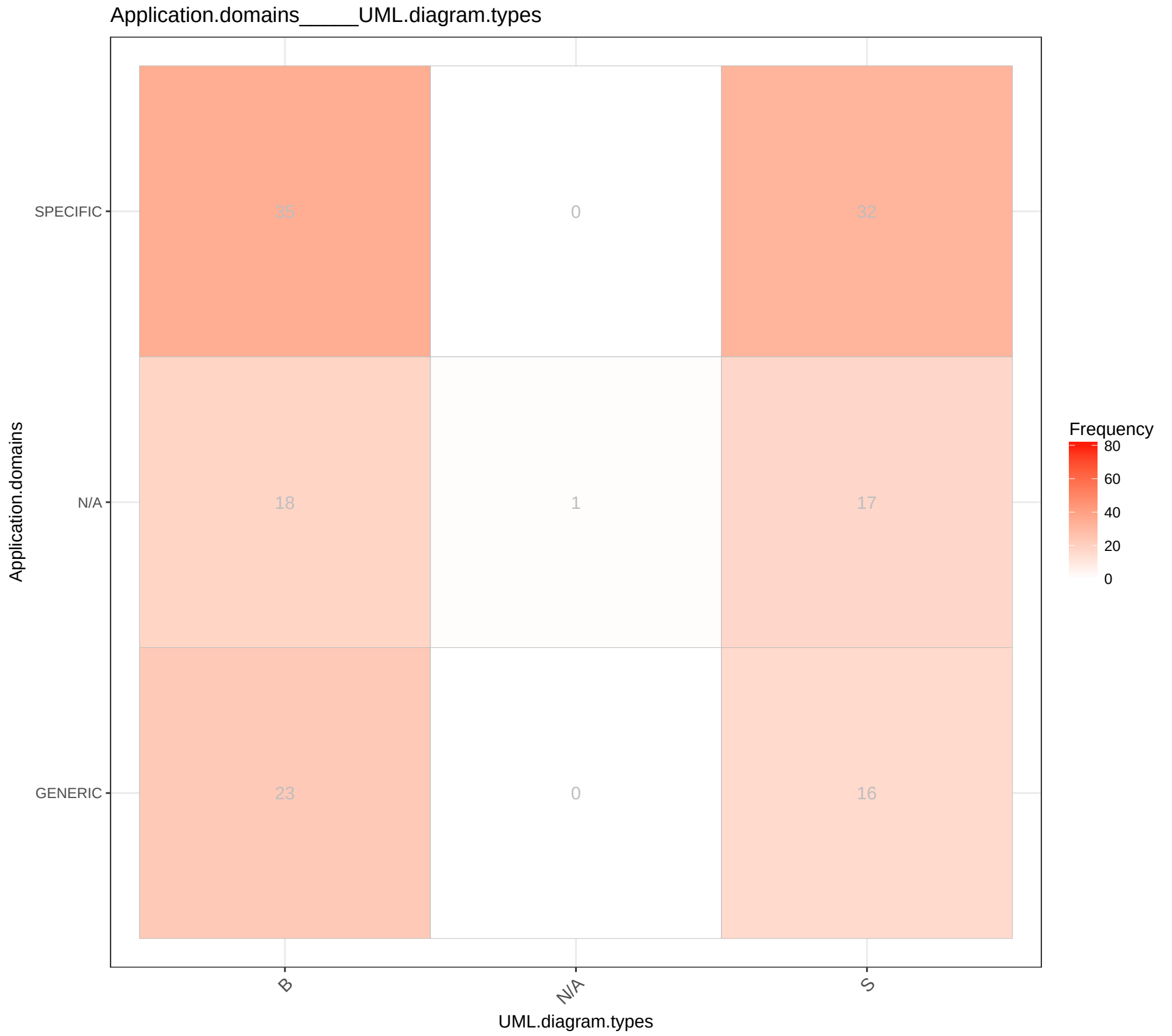

Application.domains_____Process
SPECIFIC
N/A
GENERIC
31
8
16
3
24
0
Application.domains
NO
YES
Process
Frequency
80
60
40
20
0

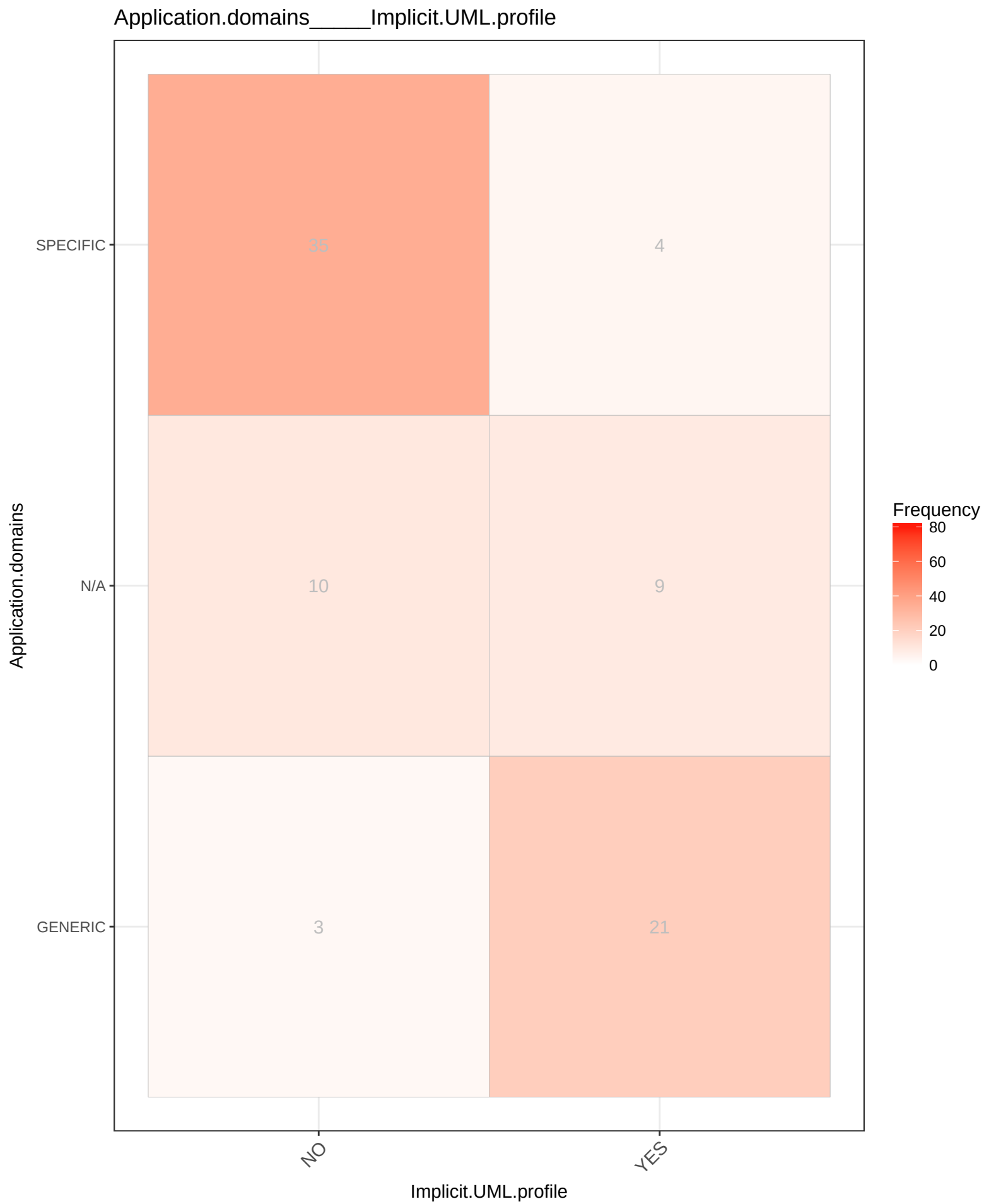

Application.domains_____Extensible
SPECIFIC
N/A
GENERIC
36
3
7
12
21
3
Application.domains
NO
YES
Extensible
Frequency
80
60
40
20
0

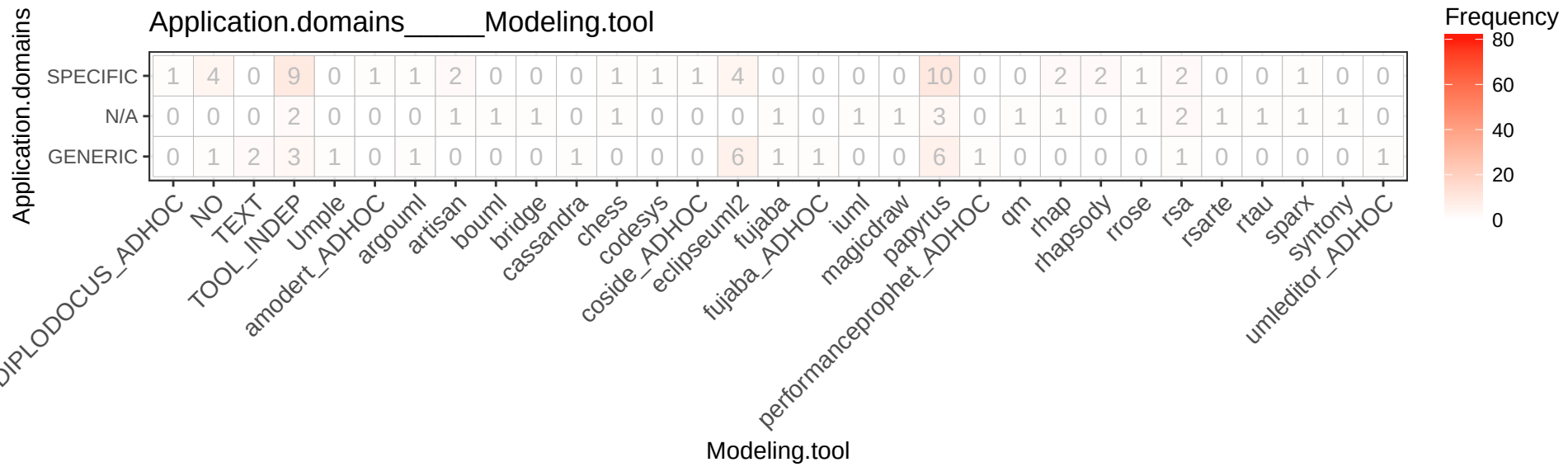

Application.domains_____Readiness.level
SPECIFIC
N/A
GENERIC
1
30
8
11
5
3
2
21
1
HIGH
LOW
MEDIUM
Application.domains
Readiness.level
Frequency
80
60
40
20
0

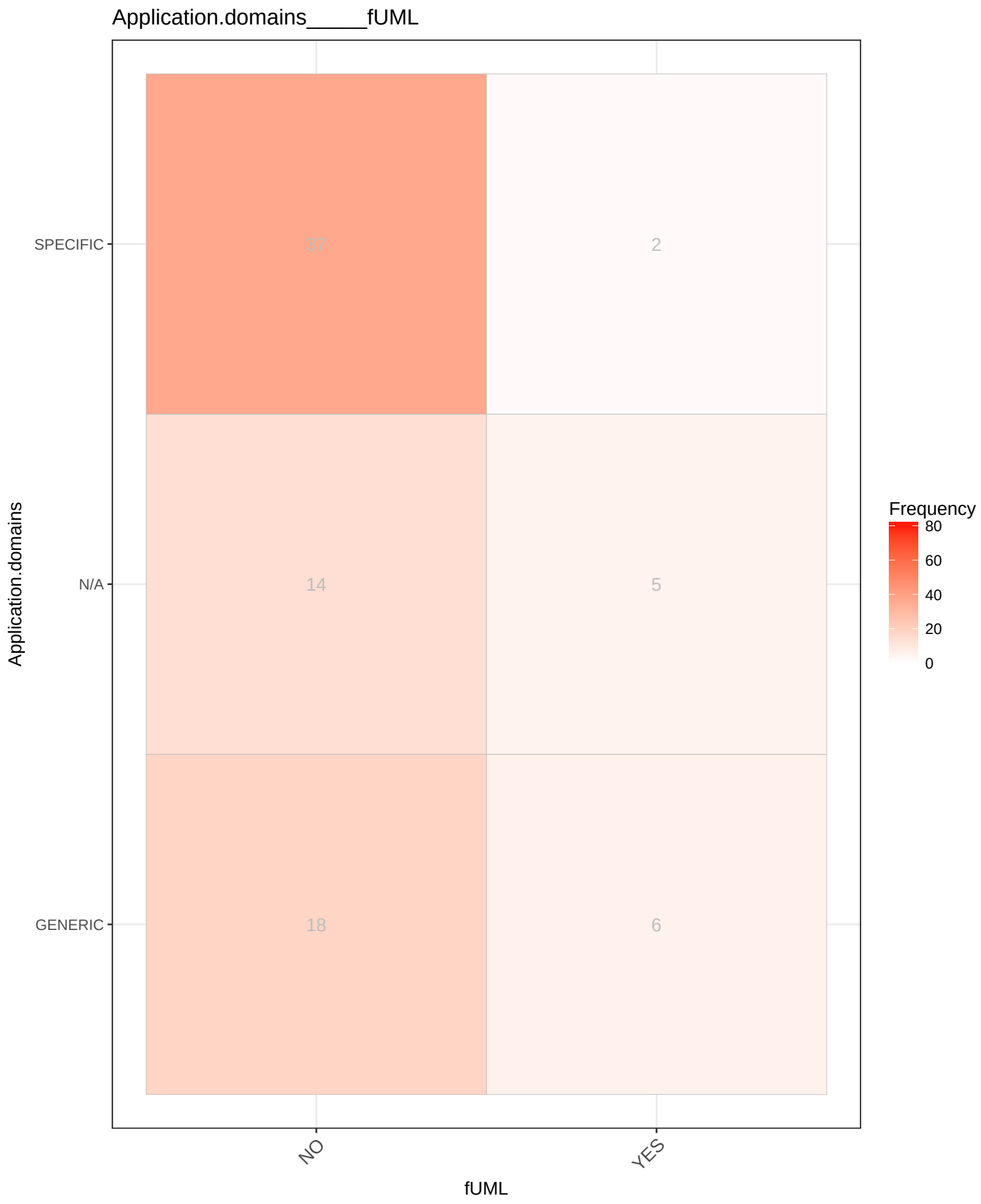

Application.domains_____Partial.models
SPECIFIC
N/A
GENERIC
38
1
19
0
24
0
Application.domains
NO
YES
Partial.models
Frequency
80
60
40
20
0

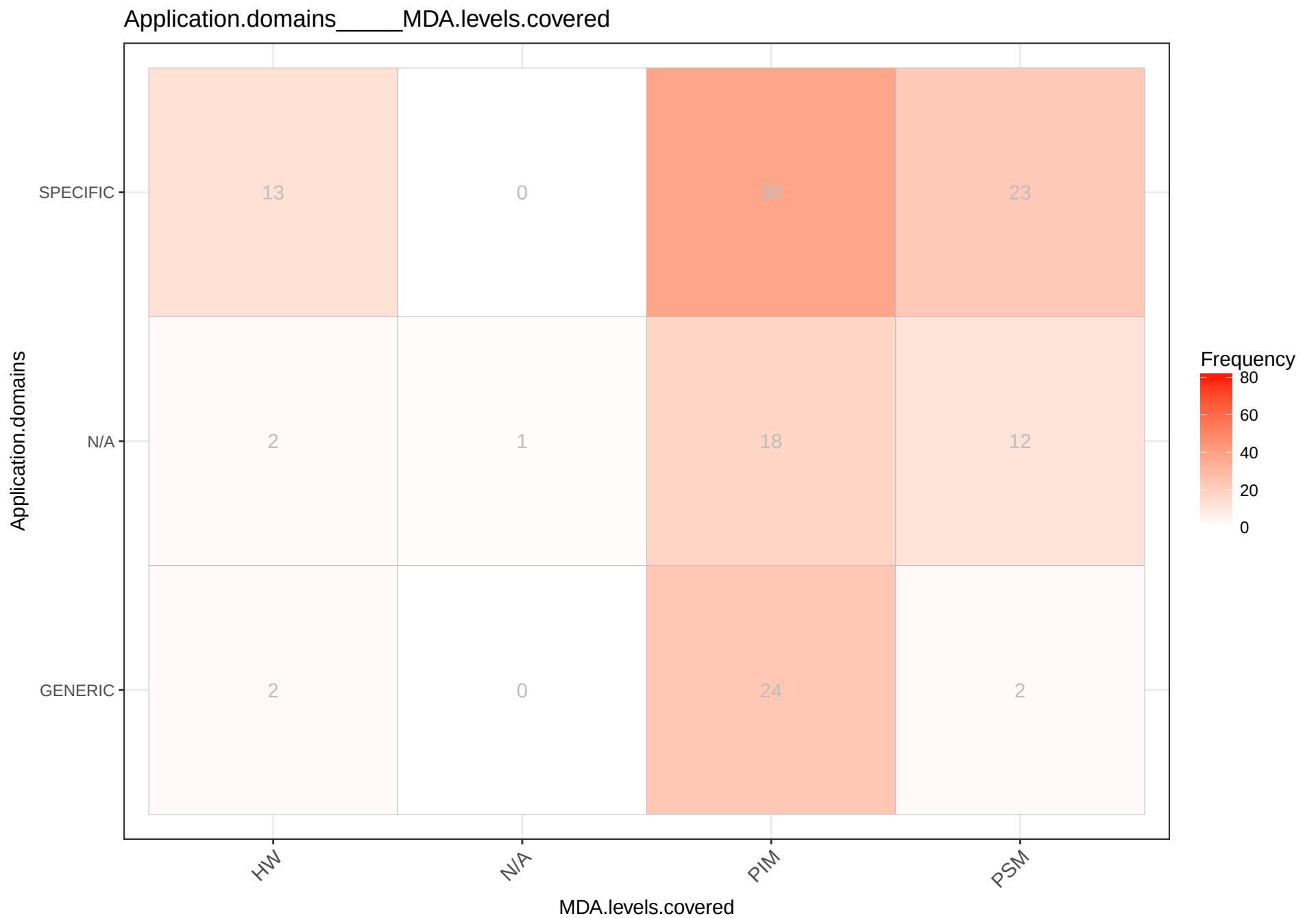

Application.domains_____UML.diagrams
Application.domains
SPECIFIC
N/A
GENERIC
11 20 1 2 13 7 1 0 2 2 10 22 12 0 12 1
12 14 0 2 4 3 1 1 1 0 5 15 4 0 5 0
11 14 0 2 1 1 0 0 3 1 3 13 2 1 4 0
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

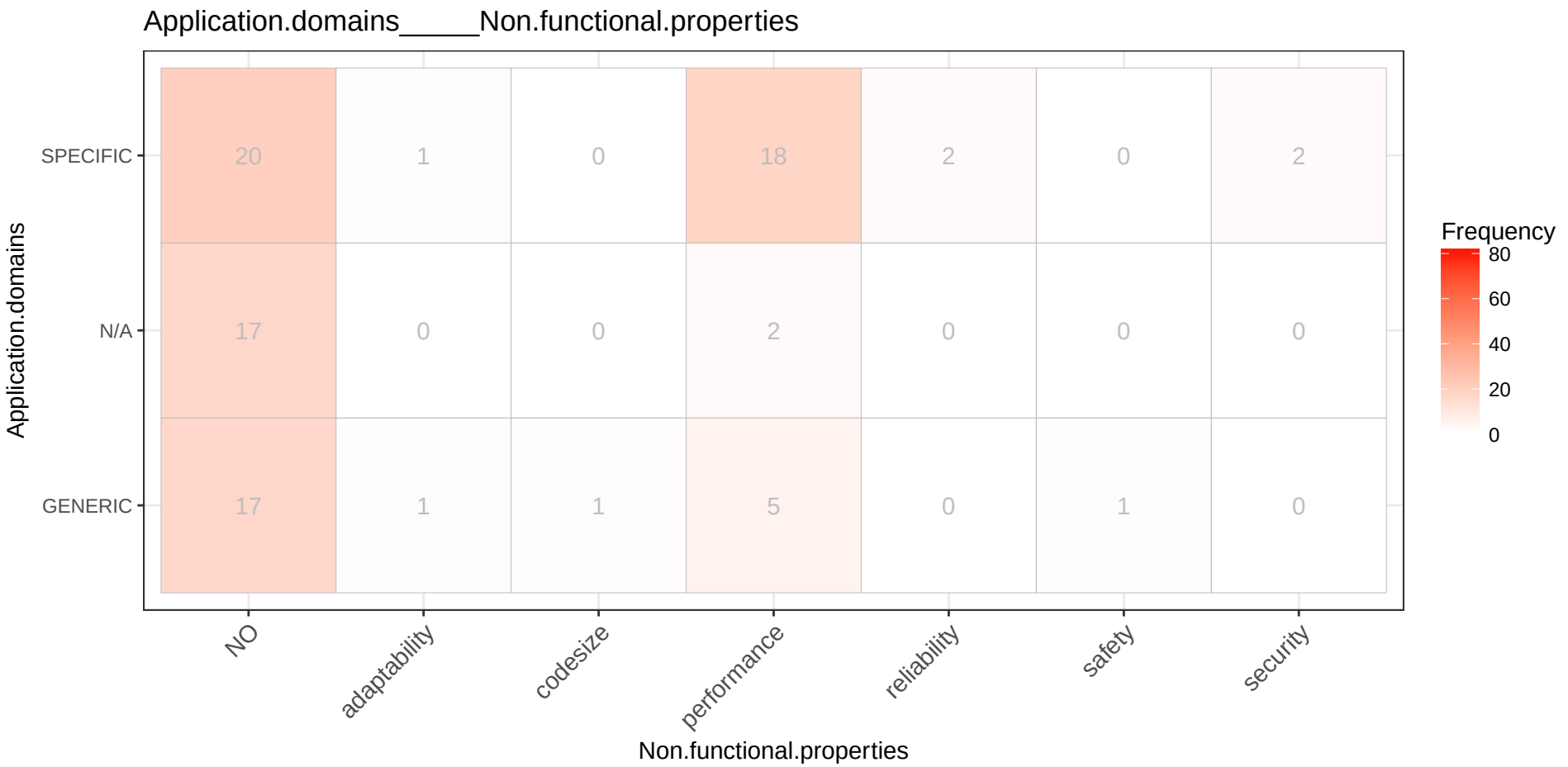

Application.domains_____UML.diagram.types
SPECIFIC
N/A
GENERIC
35
0
32
18
1
17
23
0
16
B
N/A
S
UML.diagram.types
Application.domains
Frequency
80
60
40
20
0

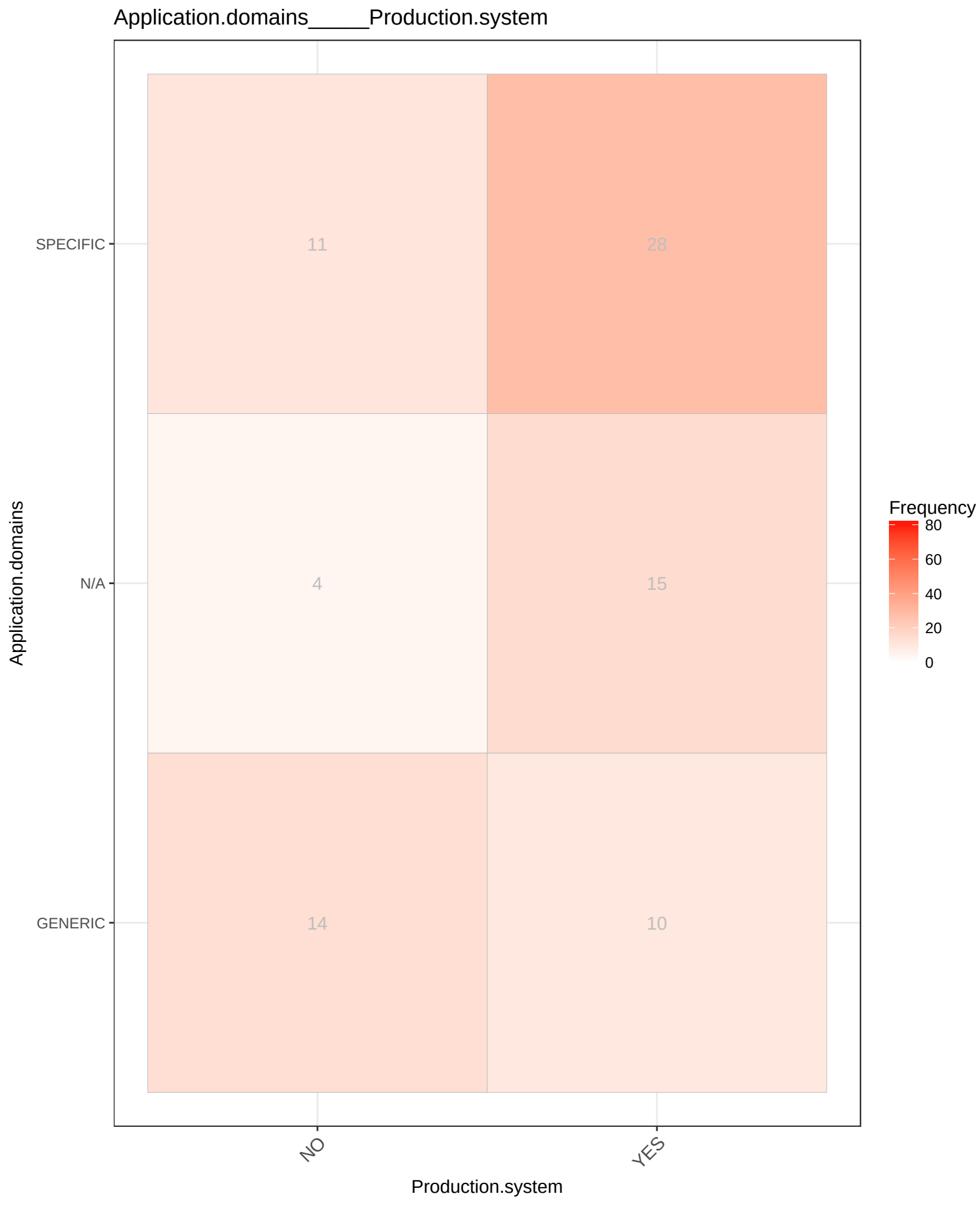

Application.domains_____Implicit.UML.profile
SPECIFIC
N/A
GENERIC
35
4
10
9
3
21
NO
YES
Application.domains
Implicit.UML.profile
Frequency
80
60
40
20
0

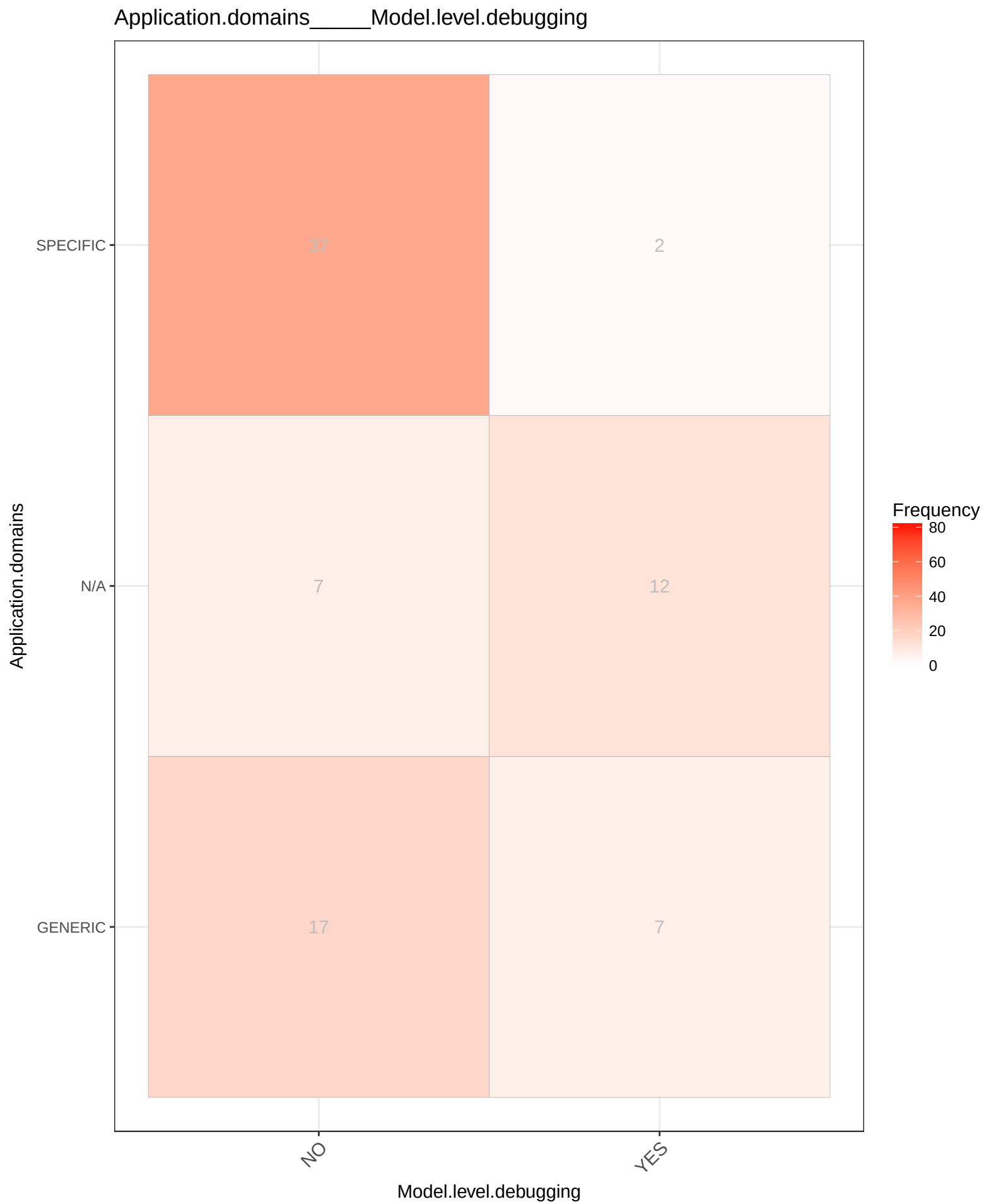

Application.domains_____Modeling.tool
Application.domains
SPECIFIC
N/A
GENERIC
1 4 0 9 0 1 1 2 0 0 0 1 1 1 4 0 0 0 0 10 0 0 2 2 1 2 0 0 1 0 0
0 0 0 2 0 0 0 1 1 1 0 1 0 0 0 1 0 1 1 3 0 1 1 0 1 2 1 1 1 1 0
0 1 2 3 1 0 1 0 0 0 1 0 0 0 6 1 1 0 0 6 1 0 0 0 0 1 0 0 0 0 1
DIPLODOCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

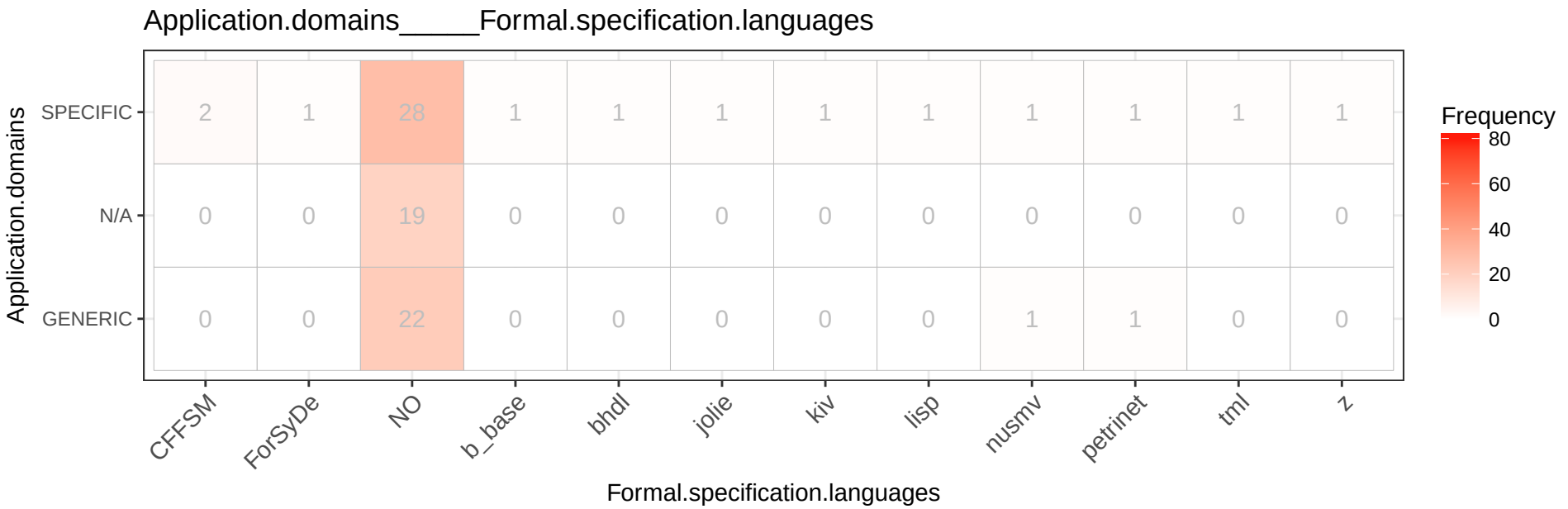

Application.domains_____fUML
SPECIFIC
N/A
GENERIC
37
2
14
5
18
6
Application.domains
NO
YES
fUML
Frequency
80
60
40
20
0

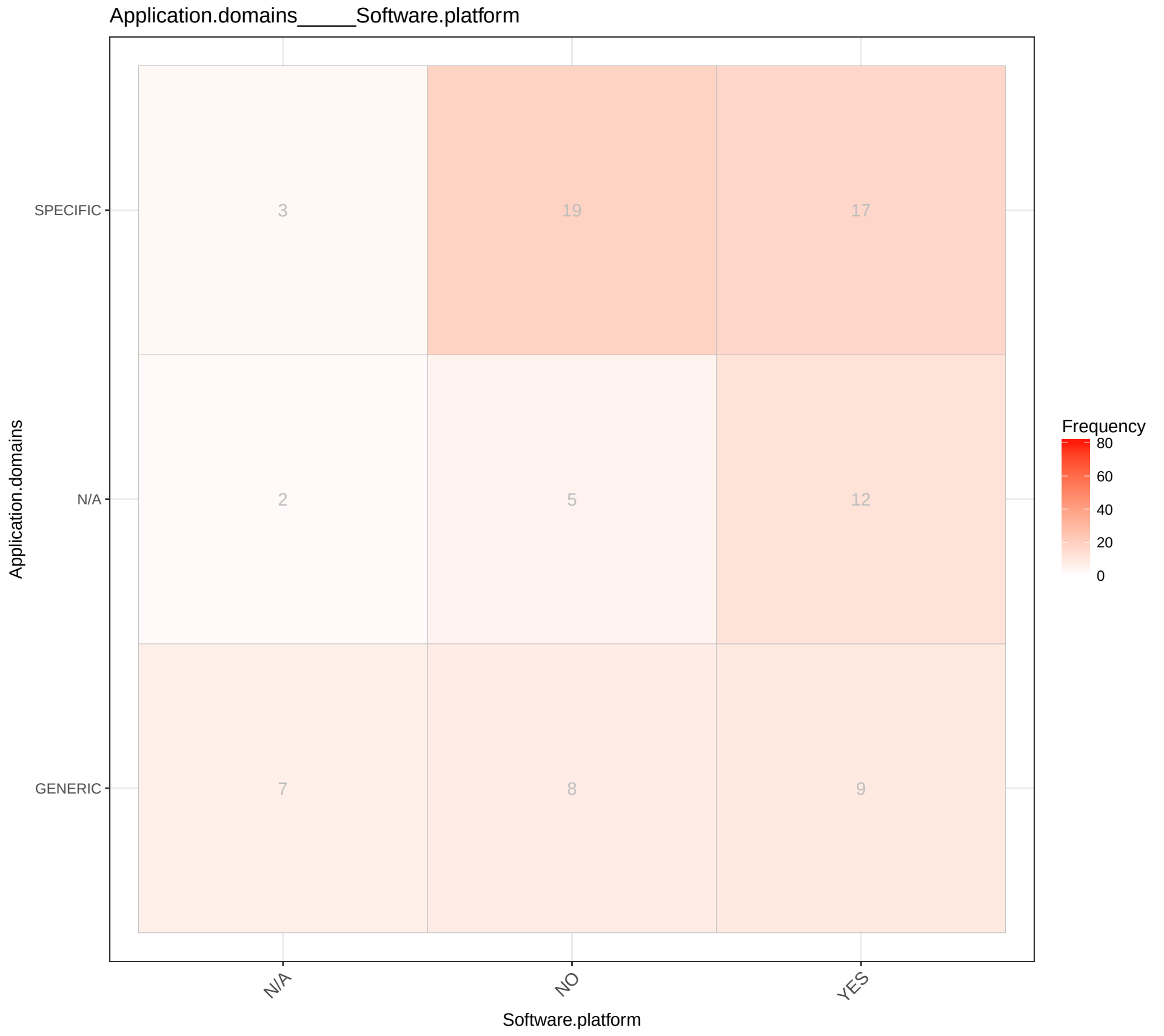

Application.domains_____MDA.levels.covered
SPECIFIC
N/A
GENERIC
Application.domains
13
0
33
23
2
1
18
12
2
0
24
2
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

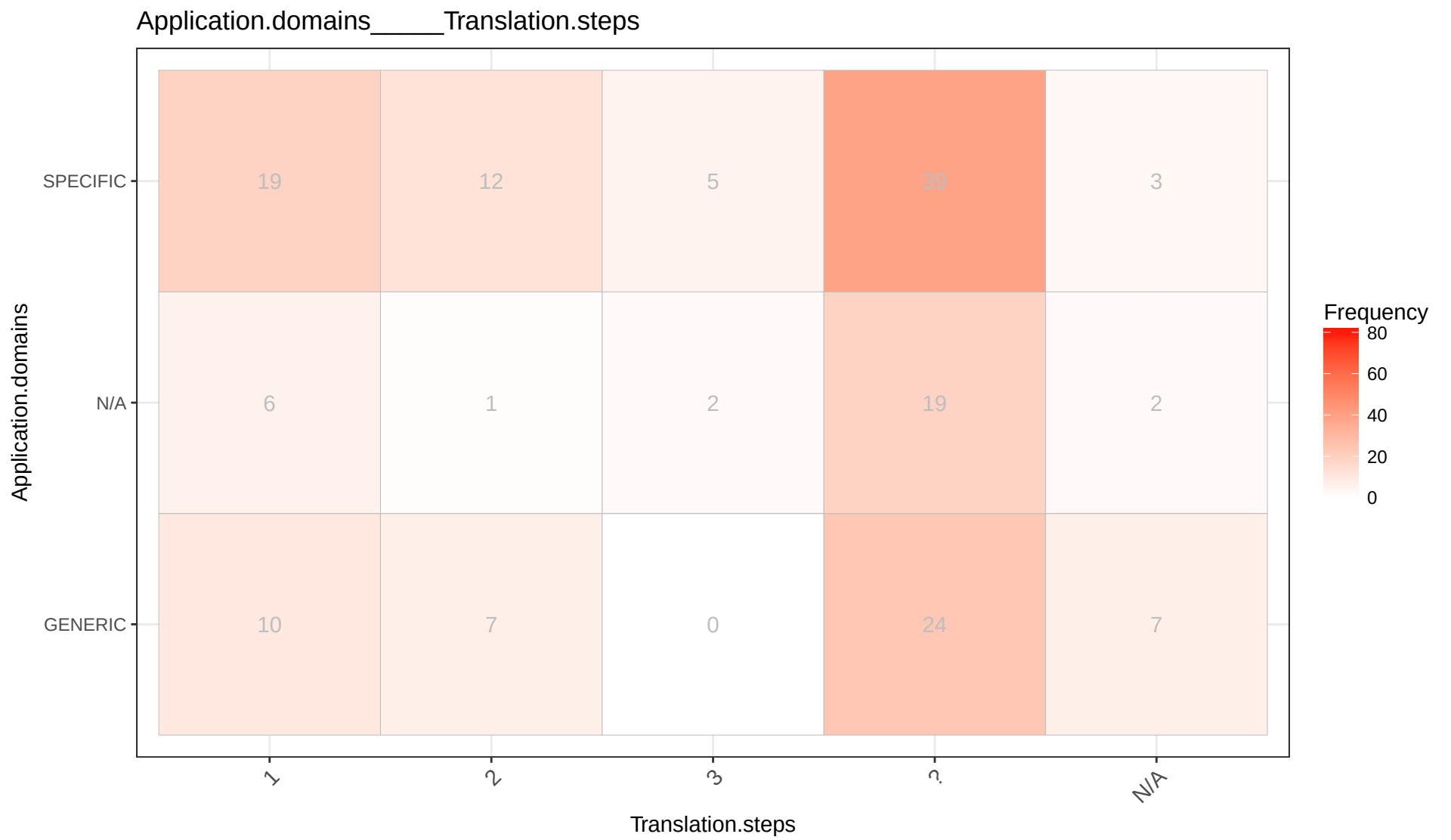

Application.domains_____Non.functional.properties
Application.domains
SPECIFIC
N/A
GENERIC
20
1
0
18
2
0
2
17
0
0
2
0
0
0
17
1
1
5
0
1
0
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

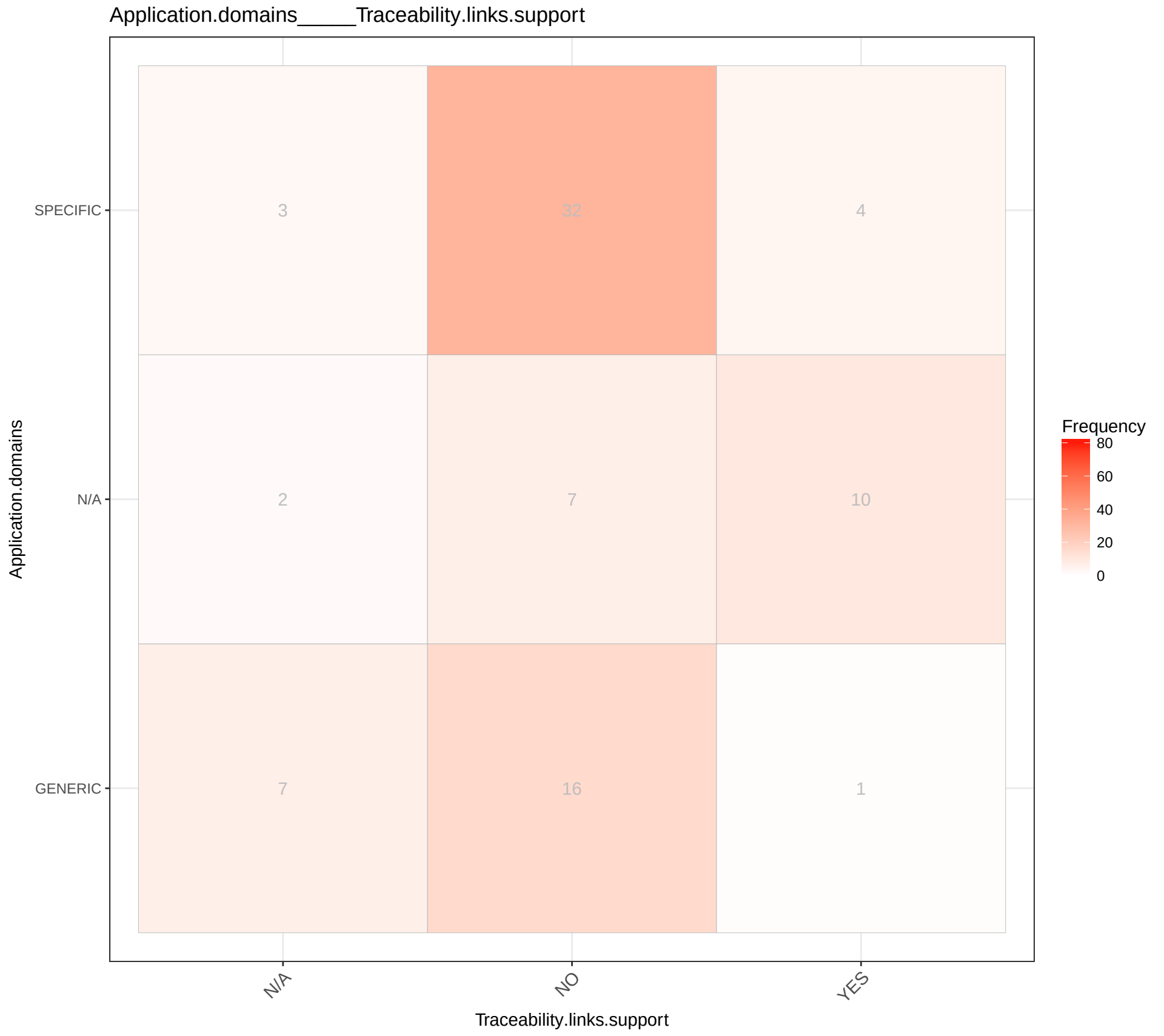

Application.domains_____Production.system
SPECIFIC
N/A
GENERIC
11
28
4
15
14
10
Application.domains
NO
YES
Production.system
Frequency
80
60
40
20
0

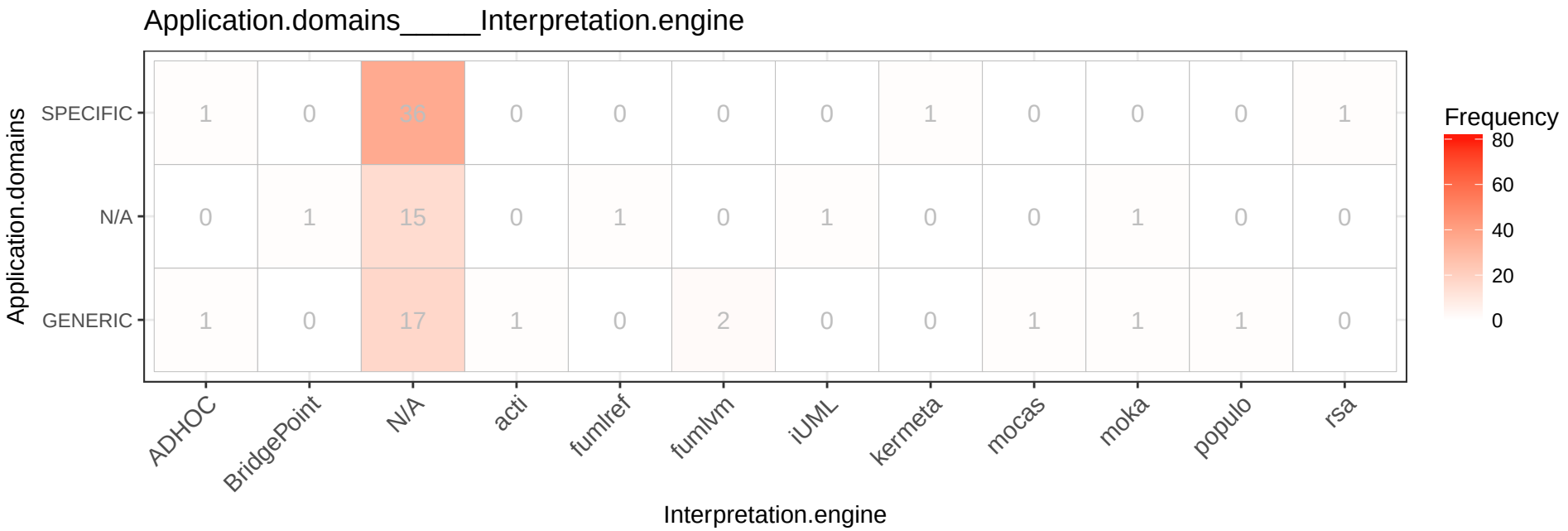

Application.domains_____Model.level.debugging
SPECIFIC
N/A
GENERIC
37
2
7
12
17
7
Application.domains
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

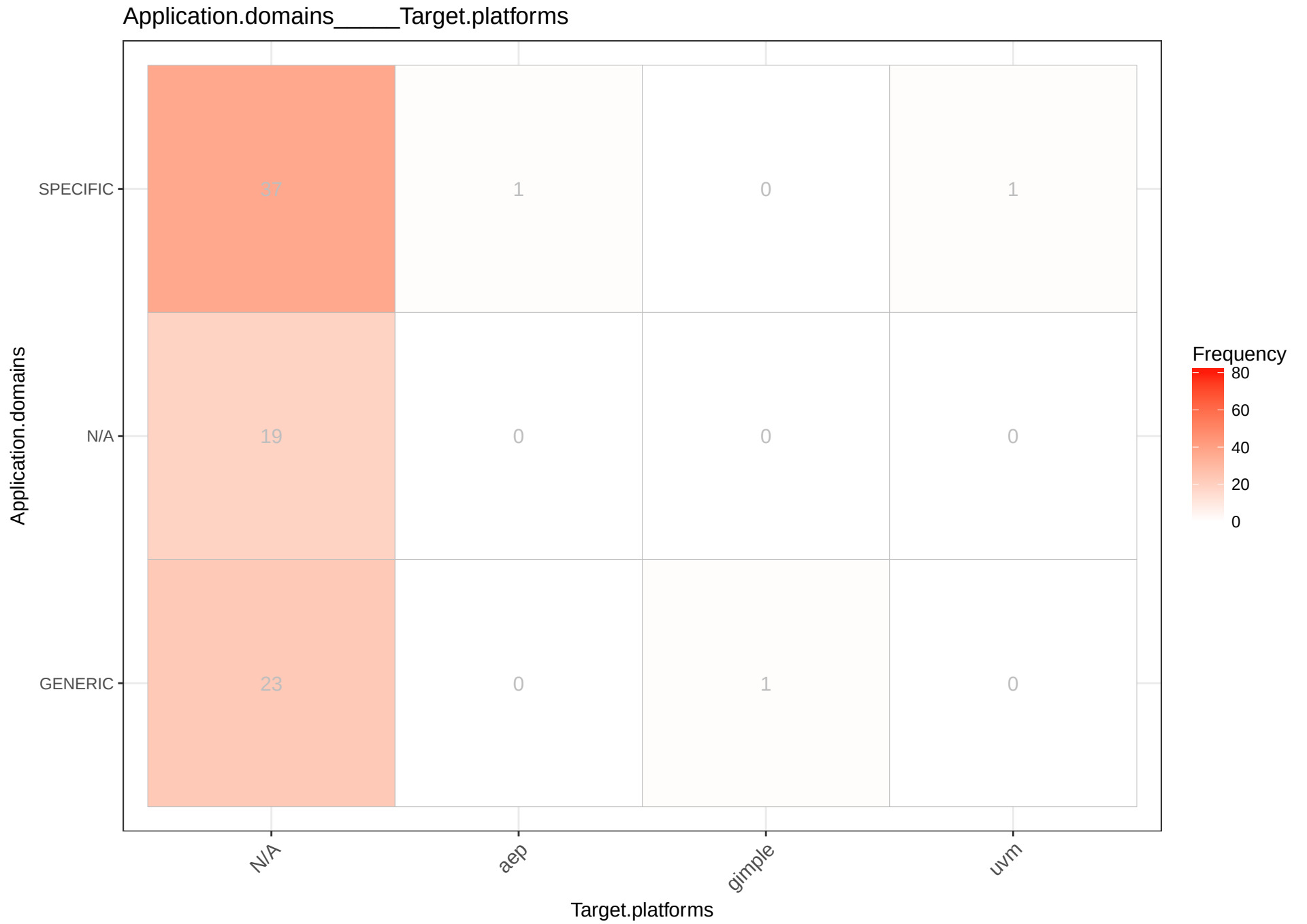

Application.domains_____Formal.specification.languages
Application.domains
SPECIFIC
N/A
GENERIC
2 1 28 1 1 1 1 1 1 1 1 1
0 0 19 0 0 0 0 0 0 0 0 0
0 0 22 0 0 0 0 0 1 1 0 0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

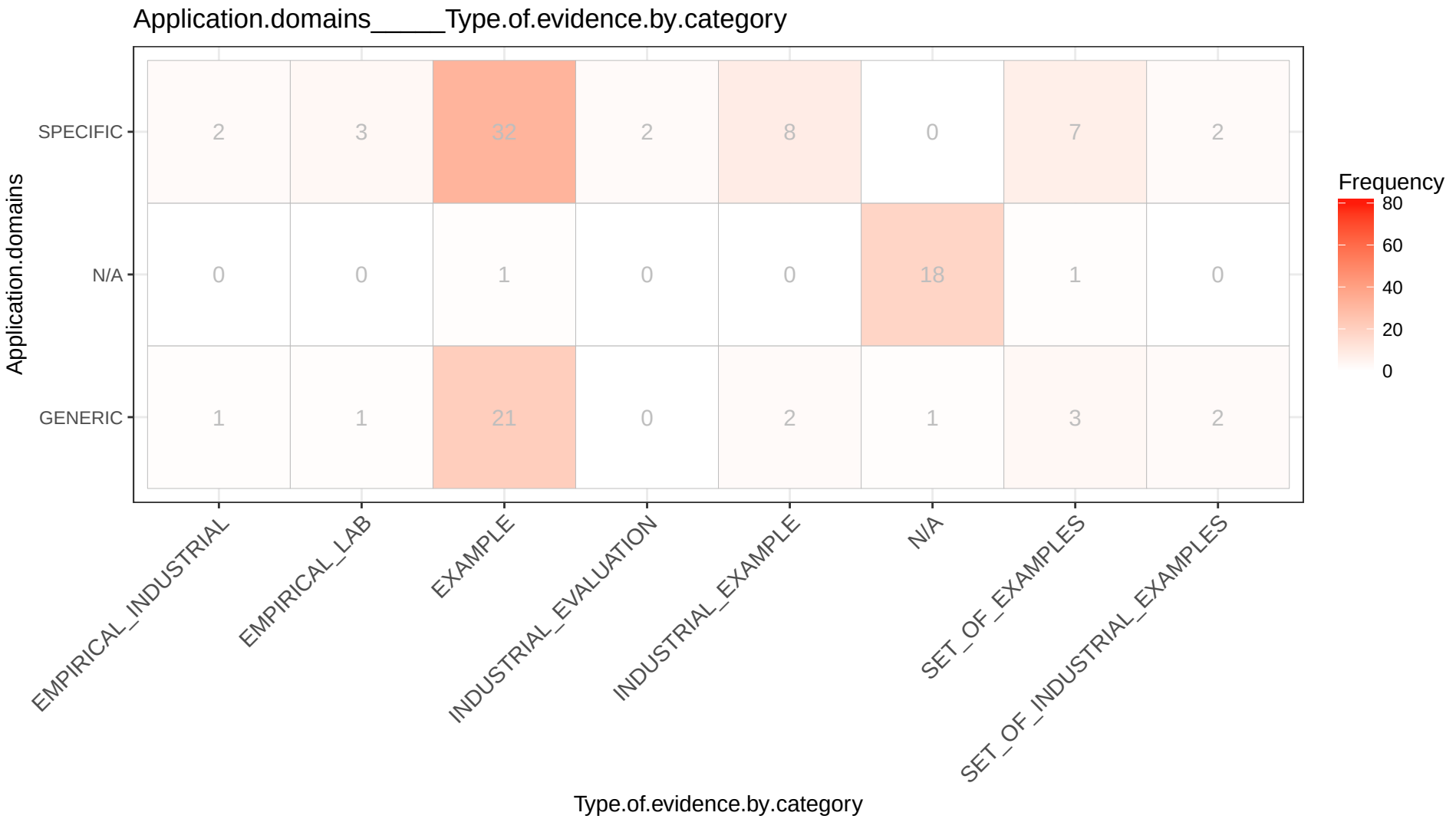

Application.domains_____Software.platform
SPECIFIC
N/A
GENERIC
3
19
17
2
5
12
7
8
9
N/A
NO
YES
Application.domains
Software.platform
Frequency
80
60
40
20
0

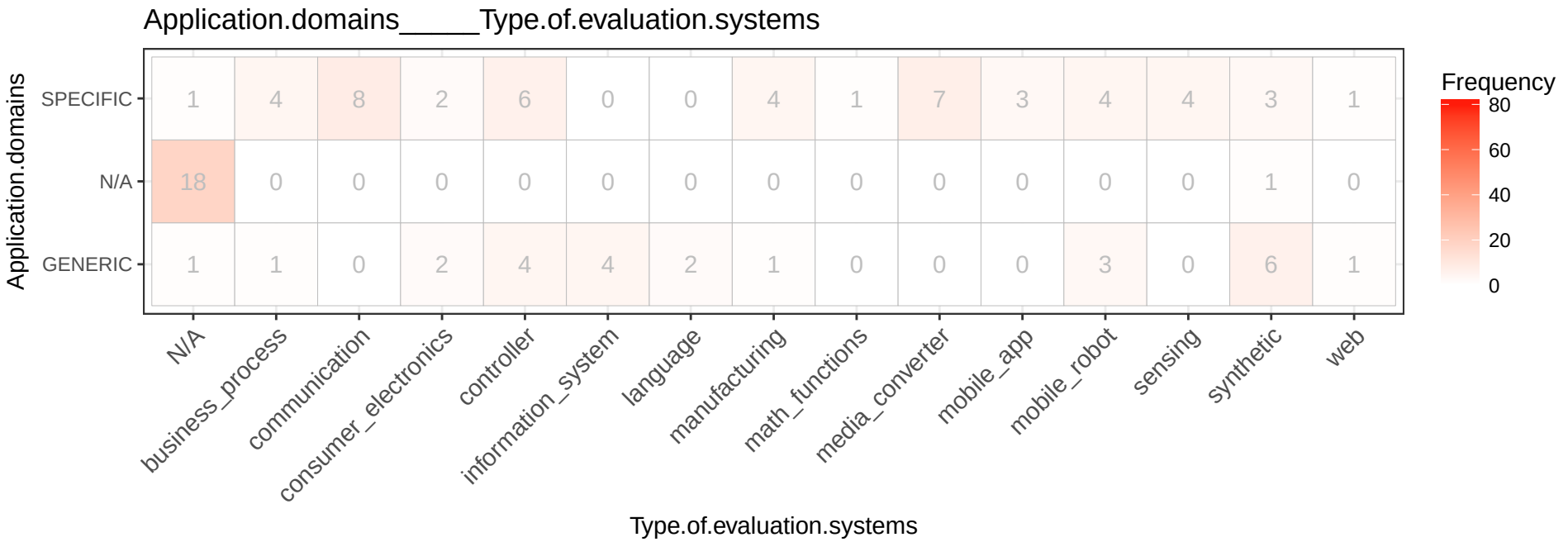

Application.domains_____Translation.steps
SPECIFIC
N/A
GENERIC
Application.domains
19
12
5
39
3
6
1
2
19
2
10
7
0
24
7
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

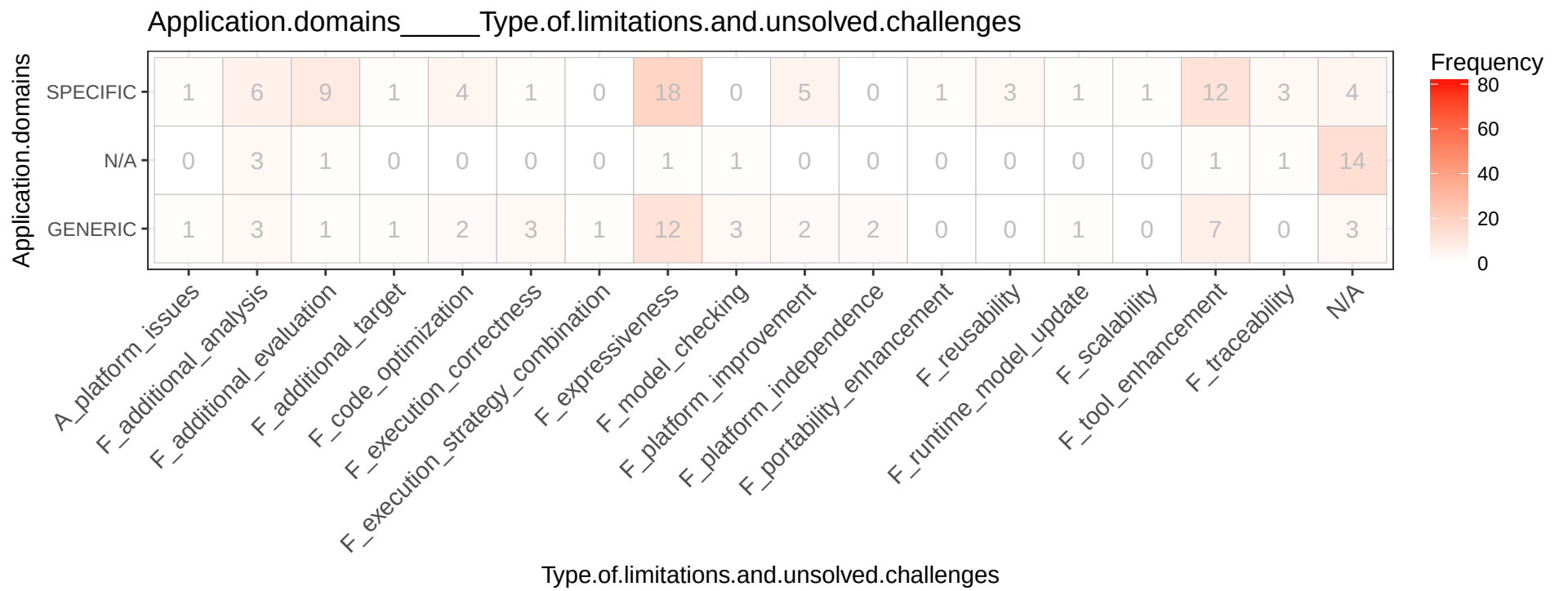

Application.domains_____Traceability.links.support
SPECIFIC
N/A
GENERIC
3
32
4
2
7
10
7
16
1
N/A
NO
YES
Traceability.links.support
Application.domains
Frequency
80
60
40
20
0

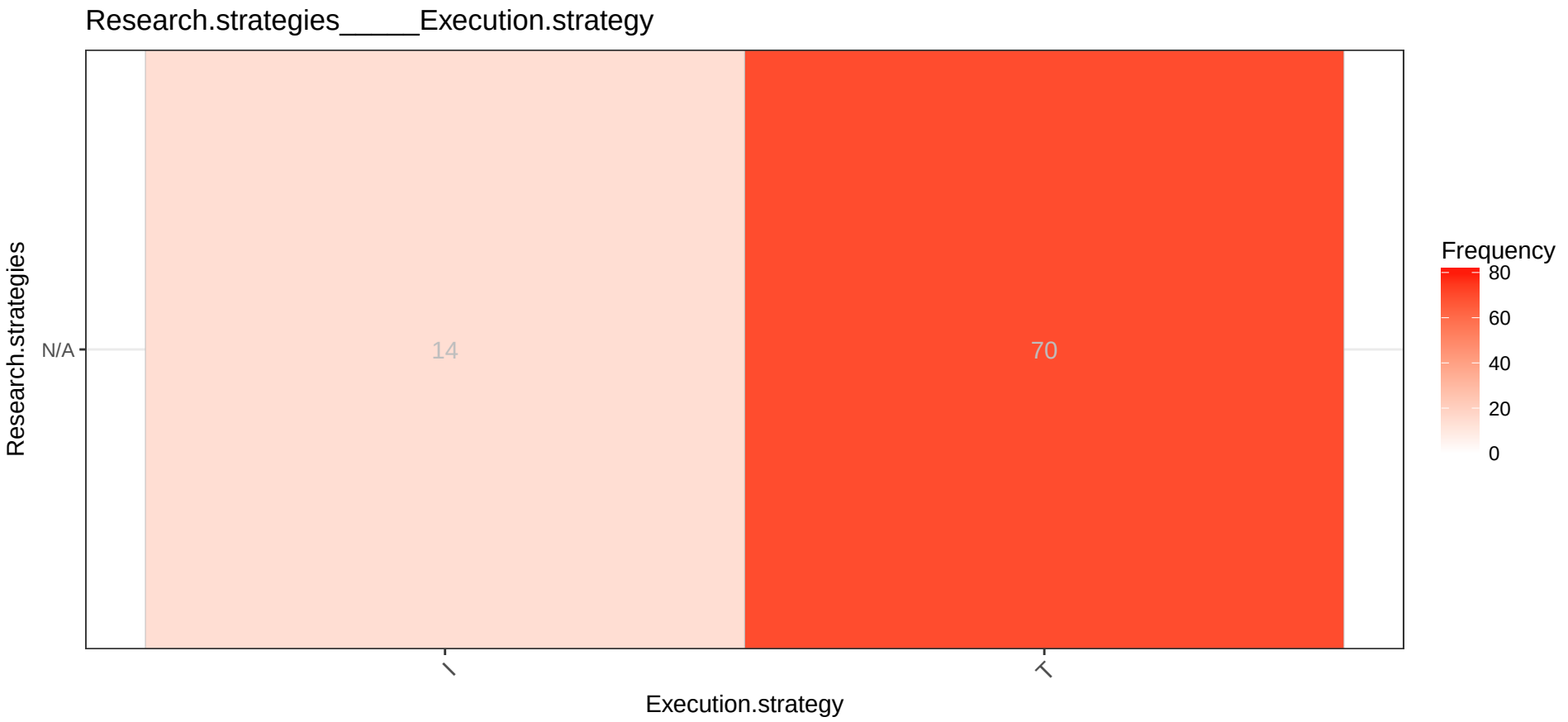

Application.domains_____Interpretation.engine
Application.domains
SPECIFIC
N/A
GENERIC
1 0 36 0 0 0 0 1 0 0 0 1
0 1 15 0 1 0 1 0 0 1 0 0
1 0 17 1 0 2 0 0 1 1 1 0
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

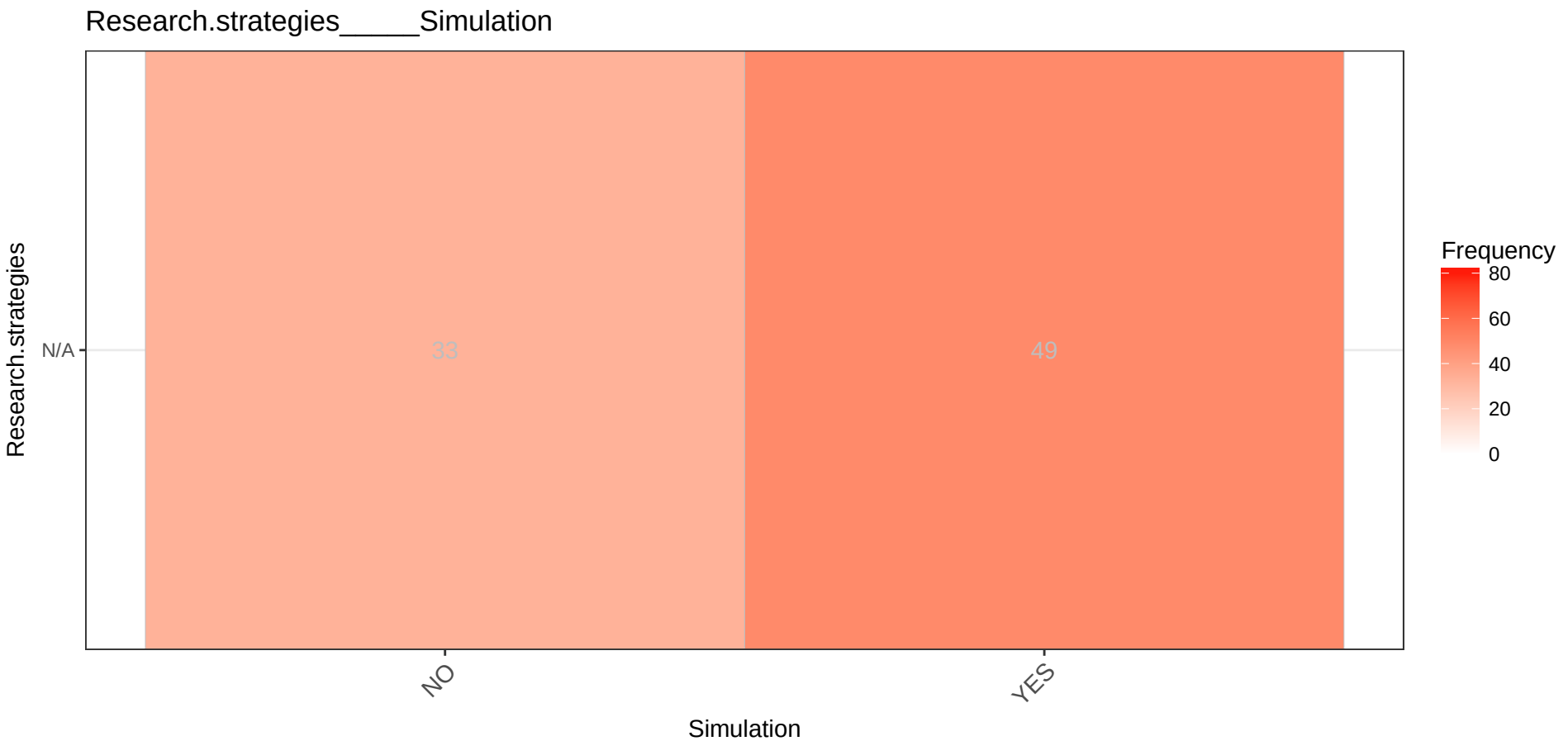

Application.domains_____Target.platforms
SPECIFIC
N/A
GENERIC
37
1
0
1
19
0
0
0
23
0
1
0
N/A
aep
gimple
uvm
Target.platforms
Application.domains
Frequency
80
60
40
20
0

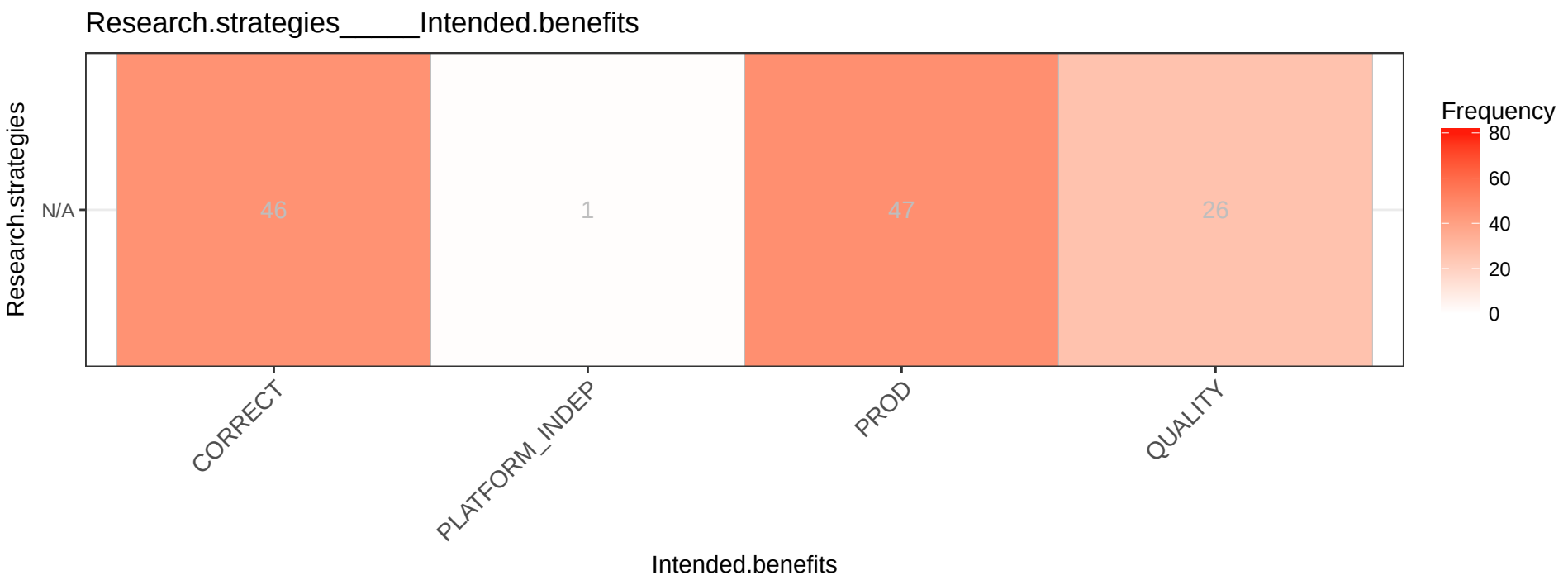

Application.domains_____Type.of.evidence.by.category
Application.domains
SPECIFIC
N/A
GENERIC
2
3
32
2
8
0
7
2
0
0
1
0
0
18
1
0
1
1
21
0
2
1
3
2
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

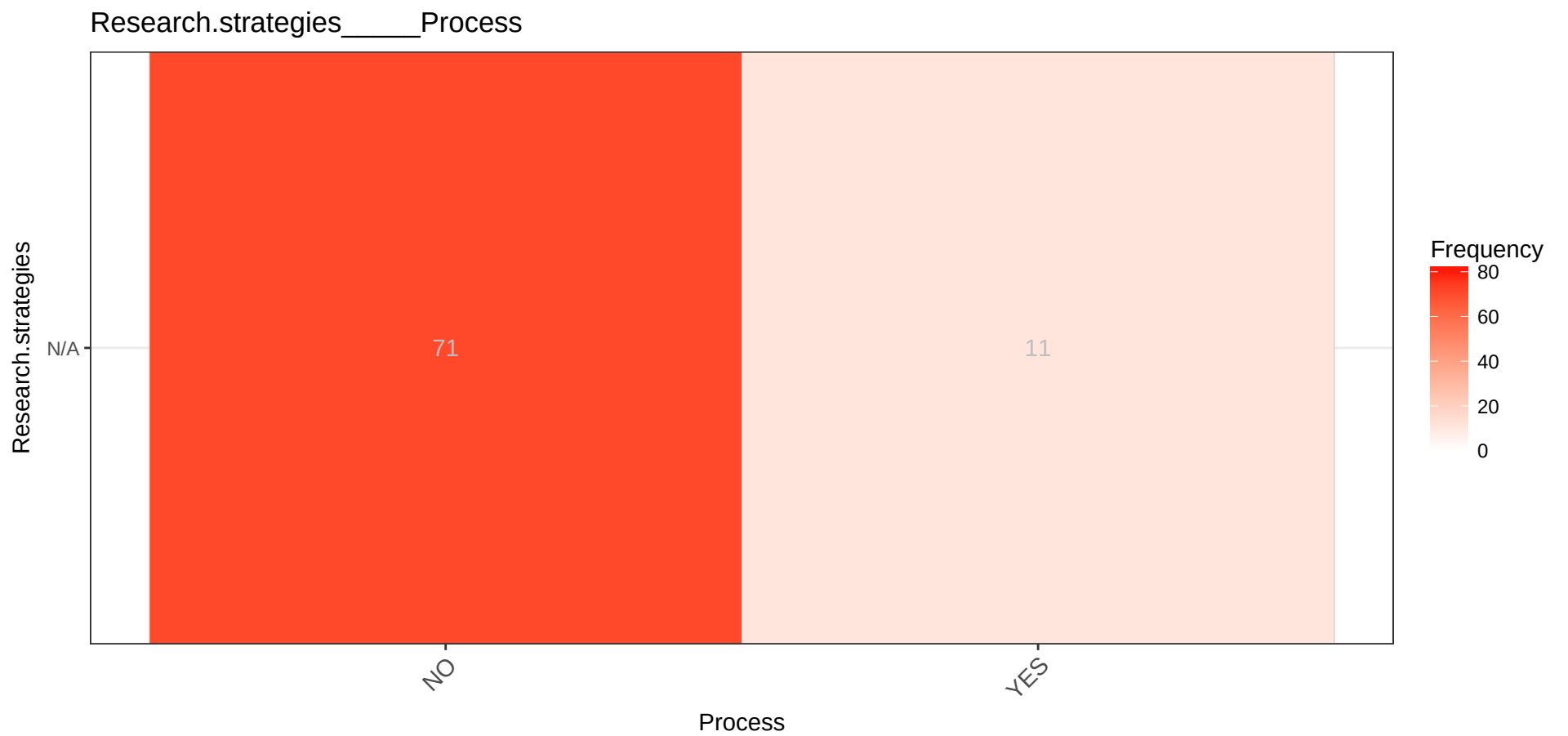

Application.domains_____Type.of.evaluation.systems
Application.domains
SPECIFIC
N/A
GENERIC
1 4 8 2 6 0 0 4 1 7 3 4 4 3 1
18 0 0 0 0 0 0 0 0 0 0 0 0 1 0
1 1 0 2 4 4 2 1 0 0 0 3 0 6 1
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

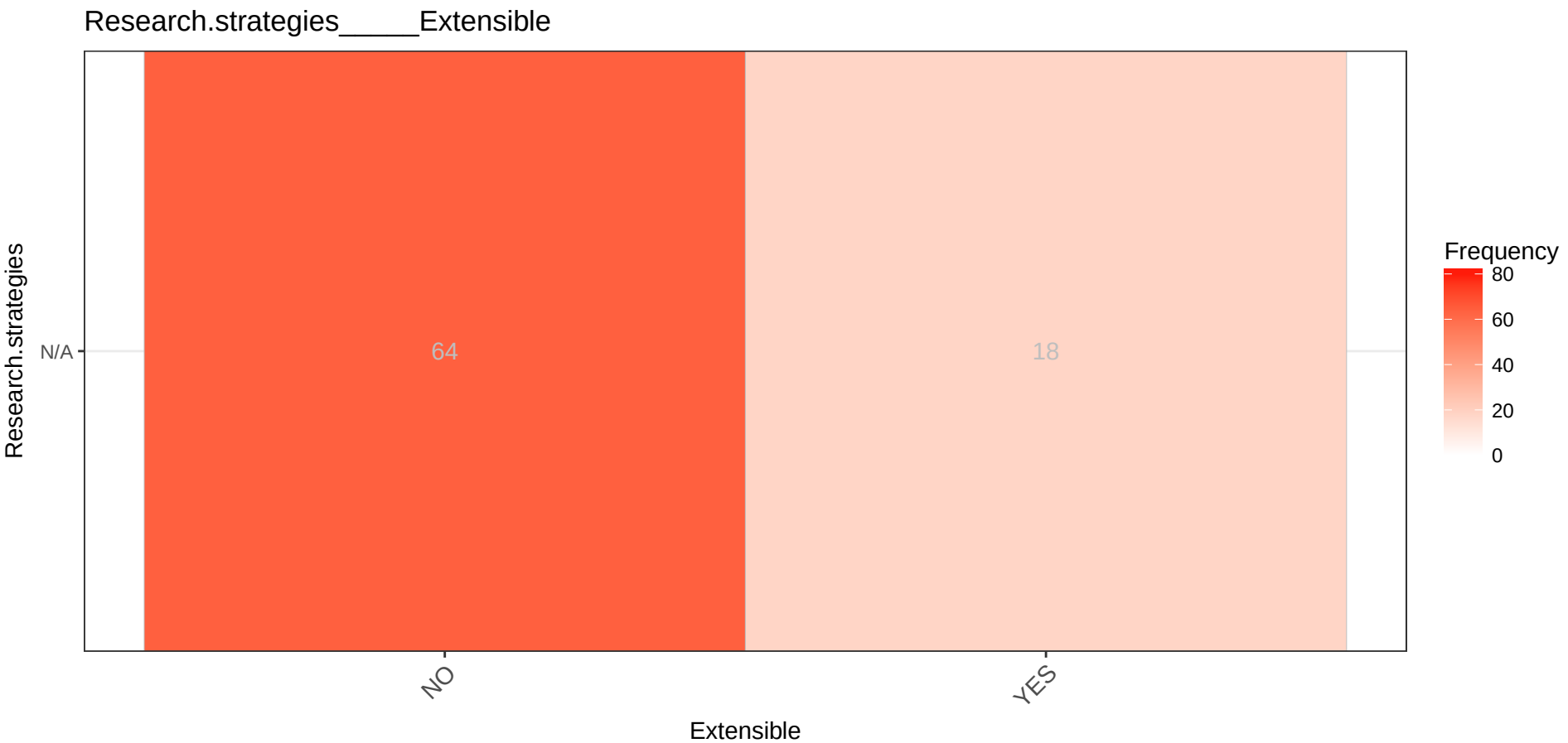

Application.domains_____Type.of.limitations.and.unsolved.challenges
Application.domains
SPECIFIC
N/A
GENERIC
1 6 9 1 4 1 0 18 0 5 0 1 3 1 1 12 3 4
0 3 1 0 0 0 0 1 1 0 0 0 0 0 0 1 1 14
1 3 1 1 2 3 1 12 3 2 2 0 0 1 0 7 0 3
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

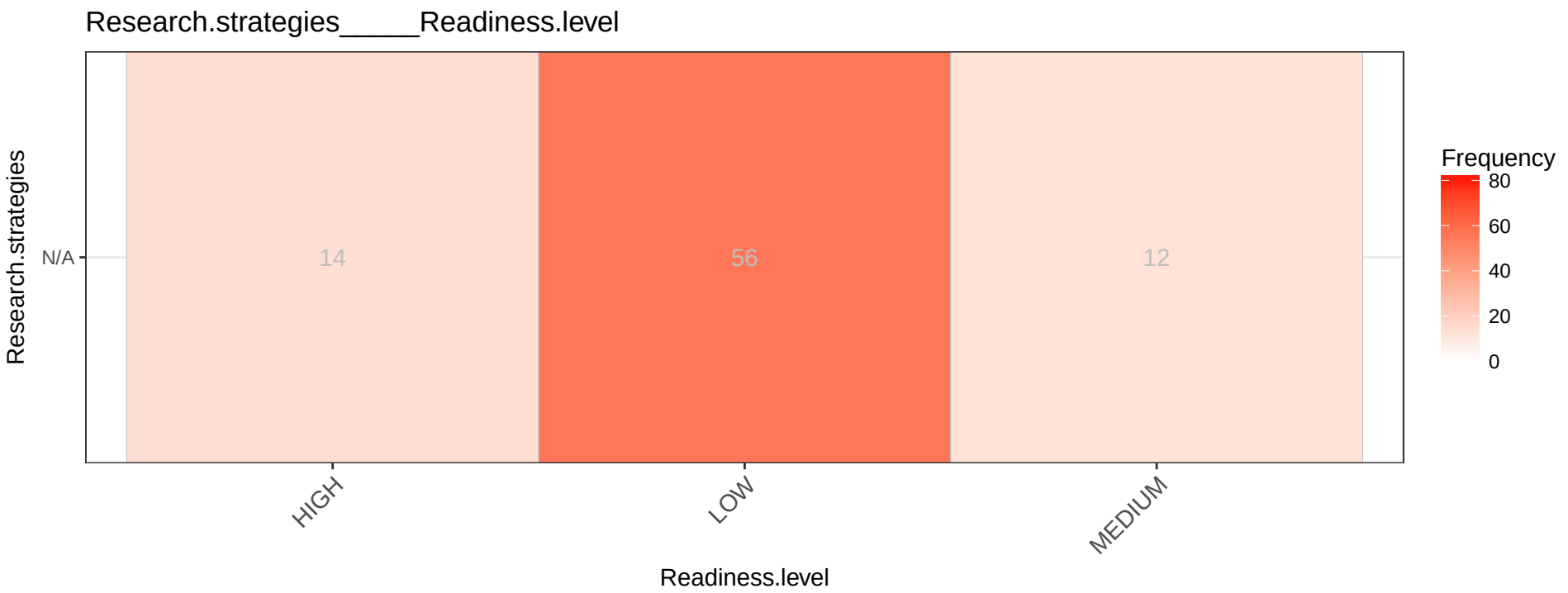

Research.strategies_____Execution.strategy
Research.strategies
N/A
14
70
Execution.strategy
Frequency
80
60
40
20
0

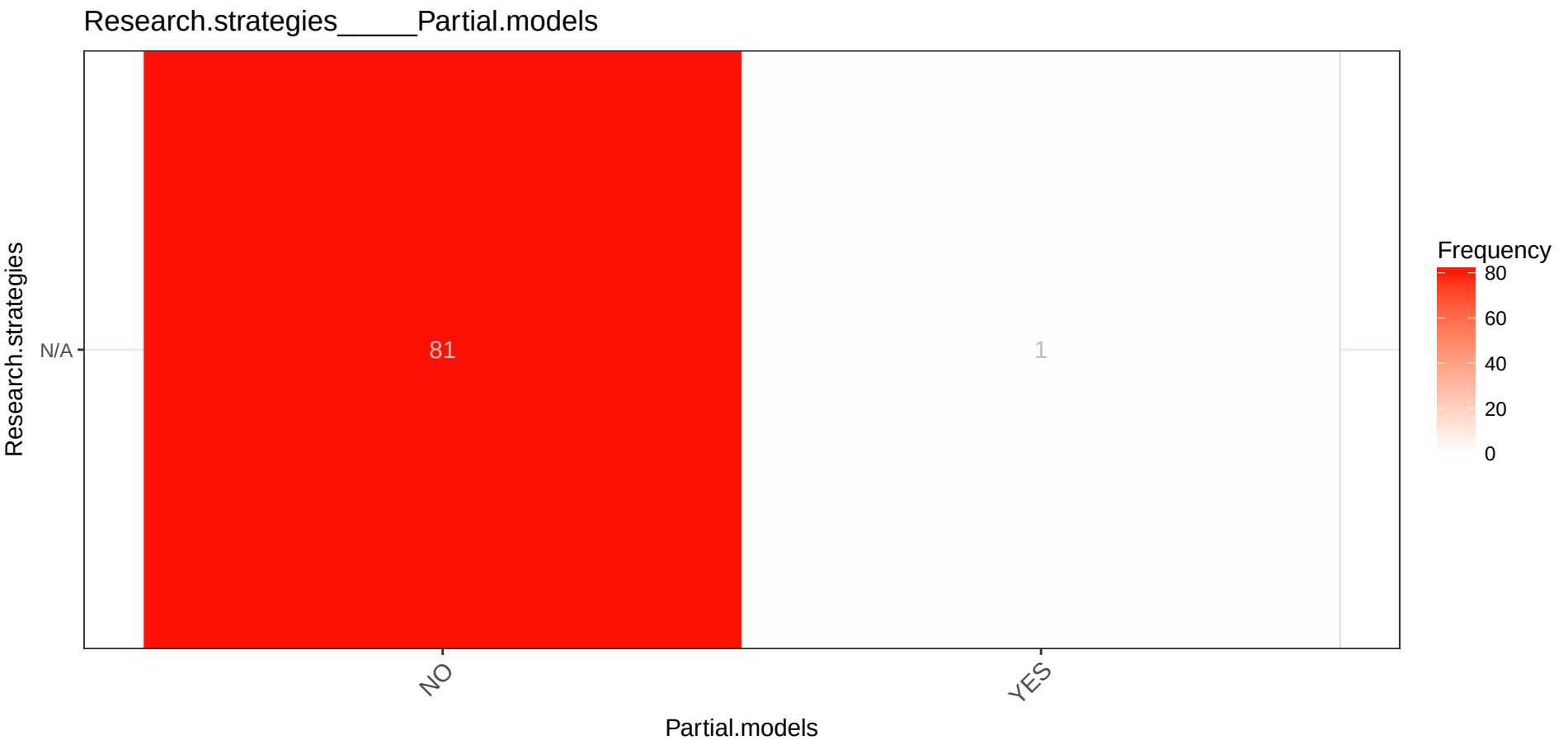

Research.strategies_____Simulation
Research.strategies
N/A
33
49
NO
YES
Simulation
Frequency
80
60
40
20
0

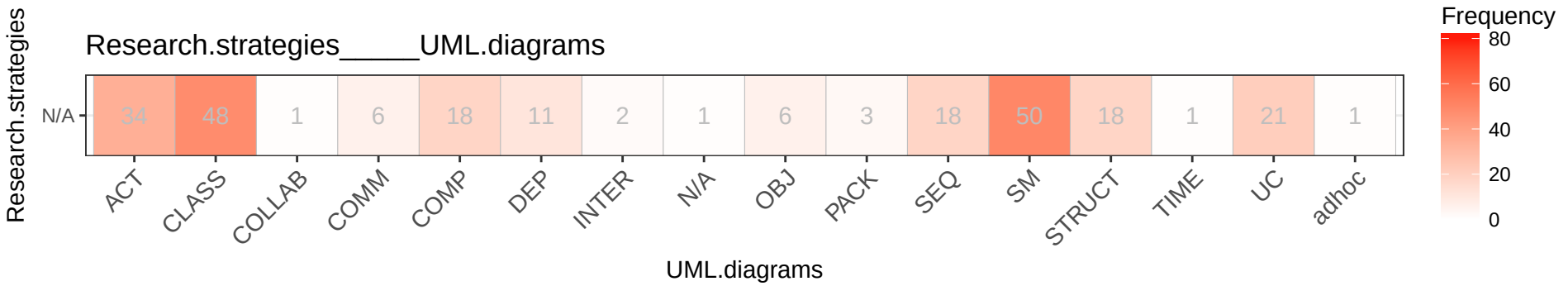

Research.strategies_____Intended.benefits
Research.strategies
N/A
46
1
47
26
CORRECT
PLATFORM_INDEP
PROD
QUALITY
Intended.benefits
Frequency
80
60
40
20
0

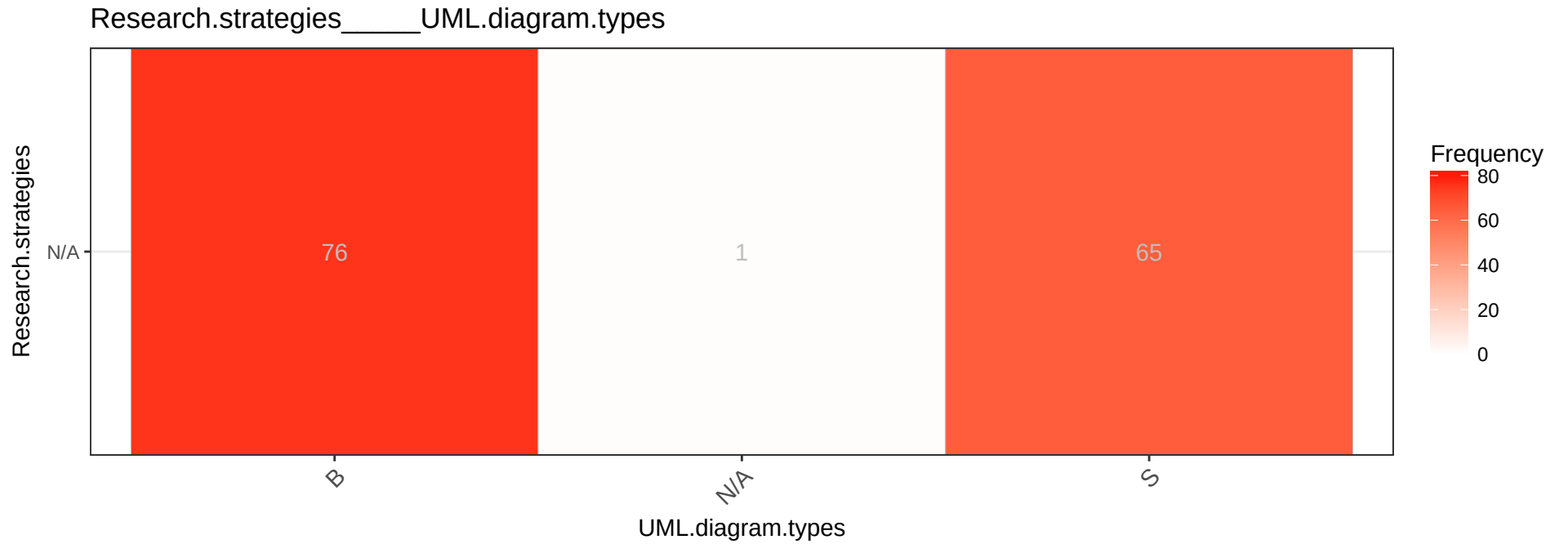

Research.strategies_____Process
Research.strategies
N/A
71
11
NO
YES
Process
Frequency
80
60
40
20
0

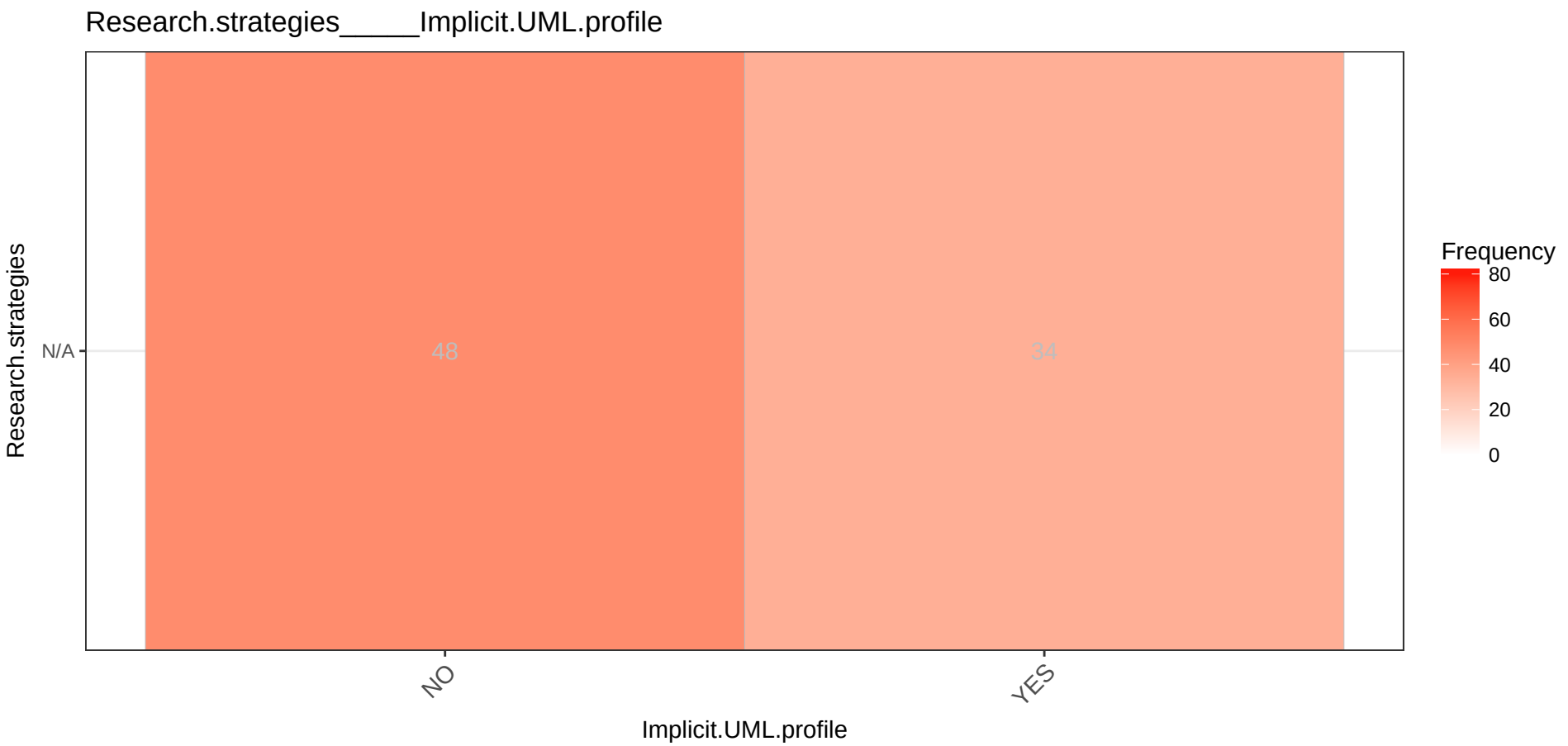

Research.strategies_____Extensible
Research.strategies
N/A
64
18
NO
YES
Extensible
Frequency
80
60
40
20
0

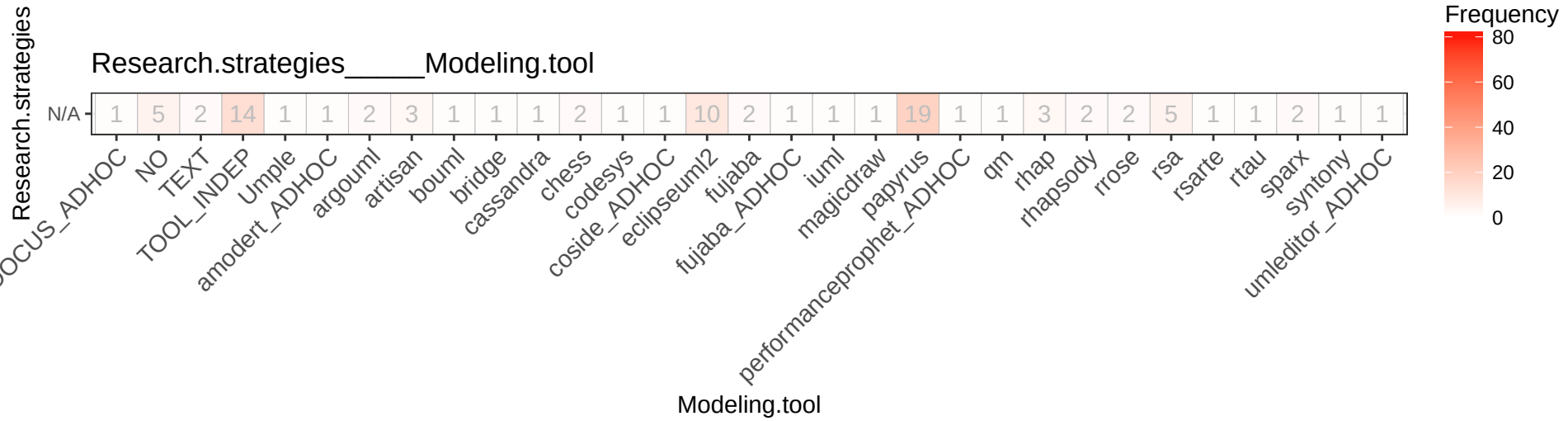

Research.strategies_____Readiness.level
Research.strategies
N/A
14
56
12
HIGH
LOW
MEDIUM
Readiness.level
Frequency
80
60
40
20
0

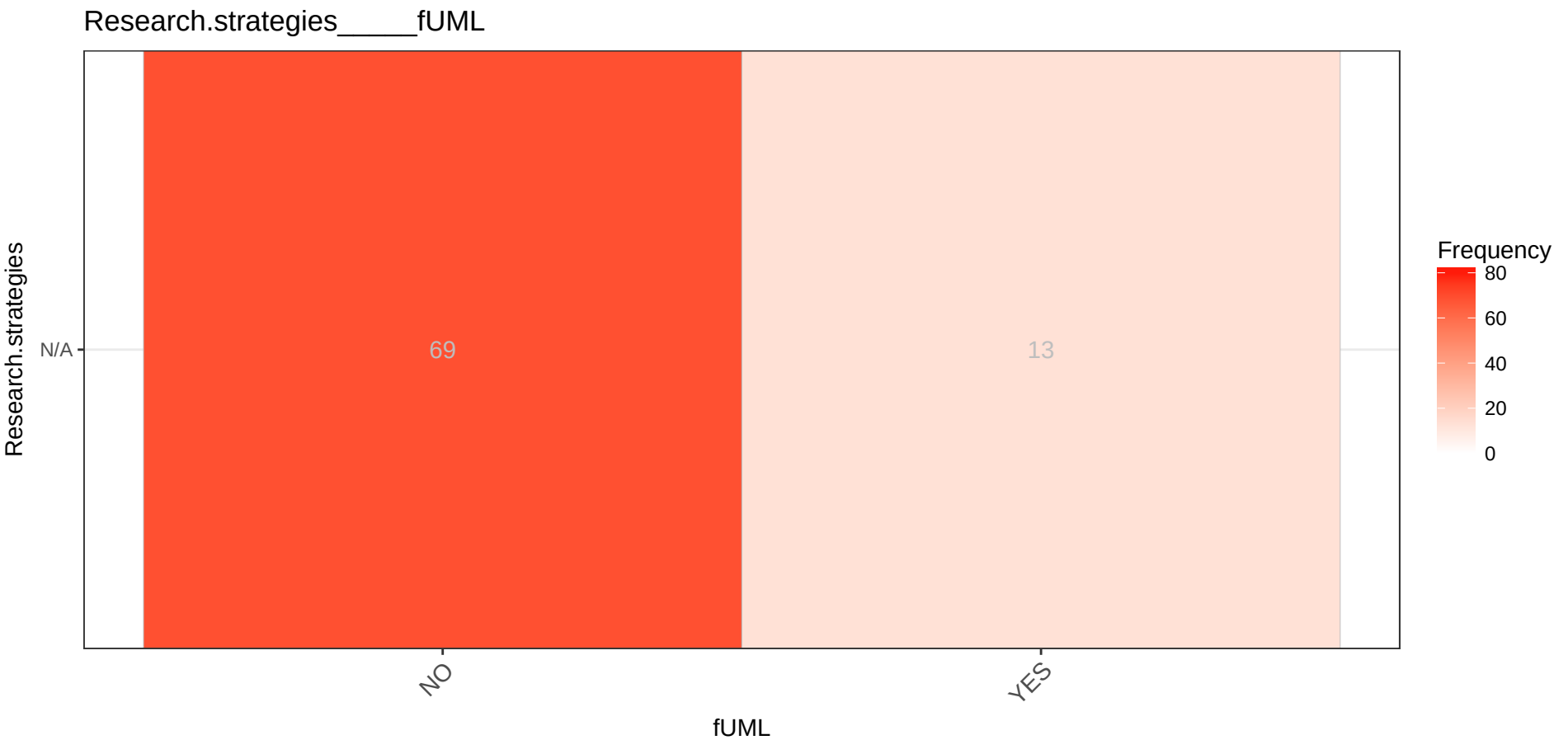

Research.strategies_____Partial.models
Research.strategies
N/A
81
1
NO
YES
Partial.models
Frequency
80
60
40
20
0

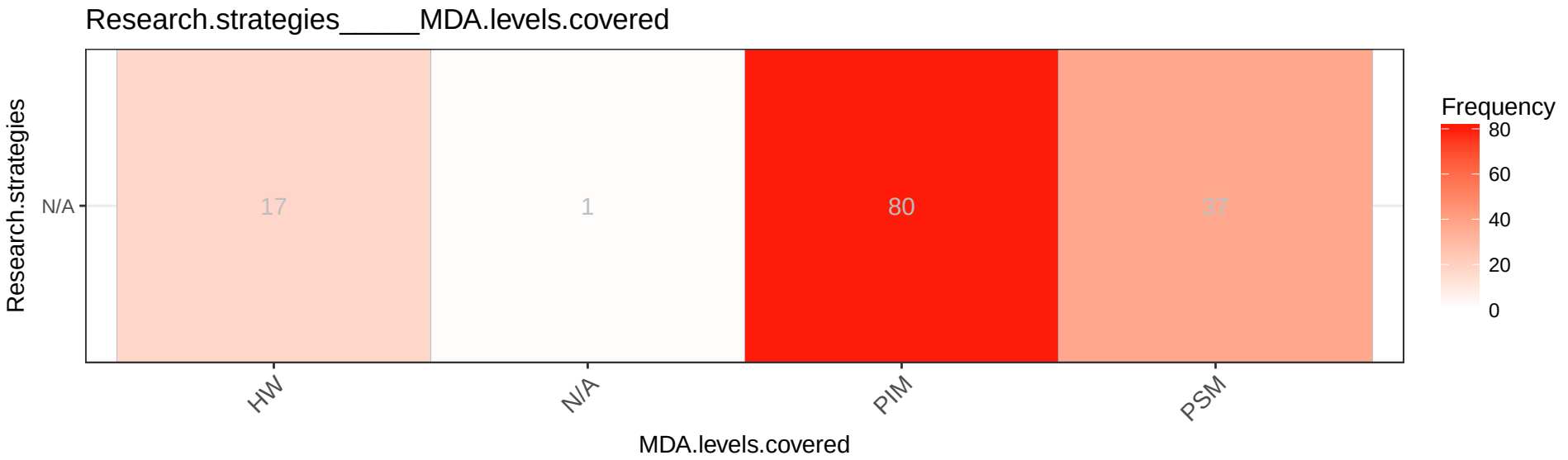

Research.strategies_____UML.diagrams
Research.strategies
N/A
34
48
1
6
18
11
2
1
6
3
18
50
18
1
21
1
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

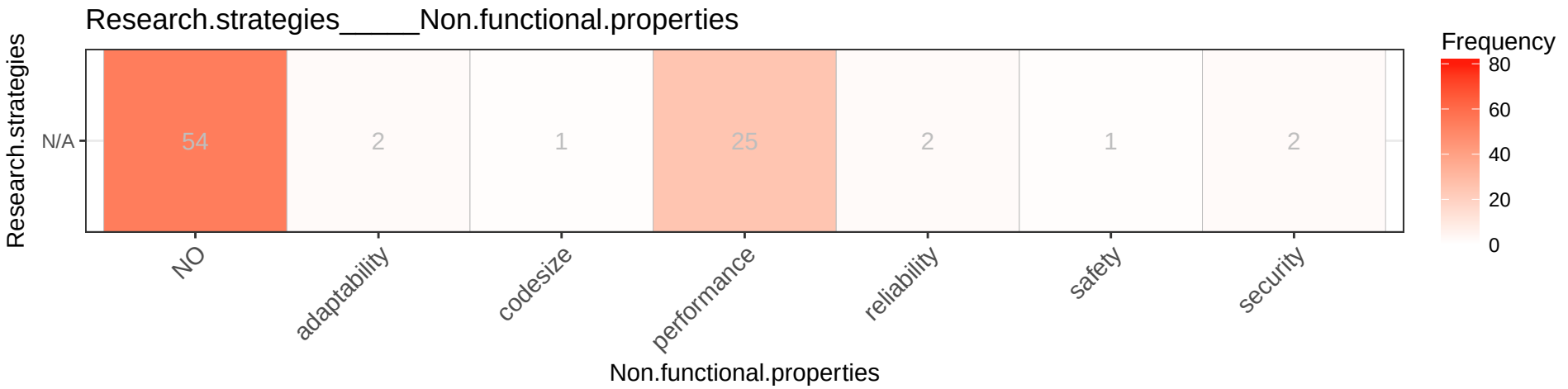

Research.strategies_____UML.diagram.types
Research.strategies
N/A
76
1
65
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

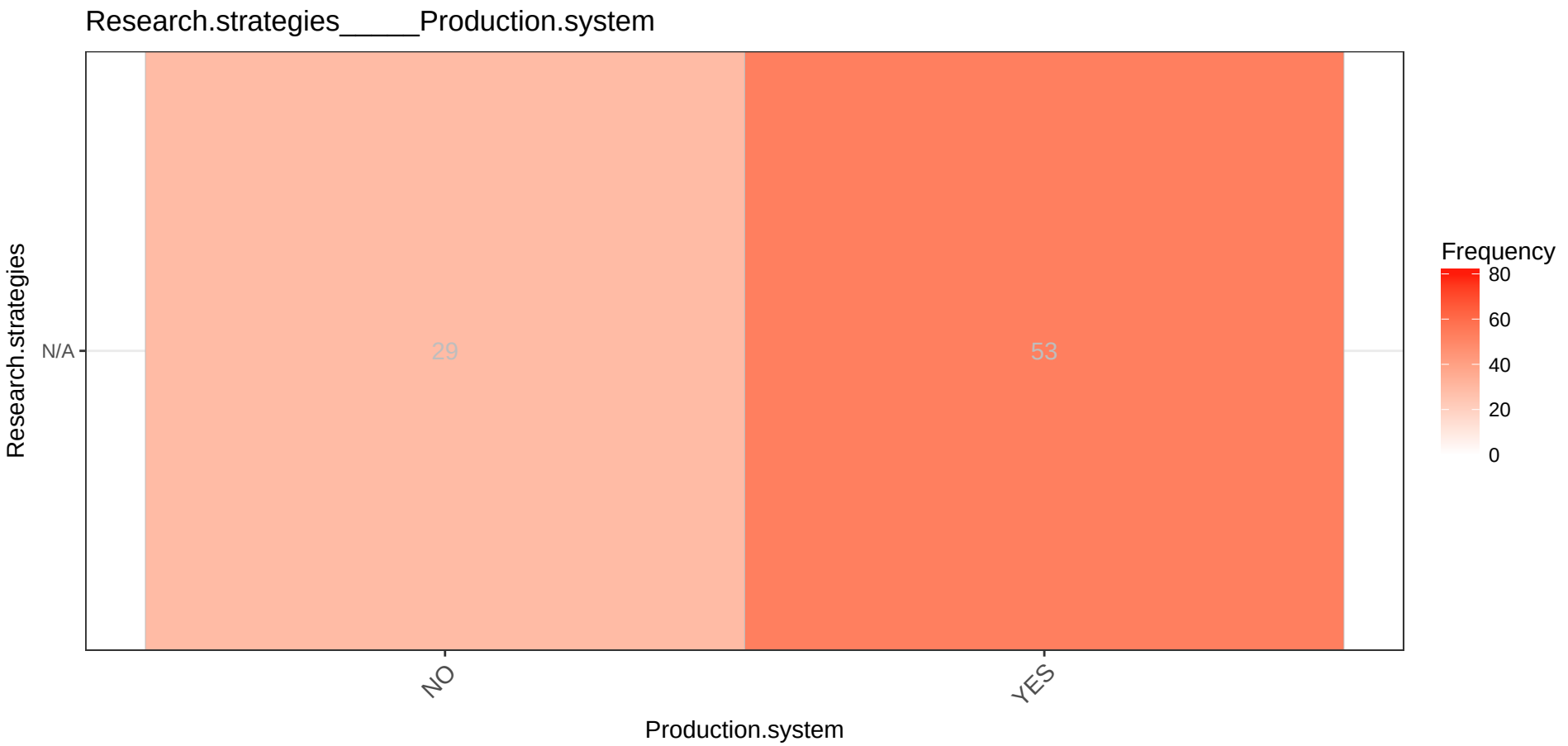

Research.strategies_____Implicit.UML.profile
Research.strategies
N/A
48
34
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

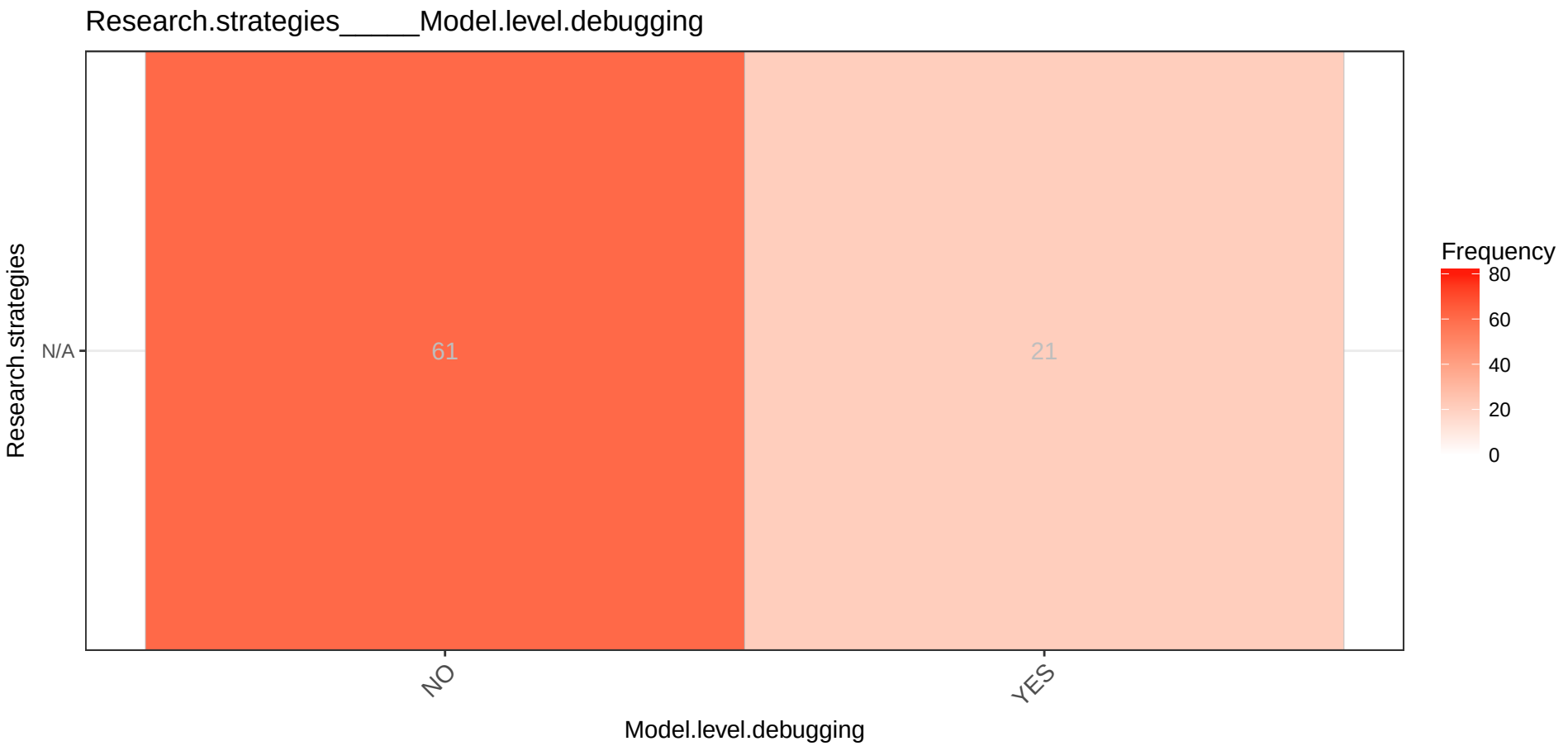

Research.strategies_____Modeling.tool
Research.strategies
N/A
1 5 2 14 1 1 2 3 1 1 1 2 1 1 10 2 1 1 1 19 1 1 3 2 2 5 1 1 2 1 1
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

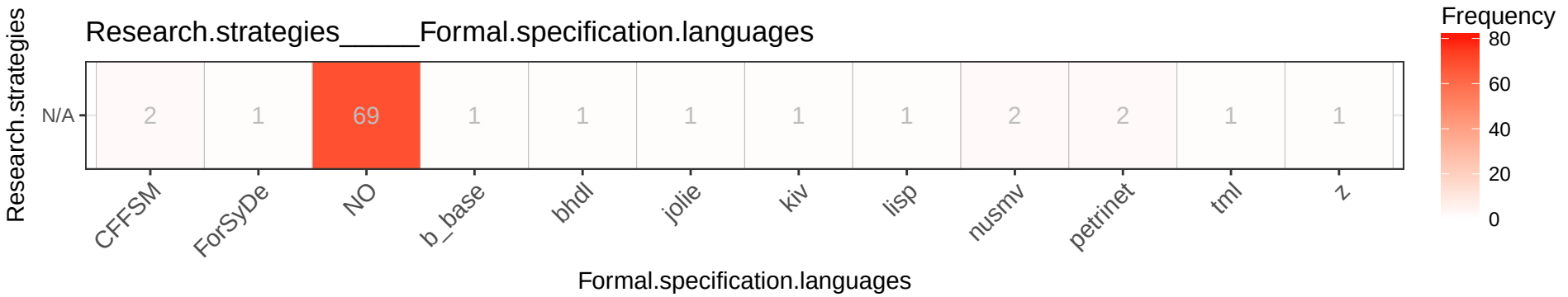

Research.strategies_____fUML
Research.strategies
N/A
69
13
NO
YES
fUML
Frequency
80
60
40
20
0

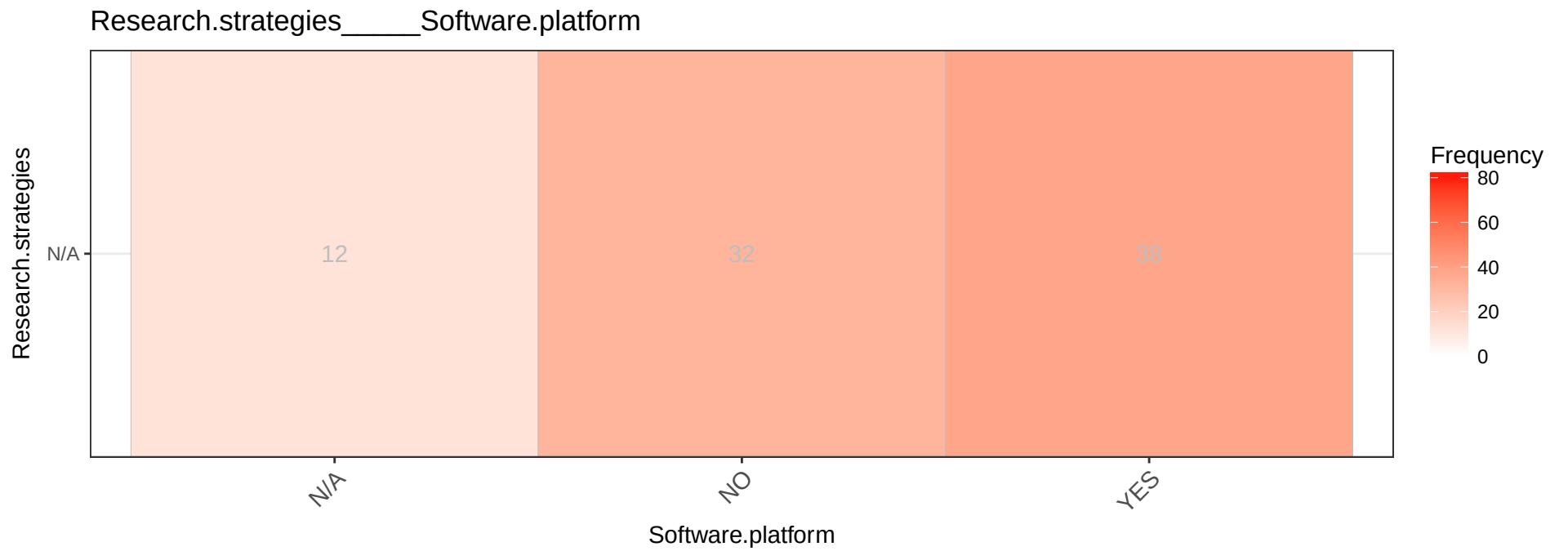

Research.strategies_____MDA.levels.covered
Research.strategies
N/A
17
1
80
37
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

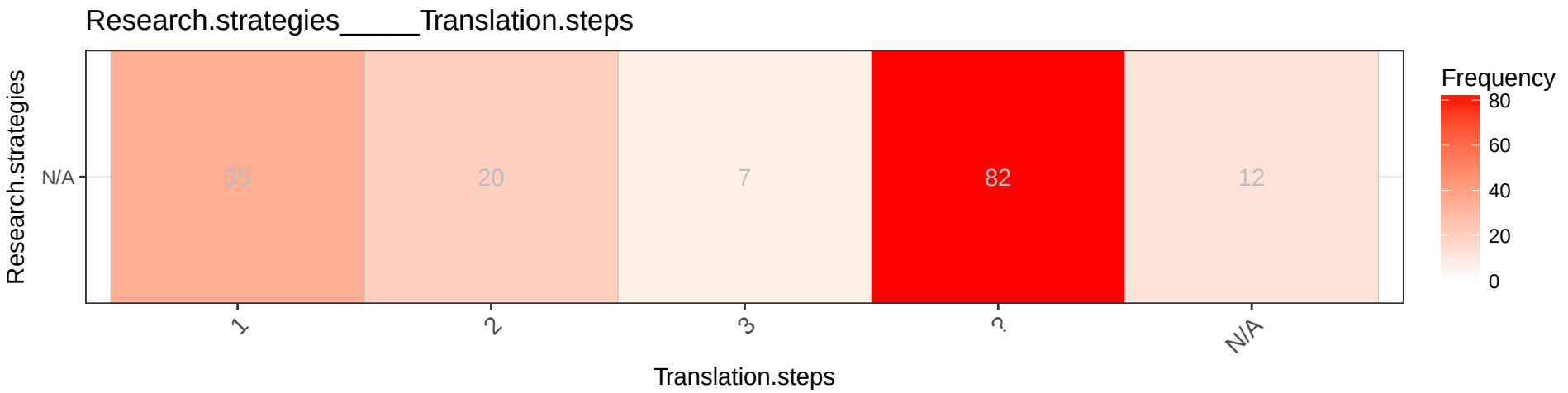

Research.strategies_____Non.functional.properties
Research.strategies
N/A
54
2
1
25
2
1
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

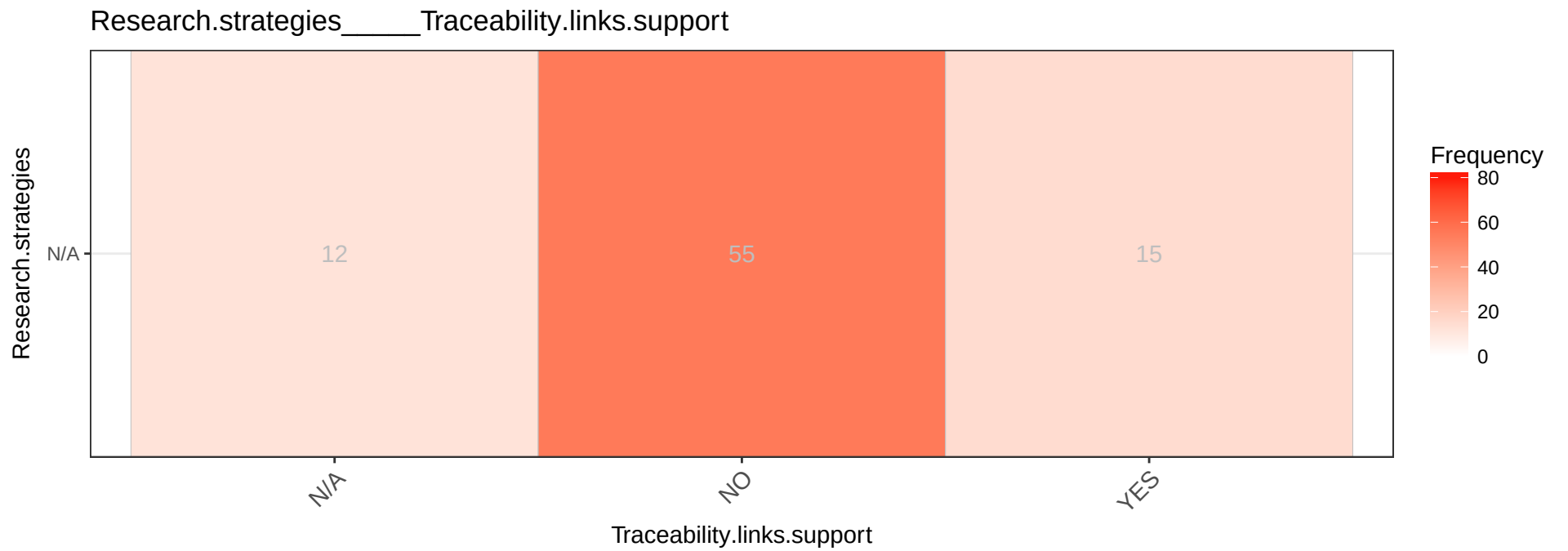

Research.strategies_____Production.system
Research.strategies
N/A
29
53
NO
YES
Production.system
Frequency
80
60
40
20
0

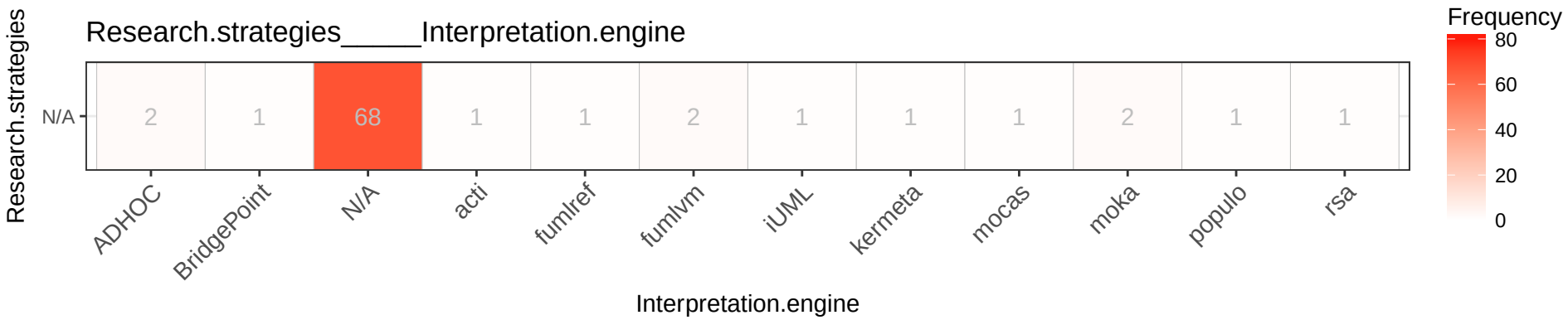

Research.strategies_____Model.level.debugging
Research.strategies
N/A
61
21
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

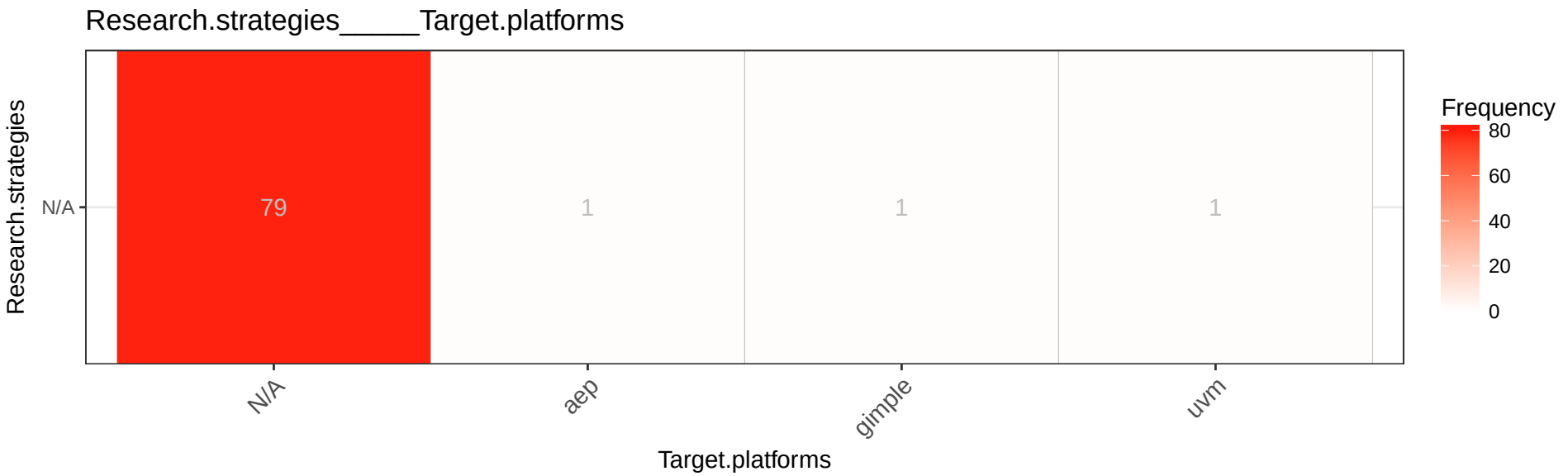

Research.strategies_____Formal.specification.languages
Research.strategies
N/A
2
1
69
1
1
1
1
1
2
2
1
1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

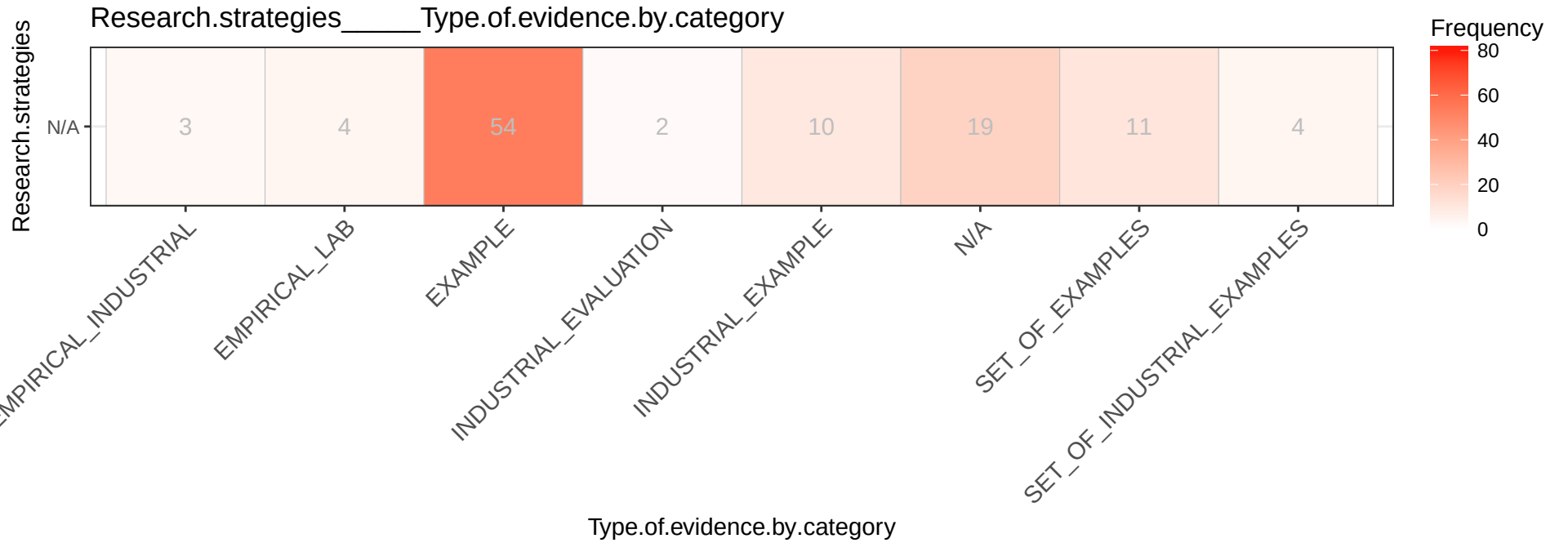

Research.strategies_____Software.platform
Research.strategies
N/A
12
32
38
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

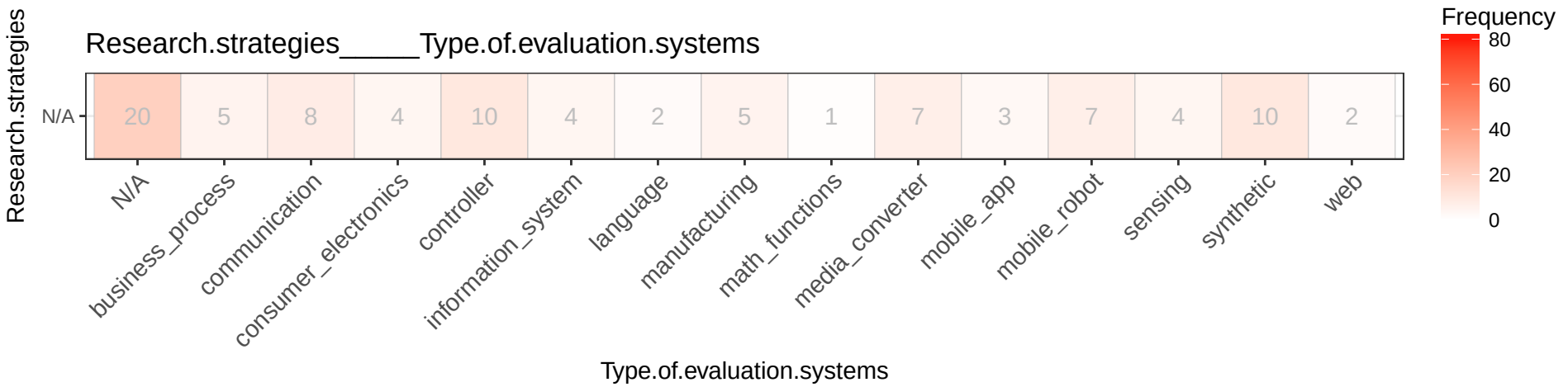

Research.strategies_____Translation.steps
Research.strategies
N/A
35
20
7
82
12
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

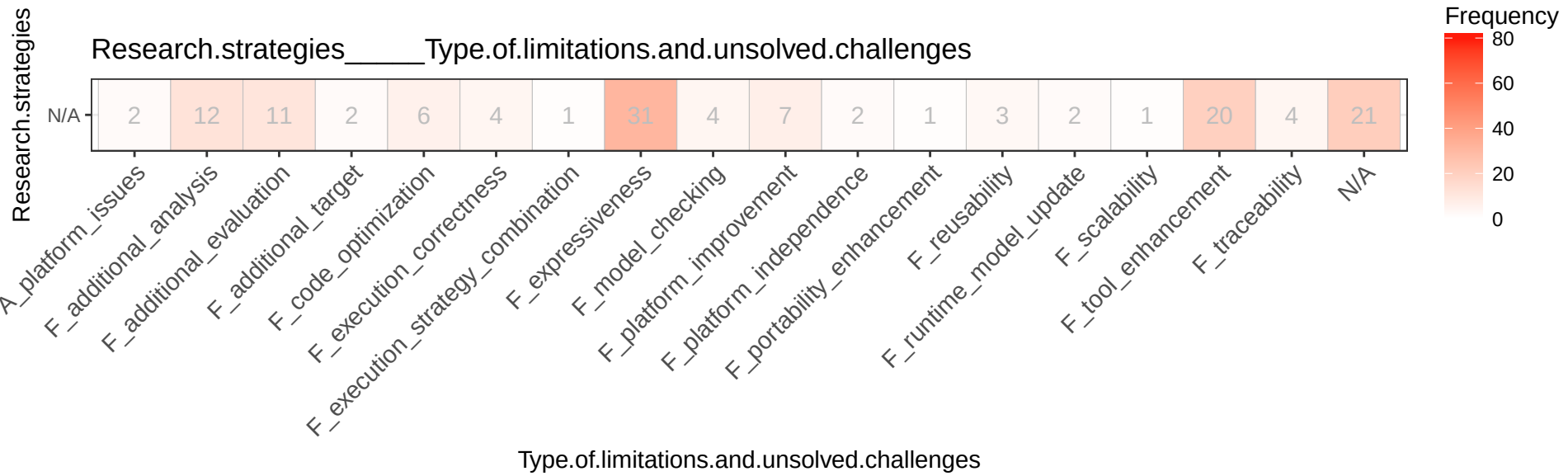

Research.strategies_____Traceability.links.support
Research.strategies
N/A
12
55
15
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

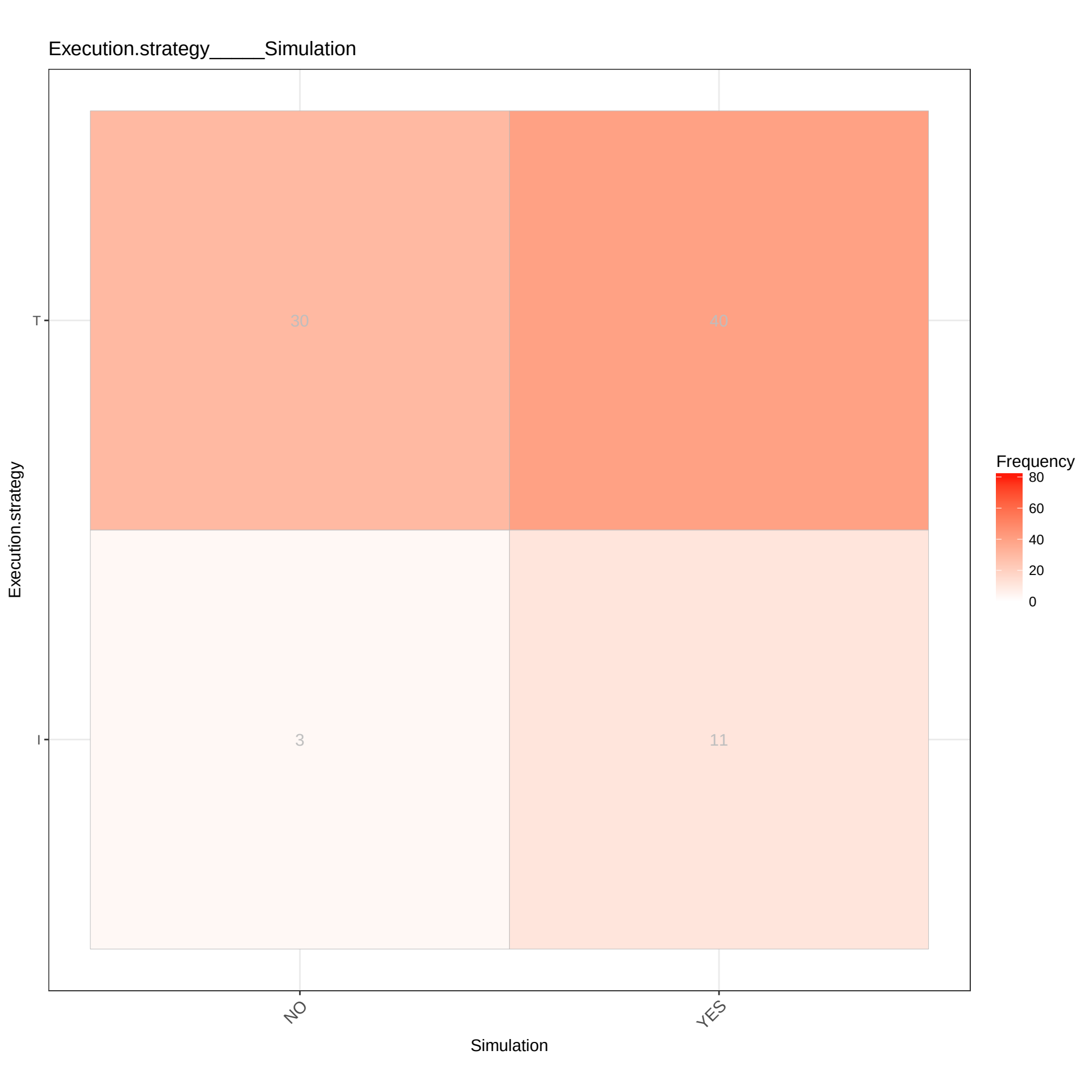

Research.strategies_____Interpretation.engine
Research.strategies
N/A
2
1
68
1
1
2
1
1
1
2
1
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

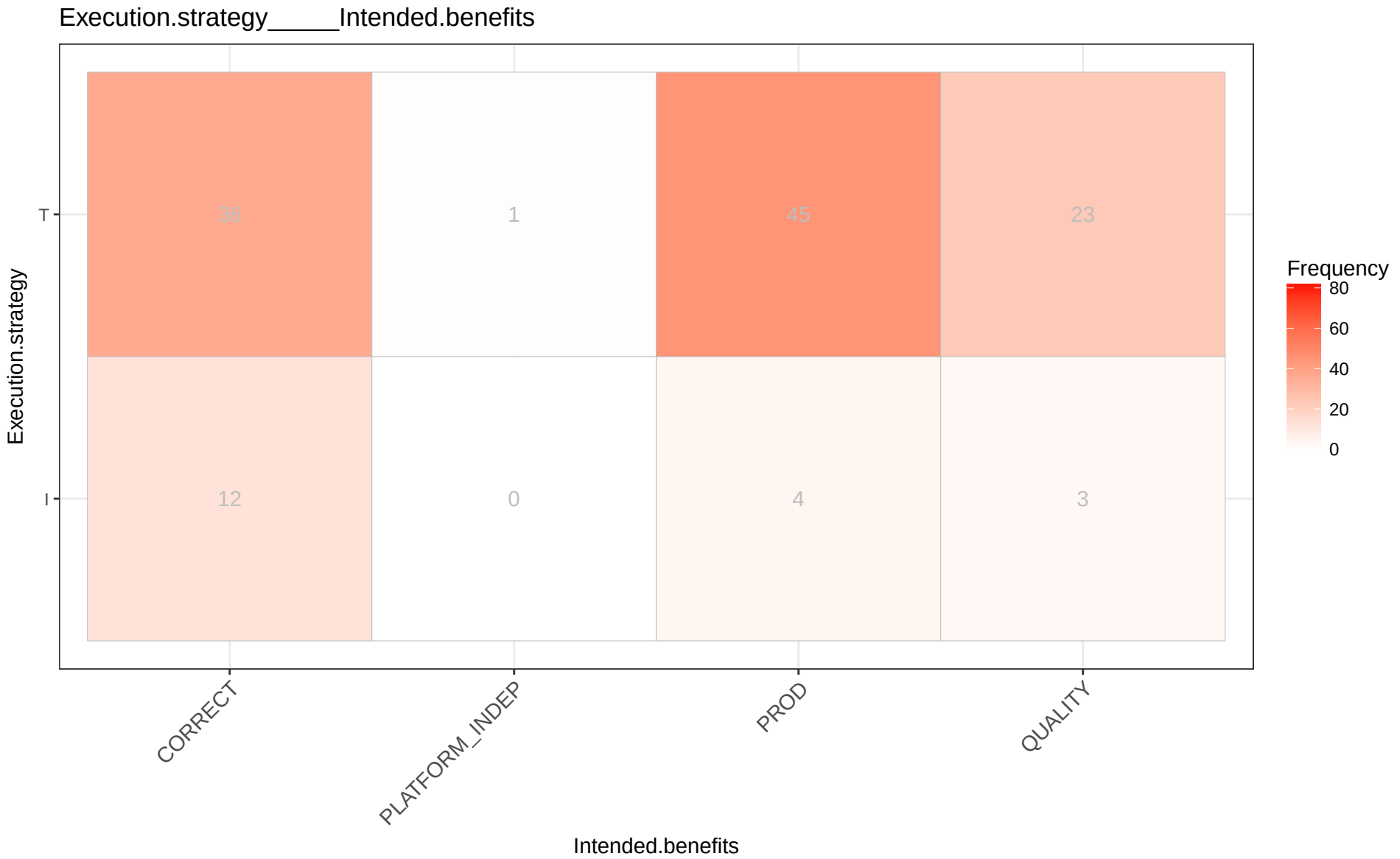

Research.strategies_____Target.platforms
Research.strategies
N/A
79
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

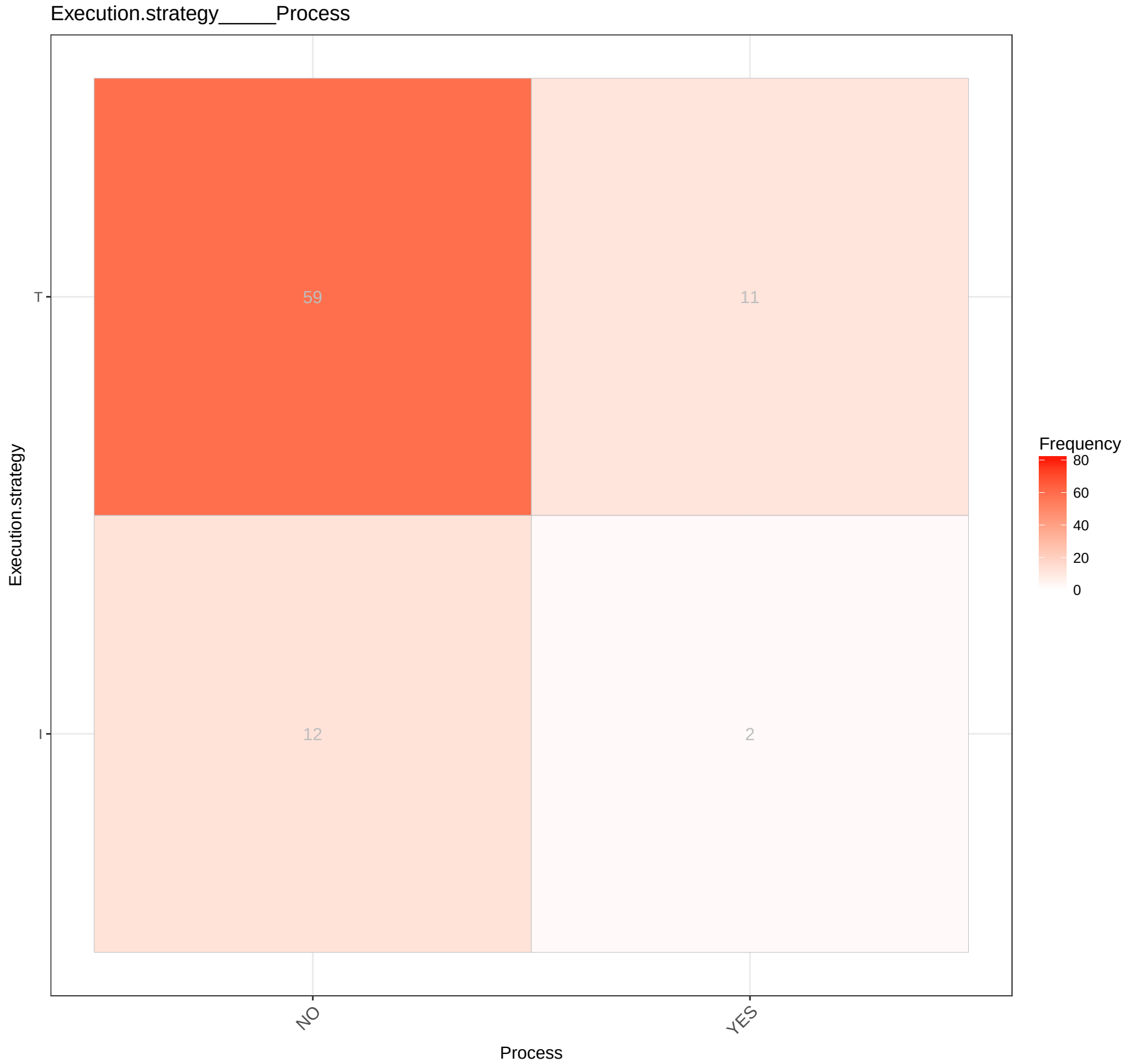

Research.strategies_____Type.of.evidence.by.category
Research.strategies
N/A
3
4
54
2
10
19
11
4
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

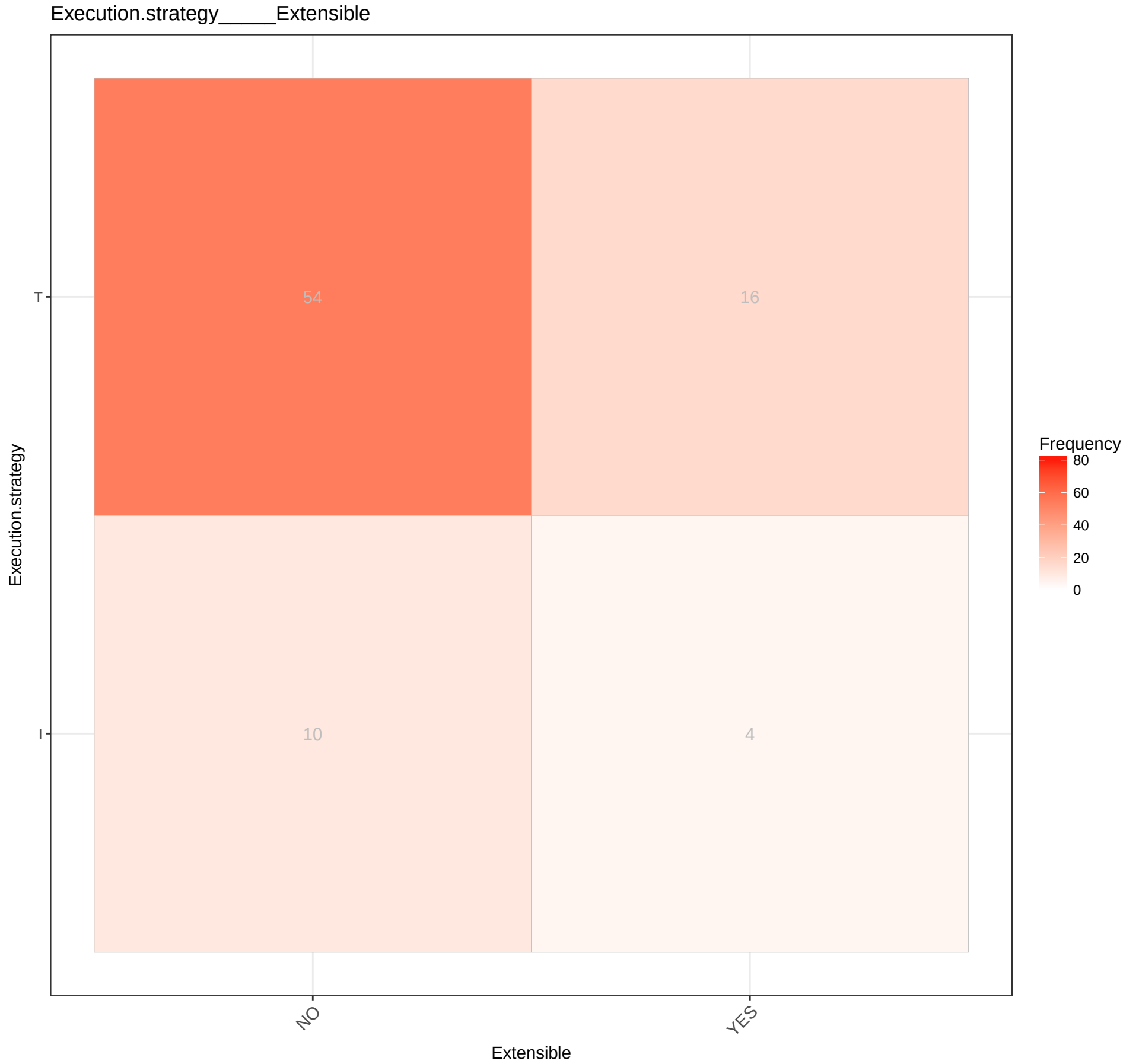

Research.strategies_____Type.of.evaluation.systems
Research.strategies
N/A
20
5
8
4
10
4
2
5
1
7
3
7
4
10
2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

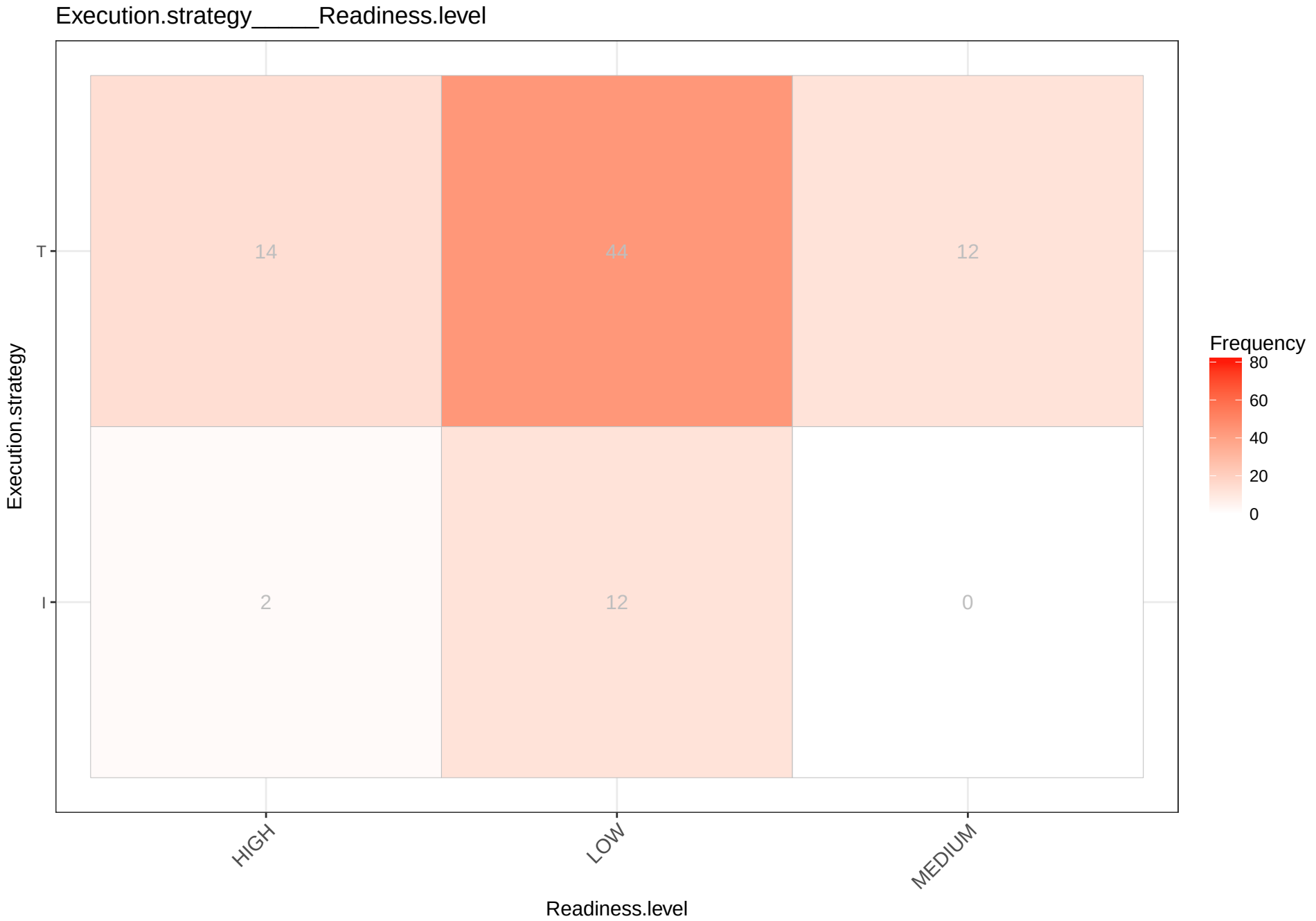

Research.strategies_____Type.of.limitations.and.unsolved.challenges
Research.strategies
N/A
2
12
11
2
6
4
1
31
4
7
2
1
3
2
1
20
4
21
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

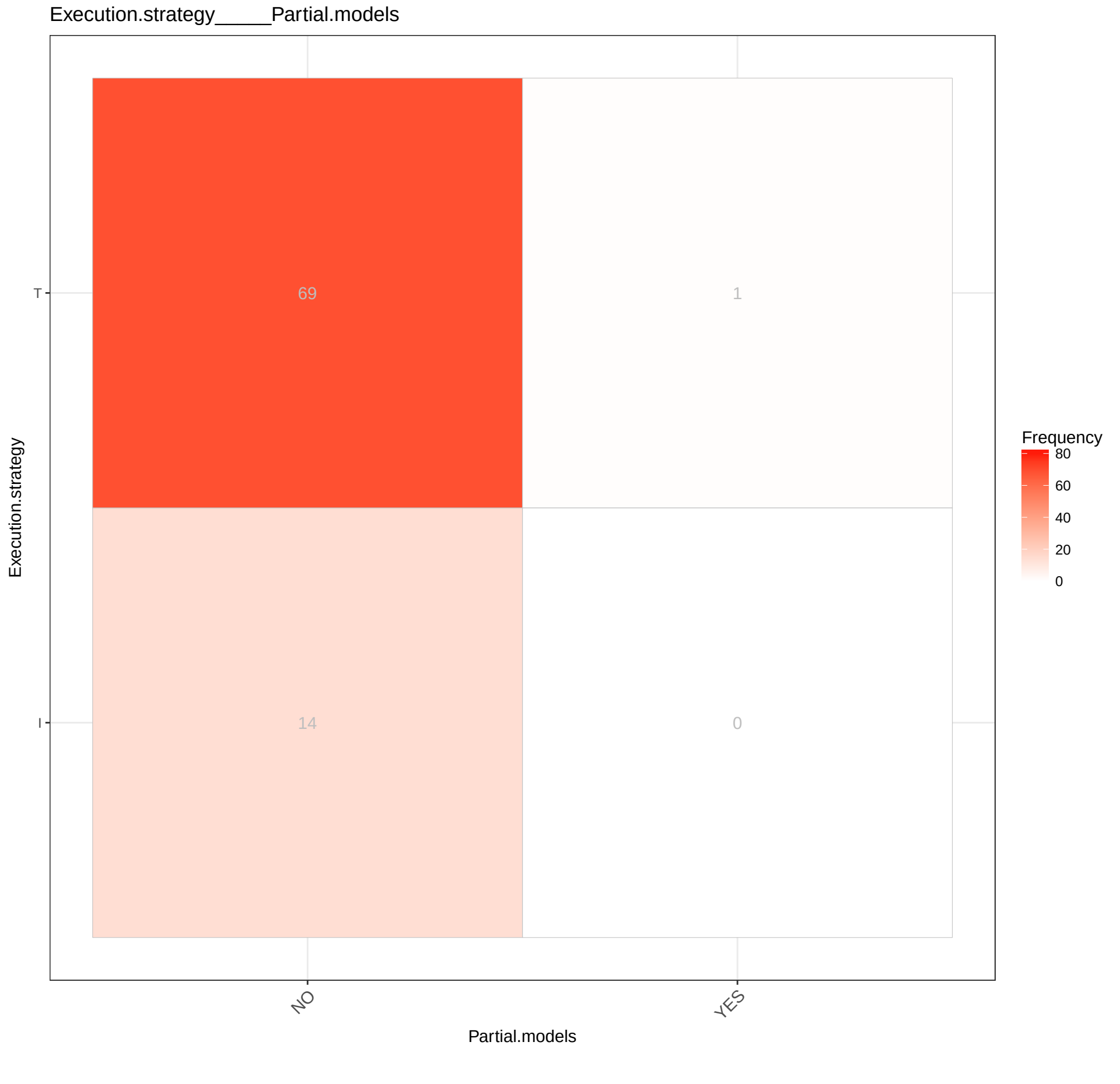

Execution.strategy_____Simulation
T
I
30
40
3
11
Execution.strategy
NO
YES
Simulation
Frequency
80
60
40
20
0

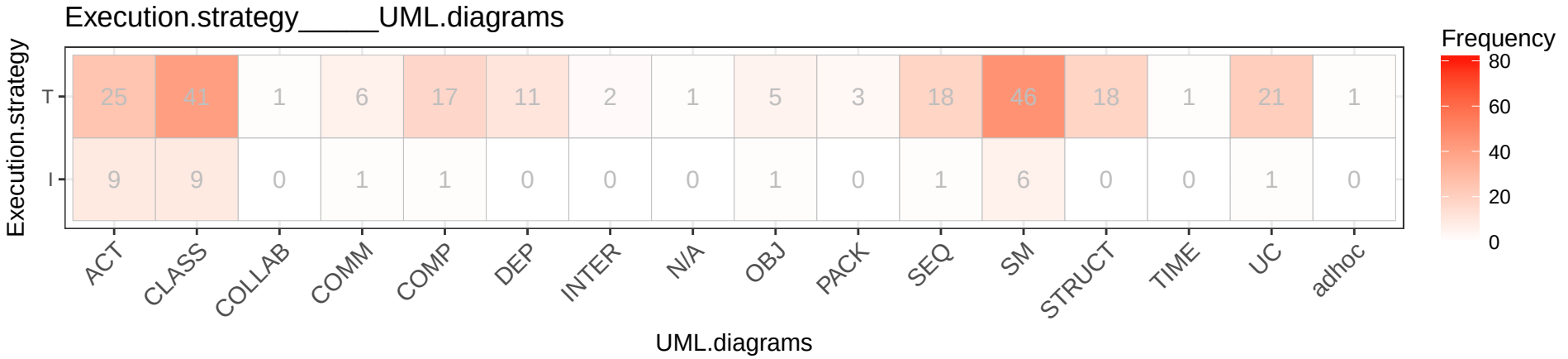

Execution.strategy_____Intended.benefits
T
I
36
1
45
23
12
0
4
3
Execution.strategy
CORRECT
PLATFORM_INDEP
PROD
QUALITY
Intended.benefits
Frequency
80
60
40
20
0

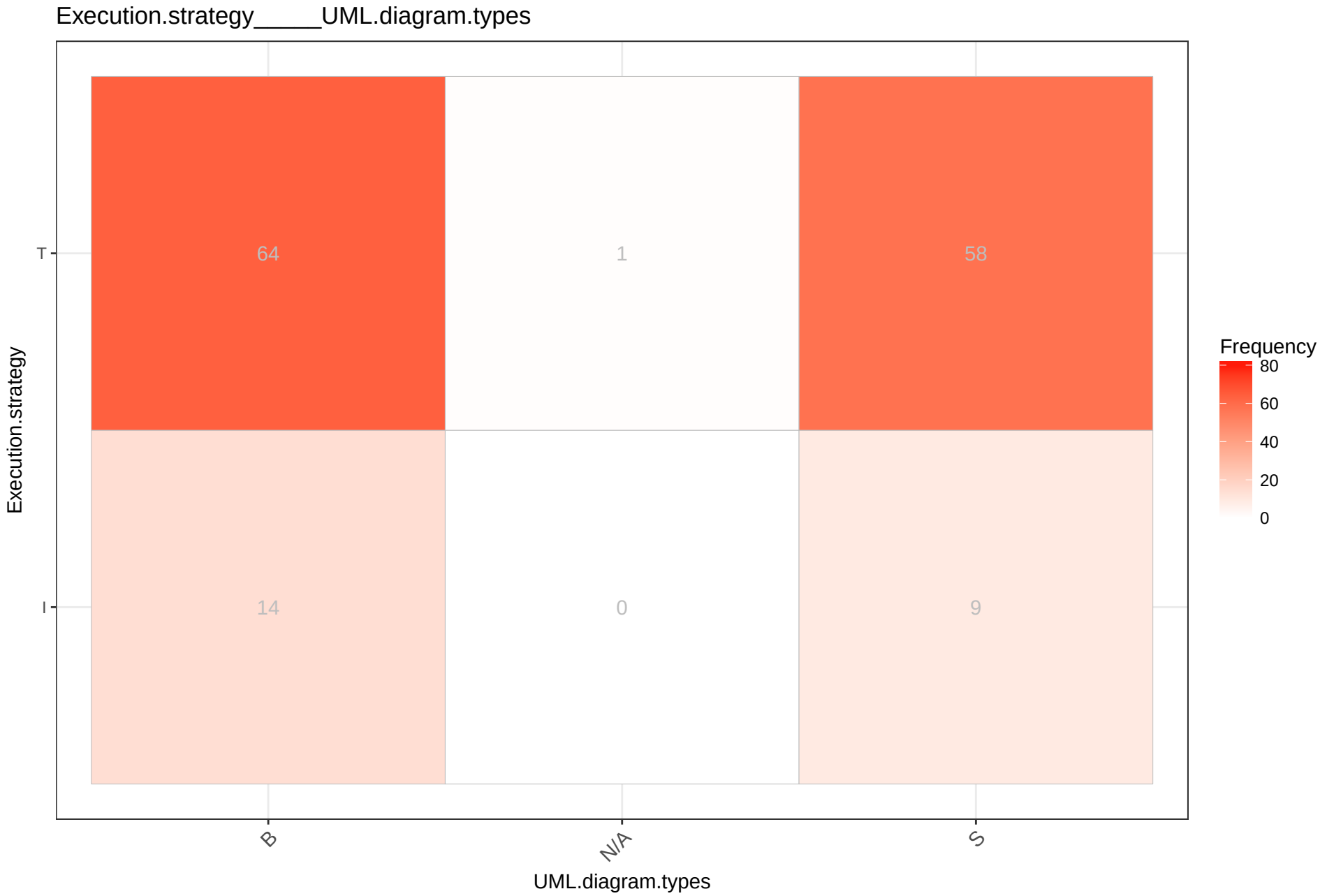

Execution.strategy_____Process
T
I
59
11
12
2
NO
YES
Process
Execution.strategy
Frequency
80
60
40
20
0

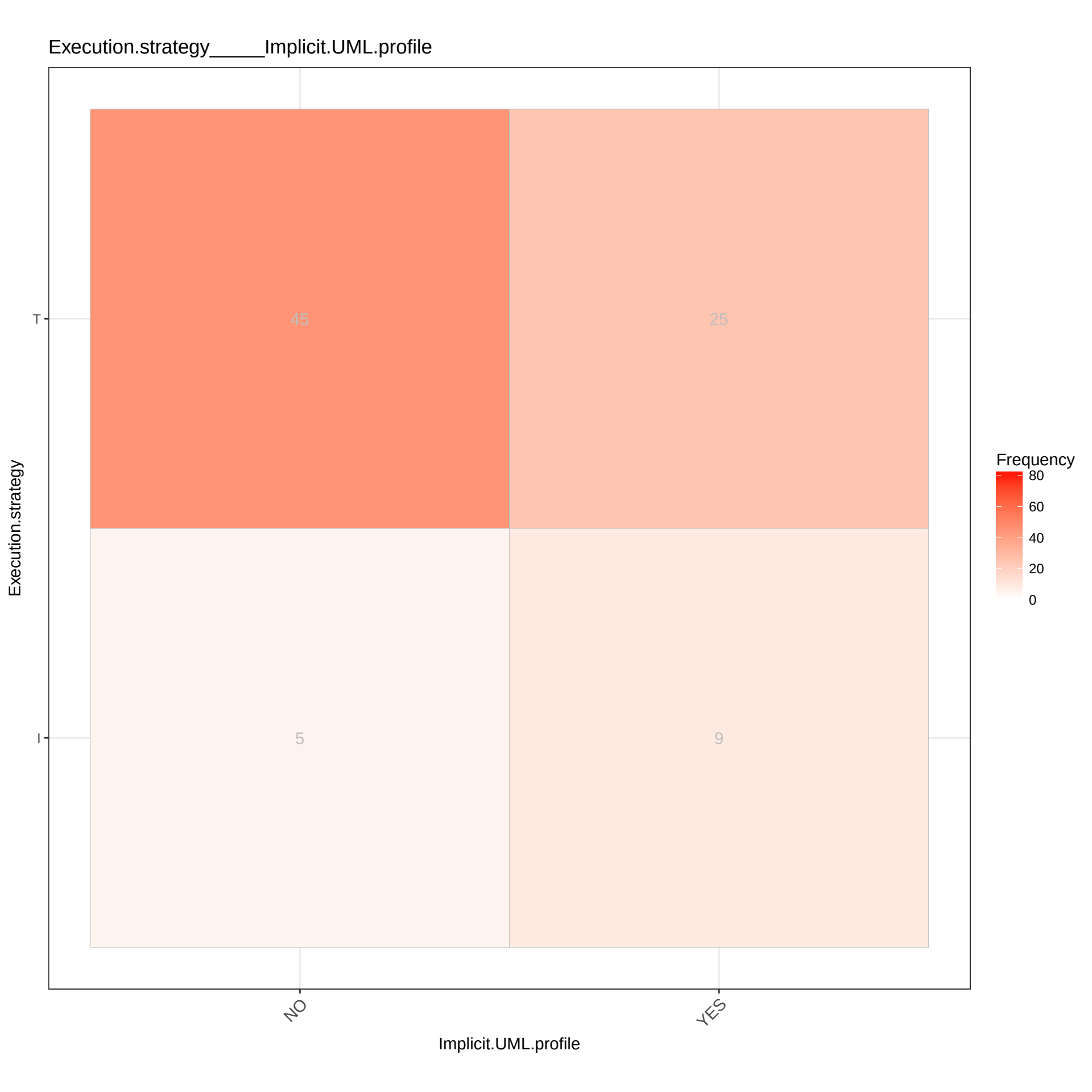

Execution.strategy_____Extensible
54
16
10
4
T
I
Execution.strategy
NO
YES
Extensible
Frequency
80
60
40
20
0

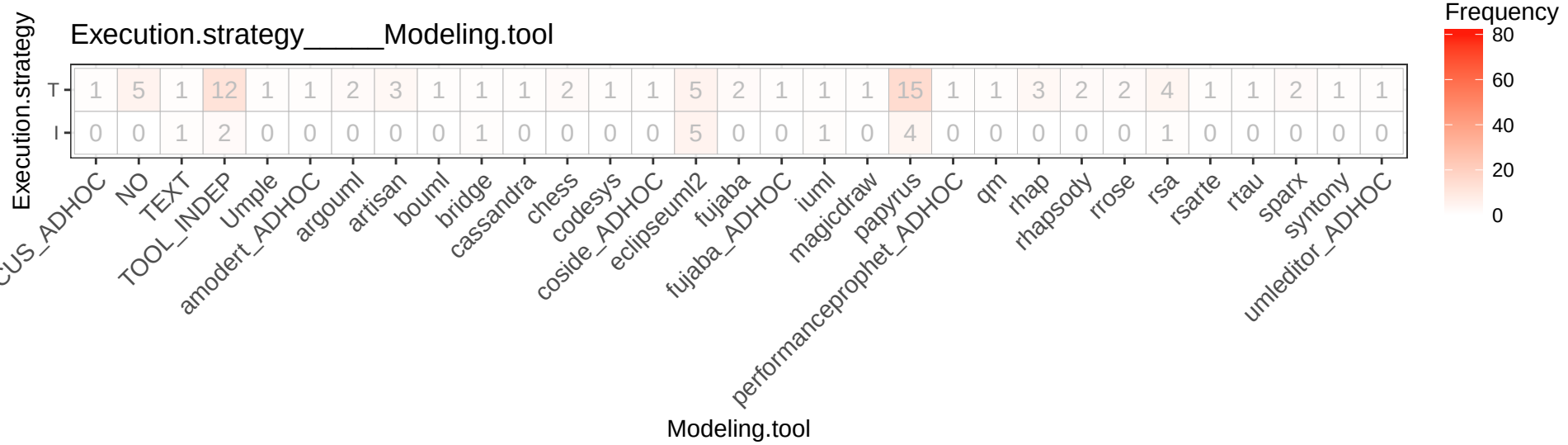

Execution.strategy_____Readiness.level
T
I
14
44
12
2
12
0
HIGH
LOW
MEDIUM
Readiness.level
Execution.strategy
Frequency
80
60
40
20
0

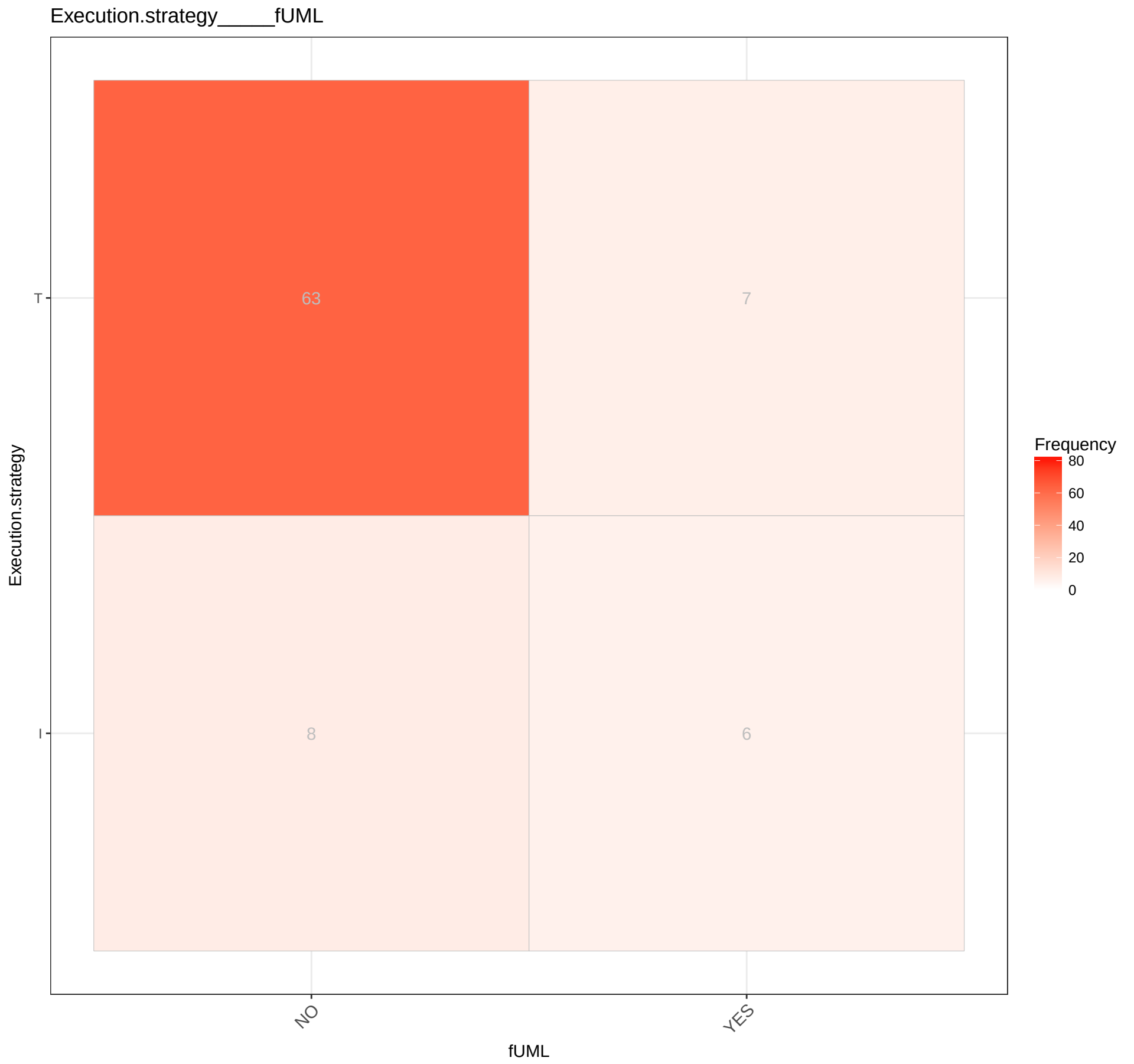

Execution.strategy_____Partial.models
T
I
69
1
14
0
Execution.strategy
NO
YES
Partial.models
Frequency
80
60
40
20
0

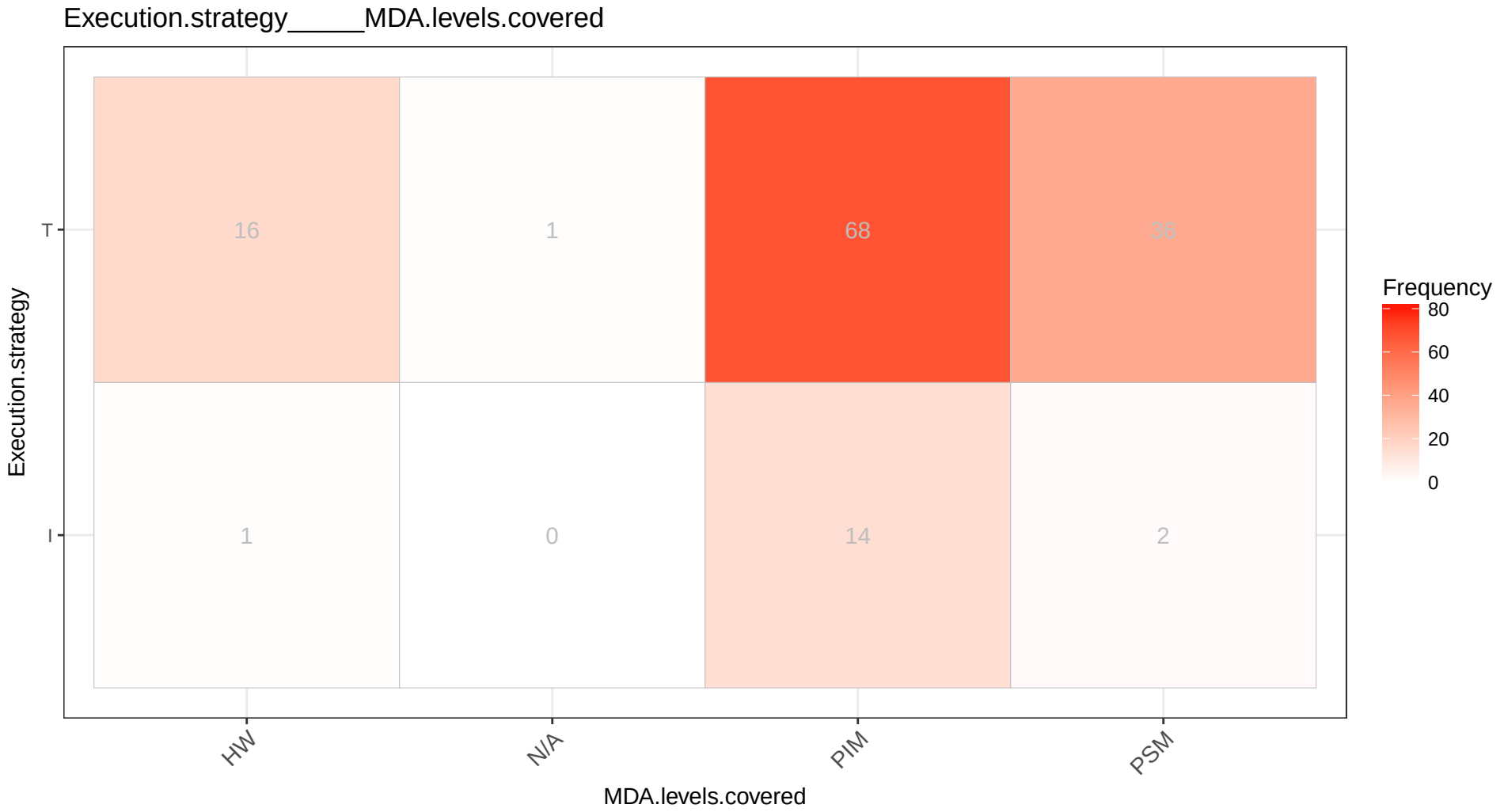

Execution.strategy_____UML.diagrams
Execution.strategy
T
I
25
41
1
6
17
11
2
1
5
3
18
46
18
1
21
1
9
9
0
1
1
0
0
0
1
0
1
6
0
0
1
0
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

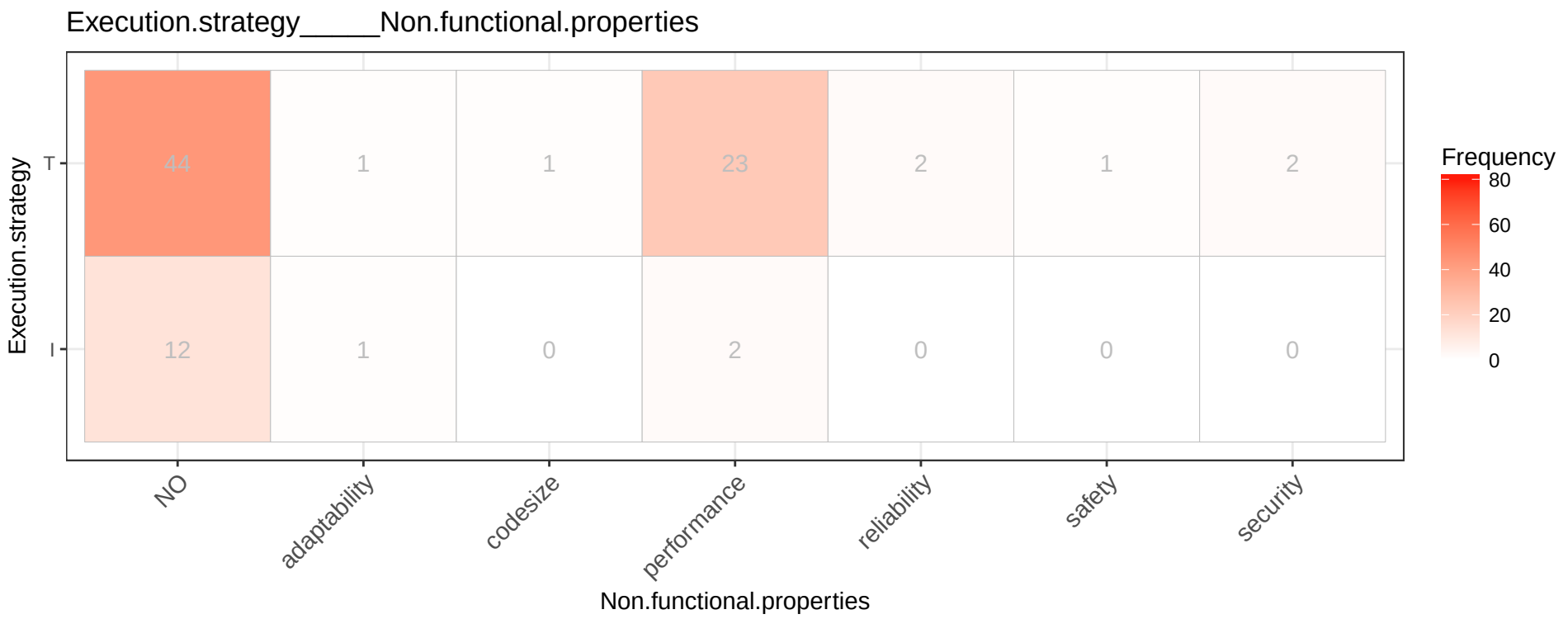

Execution.strategy_____UML.diagram.types
64
1
58
14
0
9
T
I
Execution.strategy
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

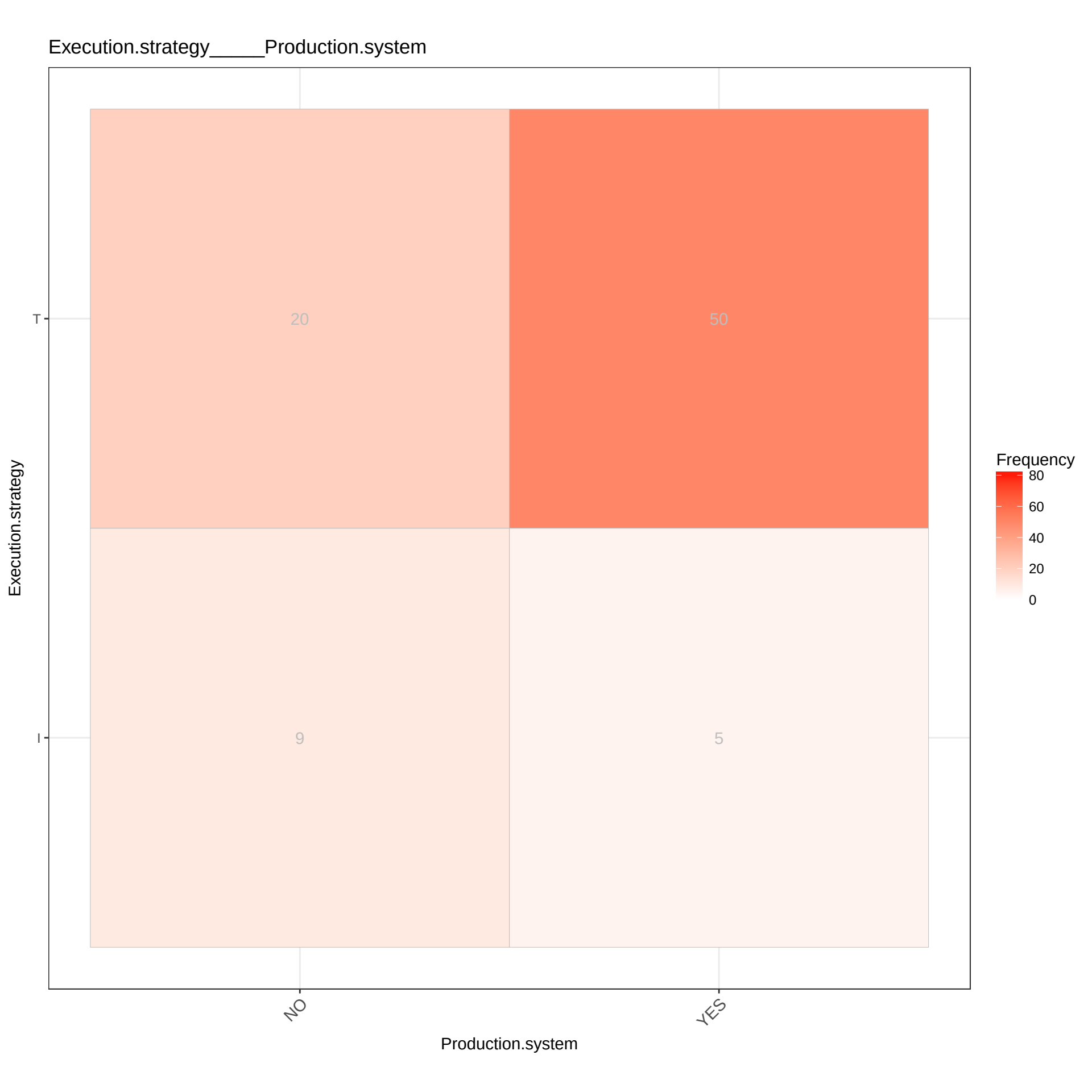

Execution.strategy_____Implicit.UML.profile
T
I
45
25
5
9
Execution.strategy
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

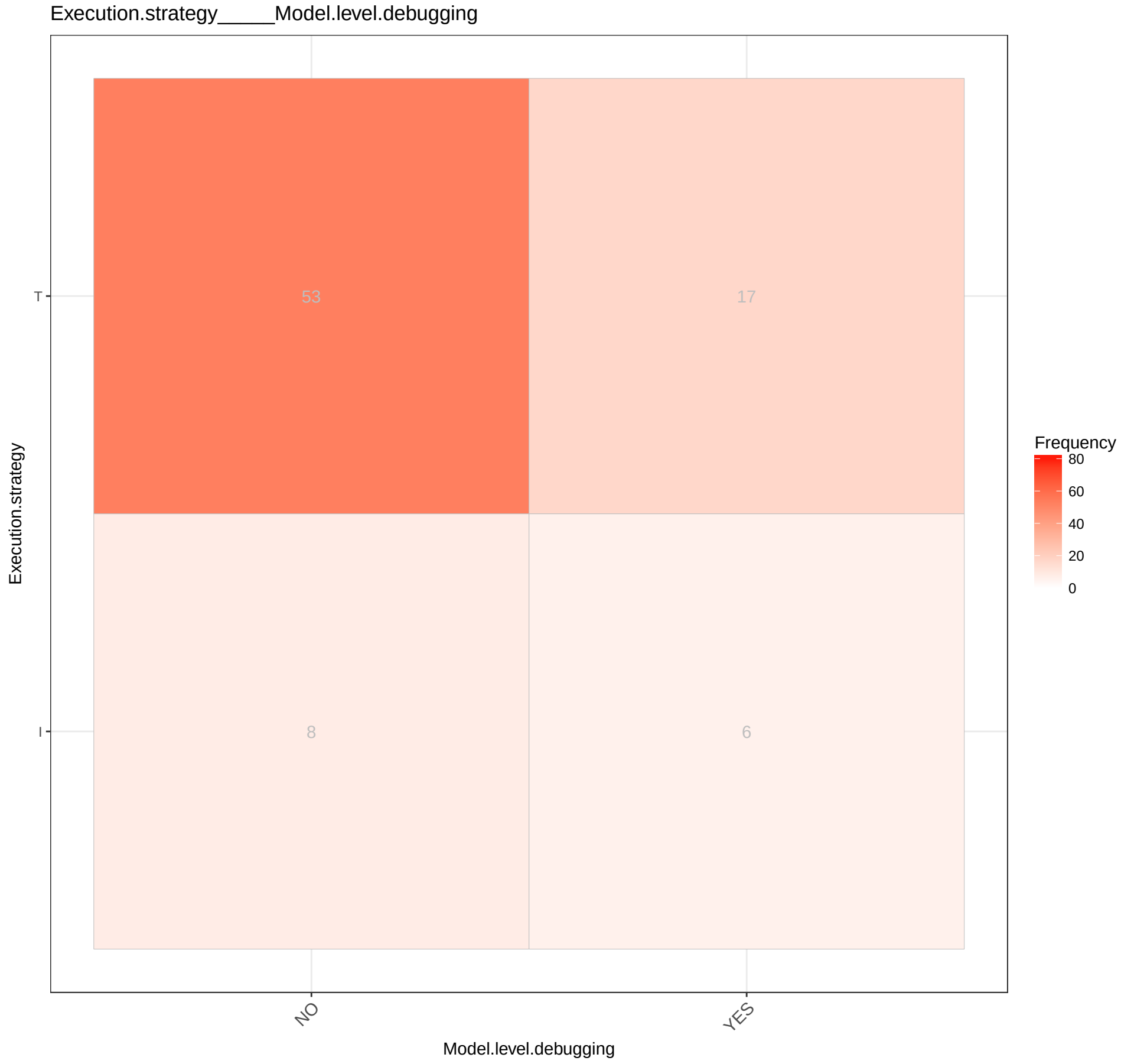

Execution.strategy_____Modeling.tool
Execution.strategy
T
I
1 5 1 12 1 1 2 3 1 1 1 2 1 1 5 2 1 1 1 15 1 1 3 2 2 4 1 1 2 1 1
0 0 1 2 0 0 0 0 0 1 0 0 0 0 5 0 0 1 0 4 0 0 0 0 0 1 0 0 0 0 0
CUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

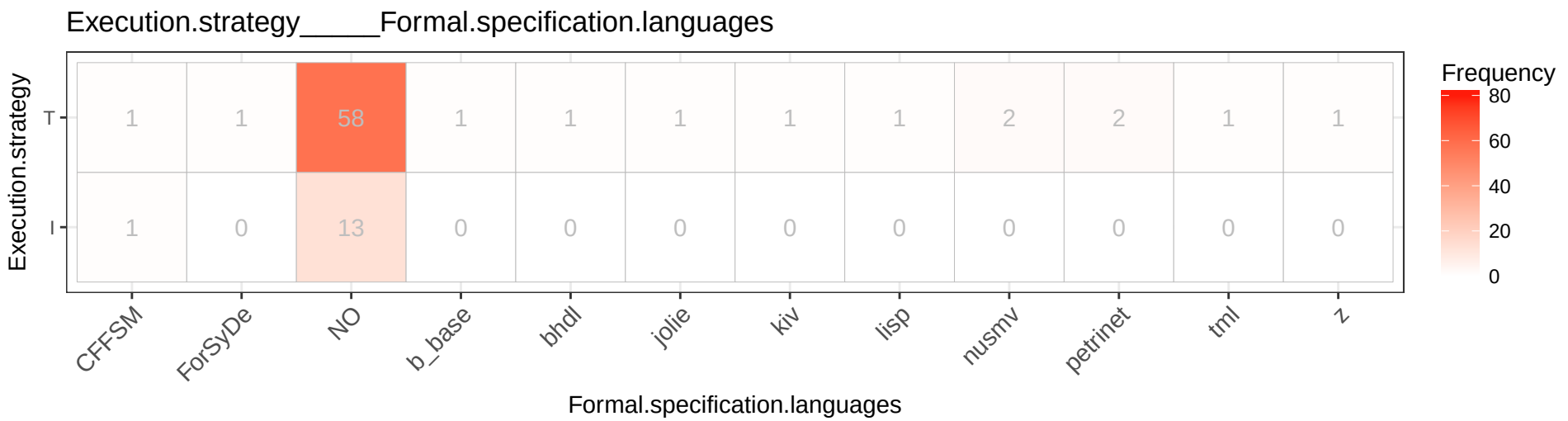

Execution.strategy_____fUML
63
7
8
6
T
I
Execution.strategy
NO
YES
fUML
Frequency
80
60
40
20
0

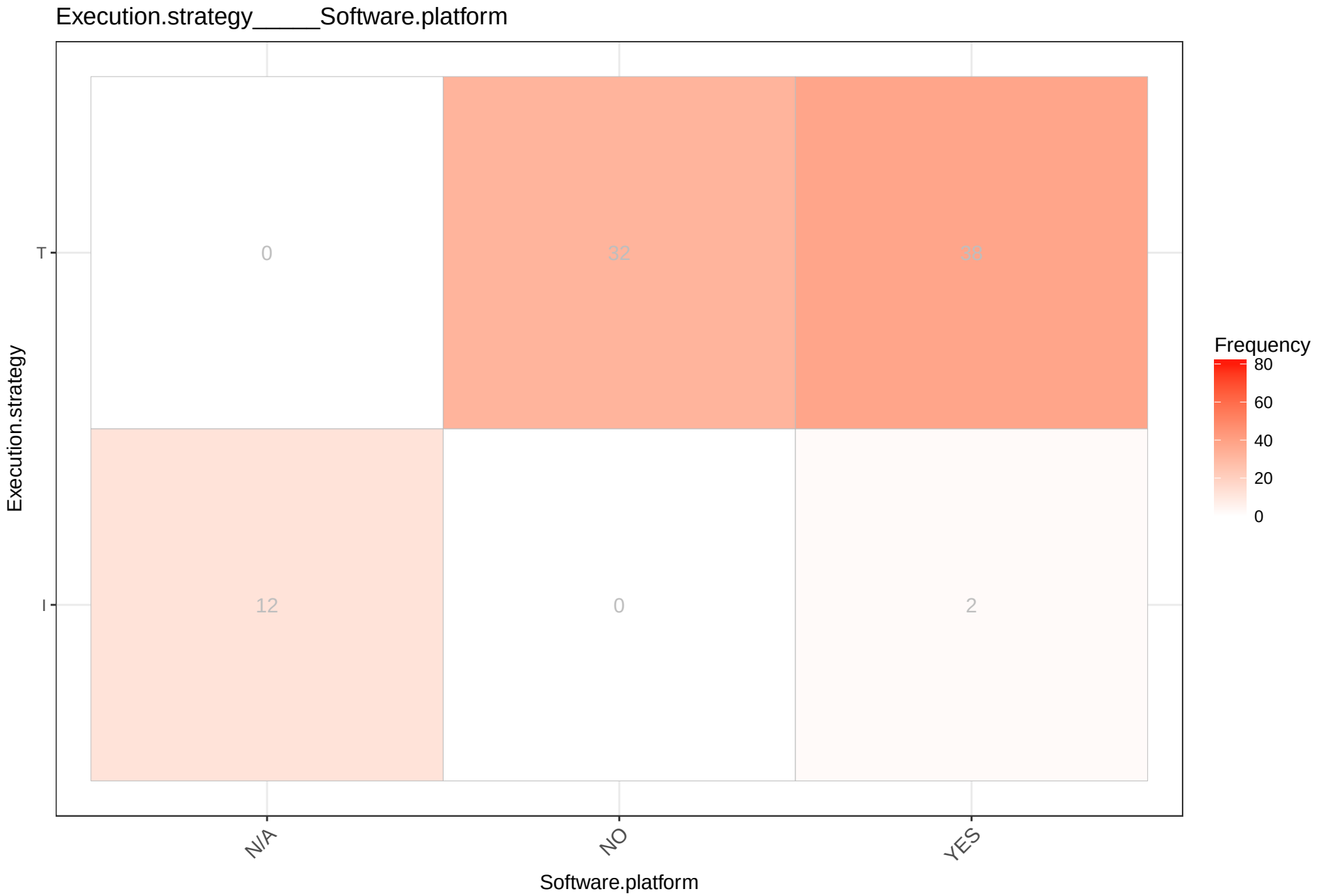

Execution.strategy_____MDA.levels.covered
Execution.strategy
T
I
16
1
68
36
1
0
14
2
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

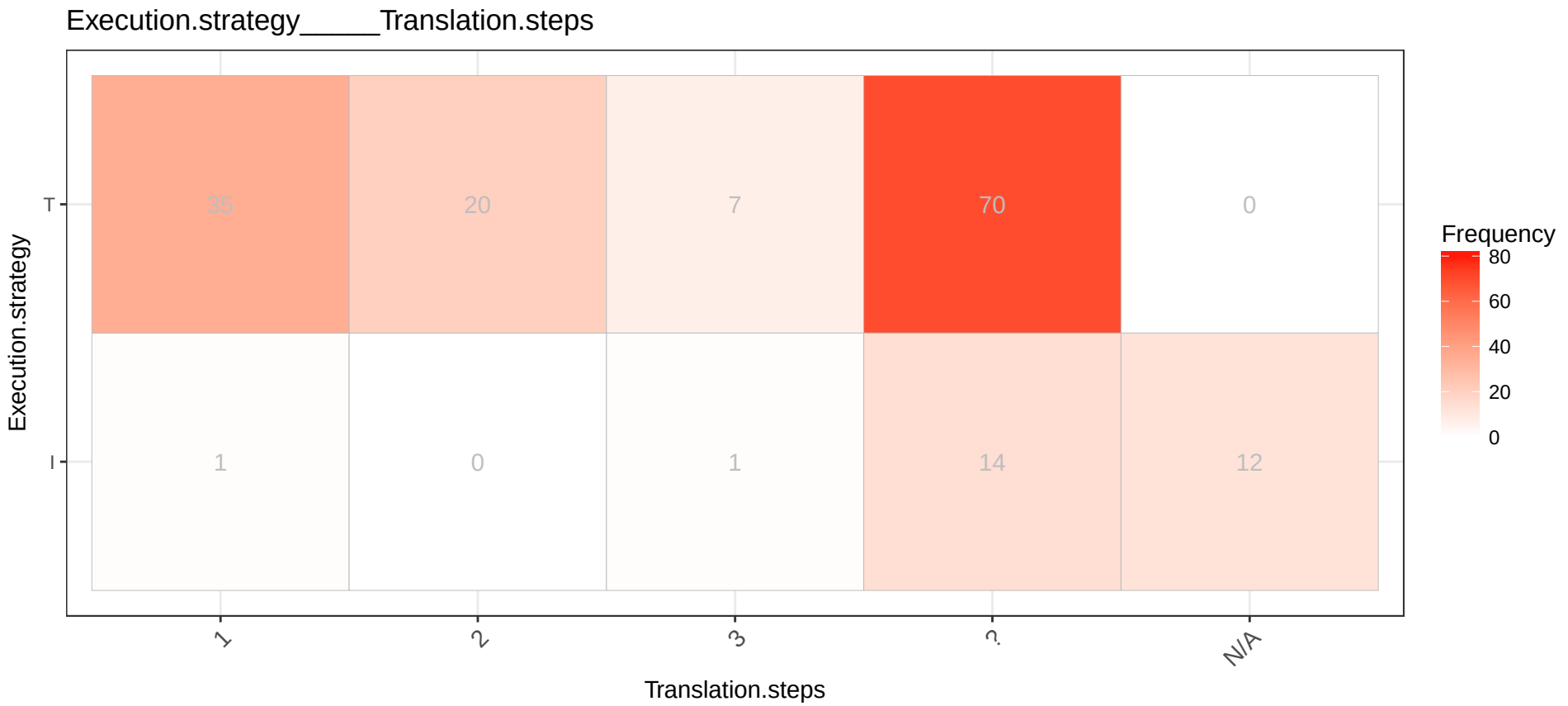

Execution.strategy_____Non.functional.properties
Execution.strategy
T
I
44
1
1
23
2
1
2
12
1
0
2
0
0
0
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

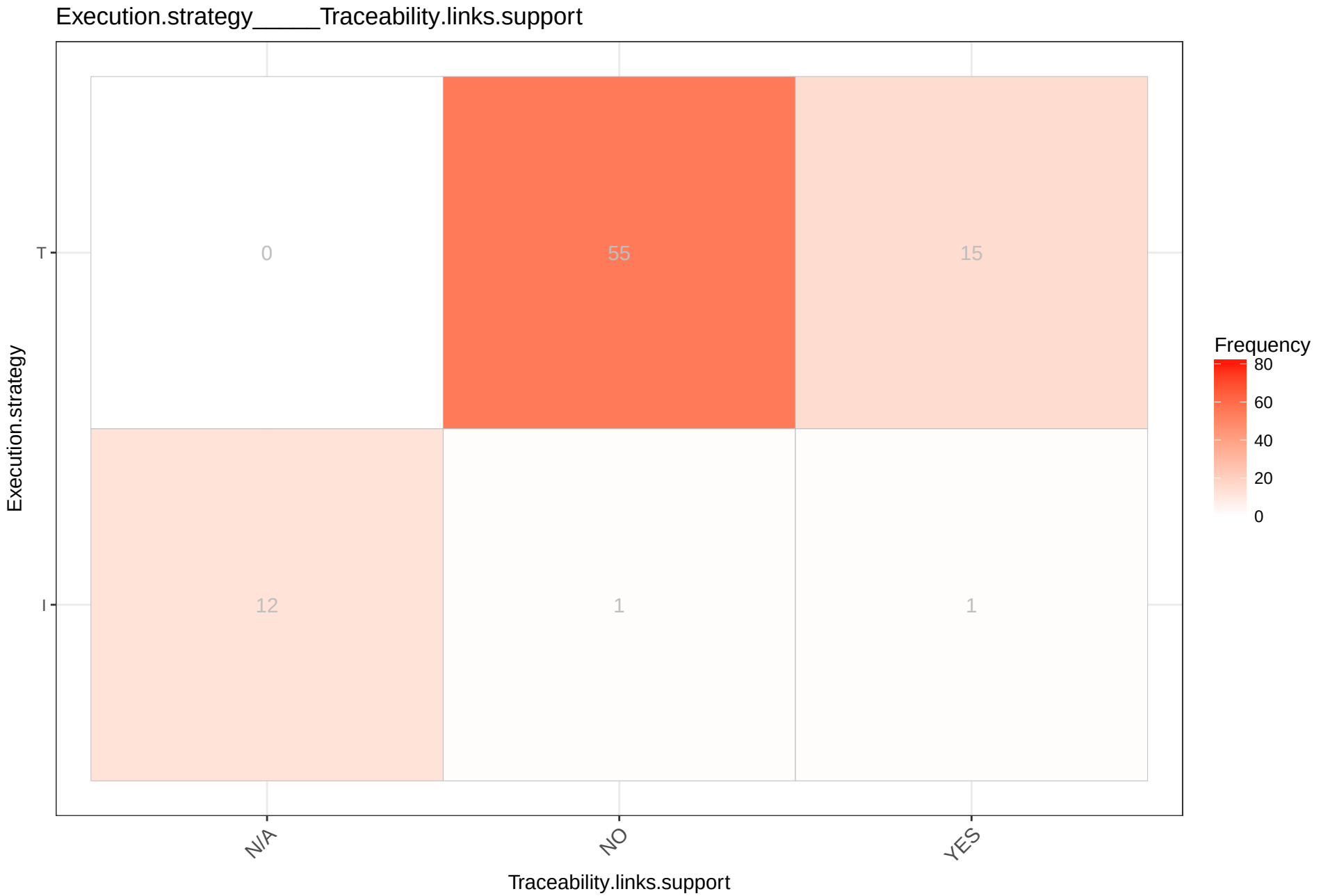

Execution.strategy_____Production.system
T
I
20
50
9
5
Execution.strategy
NO
YES
Production.system
Frequency
80
60
40
20
0

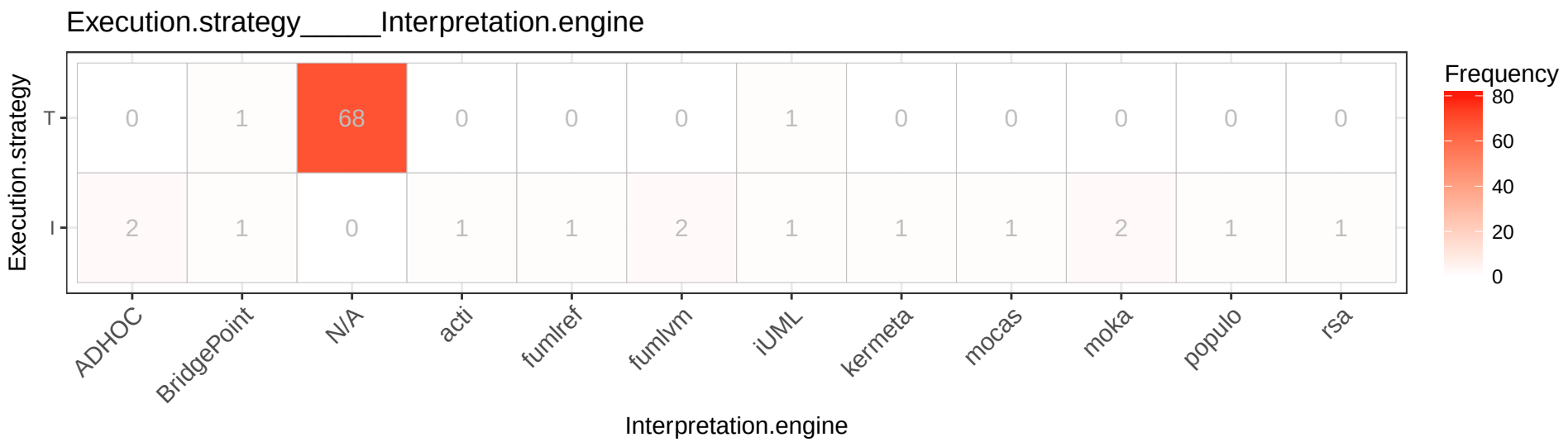

Execution.strategy_____Model.level.debugging
T
I
53
17
8
6
Execution.strategy
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

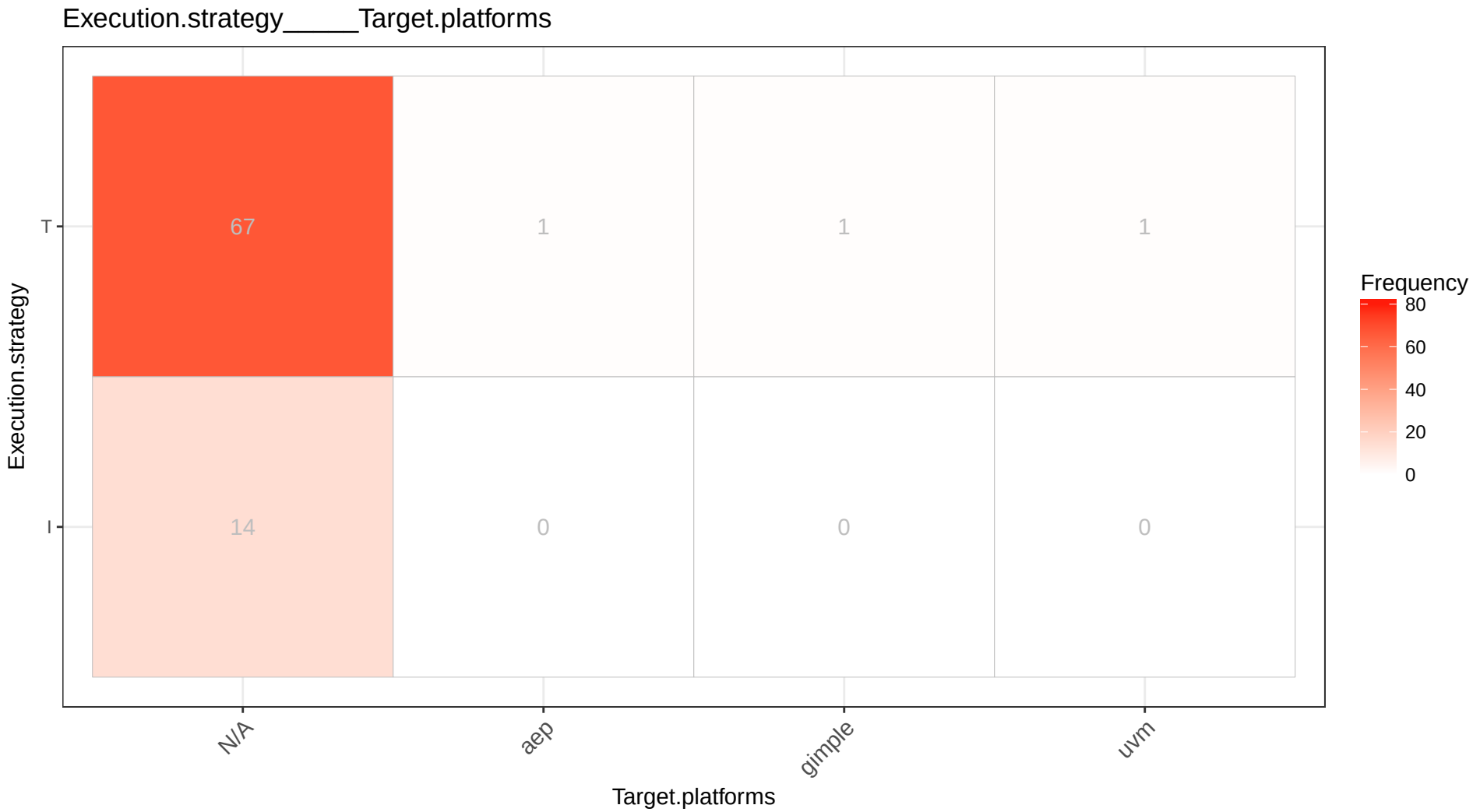

Execution.strategy_____Formal.specification.languages
Execution.strategy
T
I
1
1
58
1
1
1
1
1
2
2
1
1
1
0
13
0
0
0
0
0
0
0
0
0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

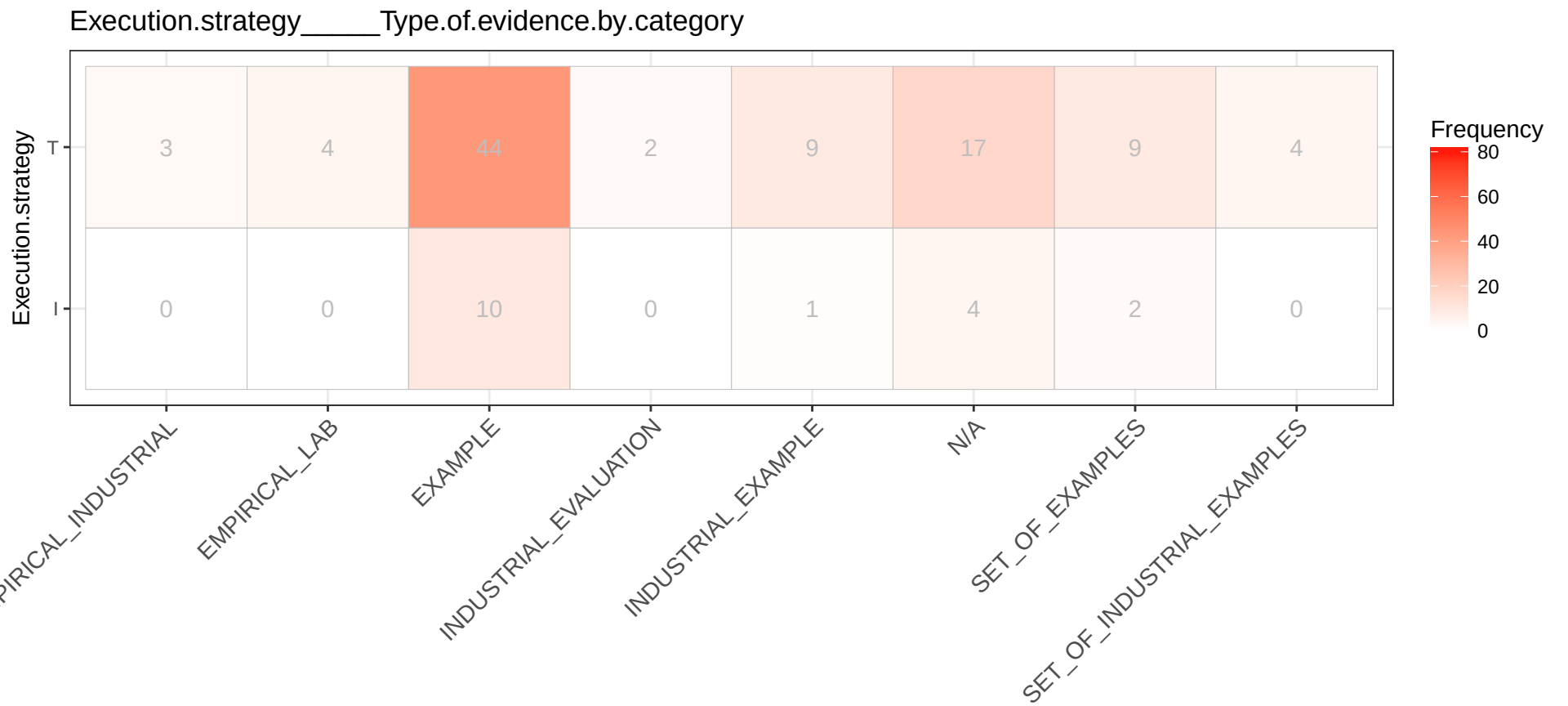

Execution.strategy_____Software.platform
T
I
0
32
38
12
0
2
Execution.strategy
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

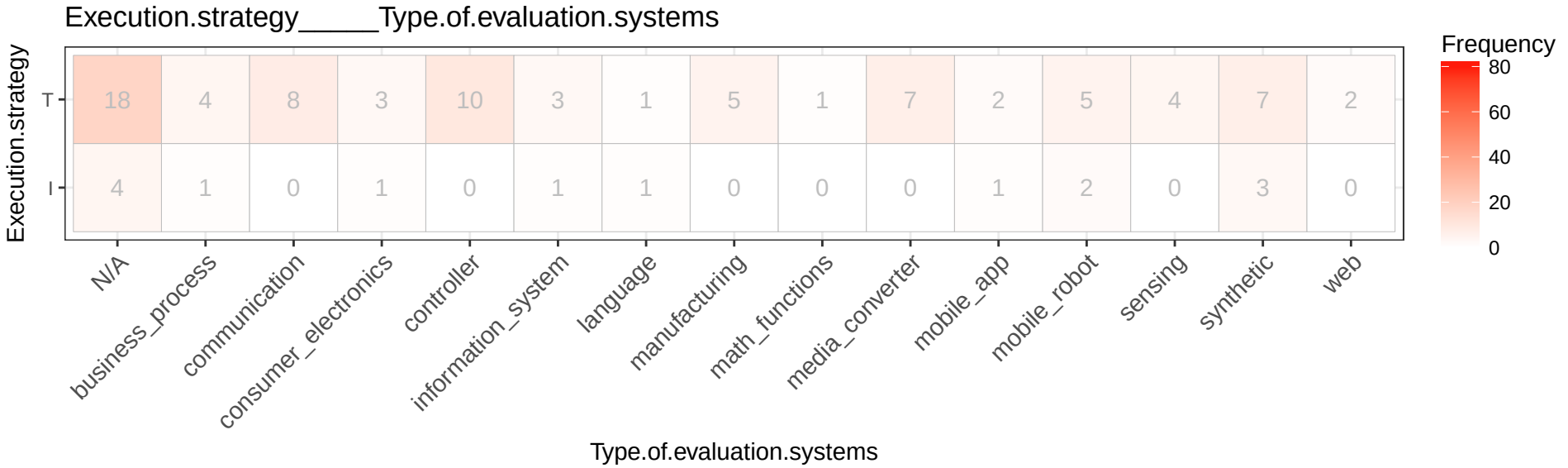

Execution.strategy_____Translation.steps
Execution.strategy
T
I
35
20
7
70
0
1
0
1
14
12
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

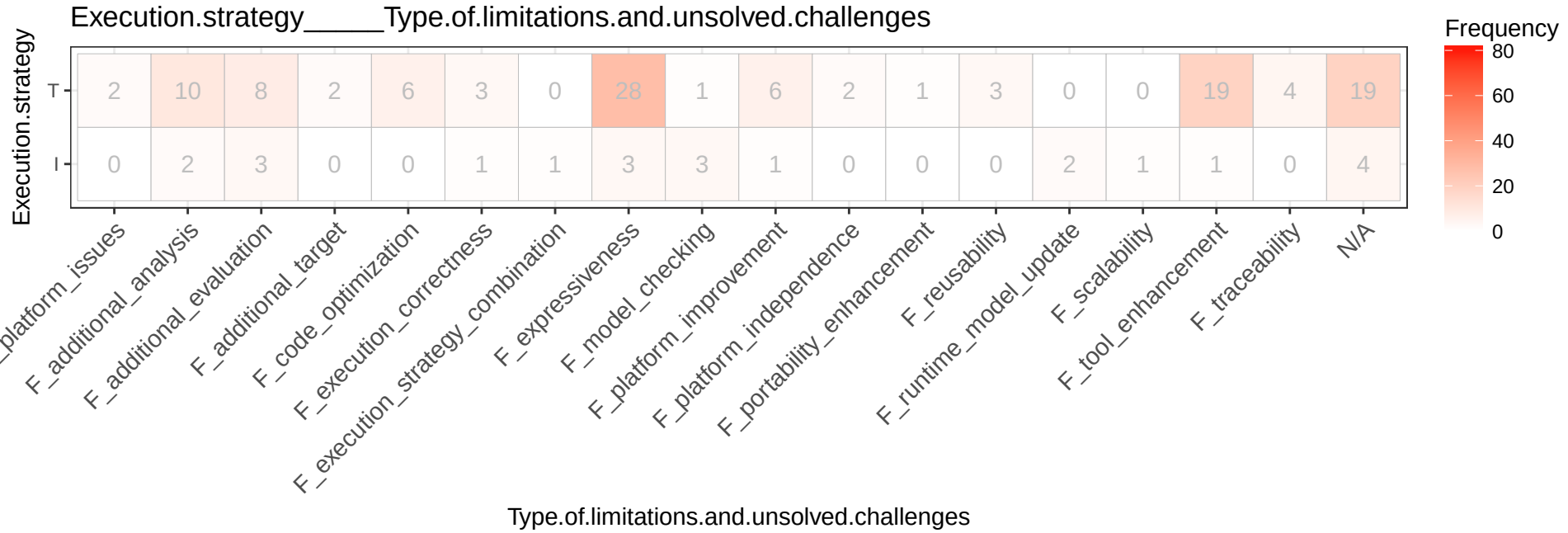

Execution.strategy_____Traceability.links.support
0
55
15
12
1
1
T
I
Execution.strategy
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

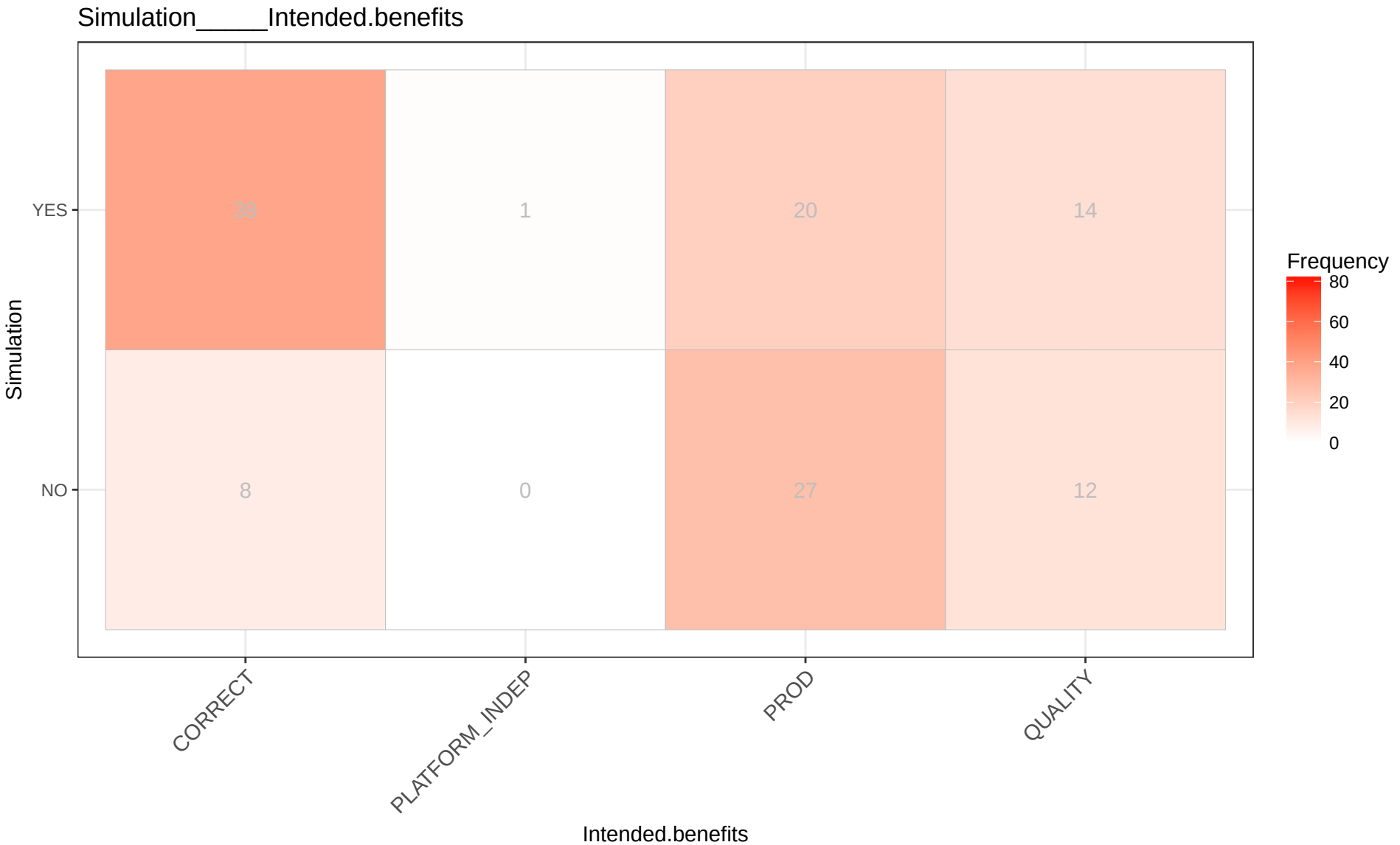

Execution.strategy_____Interpretation.engine
Execution.strategy
T
I
0
1
68
0
0
0
1
0
0
0
0
0
2
1
0
1
1
2
1
1
1
2
1
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

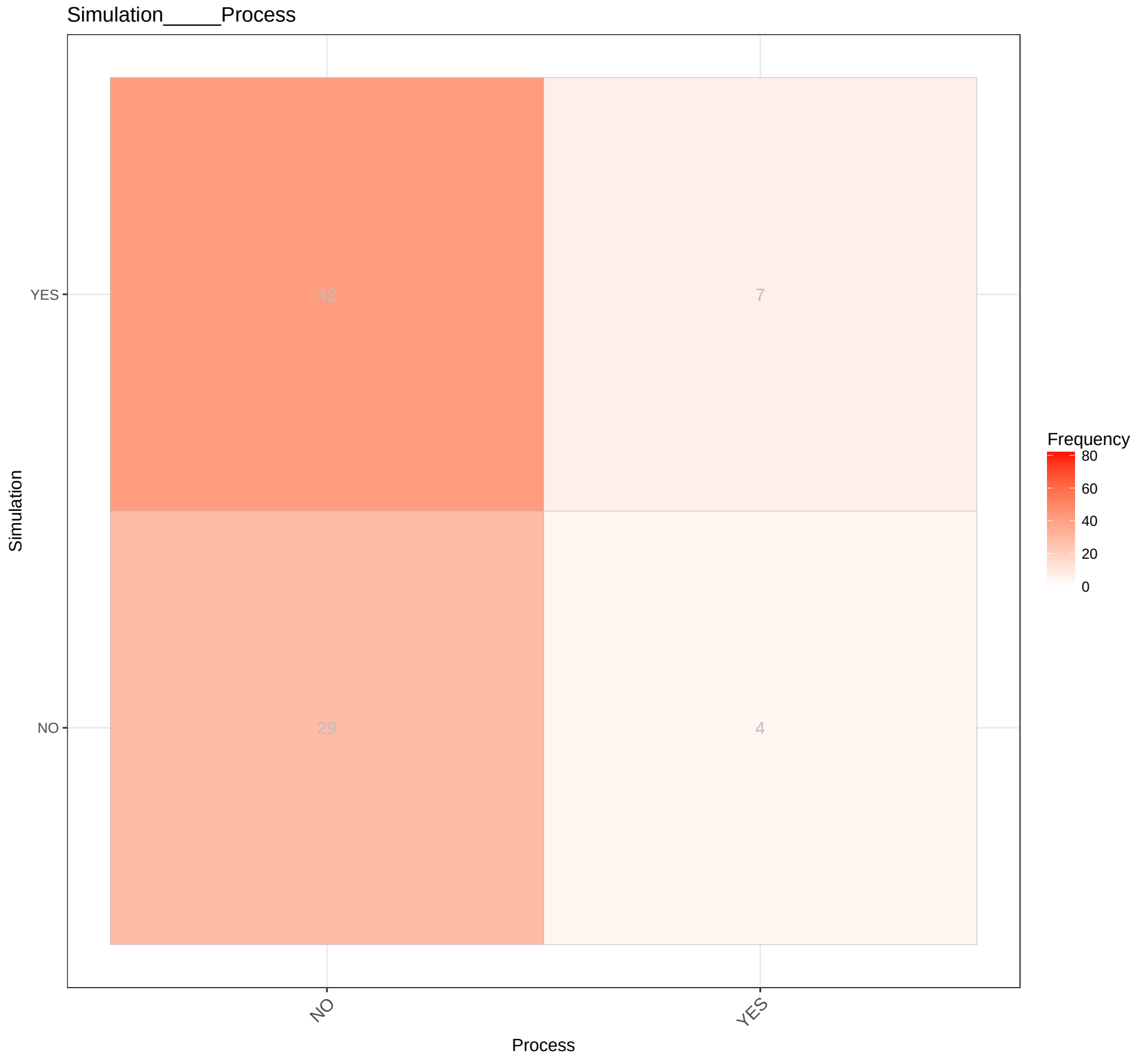

Execution.strategy_____Target.platforms
Execution.strategy
T
I
67
1
1
1
14
0
0
0
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

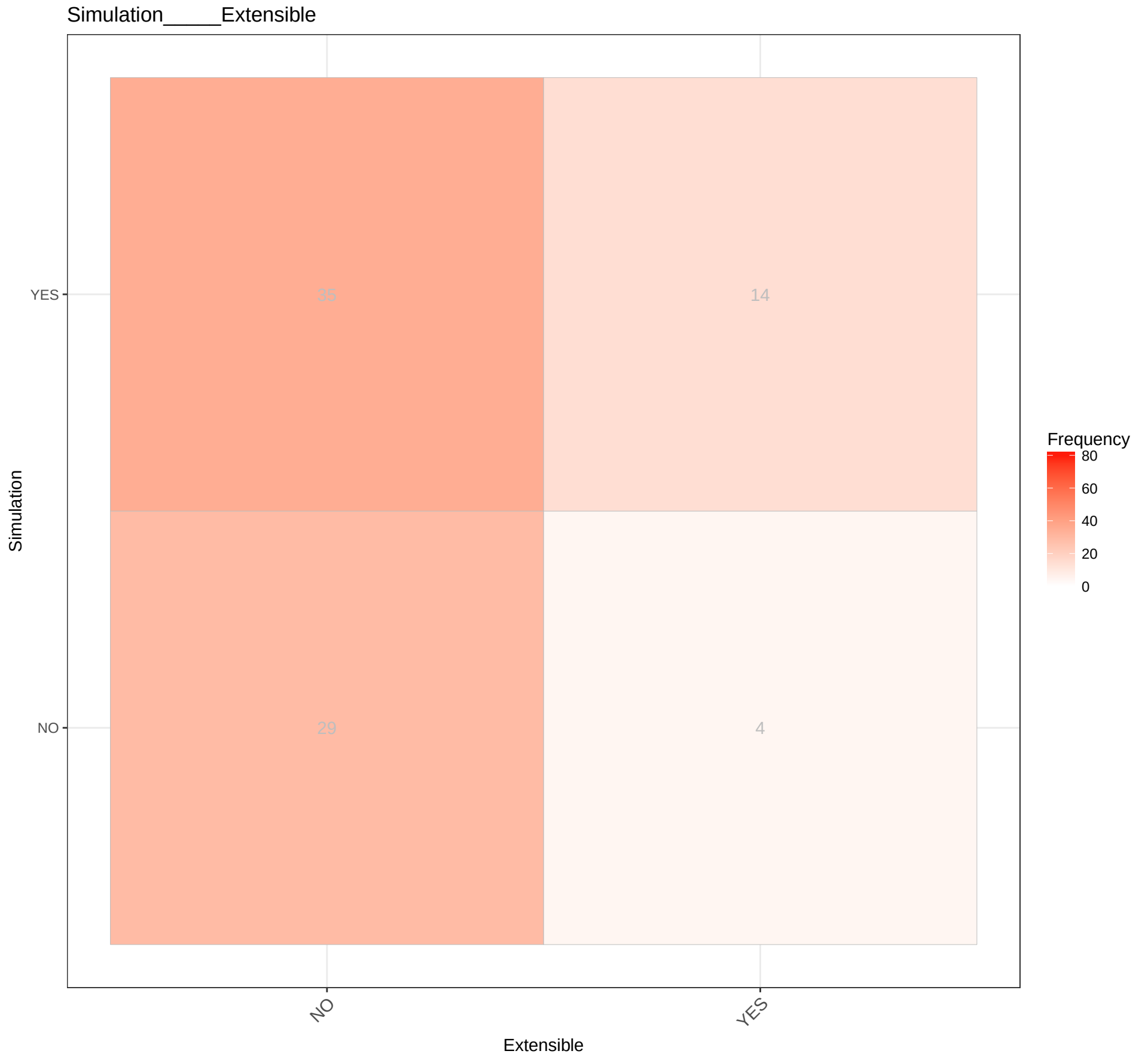

Execution.strategy_____Type.of.evidence.by.category
Execution.strategy
T
I
3
4
44
2
9
17
9
4
0
0
10
0
1
4
2
0
Frequency
80
60
40
20
0
PIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category

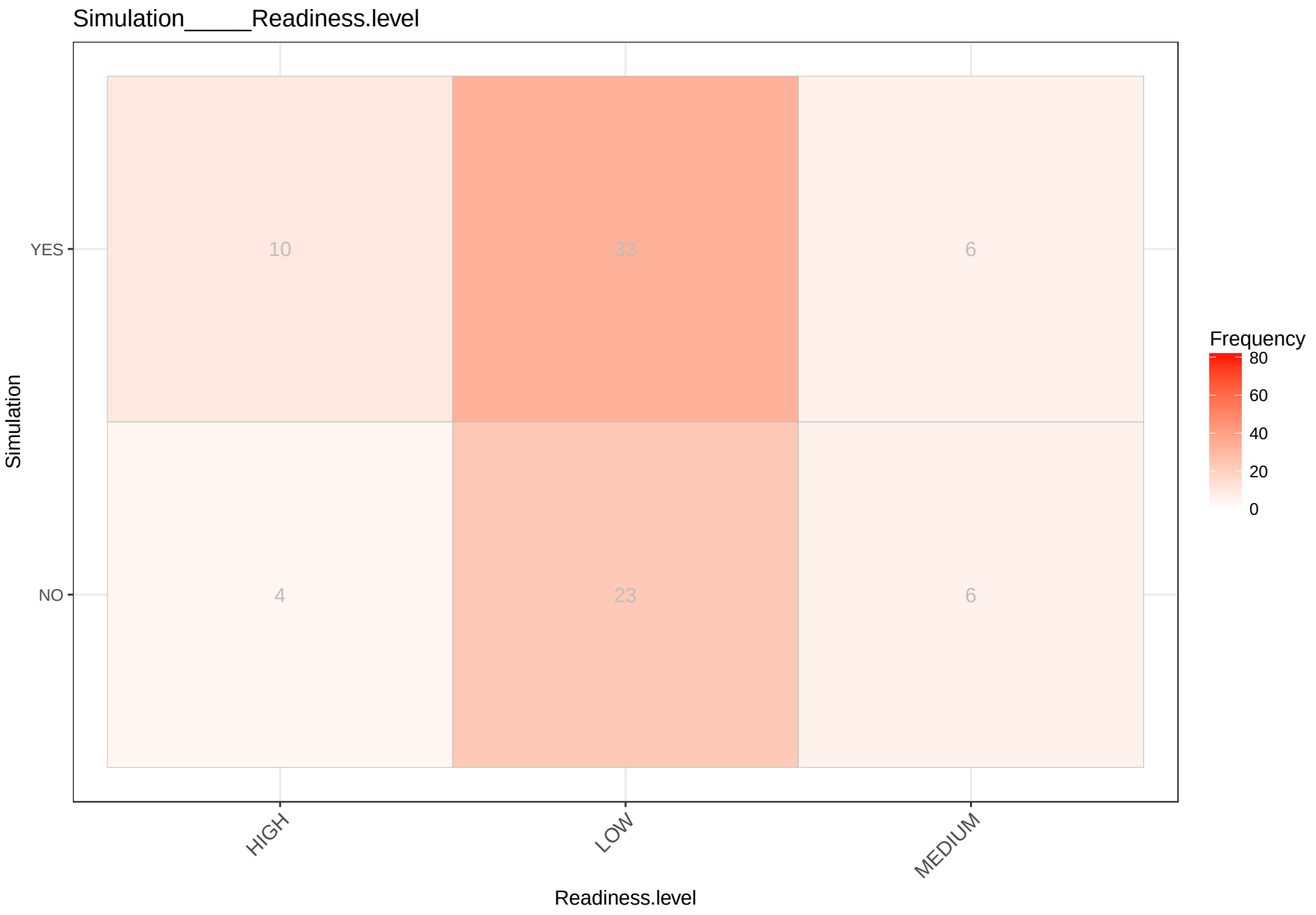

Execution.strategy_____Type.of.evaluation.systems
Execution.strategy
T
I
18 4 8 3 10 3 1 5 1 7 2 5 4 7 2
4 1 0 1 0 1 1 0 0 0 1 2 0 3 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

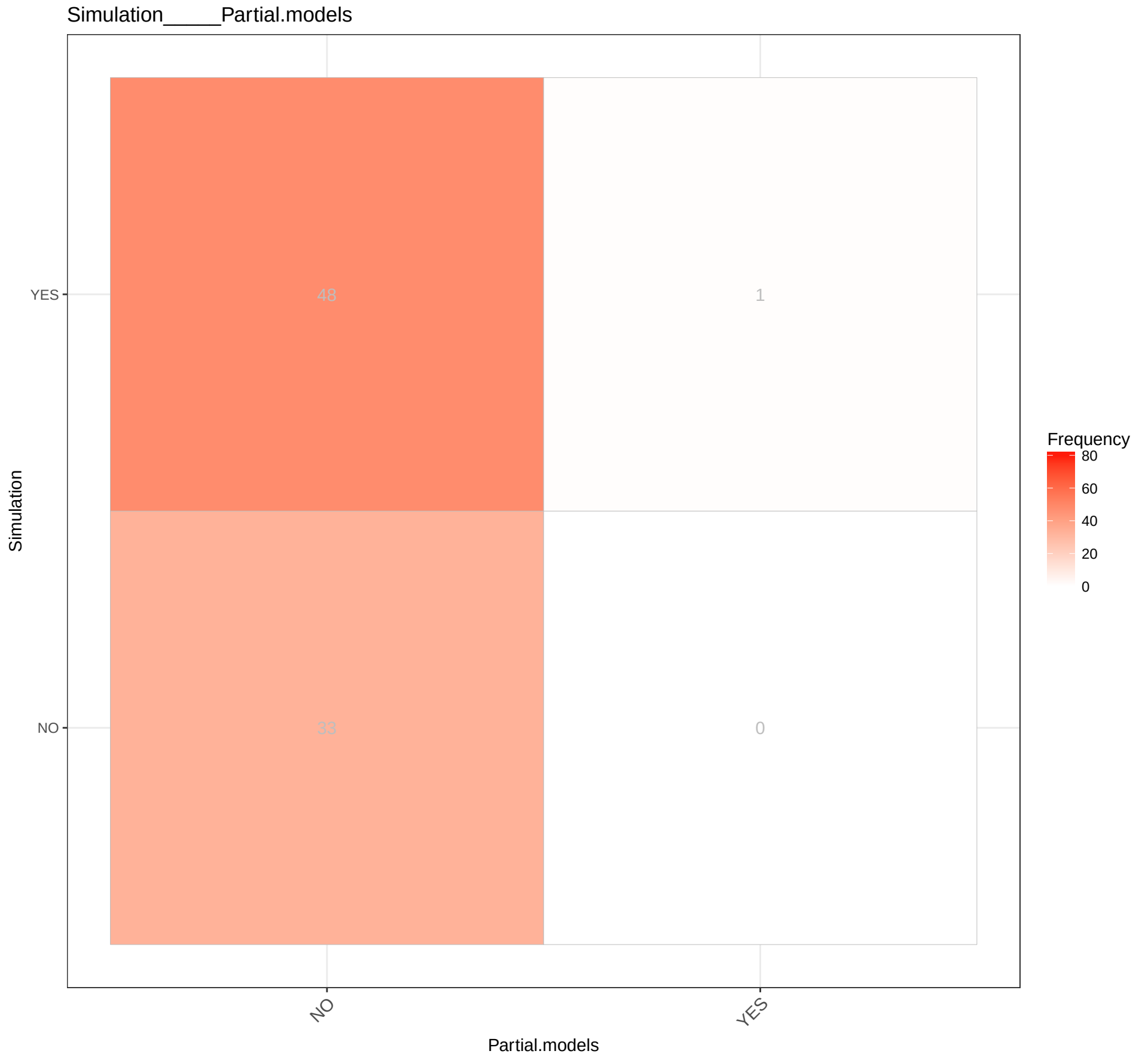

Execution.strategy_____Type.of.limitations.and.unsolved.challenges
Execution.strategy
T
I
2 10 8 2 6 3 0 28 1 6 2 1 3 0 0 19 4 19
0 2 3 0 0 1 1 3 3 1 0 0 0 2 1 1 0 4
_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

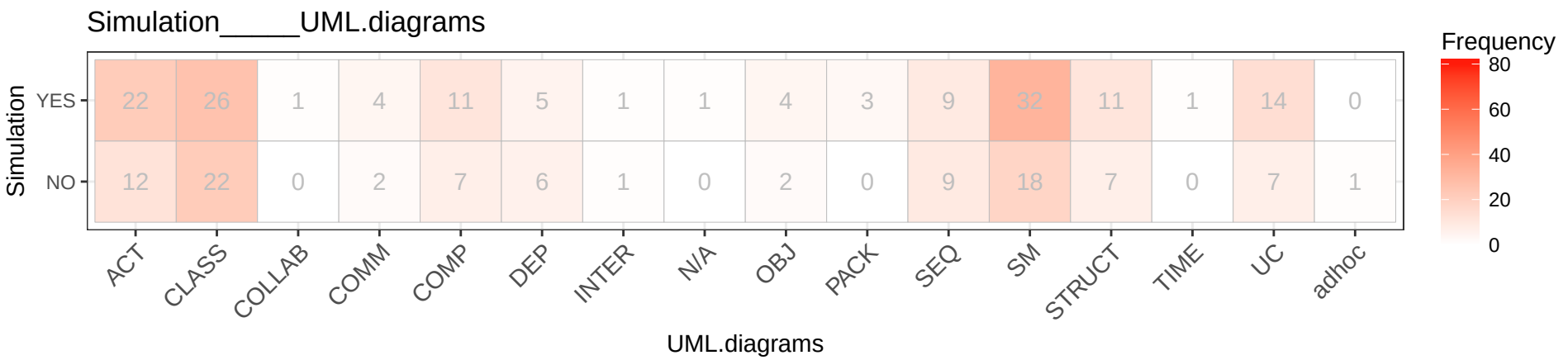

Simulation_____Intended.benefits
YES
NO
Simulation
38
1
20
14
8
0
27
12
CORRECT
PLATFORM_INDEP
PROD
QUALITY
Intended.benefits
Frequency
80
60
40
20
0

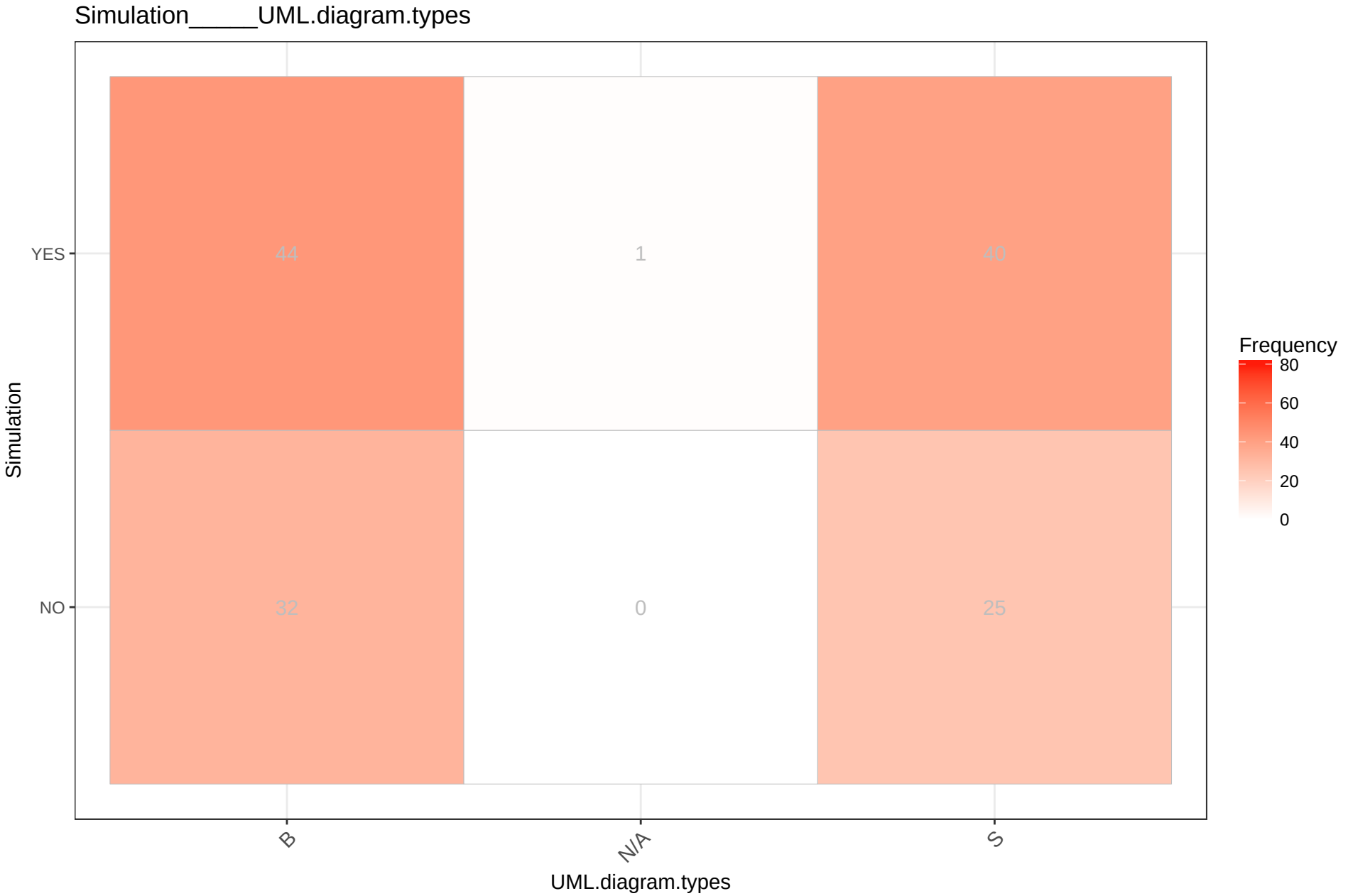

Simulation_____Process
YES
NO
42
7
29
4
Simulation
NO
YES
Process
Frequency
80
60
40
20
0

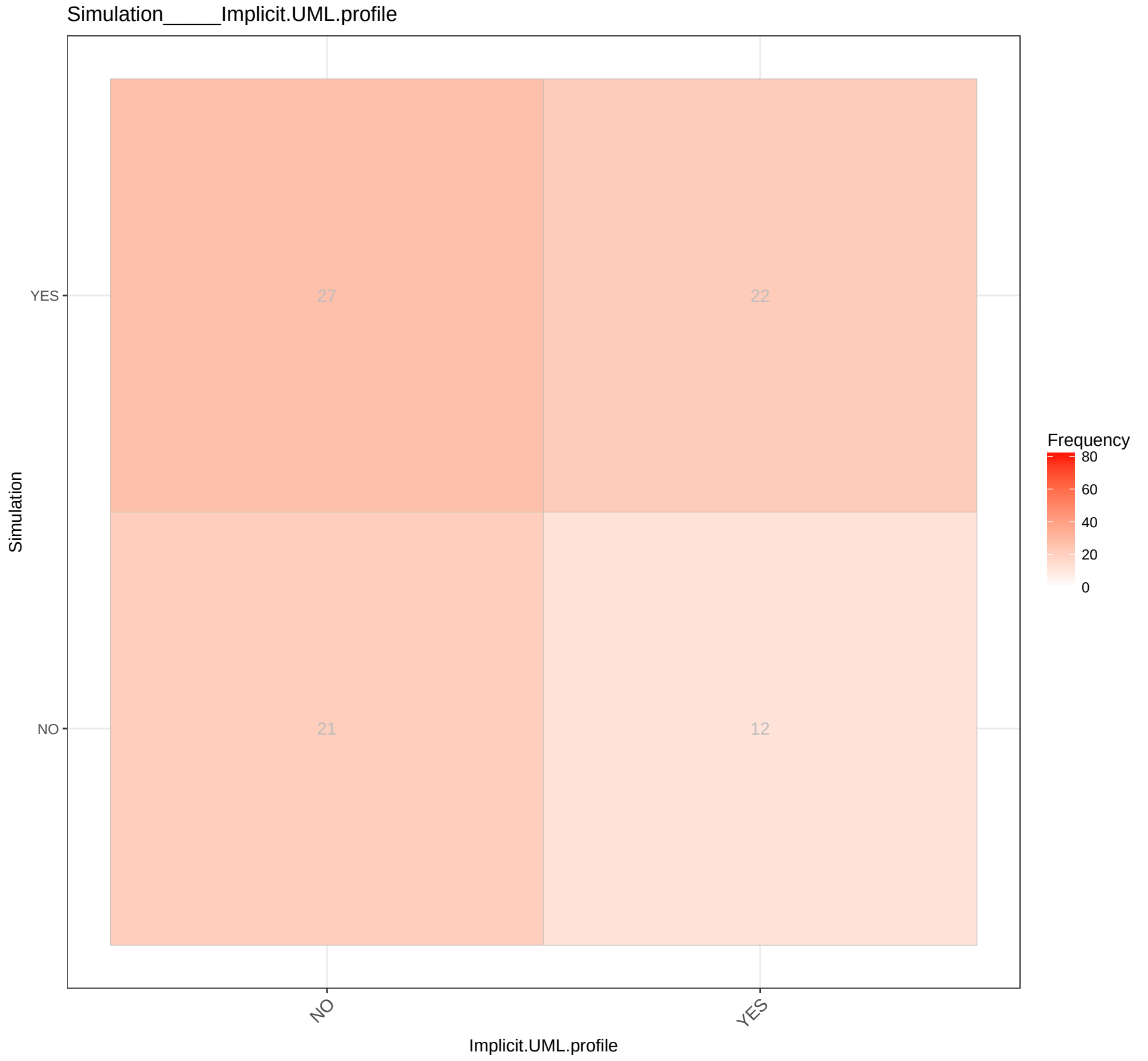

Simulation_____Extensible
YES
NO
35
14
29
4
Simulation
NO
YES
Extensible
Frequency
80
60
40
20
0

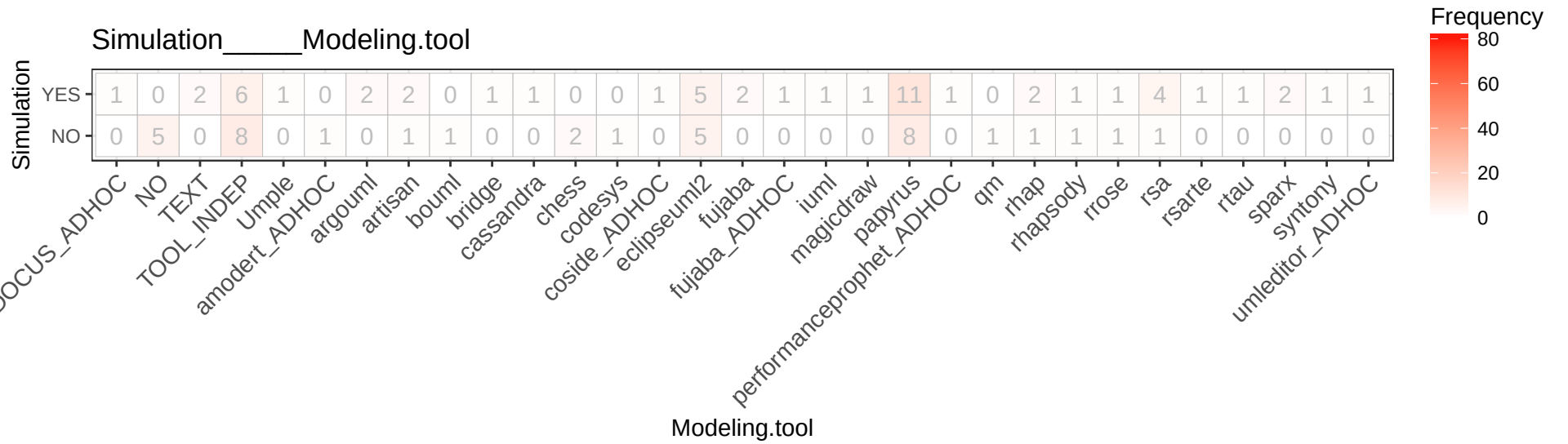

Simulation_____Readiness.level
YES
NO
10
33
6
4
23
6
Simulation
HIGH
LOW
MEDIUM
Readiness.level
Frequency
80
60
40
20
0

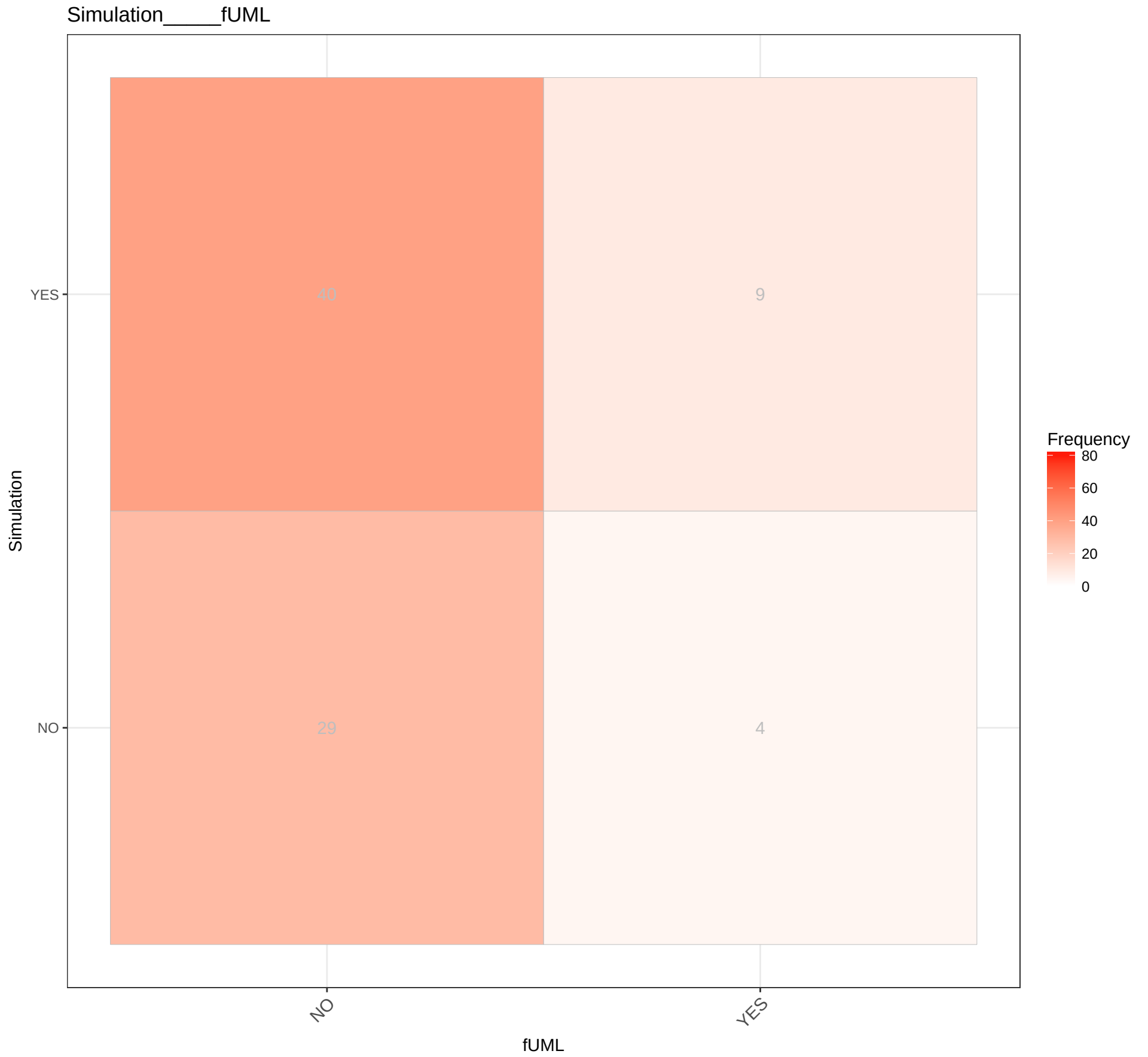

Simulation_____Partial.models
YES
NO
48
1
33
0
Simulation
NO
YES
Partial.models
Frequency
80
60
40
20
0

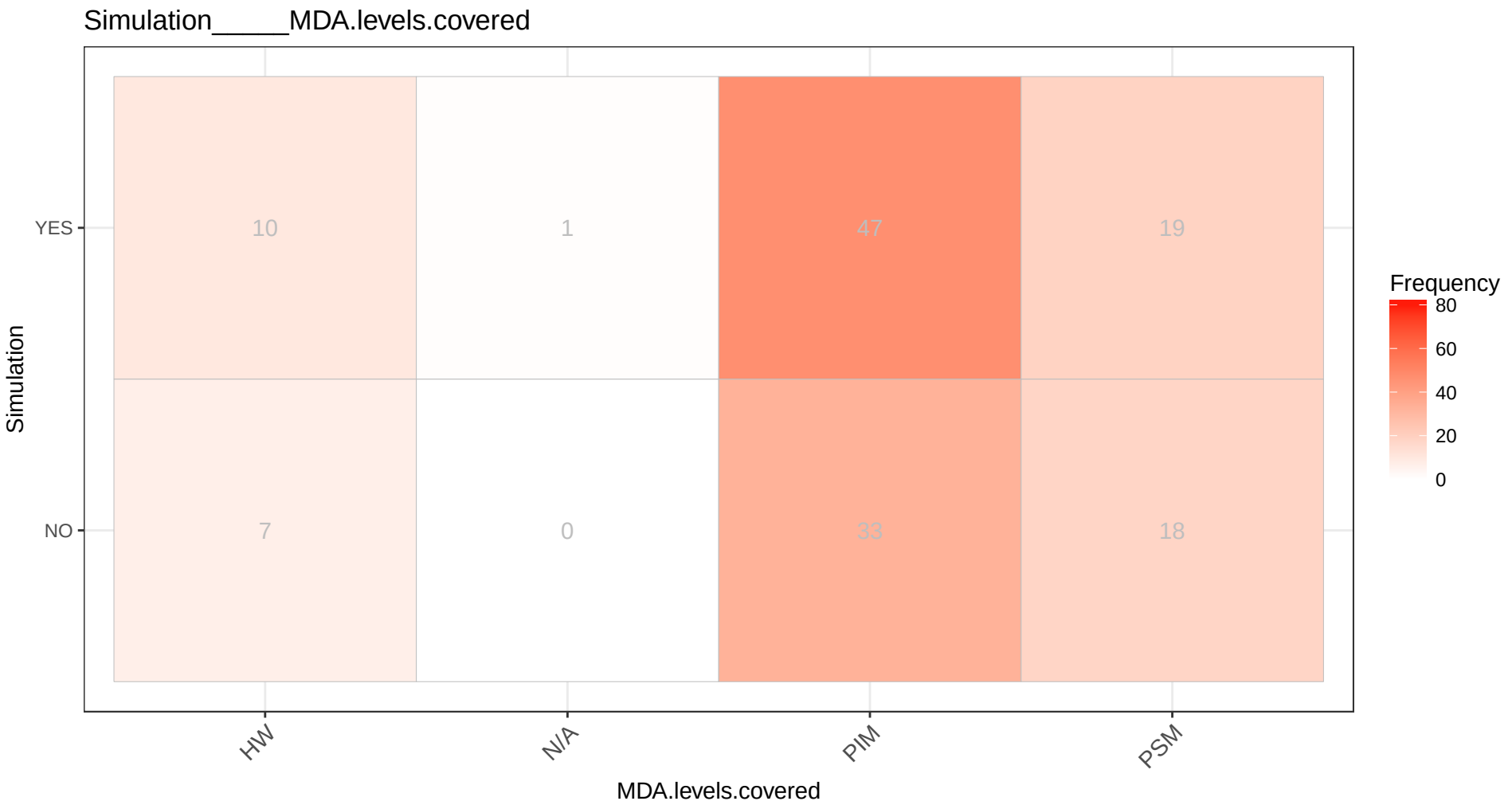

Simulation_____UML.diagrams
Simulation
YES
NO
22 26 1 4 11 5 1 1 4 3 9 32 11 1 14 0
12 22 0 2 7 6 1 0 2 0 9 18 7 0 7 1
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

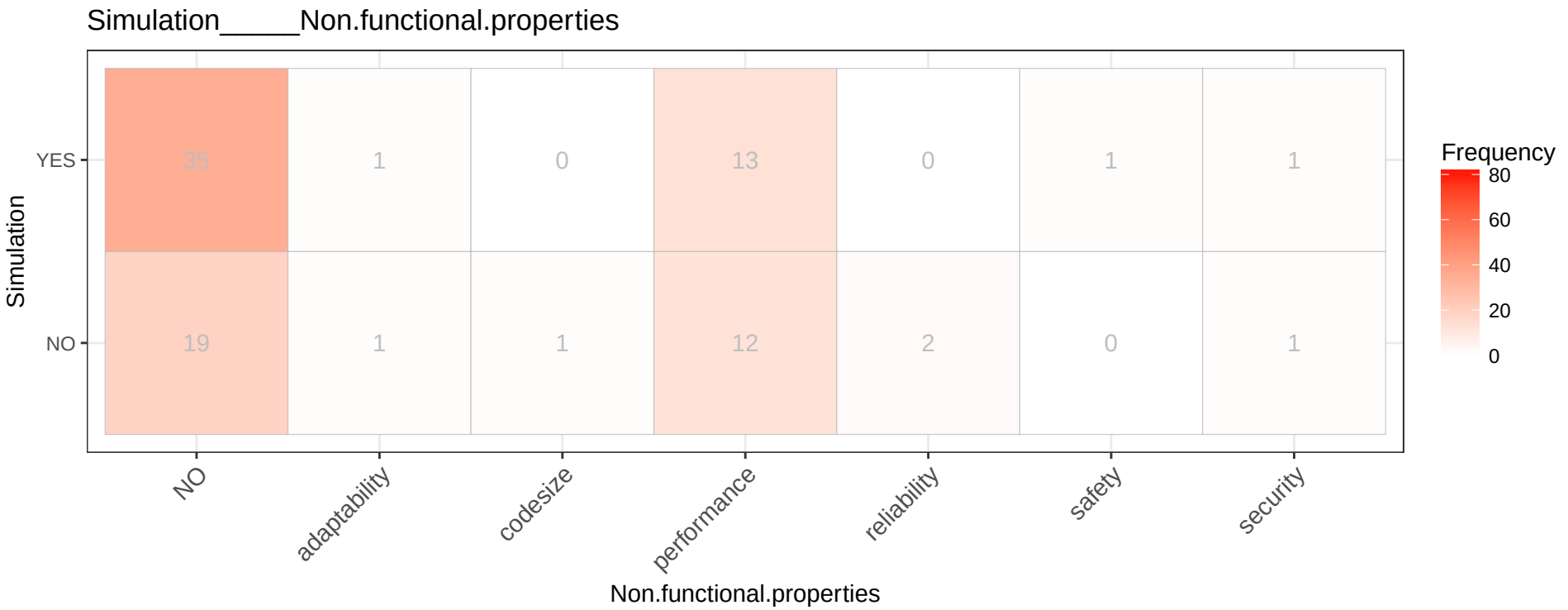

Simulation_____UML.diagram.types
YES
NO
Simulation
44
1
40
32
0
25
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

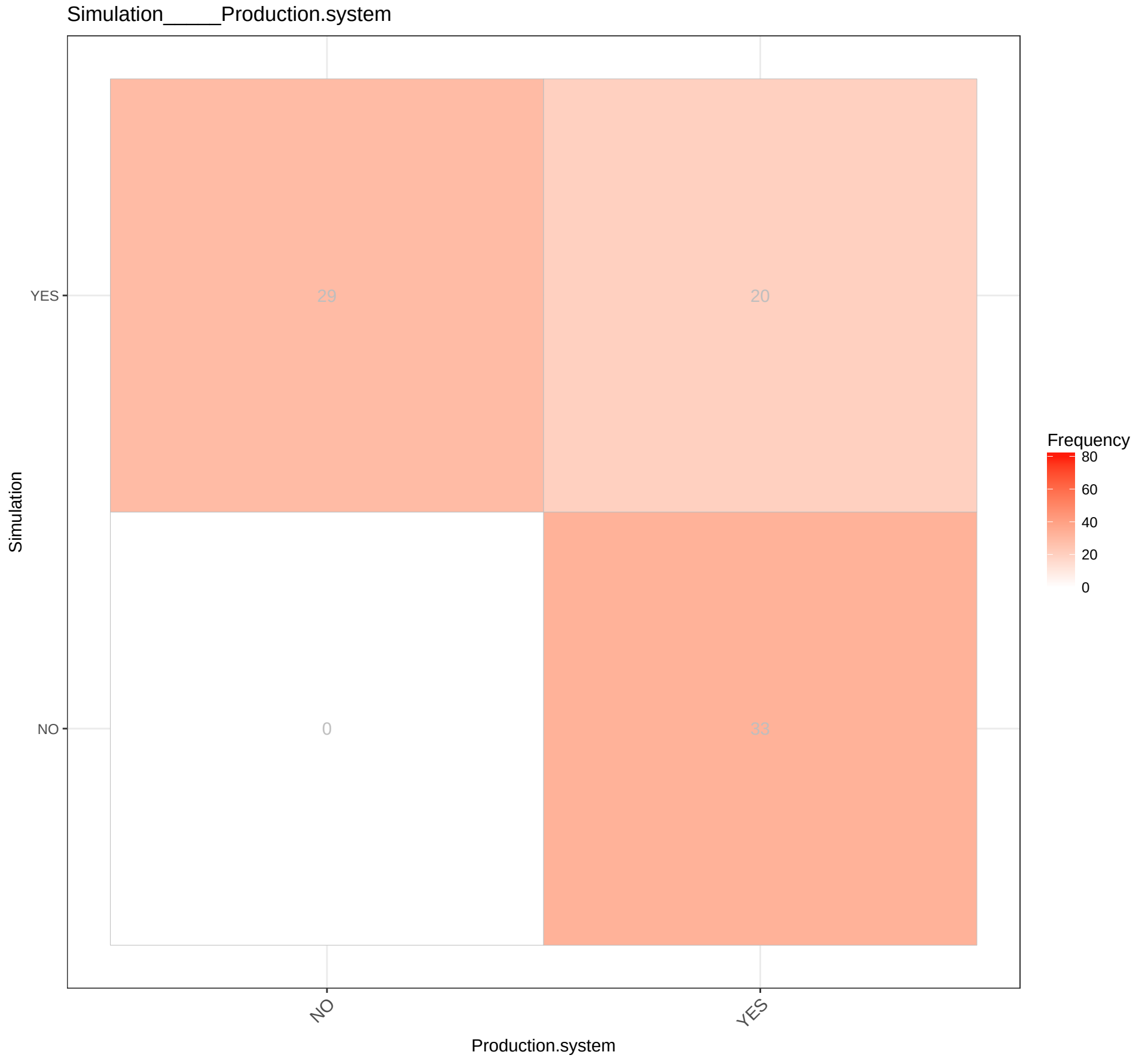

Simulation_____Implicit.UML.profile
YES
NO
27
22
21
12
Simulation
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

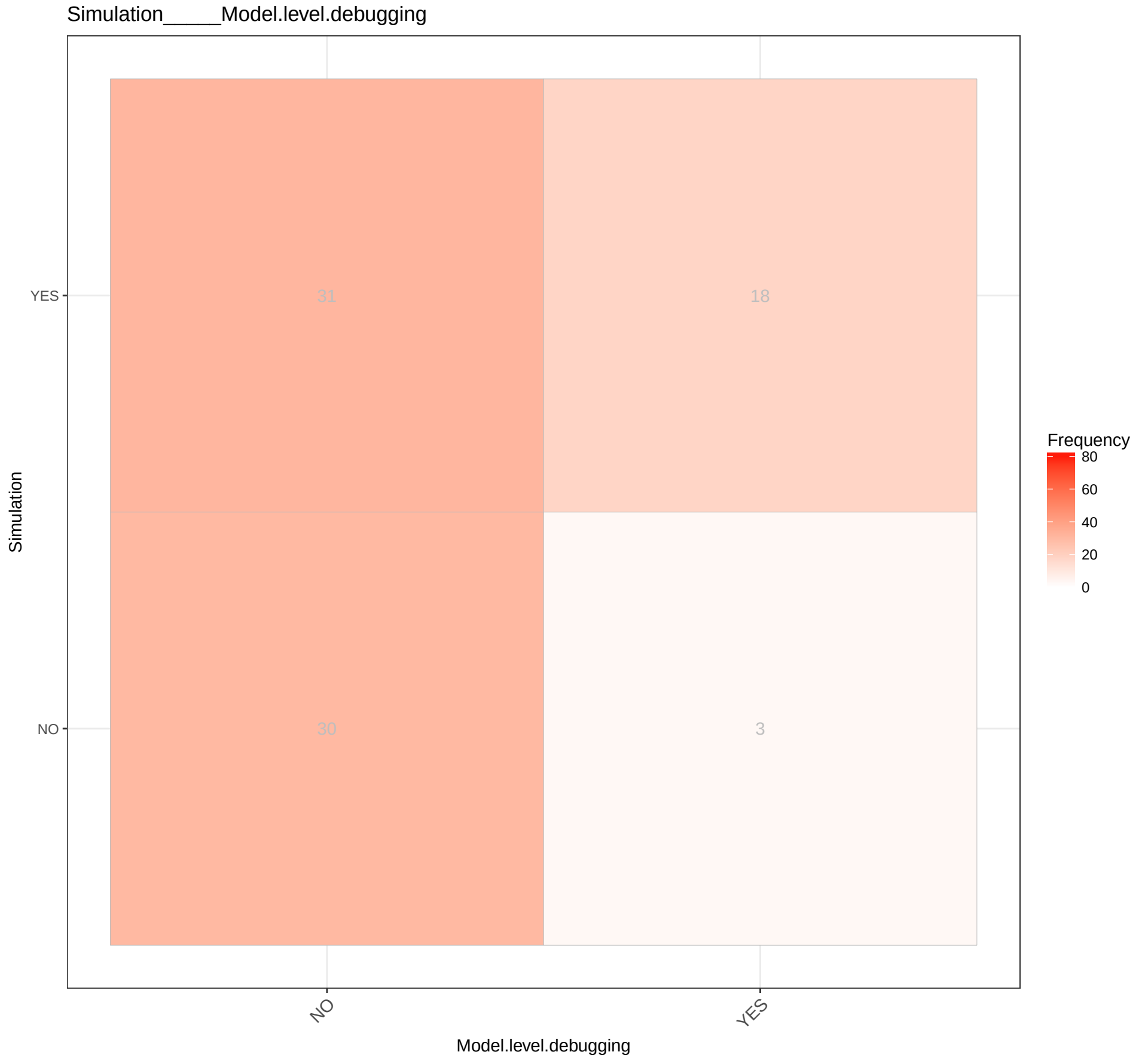

Simulation_____Modeling.tool
Simulation
YES
NO
1 0 2 6 1 0 2 2 0 1 1 0 0 1 5 2 1 1 1 11 1 0 2 1 1 4 1 1 2 1 1
0 5 0 8 0 1 0 1 1 0 0 2 1 0 5 0 0 0 0 8 0 1 1 1 1 1 0 0 0 0 0
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

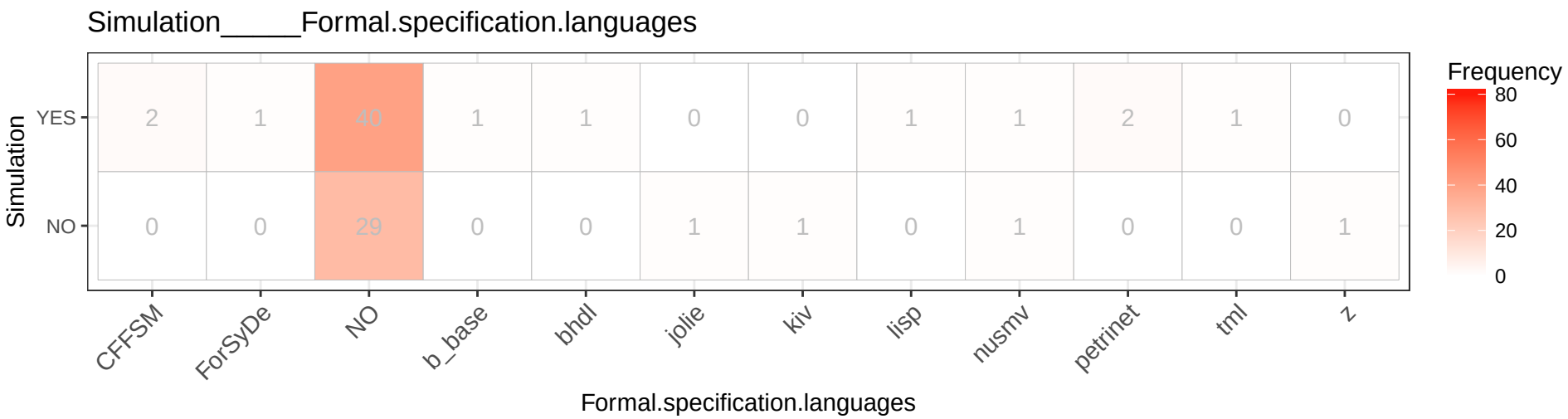

Simulation_____fUML
YES
NO
40
9
29
4
Simulation
NO
YES
fUML
Frequency
80
60
40
20
0

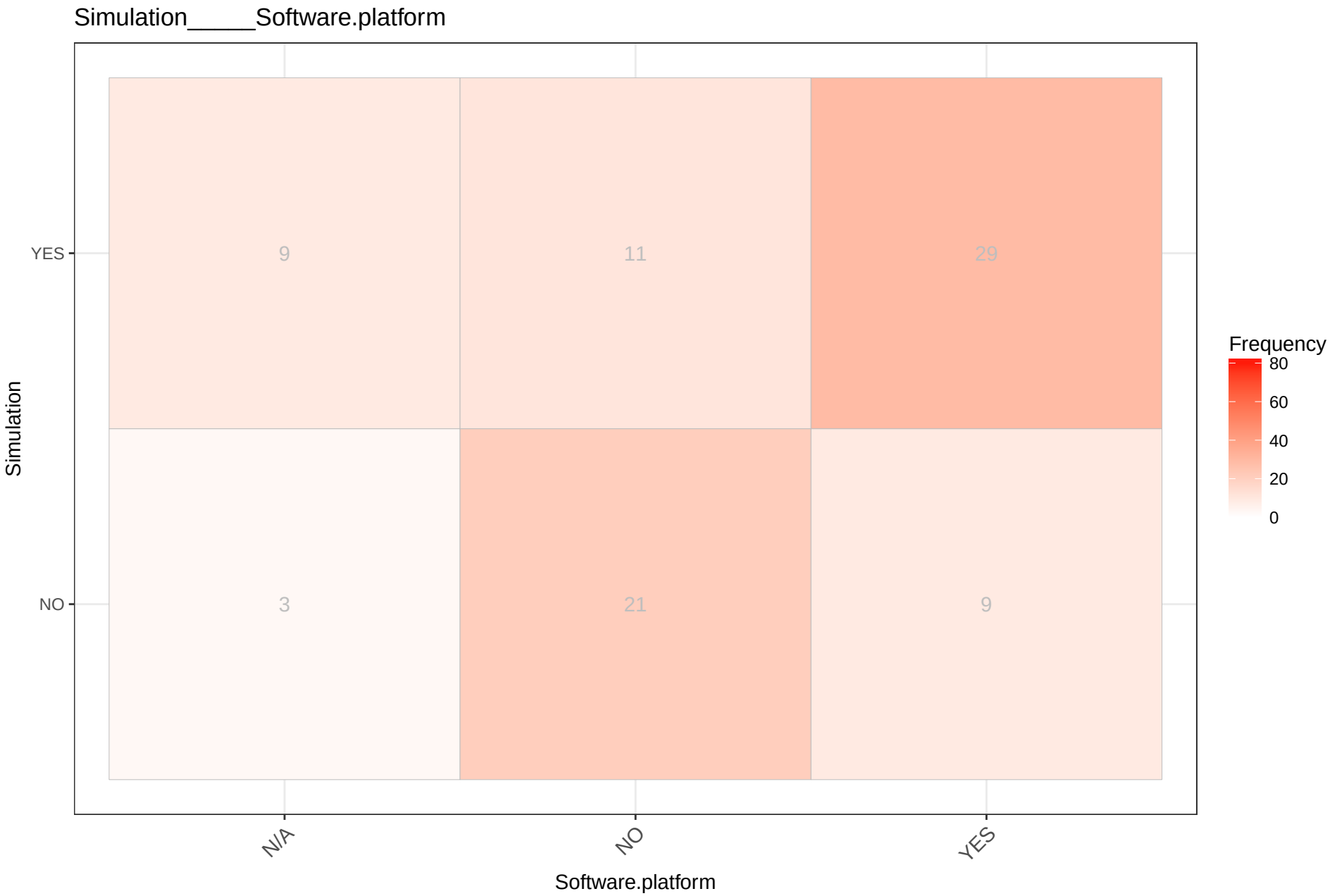

Simulation_____MDA.levels.covered
YES
NO
Simulation
10
1
47
19
7
0
33
18
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

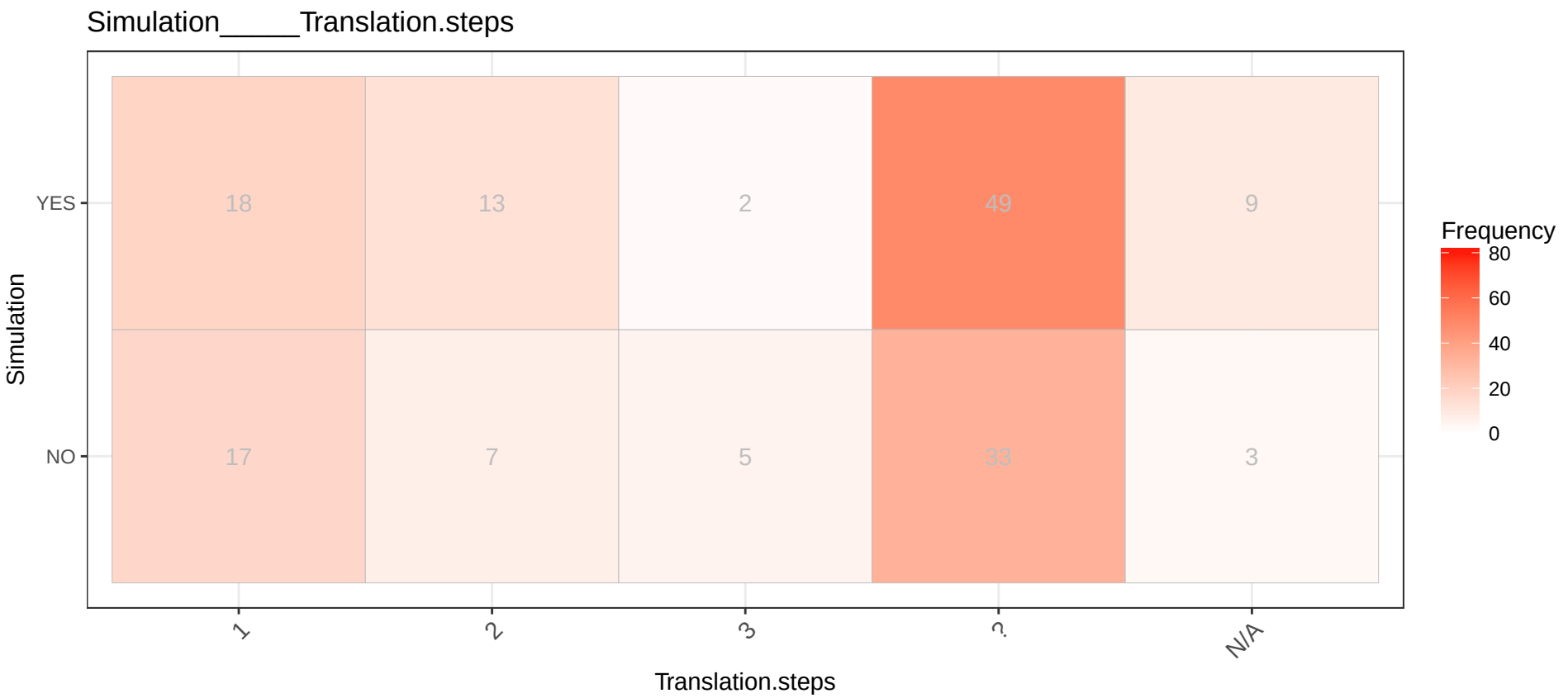

Simulation_____Non.functional.properties
Simulation
YES
NO
35
1
0
13
0
1
1
19
1
1
12
2
0
1
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

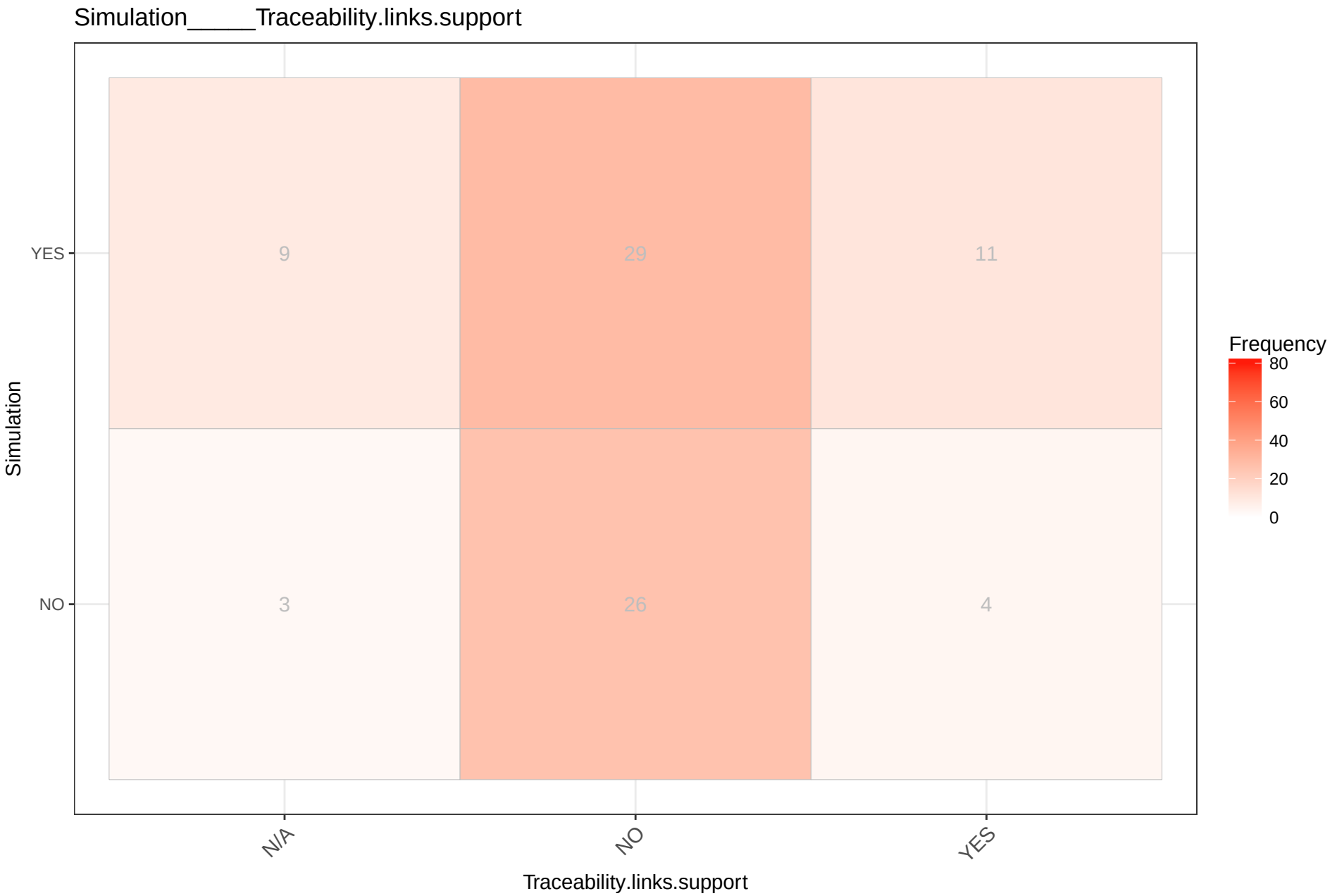

Simulation_____Production.system
YES
NO
29
20
0
33
Simulation
NO
YES
Production.system
Frequency
80
60
40
20
0

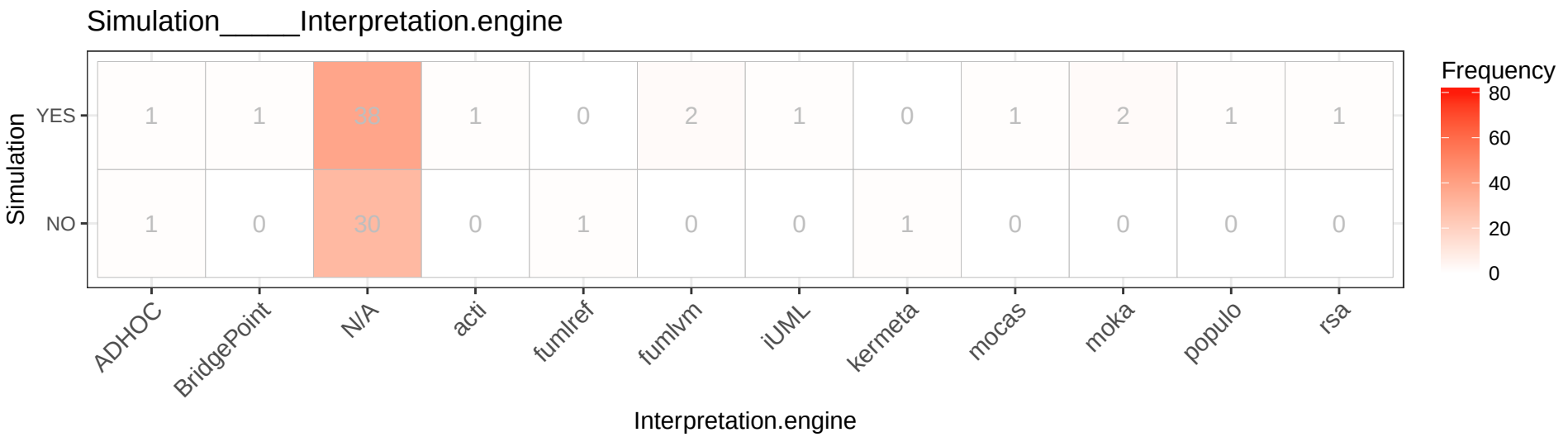

Simulation_____Model.level.debugging
YES
NO
31
18
30
3
Simulation
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

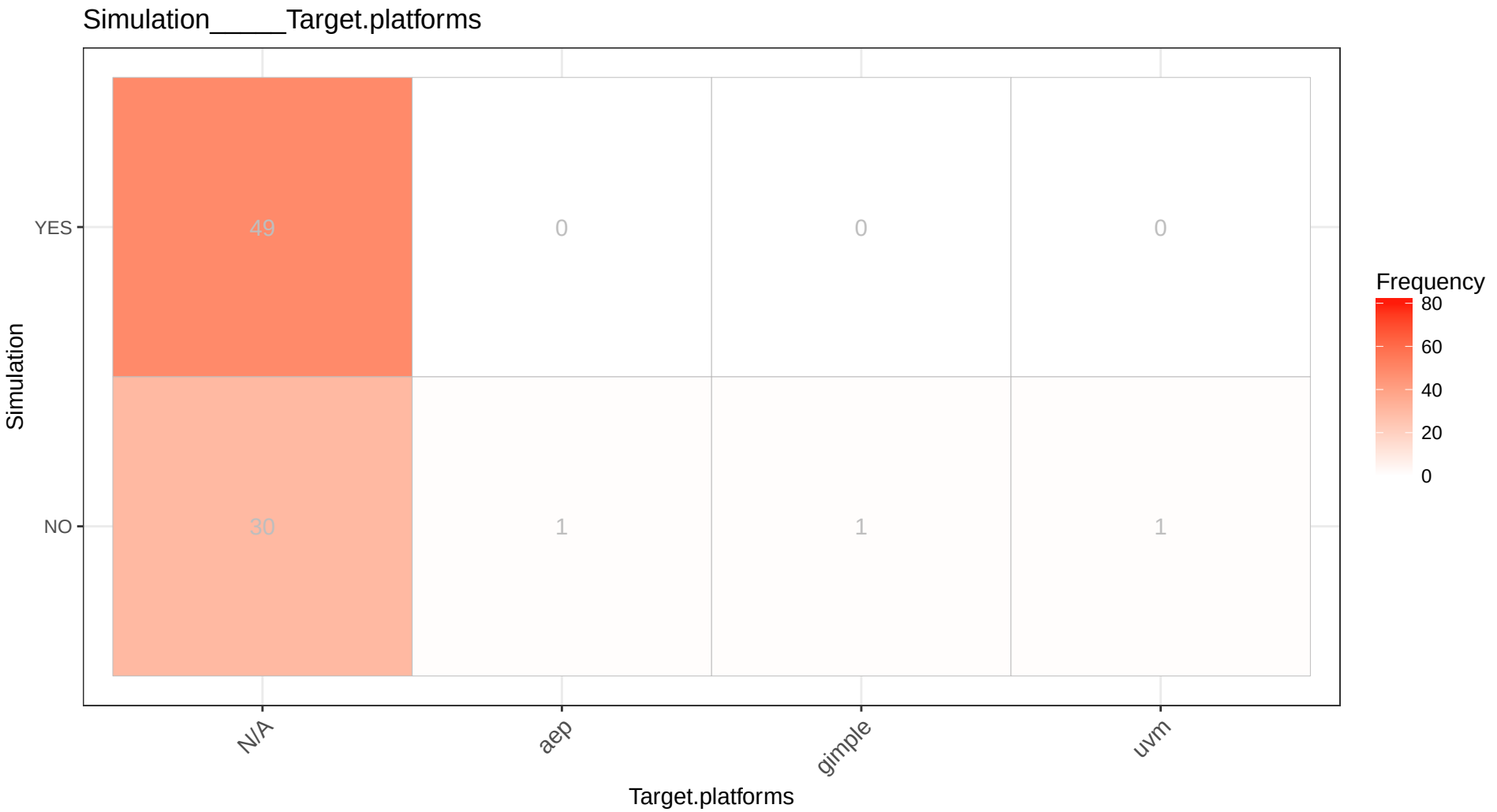

Simulation_____Formal.specification.languages
Simulation
YES
NO
2
1
40
1
1
0
0
1
1
2
1
0
0
0
29
0
0
1
1
0
1
0
0
1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

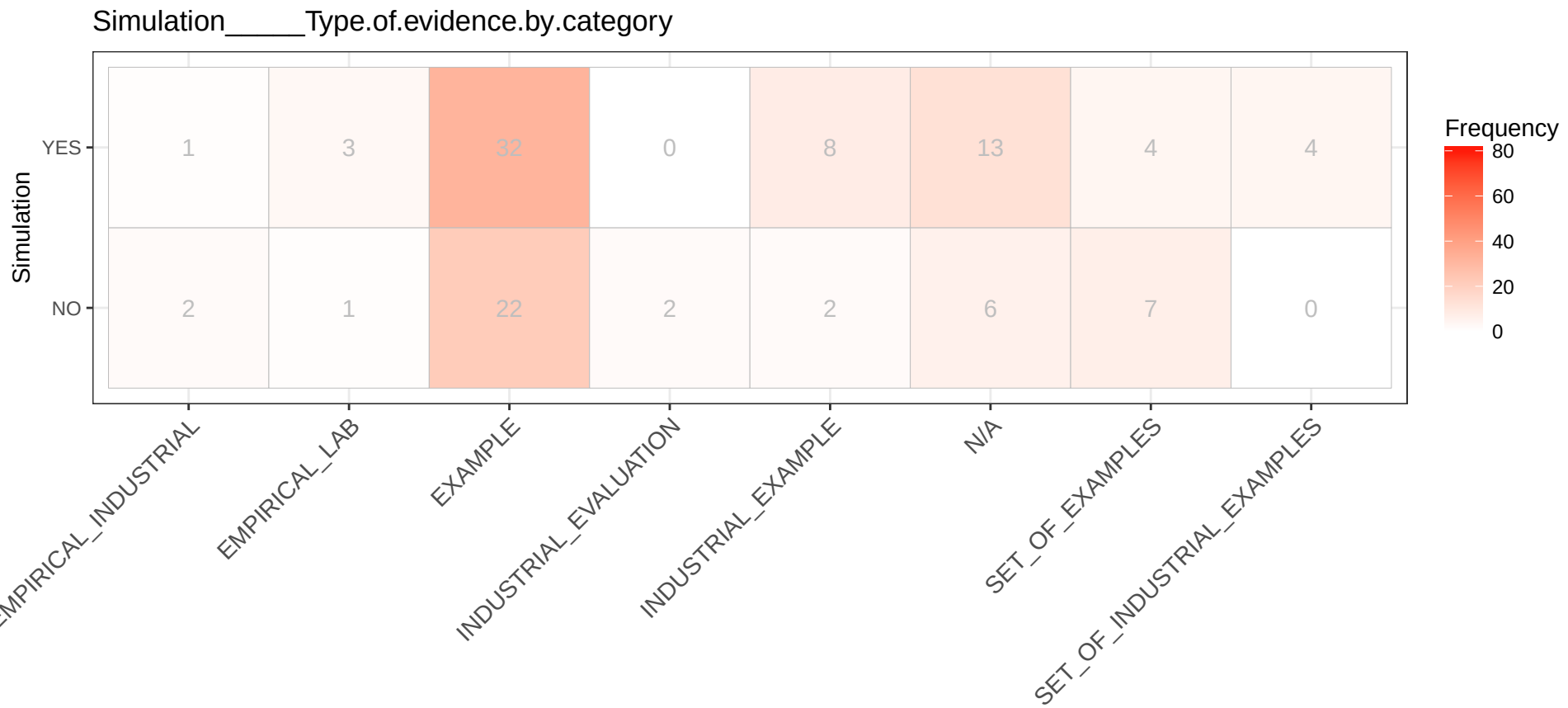

Simulation_____Software.platform
YES
NO
9
11
29
3
21
9
Simulation
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

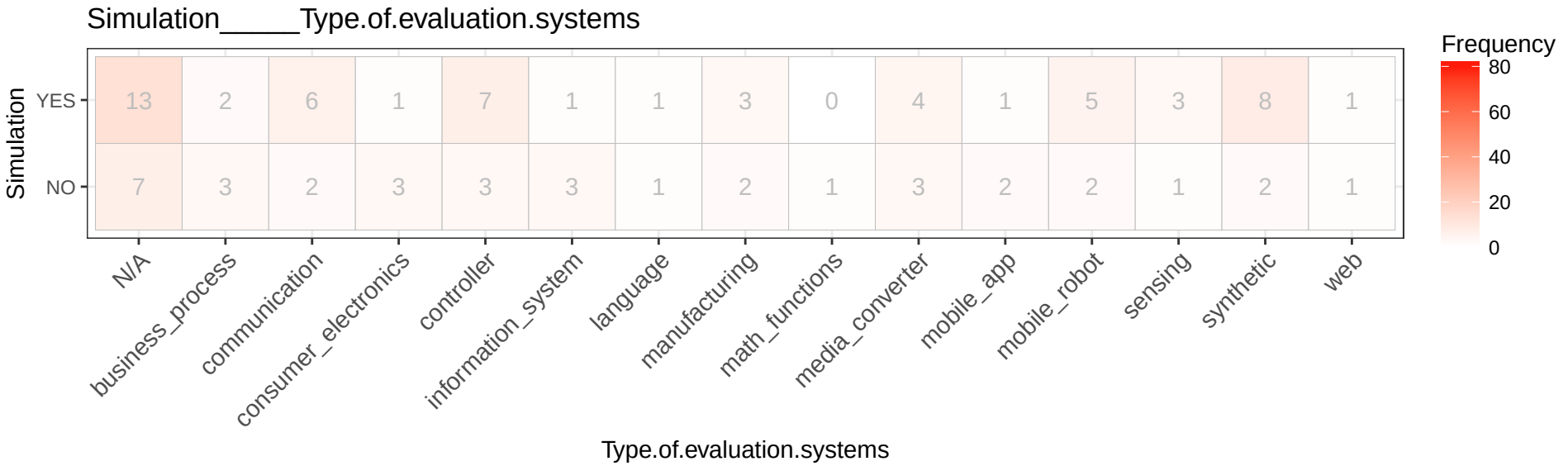

Simulation_____Translation.steps
YES
NO
18
13
2
49
9
17
7
5
33
3
Simulation
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

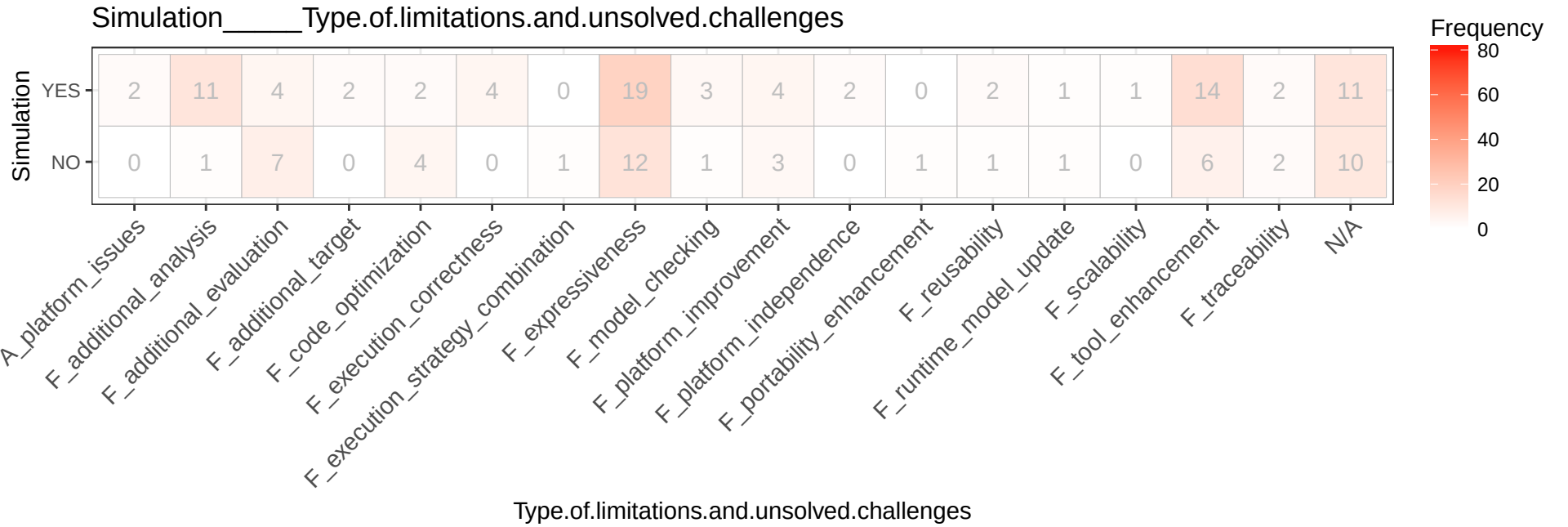

Simulation_____Traceability.links.support
YES
NO
9
29
11
3
26
4
Simulation
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

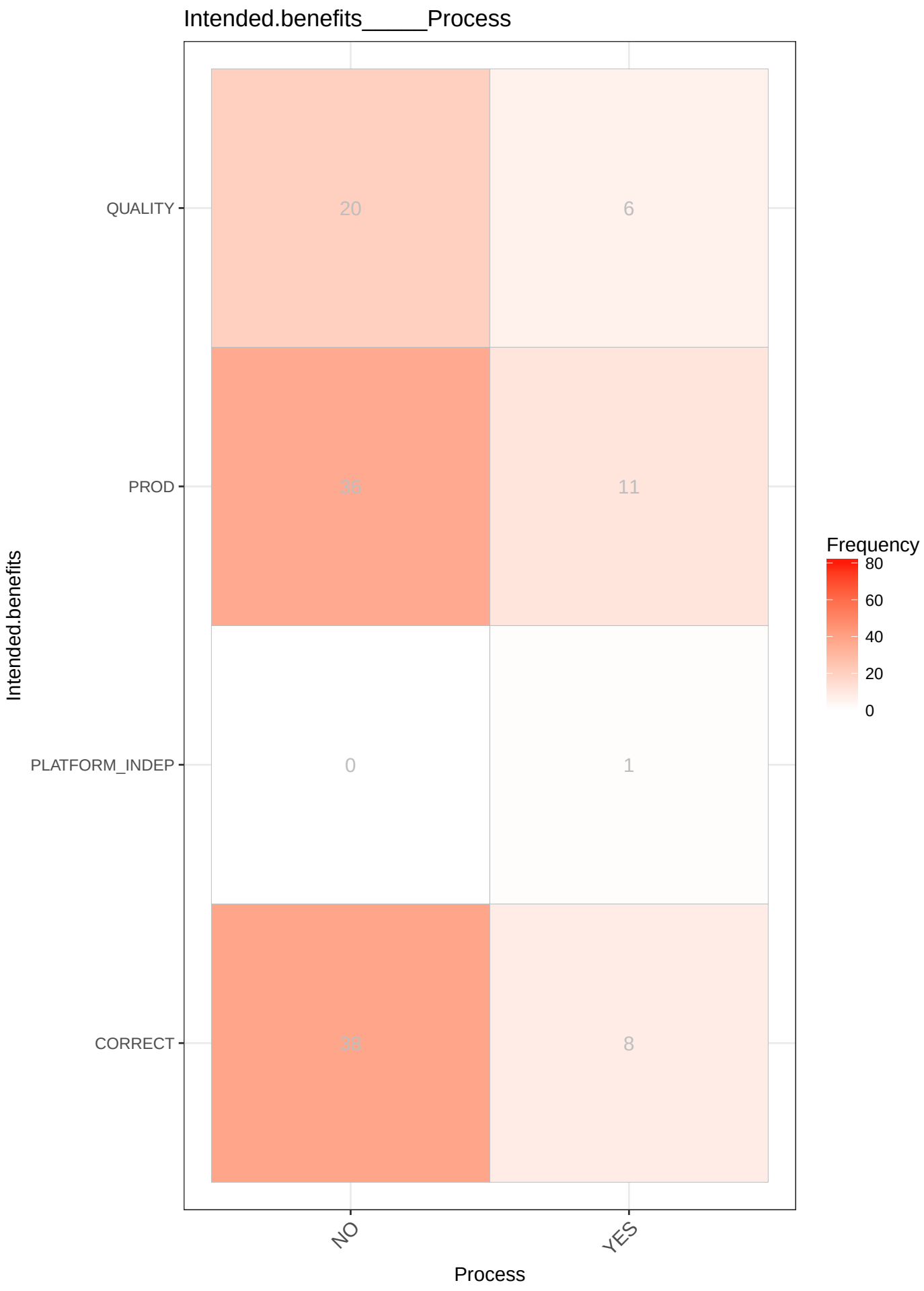

Simulation_____Interpretation.engine
Simulation
YES
NO
1
1
33
1
0
2
1
0
1
2
1
1
1
0
30
0
1
0
0
1
0
0
0
0
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

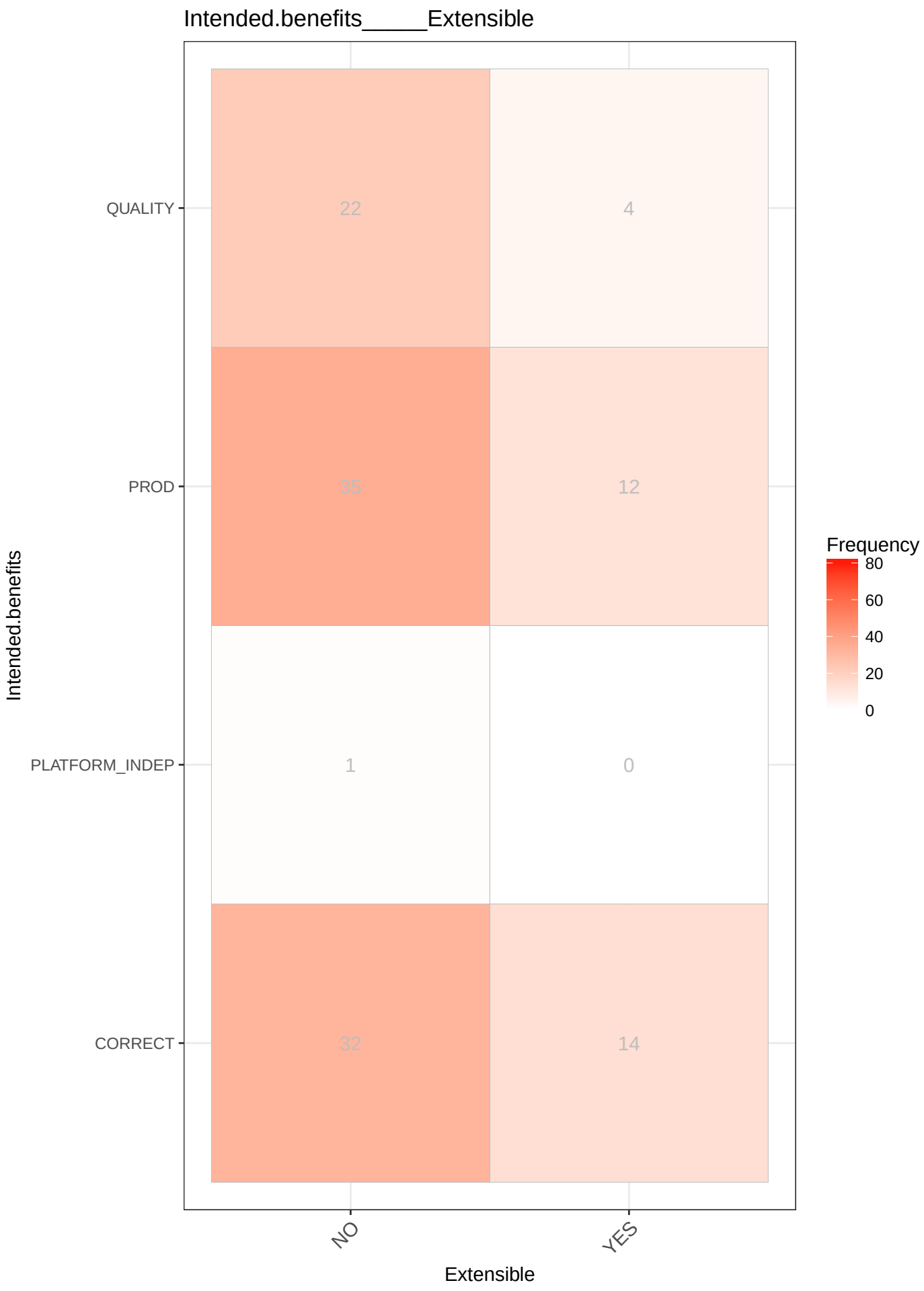

Simulation_____Target.platforms
YES
NO
Simulation
49
0
0
0
30
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

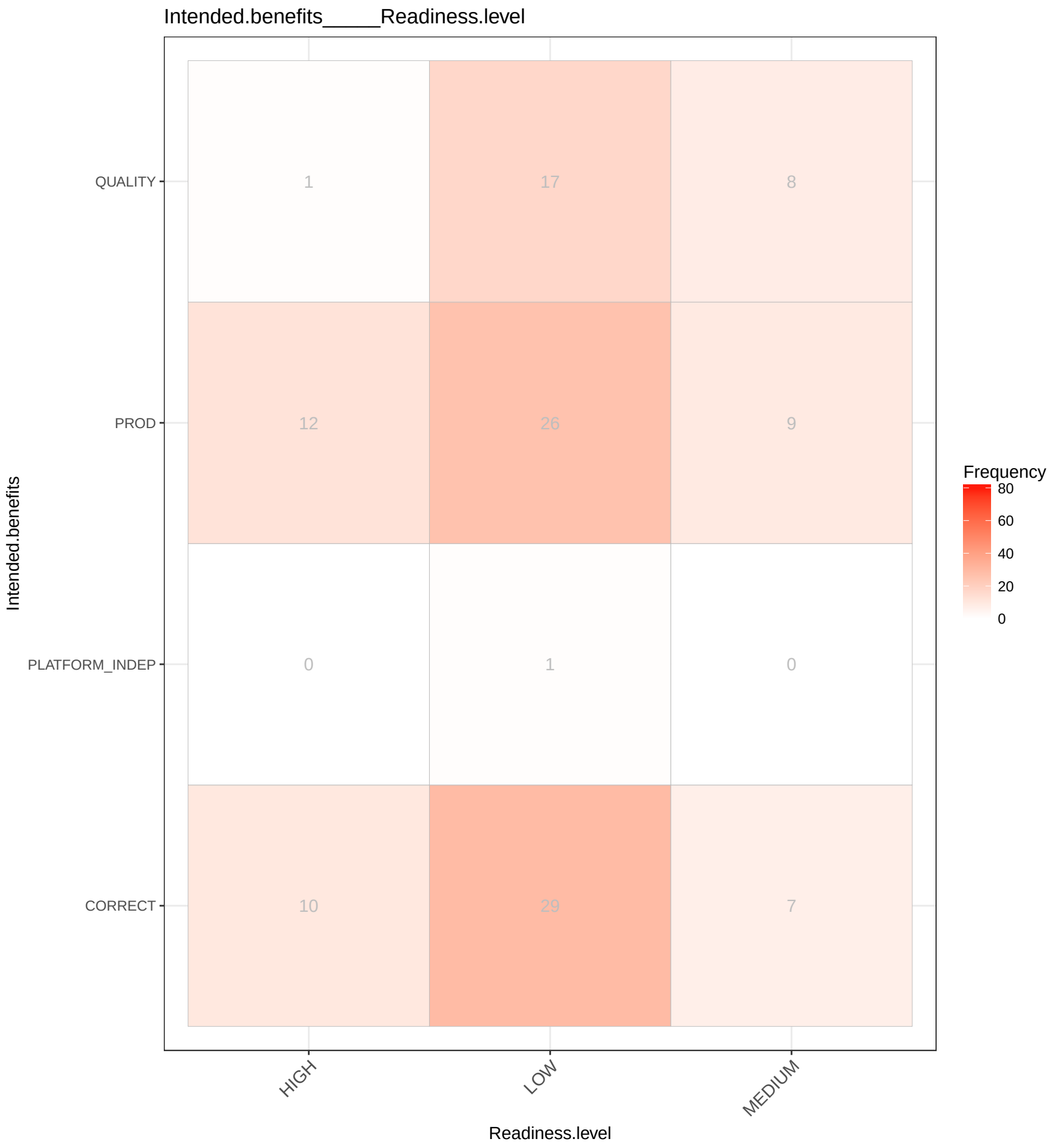

Simulation_____Type.of.evidence.by.category
Simulation
YES
NO
1
3
32
0
8
13
4
4
2
1
22
2
2
6
7
0
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

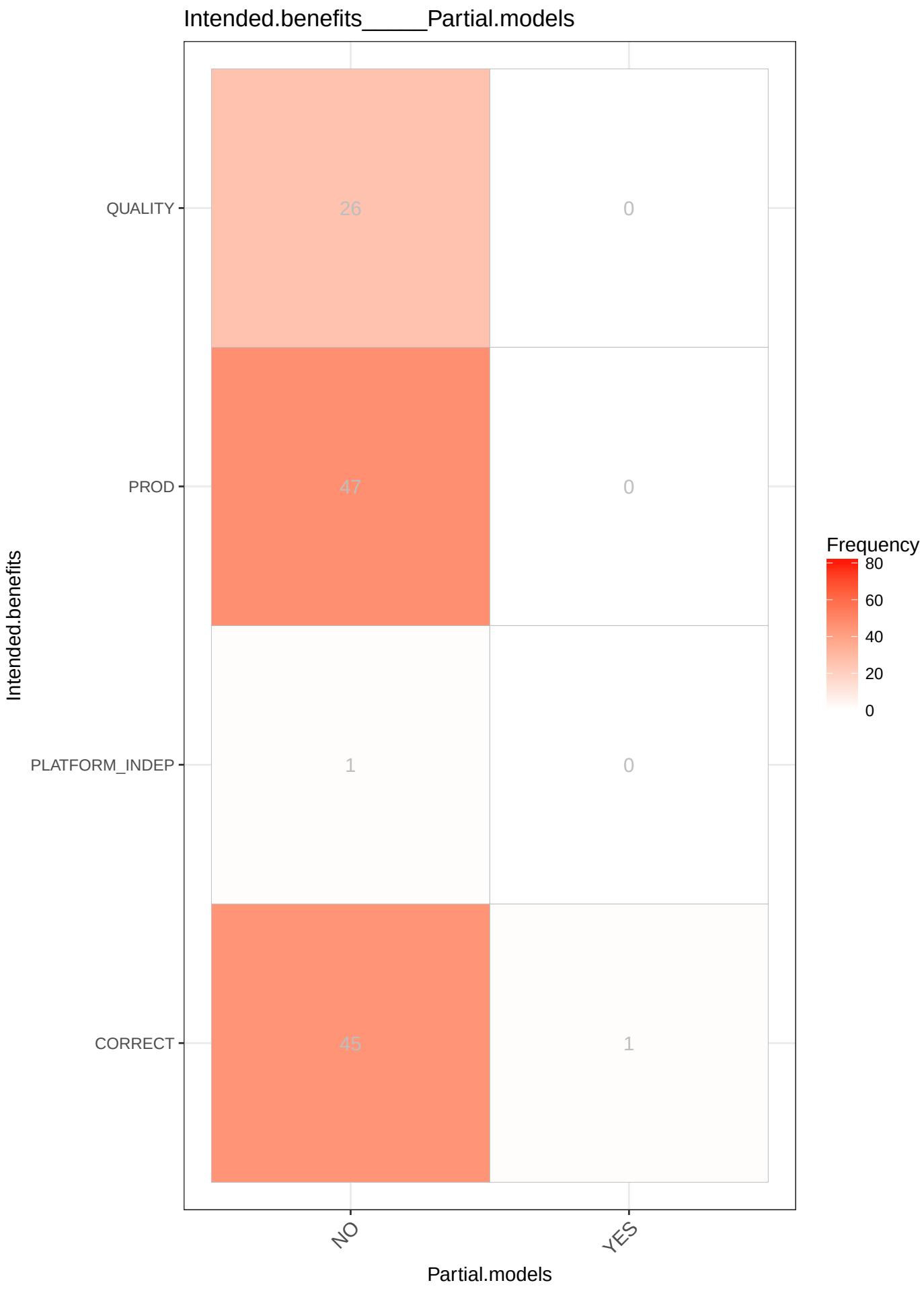

Simulation_____Type.of.evaluation.systems
Simulation
YES
NO
13 2 6 1 7 1 1 3 0 4 1 5 3 8 1
7 3 2 3 3 3 1 2 1 3 2 2 1 2 1
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

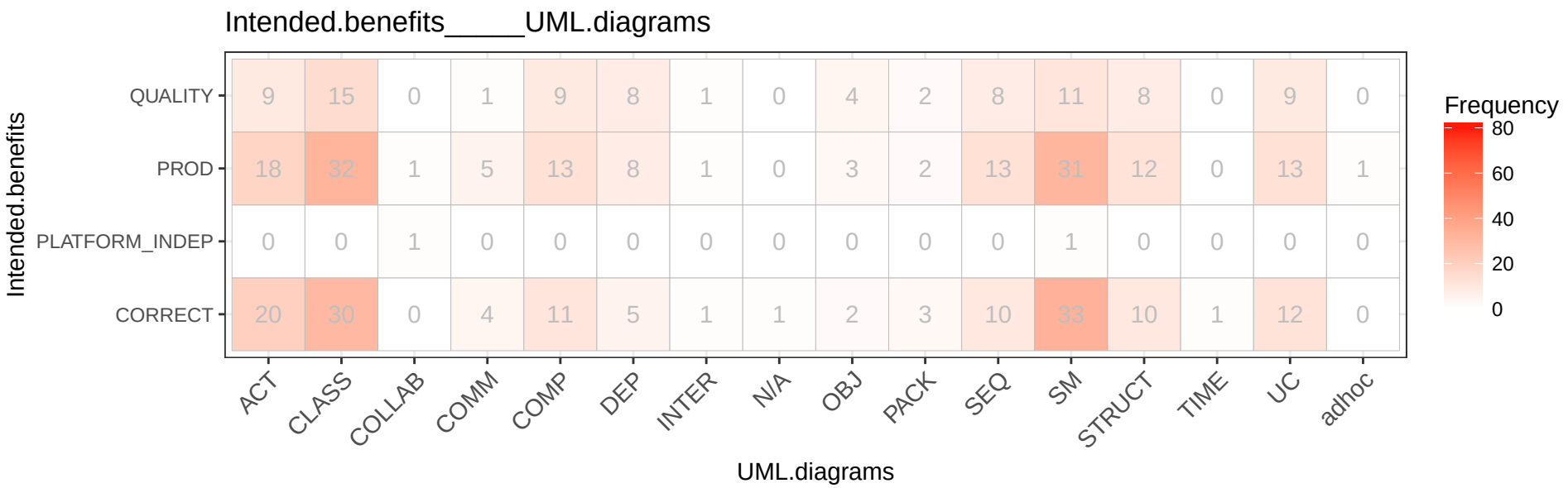

Simulation_____Type.of.limitations.and.unsolved.challenges
Simulation
YES
NO
2 11 4 2 2 4 0 19 3 4 2 0 2 1 1 14 2 11
0 1 7 0 4 0 1 12 1 3 0 1 1 1 0 6 2 10
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

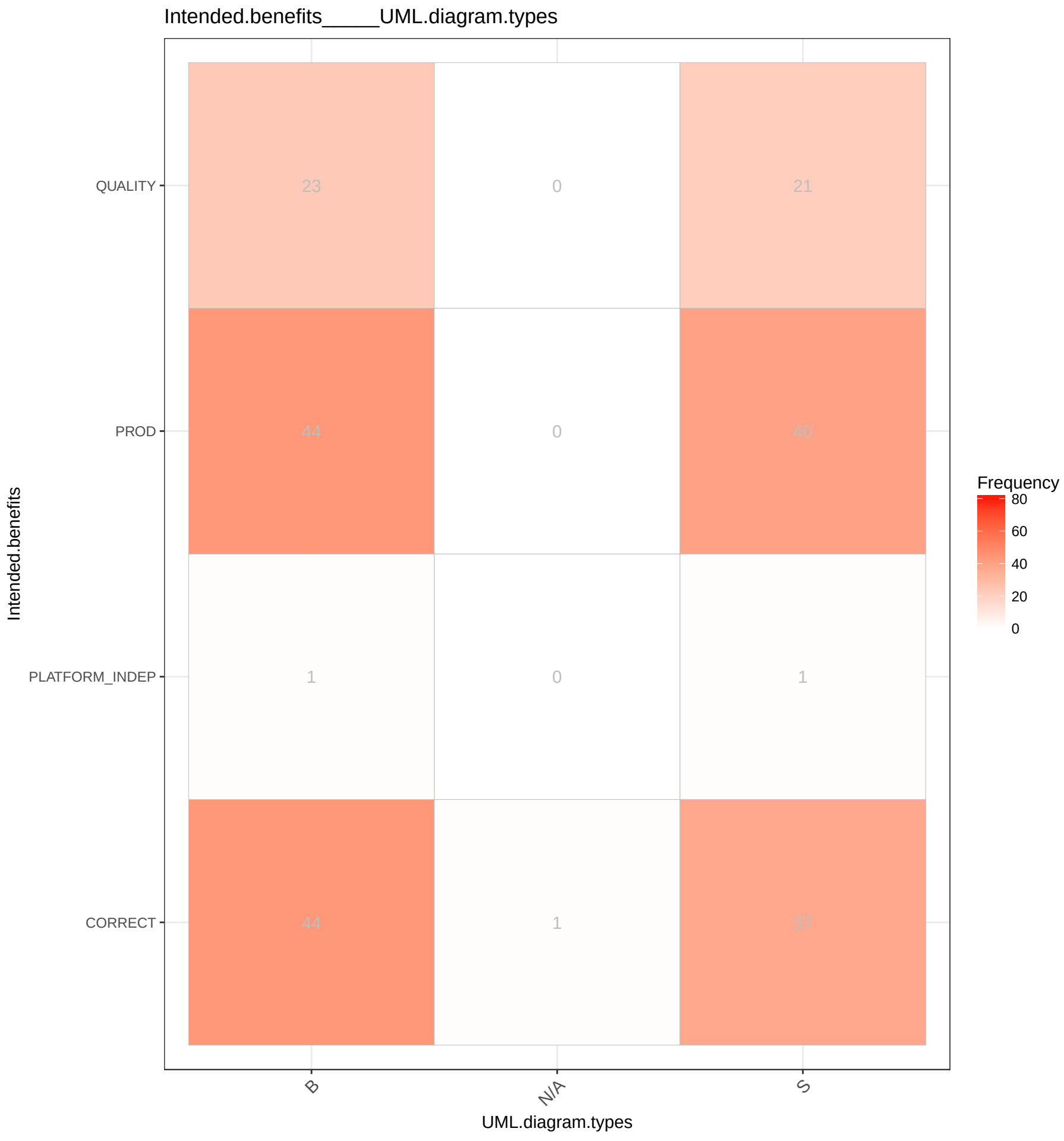

Intended.benefits_____Process
QUALITY
PROD
PLATFORM_INDEP
CORRECT
20
6
36
11
0
1
38
8
Intended.benefits
NO
YES
Process
Frequency
80
60
40
20
0

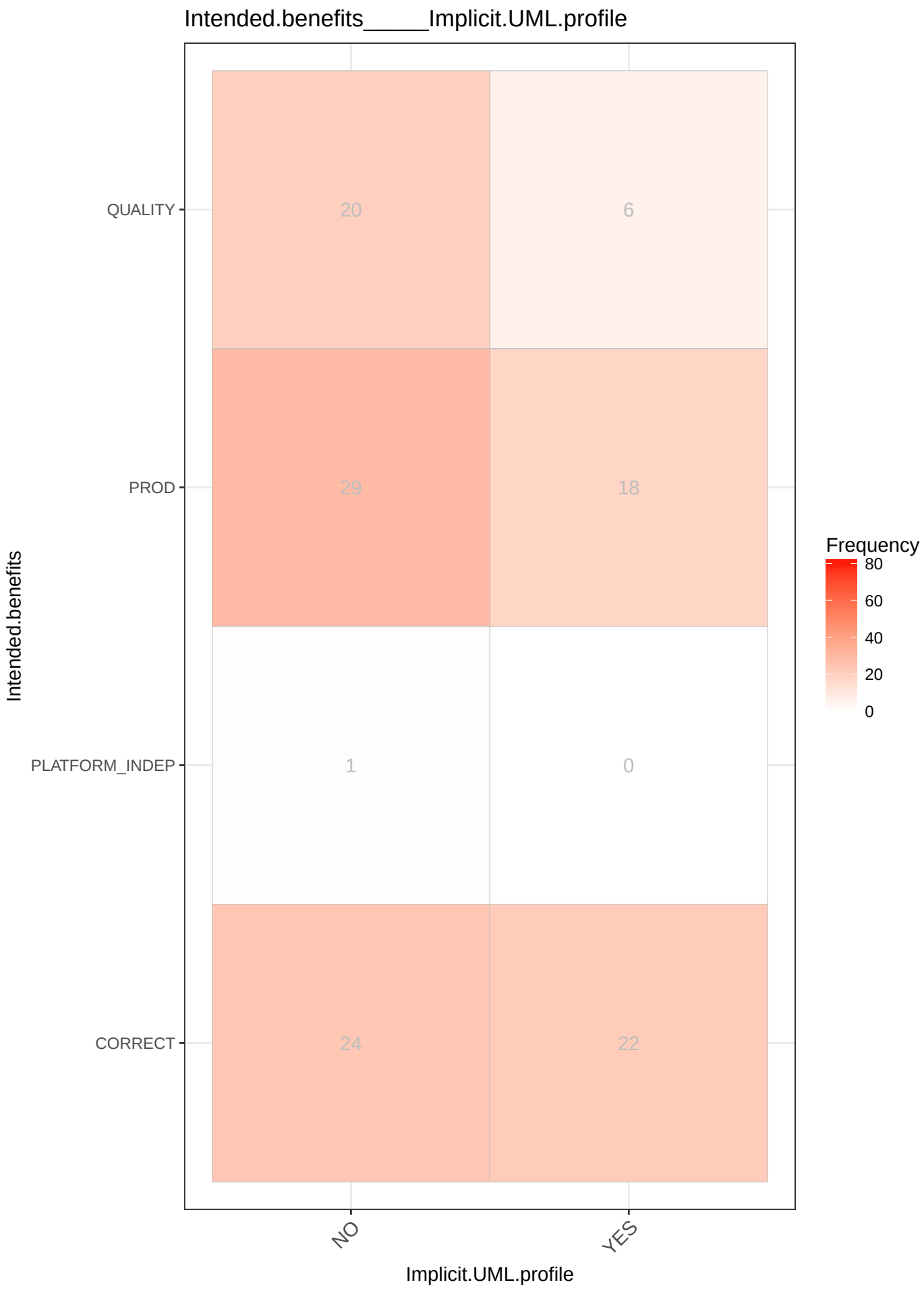

Intended.benefits_____Extensible
QUALITY
PROD
PLATFORM_INDEP
CORRECT
22
4
35
12
1
0
32
14
Intended.benefits
NO
YES
Extensible
Frequency
80
60
40
20
0

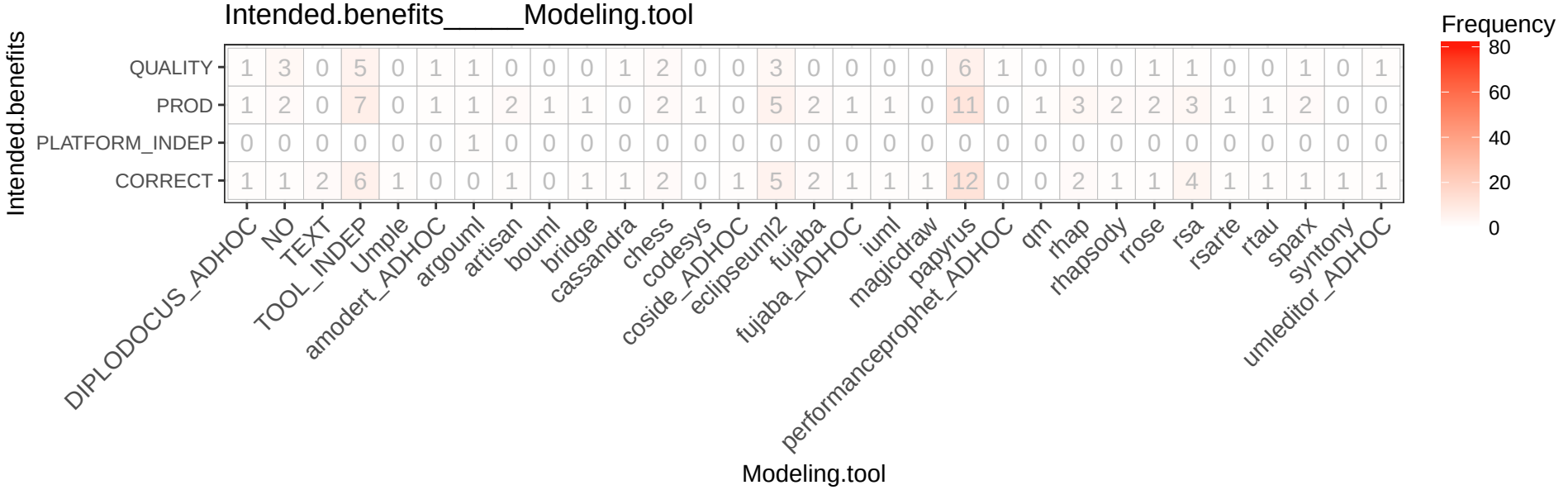

Intended.benefits_____Readiness.level
QUALITY
PROD
PLATFORM_INDEP
CORRECT
Intended.benefits
1
17
8
12
26
9
0
1
0
10
29
7
HIGH
LOW
MEDIUM
Readiness.level
Frequency
80
60
40
20
0

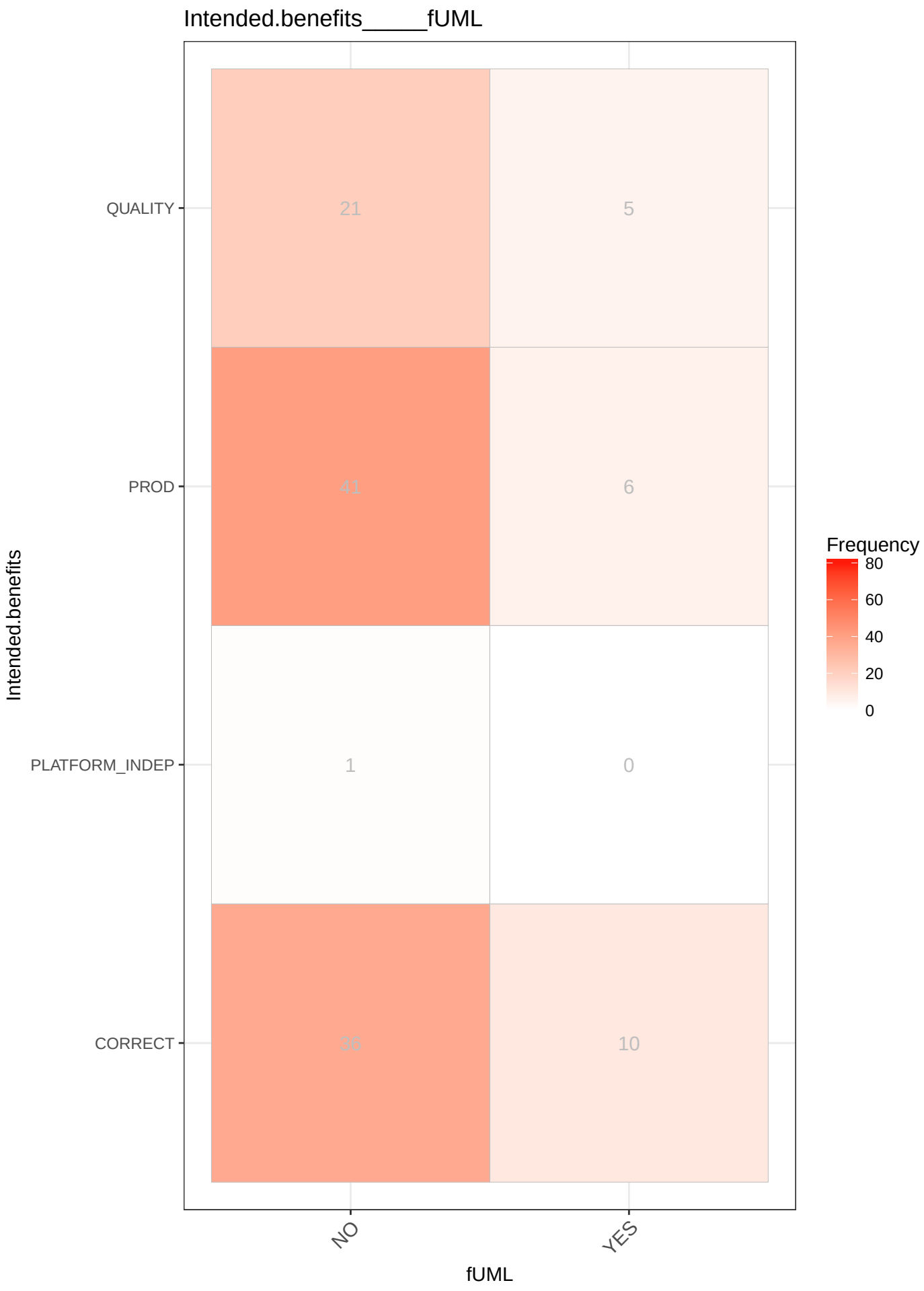

Intended.benefits_____Partial.models
QUALITY
PROD
PLATFORM_INDEP
CORRECT
26
0
47
0
1
0
45
1
Intended.benefits
NO
YES
Partial.models
Frequency
80
60
40
20
0

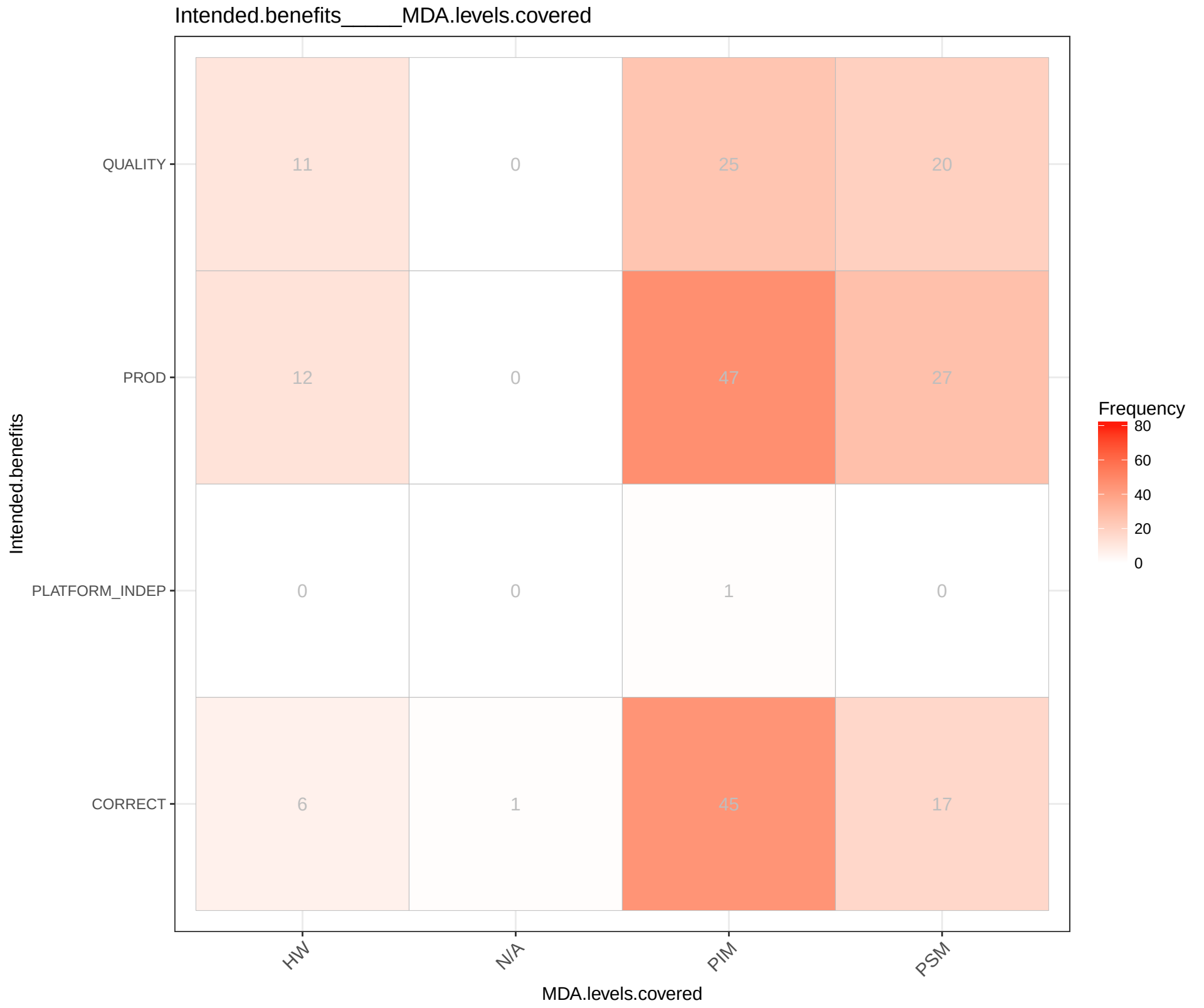

Intended.benefits_____UML.diagrams
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
9 15 0 1 9 8 1 0 4 2 8 11 8 0 9 0
18 32 1 5 13 8 1 0 3 2 13 31 12 0 13 1
0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0
20 30 0 4 11 5 1 1 2 3 10 33 10 1 12 0
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

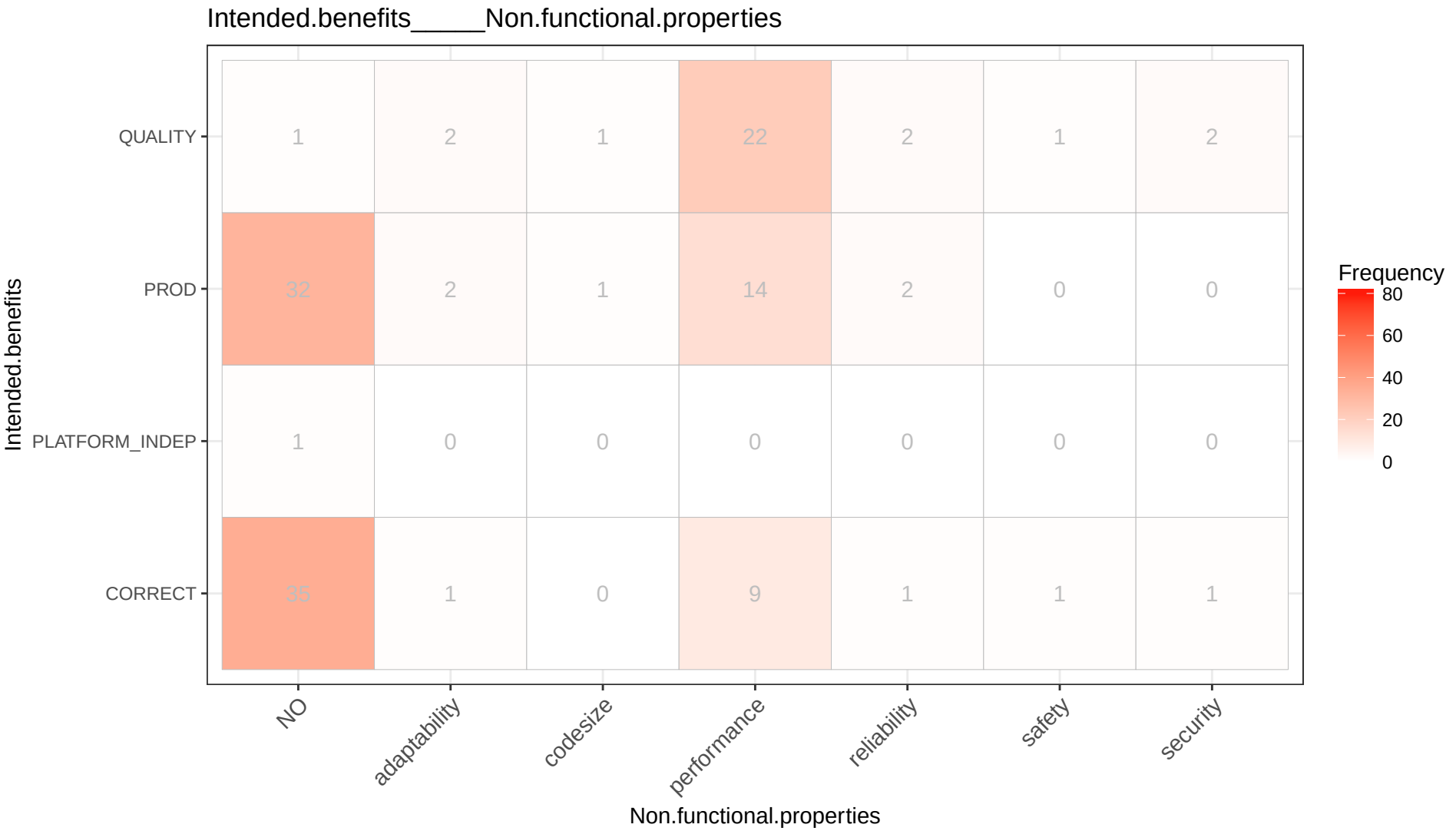

Intended.benefits_____UML.diagram.types
QUALITY
PROD
PLATFORM_INDEP
CORRECT
23
0
21
44
0
40
1
0
1
44
1
37
B
N/A
S
UML.diagram.types
Intended.benefits
Frequency
80
60
40
20
0

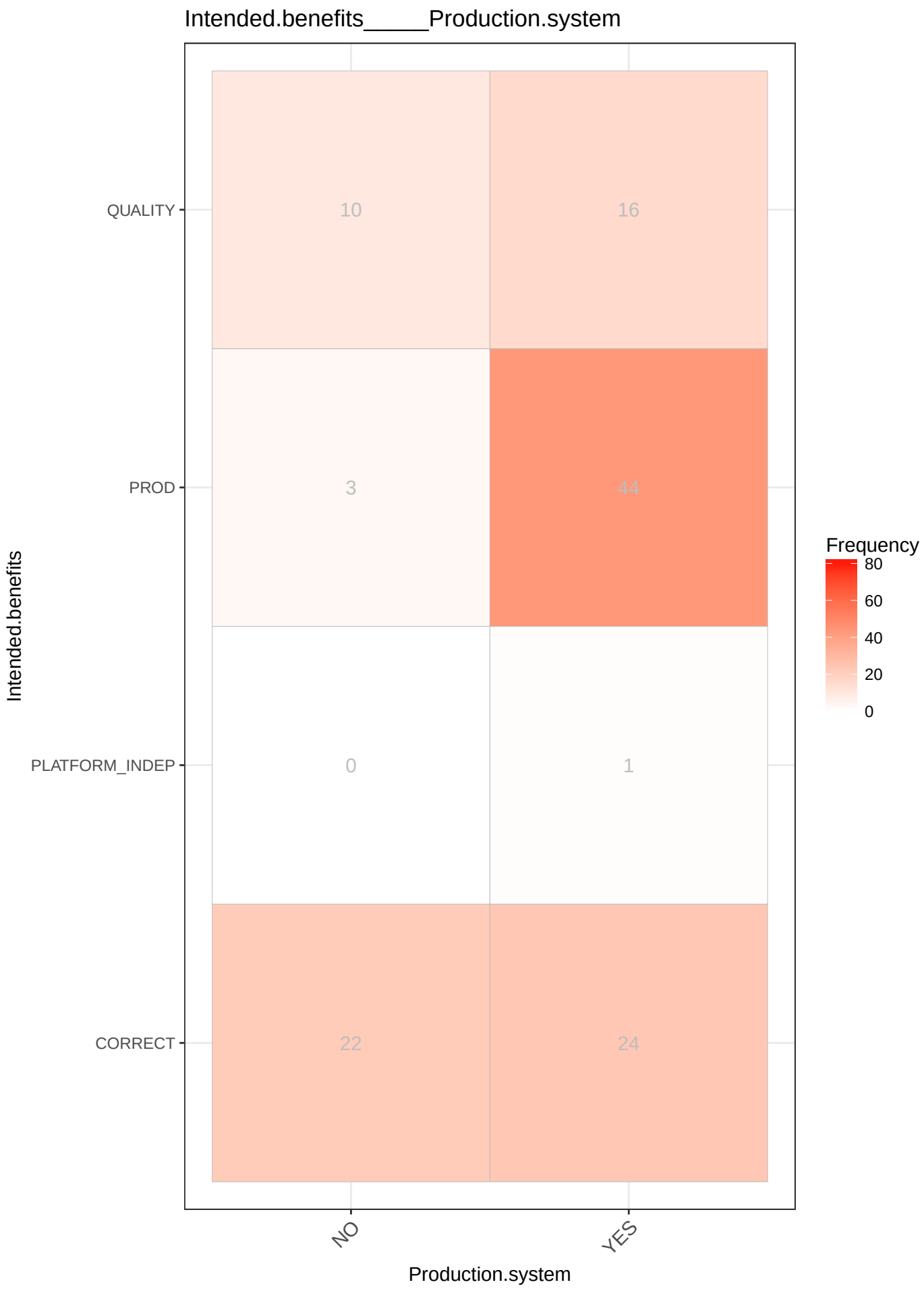

Intended.benefits_____Implicit.UML.profile
QUALITY
PROD
PLATFORM_INDEP
CORRECT
20
6
29
18
1
0
24
22
Intended.benefits
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

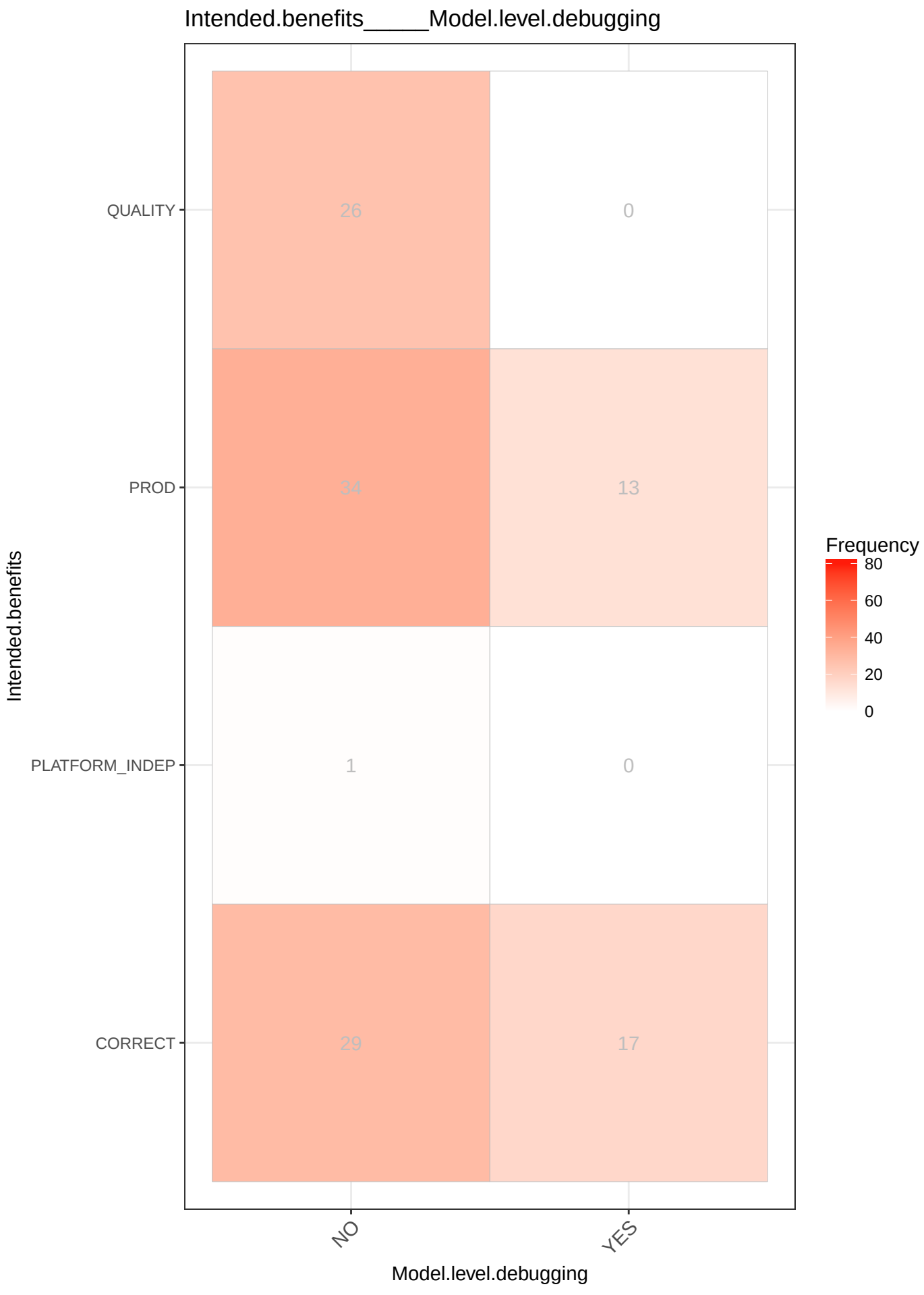

Intended.benefits_____Modeling.tool
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
1 3 0 5 0 1 1 0 0 0 1 2 0 0 3 0 0 0 0 6 1 0 0 0 1 1 0 0 1 0 1
1 2 0 7 0 1 1 2 1 1 0 2 1 0 5 2 1 1 0 11 0 1 3 2 2 3 1 1 2 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 1 2 6 1 0 0 1 0 1 1 2 0 1 5 2 1 1 1 12 0 0 2 1 1 4 1 1 1 1 1
DIPLODOCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

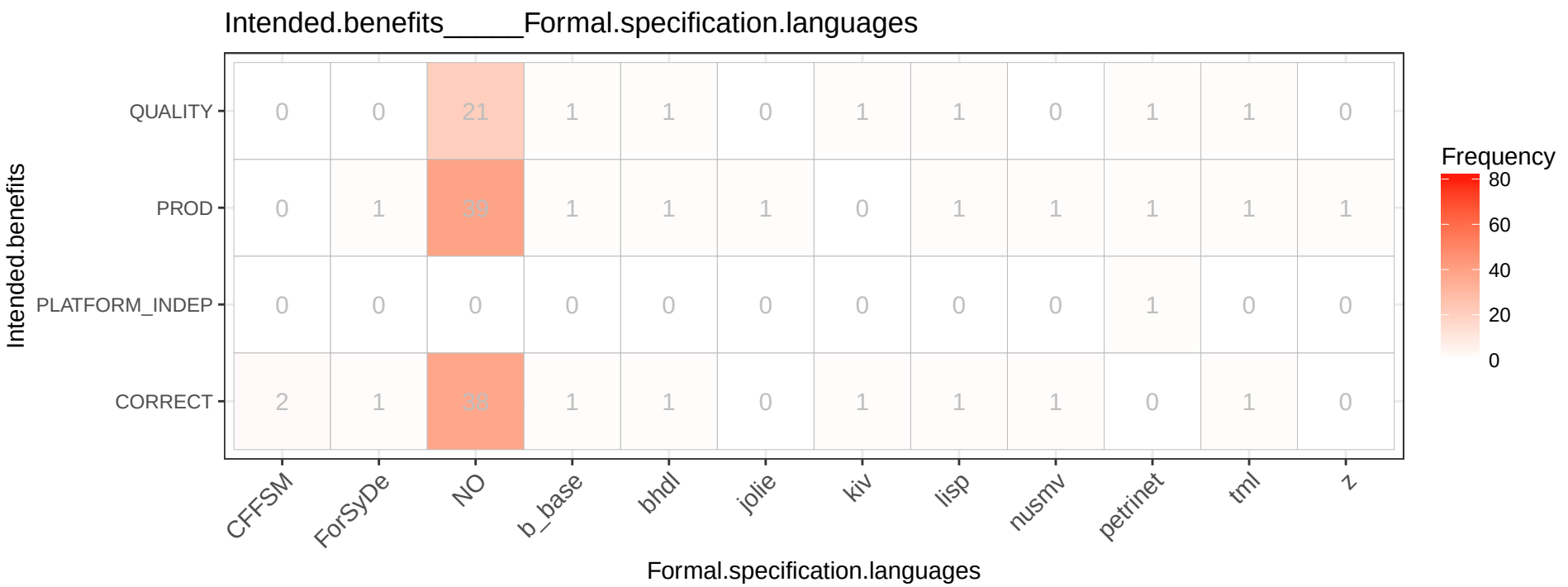

Intended.benefits_____fUML
QUALITY
PROD
PLATFORM_INDEP
CORRECT
21
5
41
6
1
0
36
10
Intended.benefits
NO
YES
fUML
Frequency
80
60
40
20
0

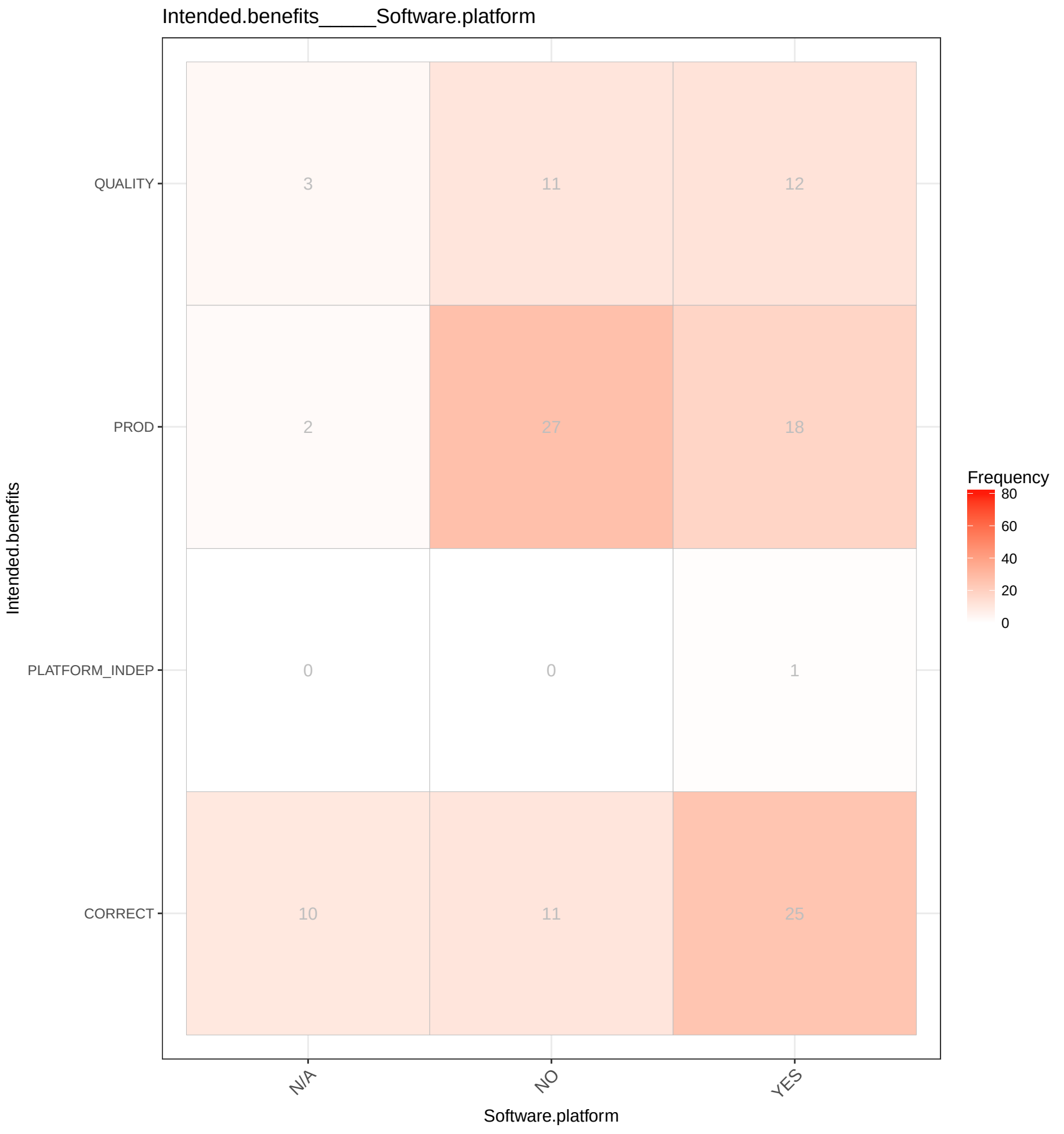

Intended.benefits_____MDA.levels.covered
QUALITY
PROD
PLATFORM_INDEP
CORRECT
11
0
25
20
12
0
47
27
0
0
1
0
6
1
45
17
HW
N/A
PIM
PSM
MDA.levels.covered
Intended.benefits
Frequency
80
60
40
20
0

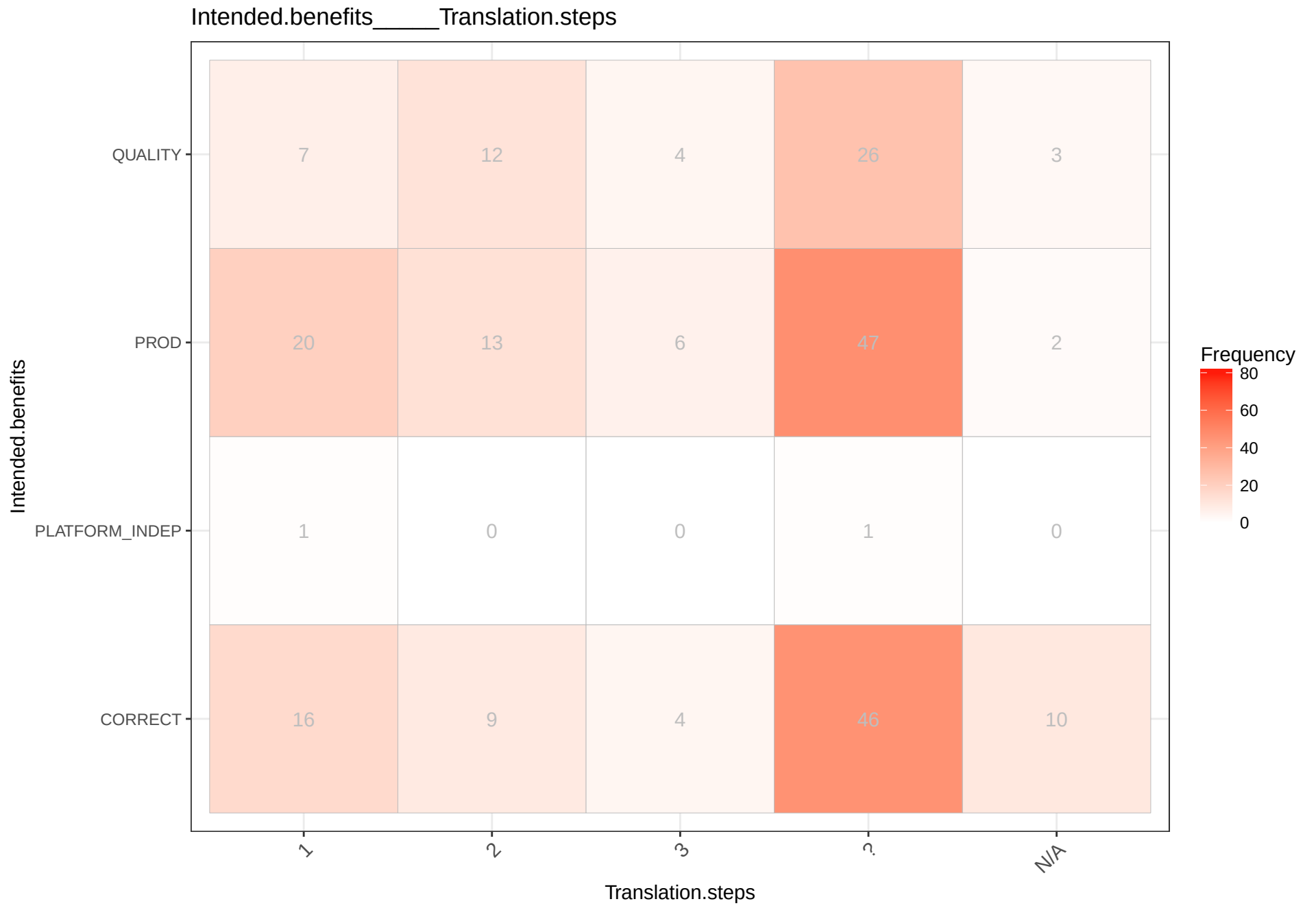

Intended.benefits_____Non.functional.properties
QUALITY
PROD
PLATFORM_INDEP
CORRECT
Intended.benefits
1
2
1
22
2
1
2
32
2
1
14
2
0
0
1
0
0
0
0
0
0
35
1
0
9
1
1
1
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

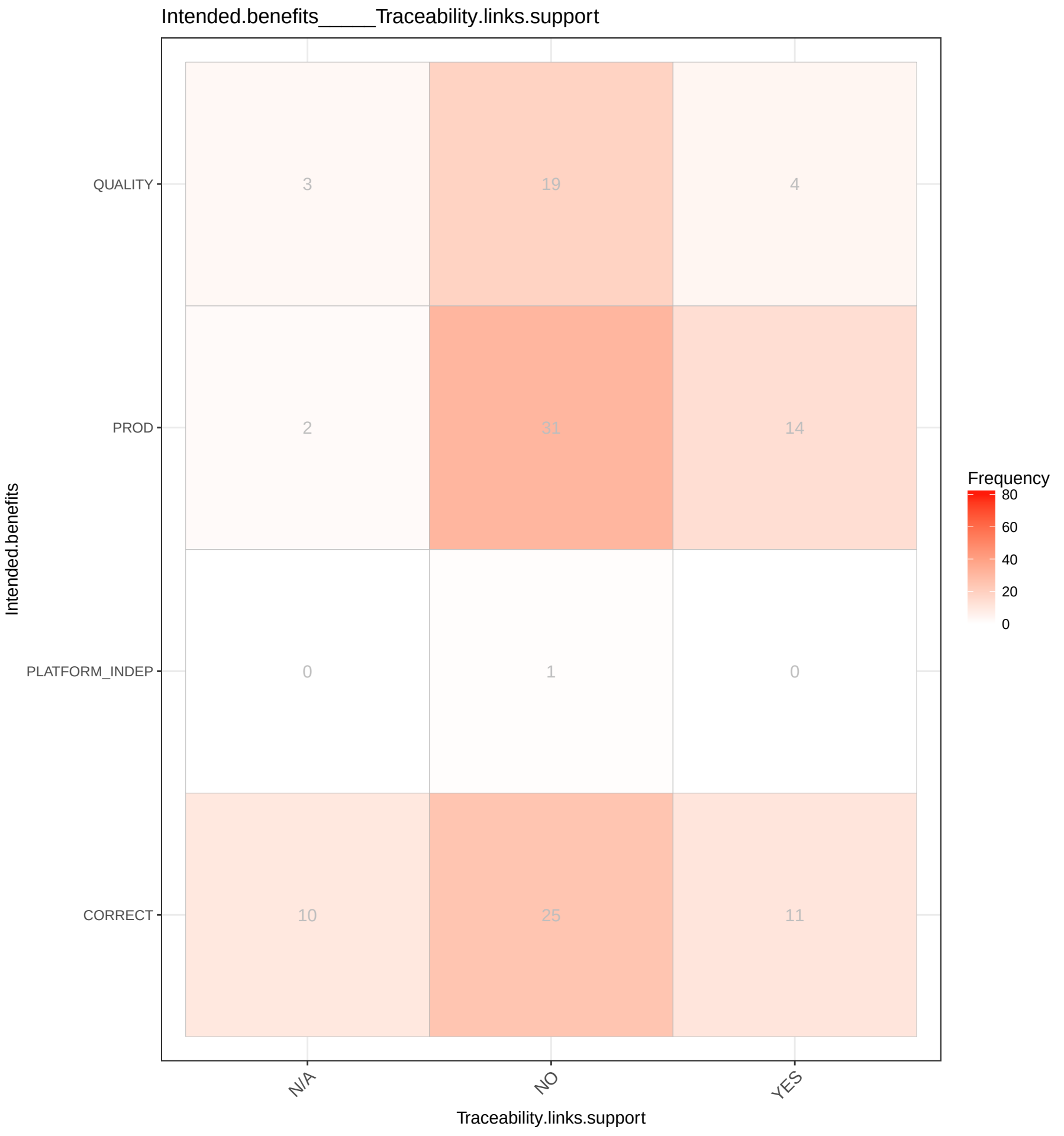

Intended.benefits_____Production.system
QUALITY
PROD
PLATFORM_INDEP
CORRECT
10
16
3
44
0
1
22
24
Intended.benefits
NO
YES
Production.system
Frequency
80
60
40
20
0

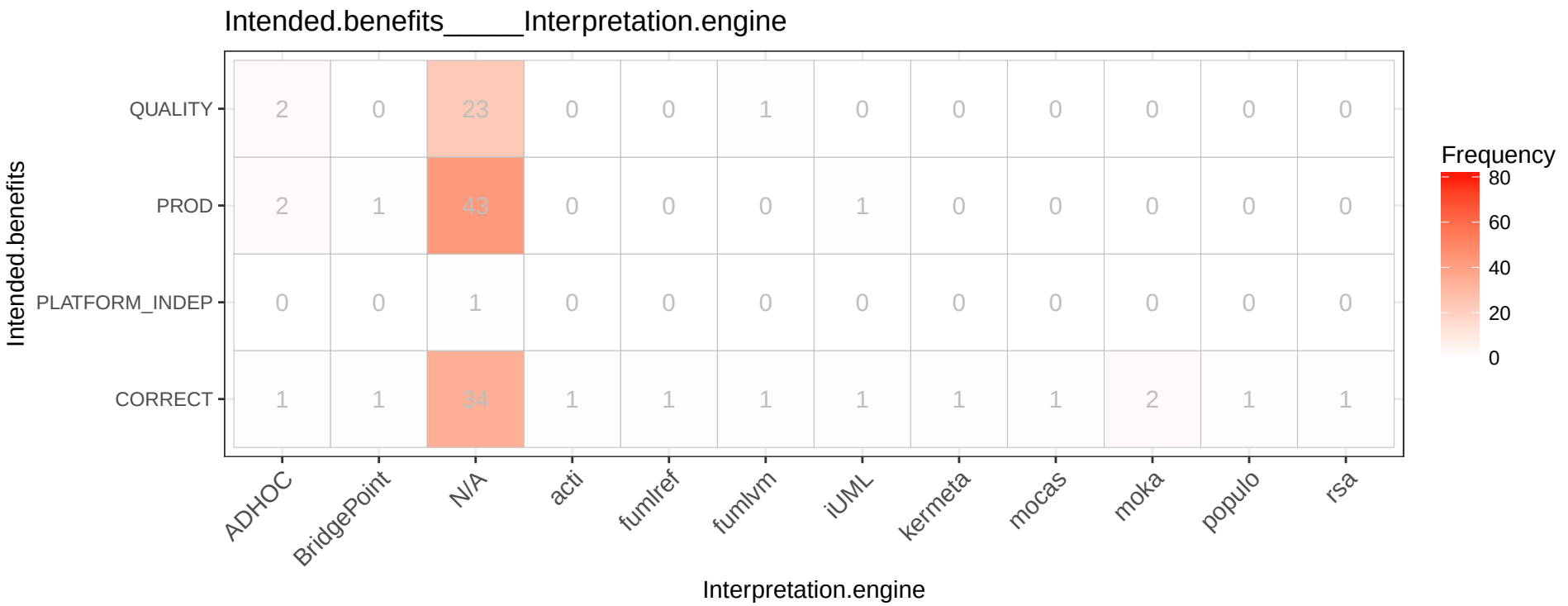

Intended.benefits_____Model.level.debugging
QUALITY
PROD
PLATFORM_INDEP
CORRECT
26
0
34
13
1
0
29
17
Intended.benefits
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

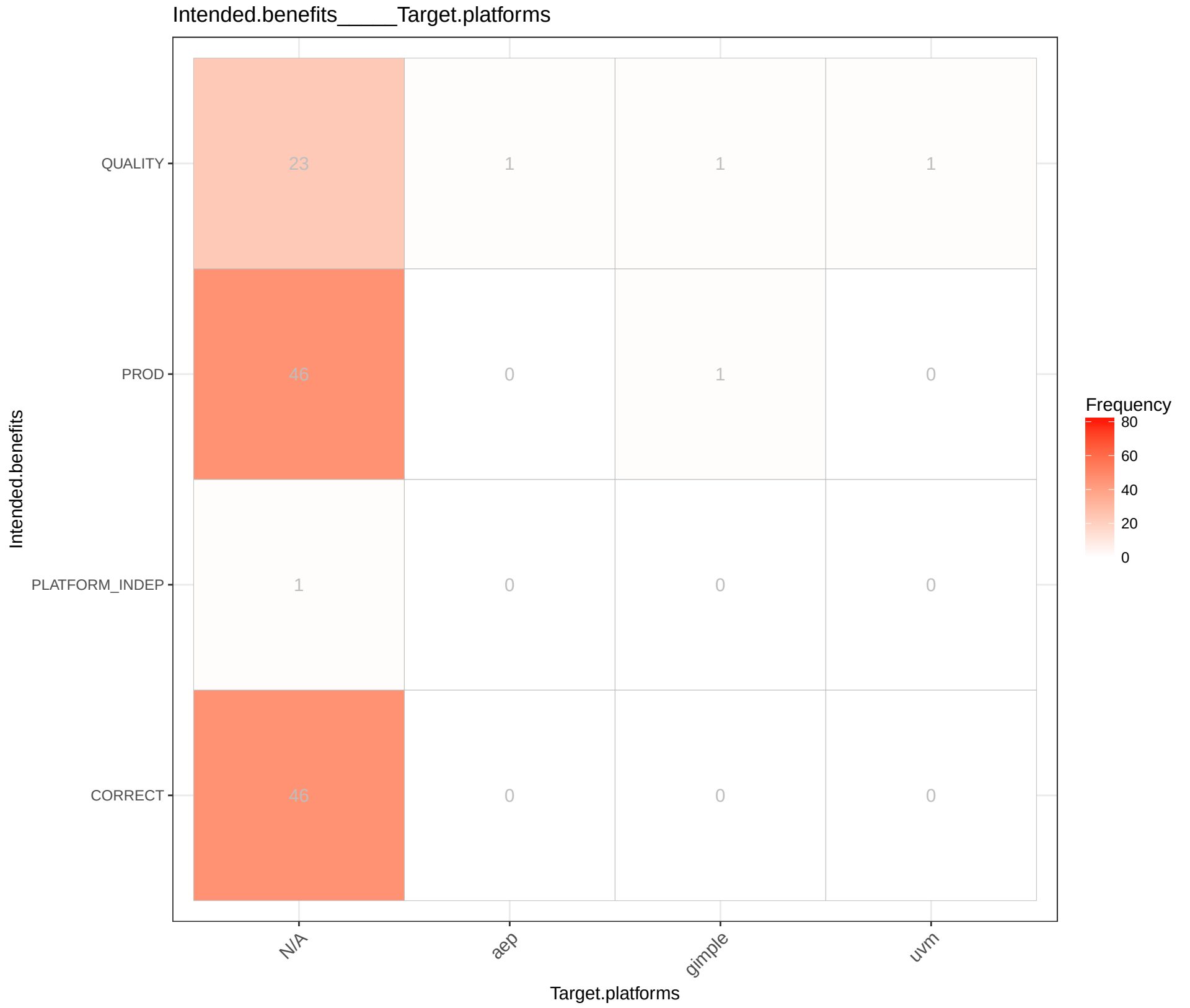

Intended.benefits_____Formal.specification.languages
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
0 0 21 1 1 0 1 1 0 1 1 0
0 1 39 1 1 1 0 1 1 1 1 1
0 0 0 0 0 0 0 0 0 1 0 0
2 1 38 1 1 0 1 1 1 0 1 0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

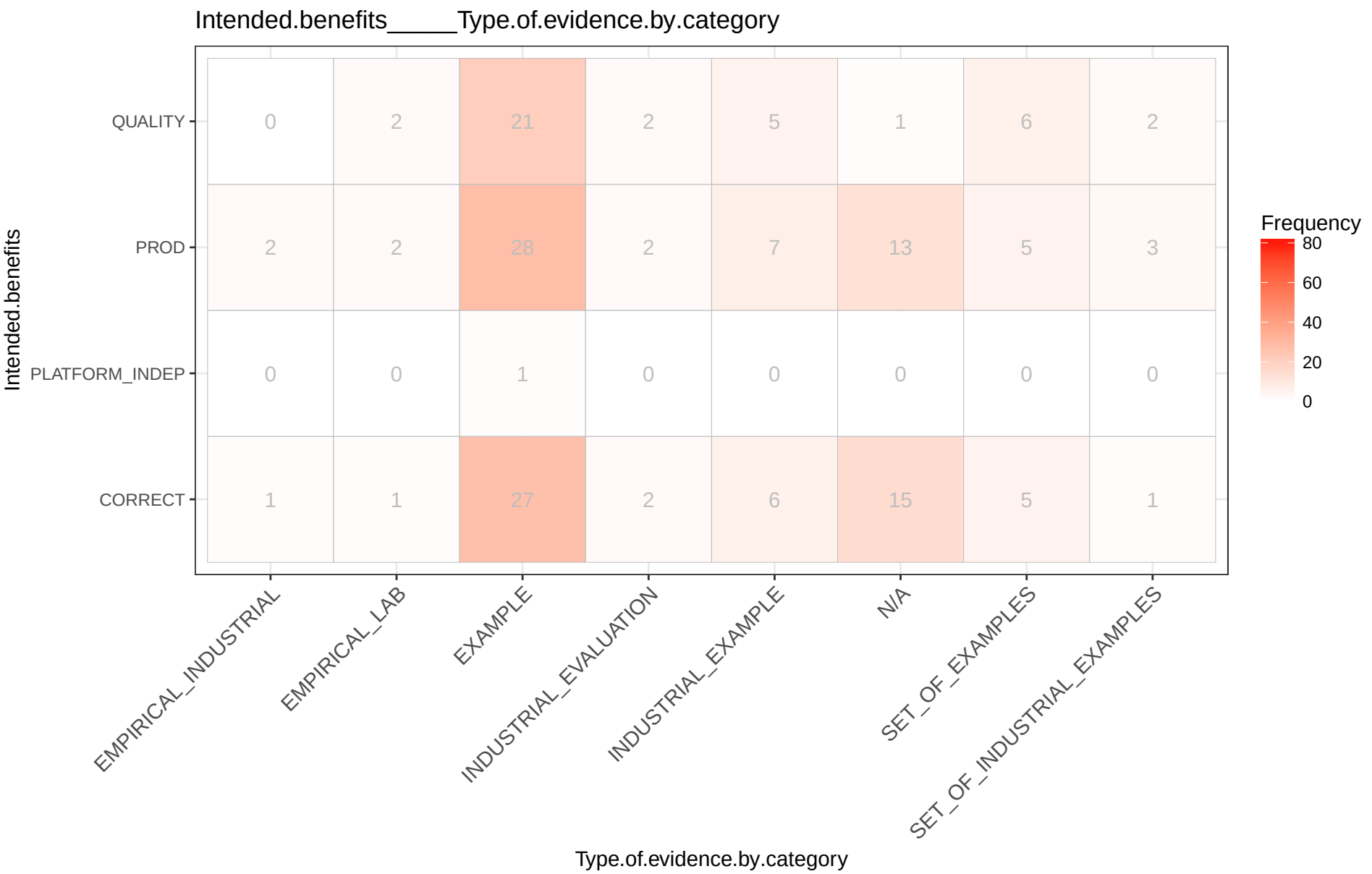

Intended.benefits_____Software.platform
QUALITY
PROD
PLATFORM_INDEP
CORRECT
Intended.benefits
3
11
12
2
27
18
0
0
1
10
11
25
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

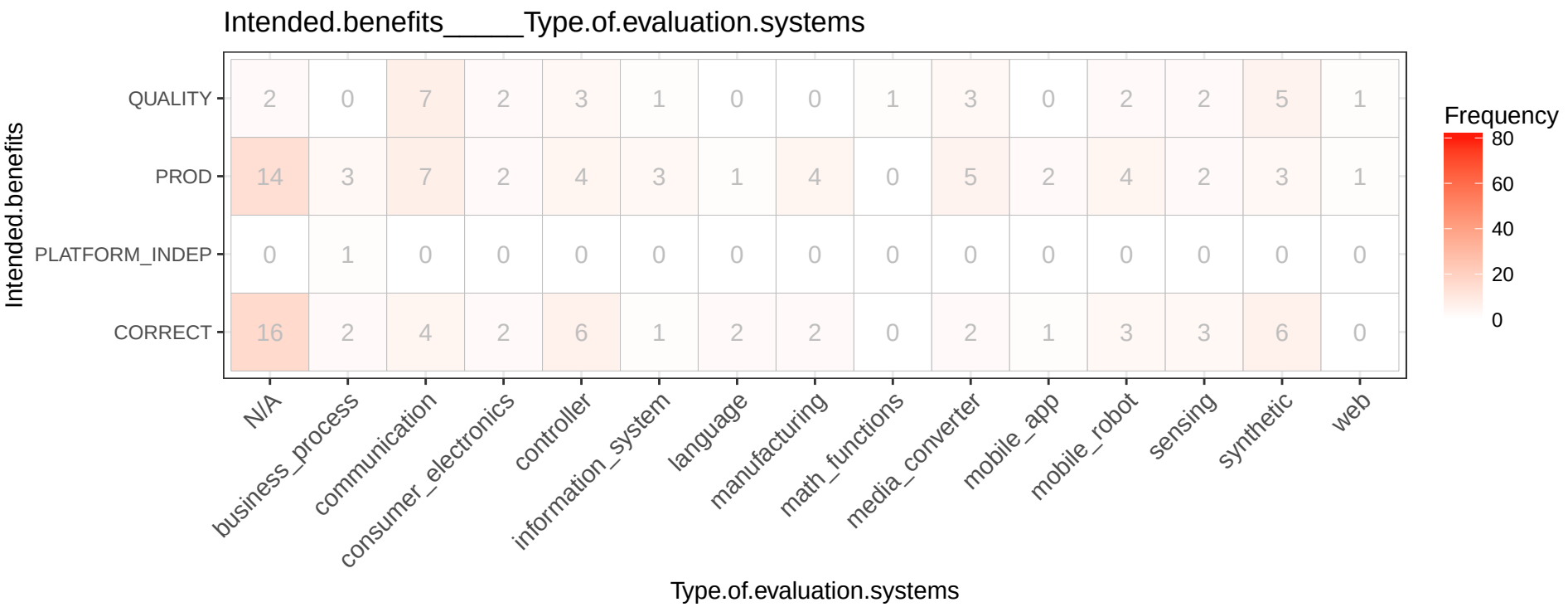

Intended.benefits_____Translation.steps
QUALITY
PROD
PLATFORM_INDEP
CORRECT
7
12
4
26
3
20
13
6
47
2
1
0
0
1
0
16
9
4
46
10
Intended.benefits
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

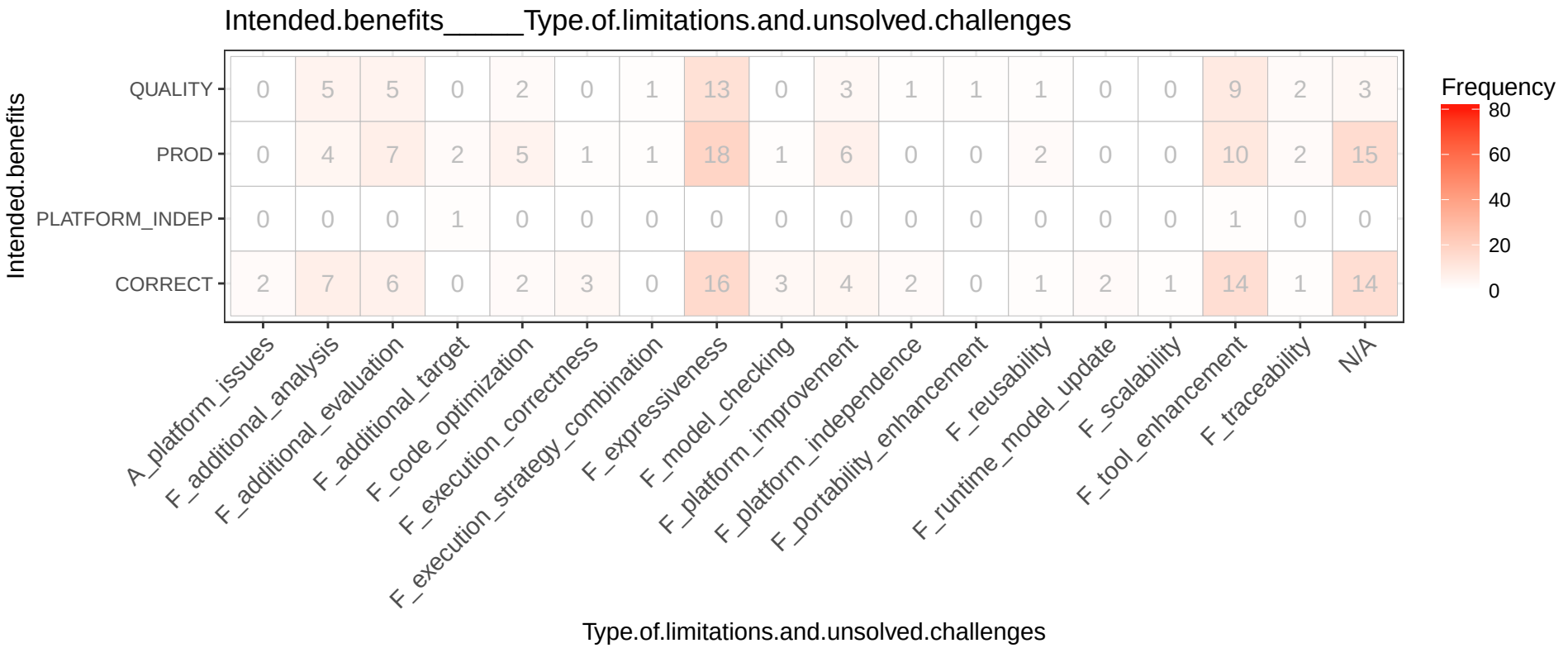

Intended.benefits_____Traceability.links.support
QUALITY
PROD
PLATFORM_INDEP
CORRECT
3
19
4
2
31
14
0
1
0
10
25
11
Intended.benefits
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

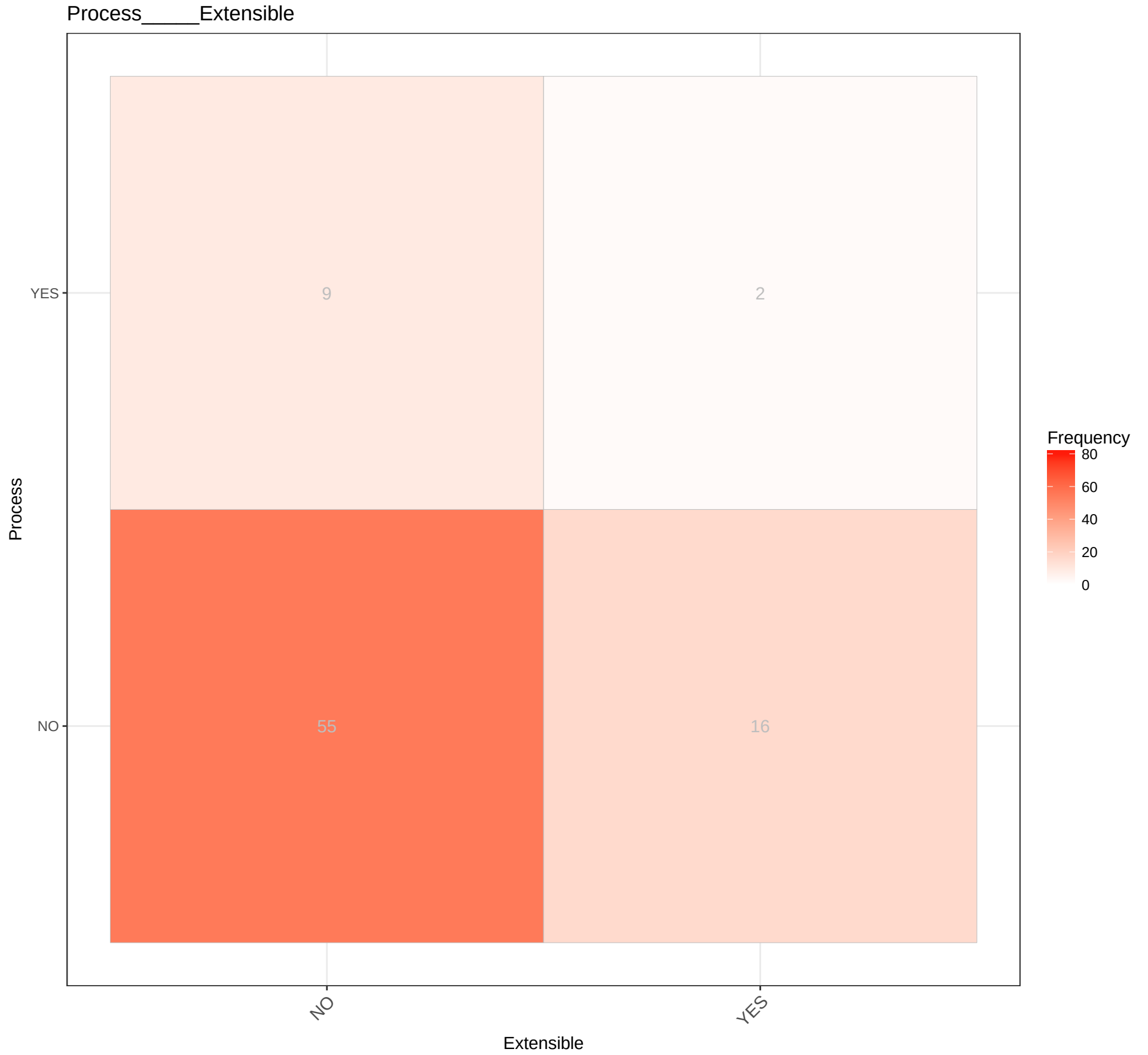

Intended.benefits_____Interpretation.engine
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
2 0 23 0 0 1 0 0 0 0 0 0
2 1 43 0 0 0 1 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
1 1 34 1 1 1 1 1 1 2 1 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

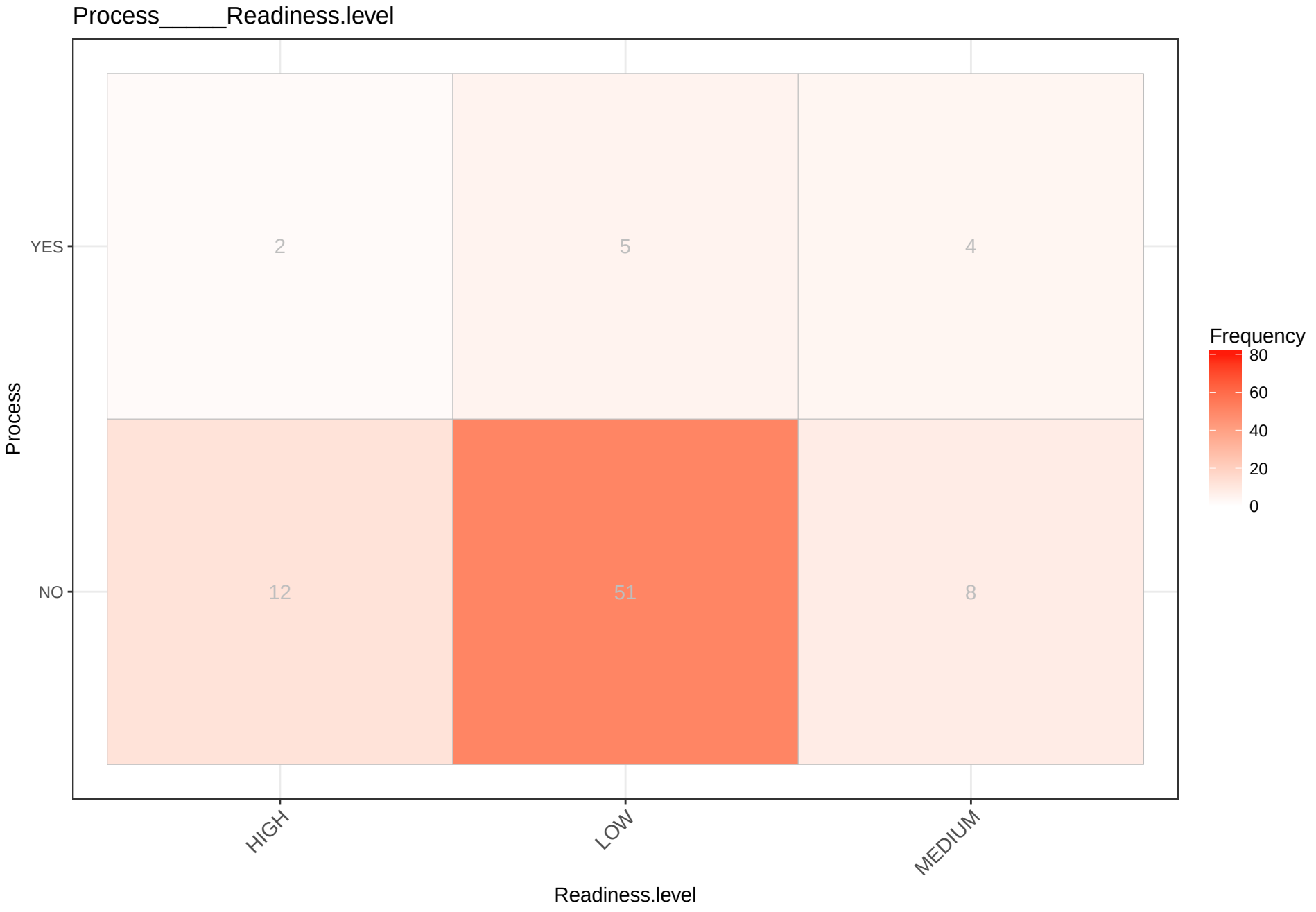

Intended.benefits_____Target.platforms
QUALITY
PROD
PLATFORM_INDEP
CORRECT
23
1
1
1
46
0
1
0
1
0
0
0
46
0
0
0
Intended.benefits
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

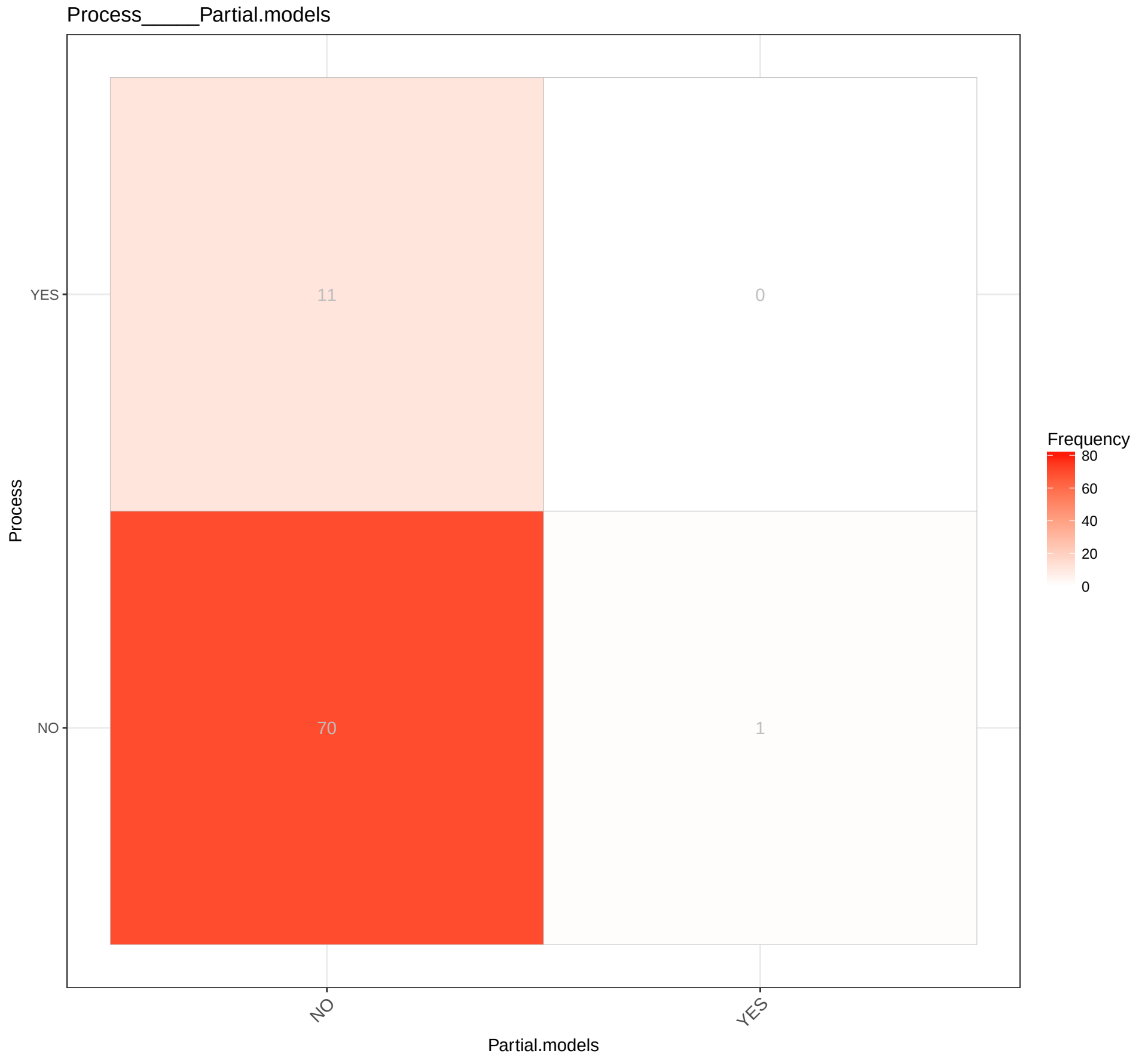

Intended.benefits_____Type.of.evidence.by.category
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
0 2 21 2 5 1 6 2
2 2 28 2 7 13 5 3
0 0 1 0 0 0 0 0
1 1 27 2 6 15 5 1
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

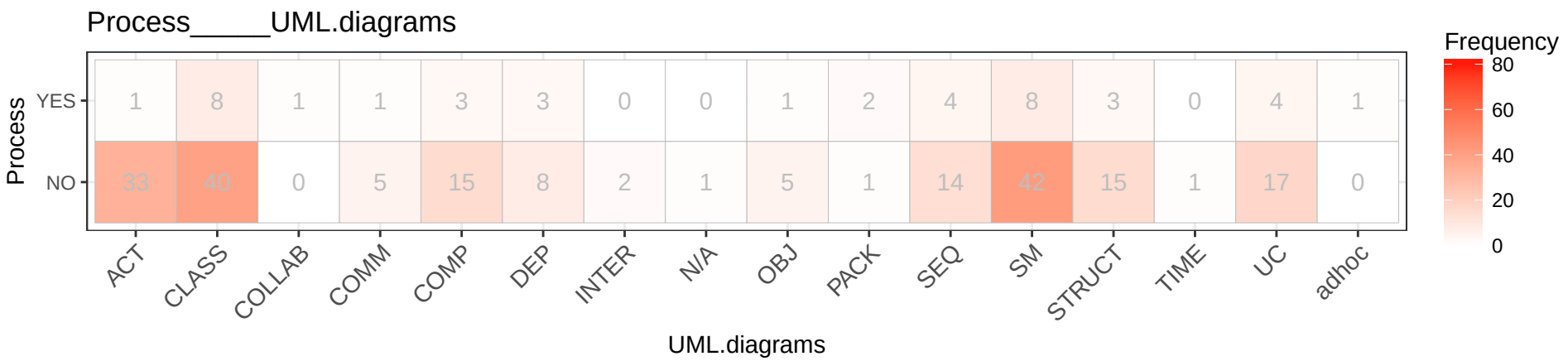

Intended.benefits_____Type.of.evaluation.systems
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
2 0 7 2 3 1 0 0 1 3 0 2 2 5 1
14 3 7 2 4 3 1 4 0 5 2 4 2 3 1
0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
16 2 4 2 6 1 2 2 0 2 1 3 3 6 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

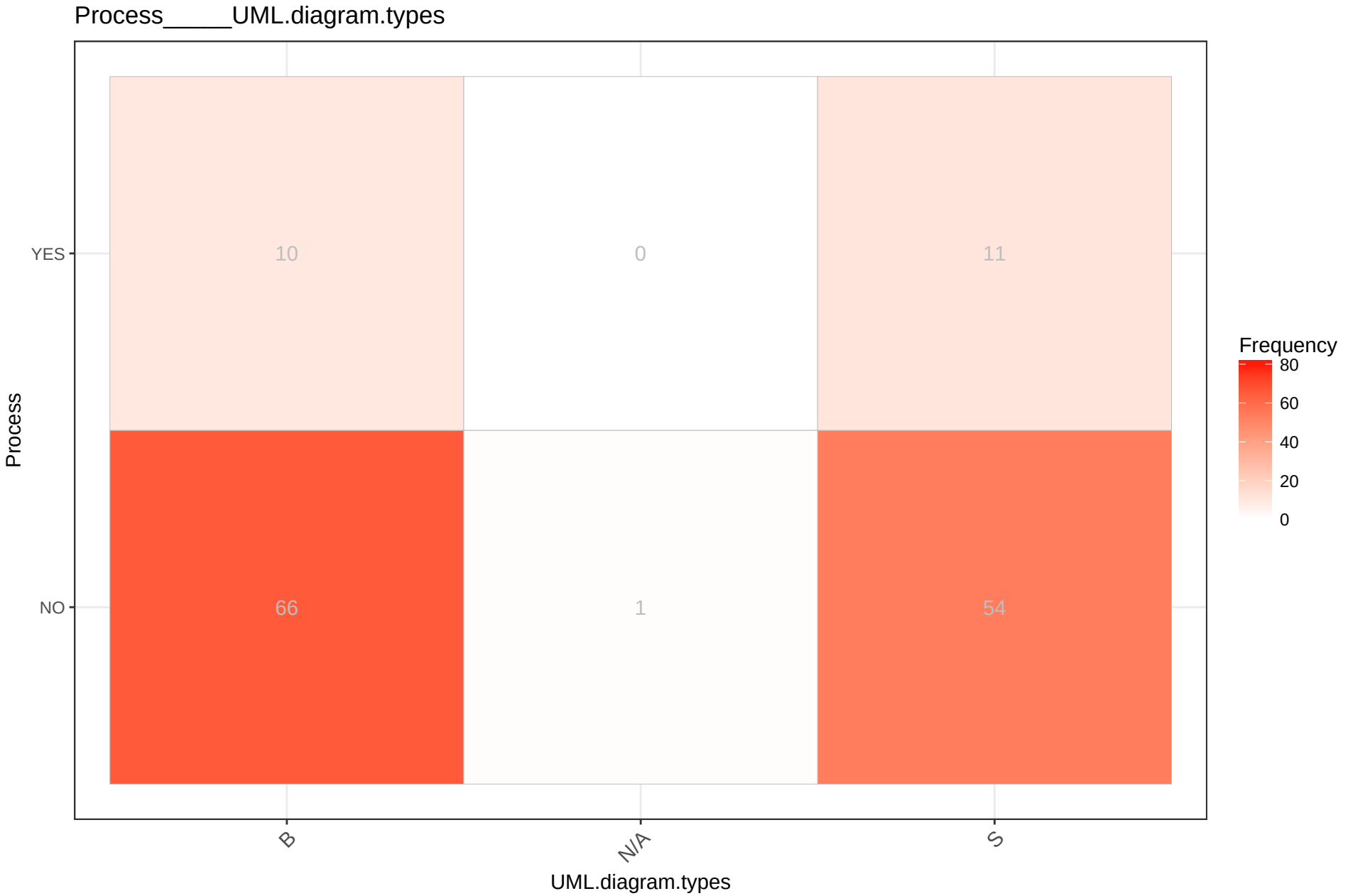

Intended.benefits_____Type.of.limitations.and.unsolved.challenges
Intended.benefits
QUALITY
PROD
PLATFORM_INDEP
CORRECT
0 5 5 0 2 0 1 13 0 3 1 1 1 0 0 9 2 3
0 4 7 2 5 1 1 18 1 6 0 0 2 0 0 10 2 15
0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0
2 7 6 0 2 3 0 16 3 4 2 0 1 2 1 14 1 14
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

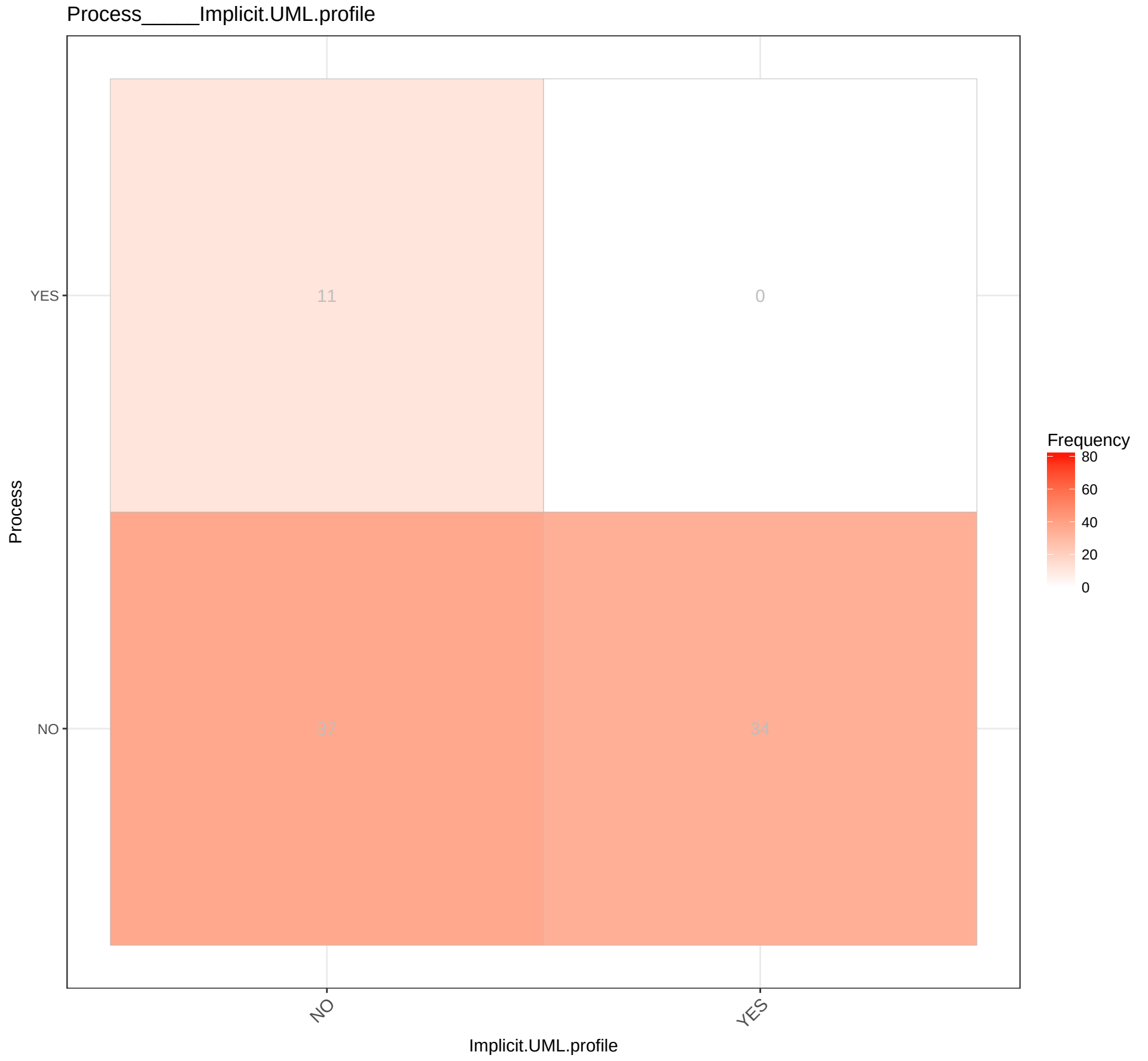

Process_____Extensible
YES
NO
9
2
55
16
Process
NO
YES
Extensible
Frequency
80
60
40
20
0

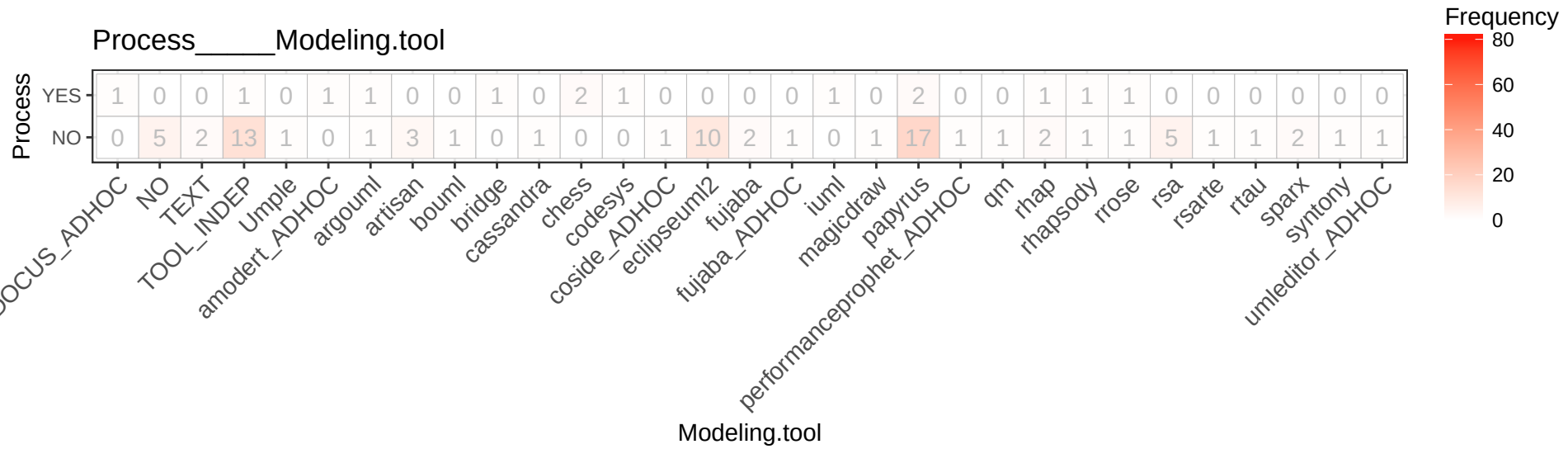

Process_____Readiness.level
YES
NO
2
5
4
12
51
8
Process
HIGH
LOW
MEDIUM
Readiness.level
Frequency
80
60
40
20
0

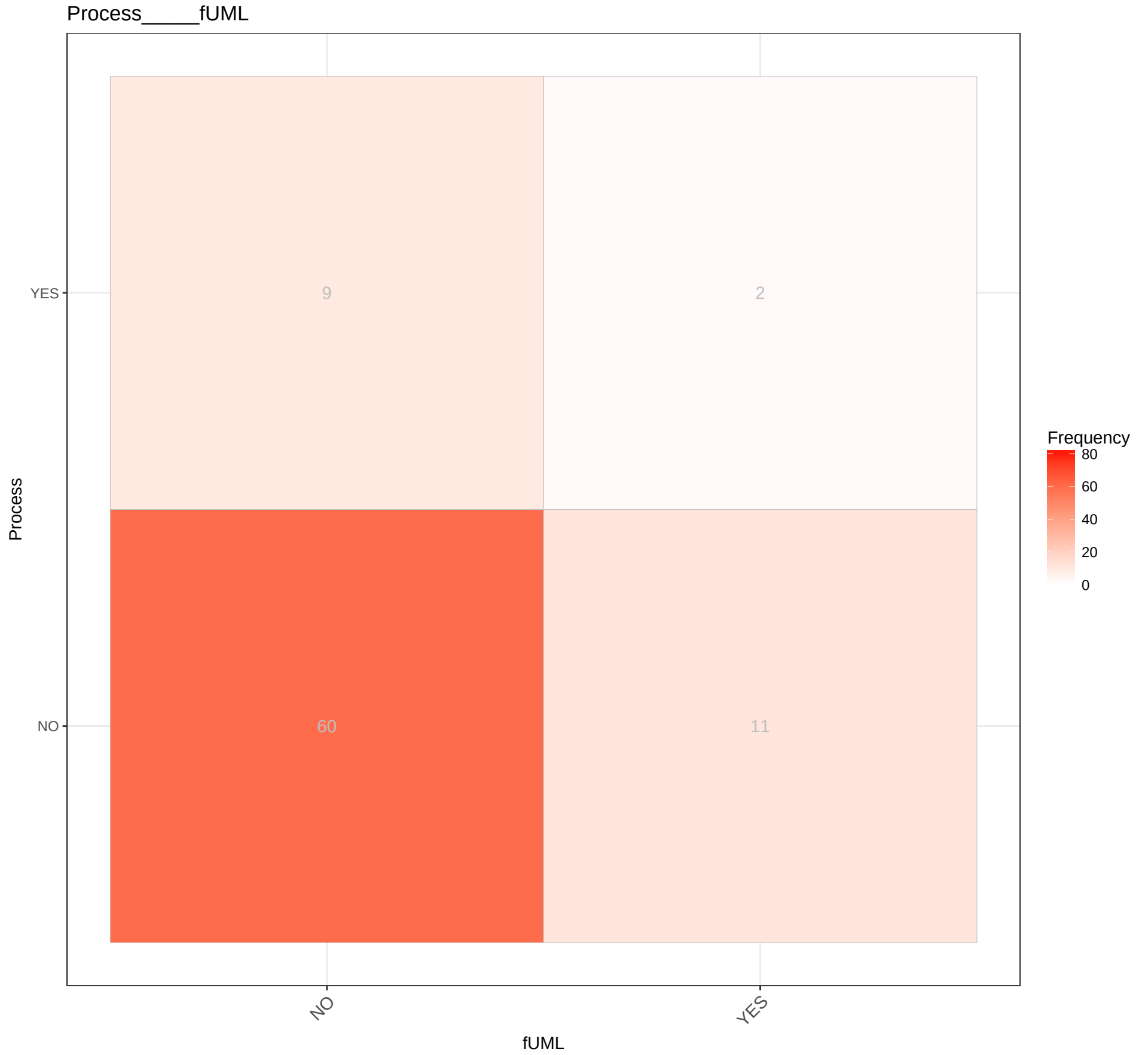

Process_____Partial.models
YES
NO
11
0
70
1
Process
NO
YES
Partial.models
Frequency
80
60
40
20
0

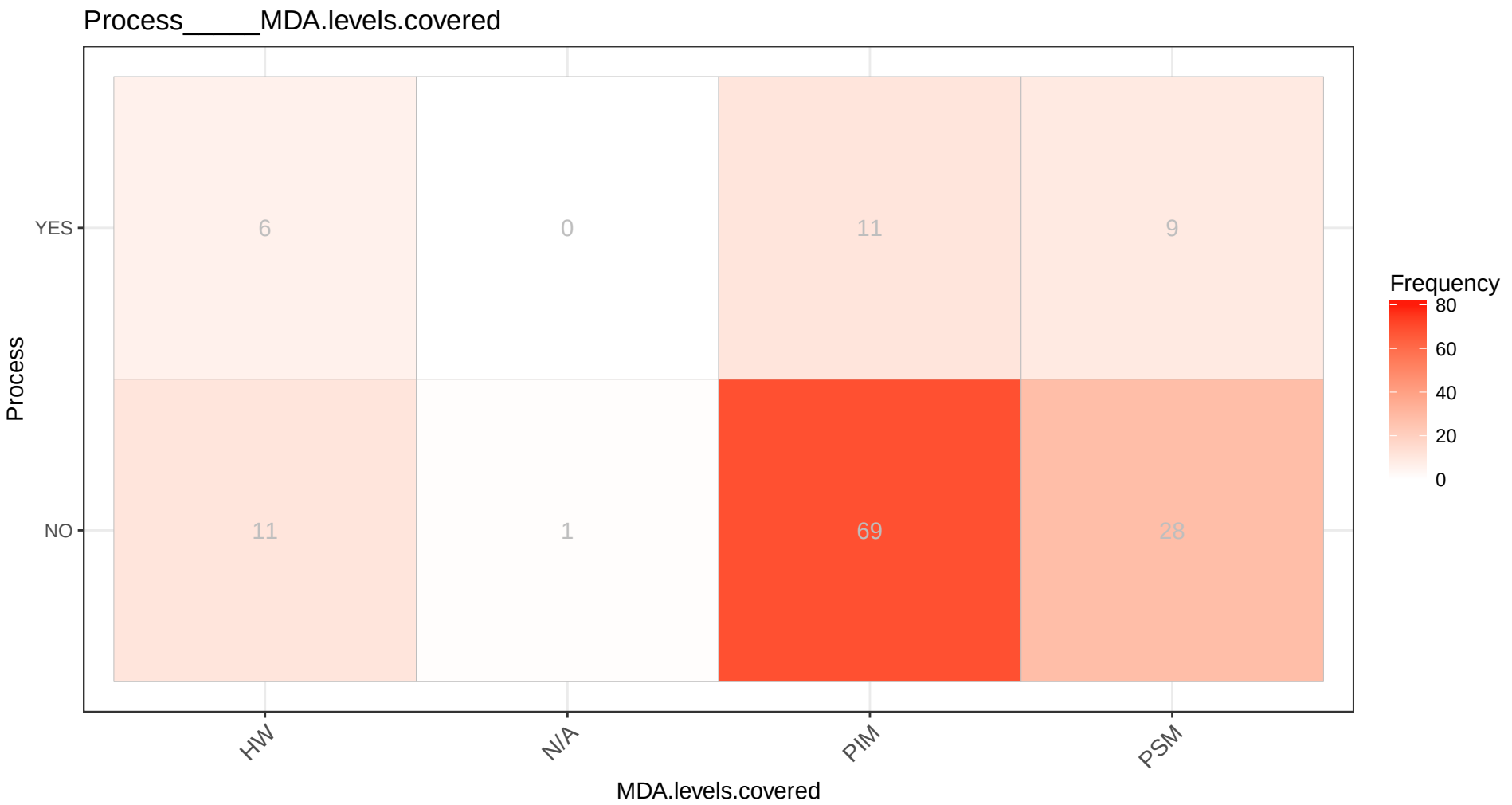

Process_____UML.diagrams
Process
YES
NO
1
8
1
1
3
3
0
0
1
2
4
8
3
0
4
1
33
40
0
5
15
8
2
1
5
1
14
42
15
1
17
0
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

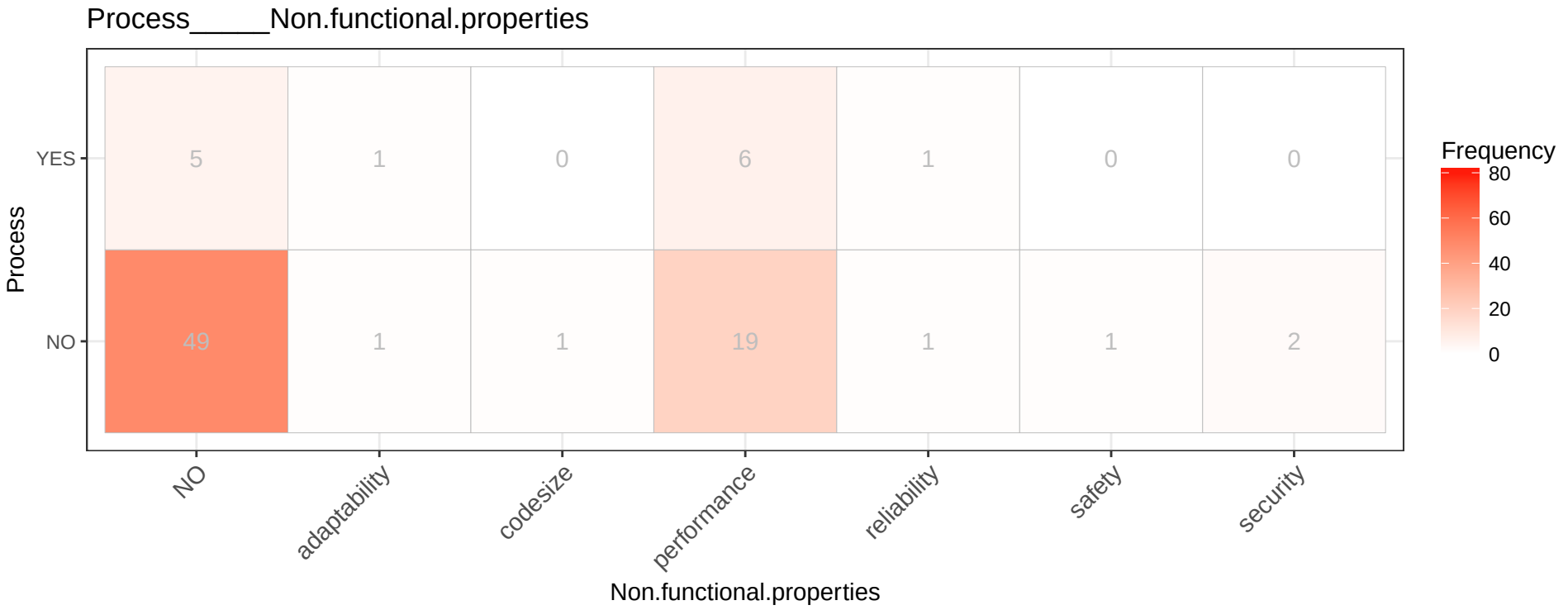

Process_____UML.diagram.types
YES
NO
Process
10
0
11
66
1
54
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

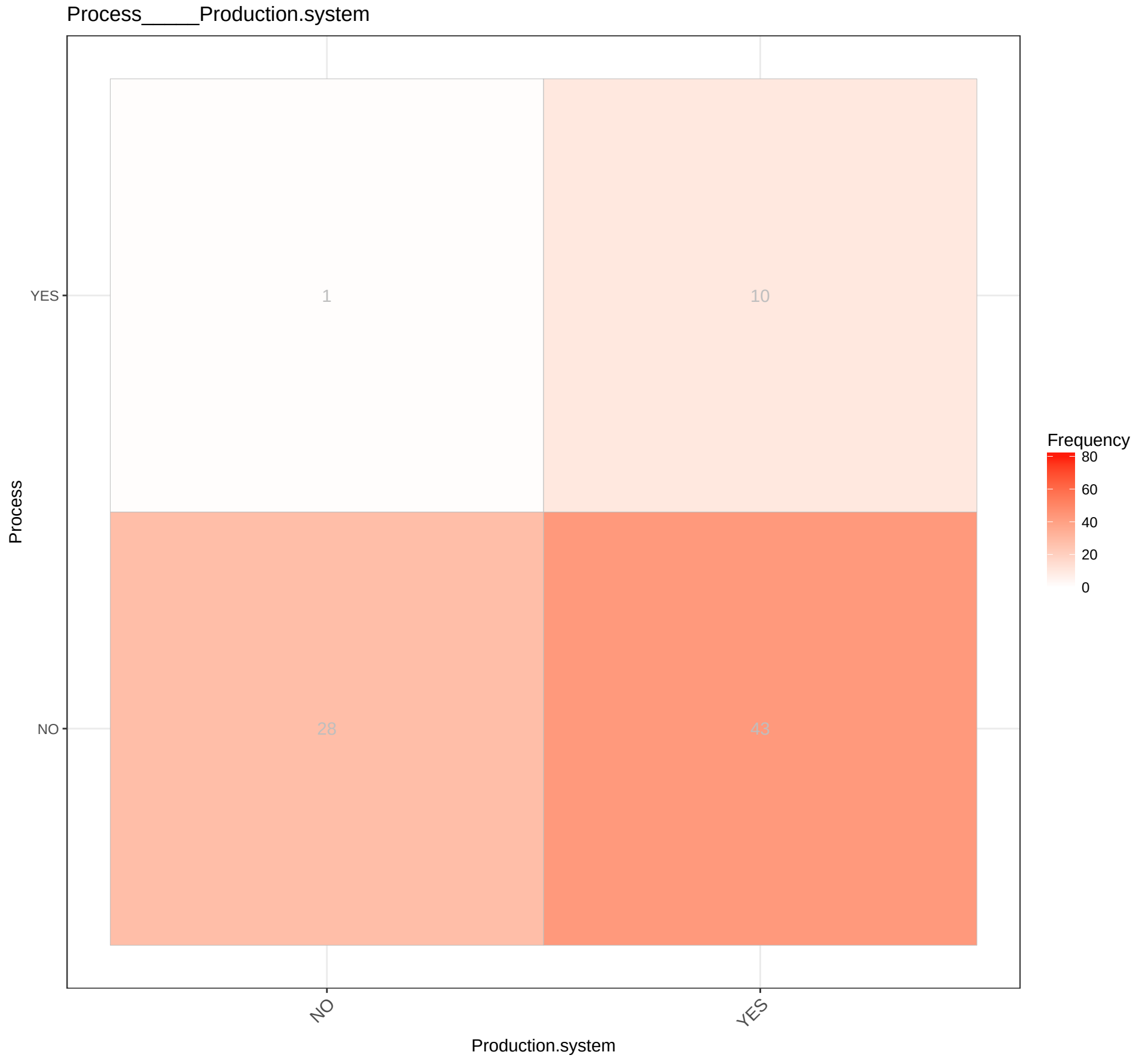

Process_____Implicit.UML.profile
YES
NO
11
0
37
34
Process
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

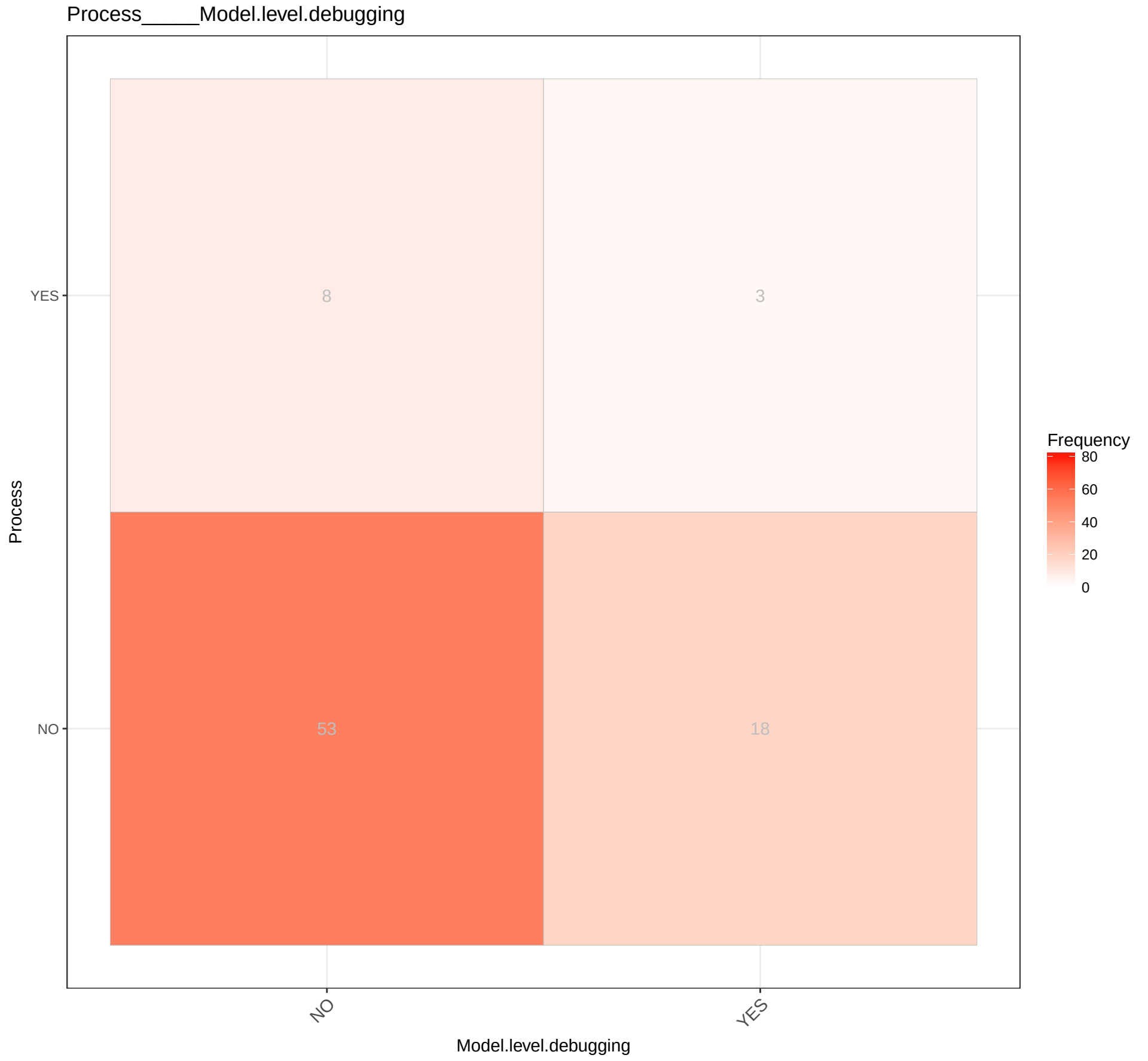

Process_____Modeling.tool
Process
YES
NO
1 0 0 1 0 1 1 0 0 1 0 2 1 0 0 0 0 1 0 2 0 0 1 1 1 0 0 0 0 0 0
0 5 2 13 1 0 1 3 1 0 1 0 0 1 10 2 1 0 1 17 1 1 2 1 1 5 1 1 2 1 1
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

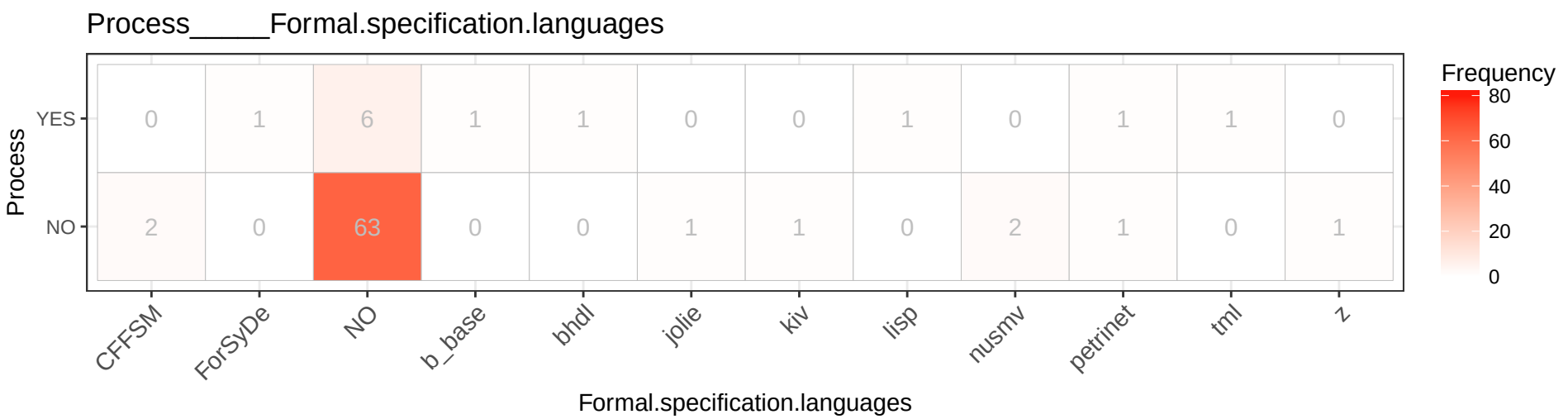

Process_____fUML
YES
NO
9
2
60
11
Process
NO
YES
fUML
Frequency
80
60
40
20
0

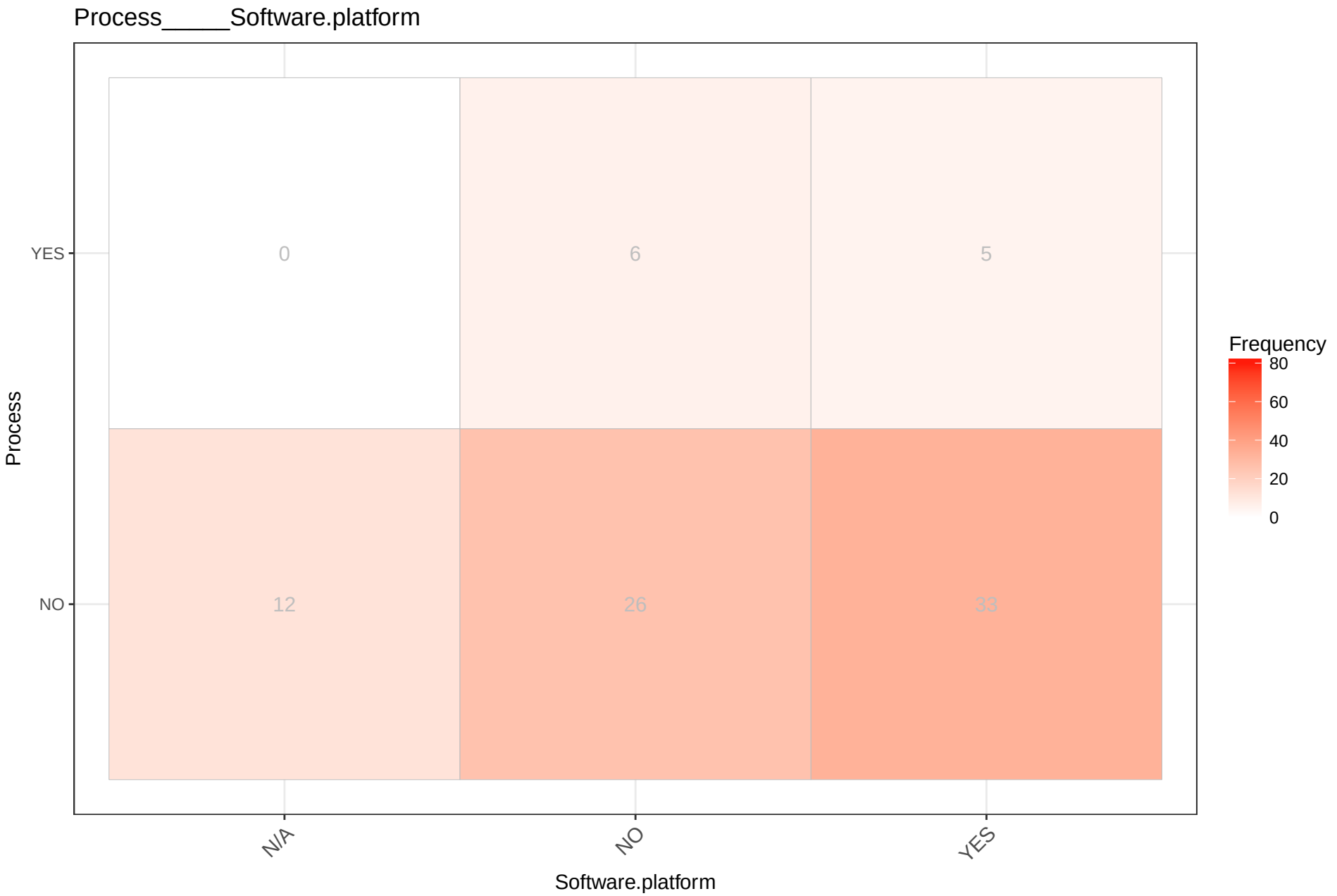

Process_____MDA.levels.covered
Process
YES
NO
6
0
11
9
11
1
69
28
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

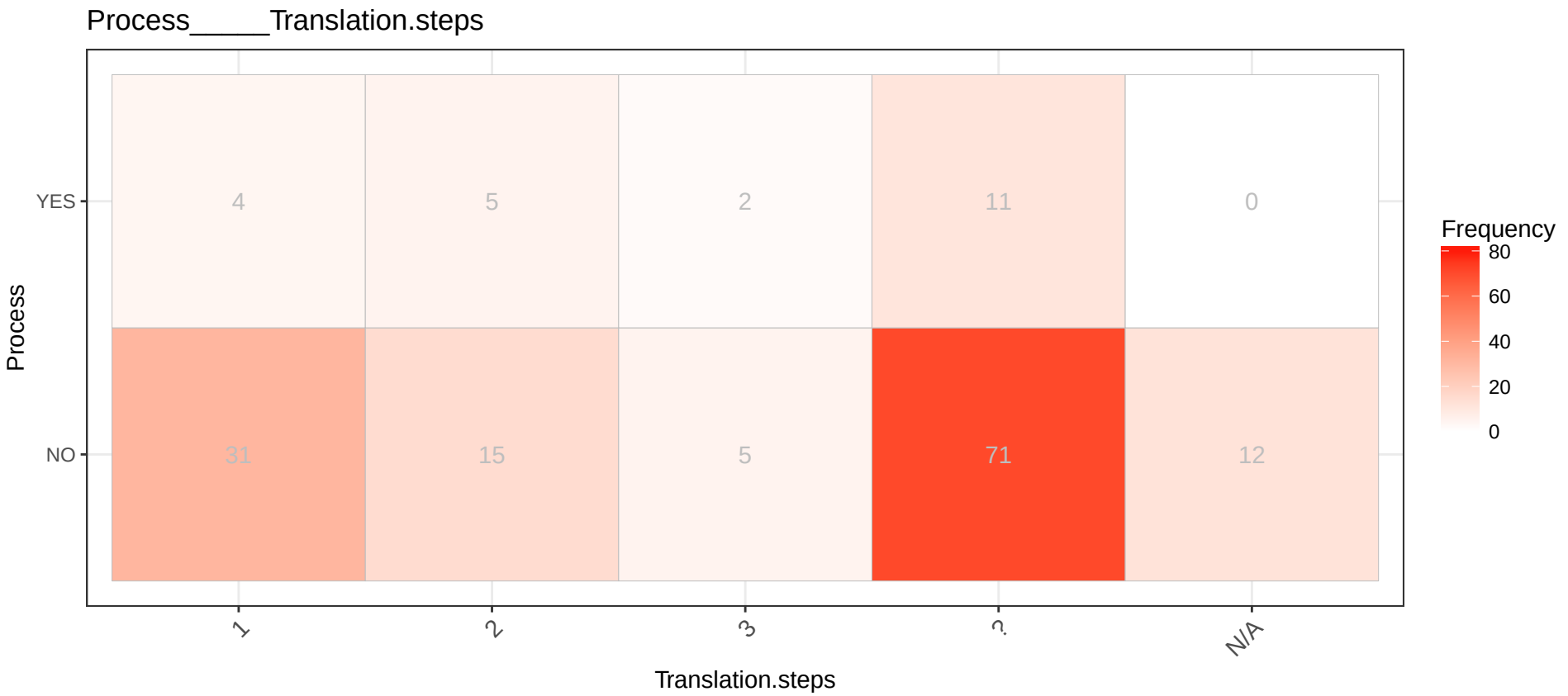

Process_____Non.functional.properties
Process
YES
NO
5
1
0
6
1
0
0
49
1
1
19
1
1
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

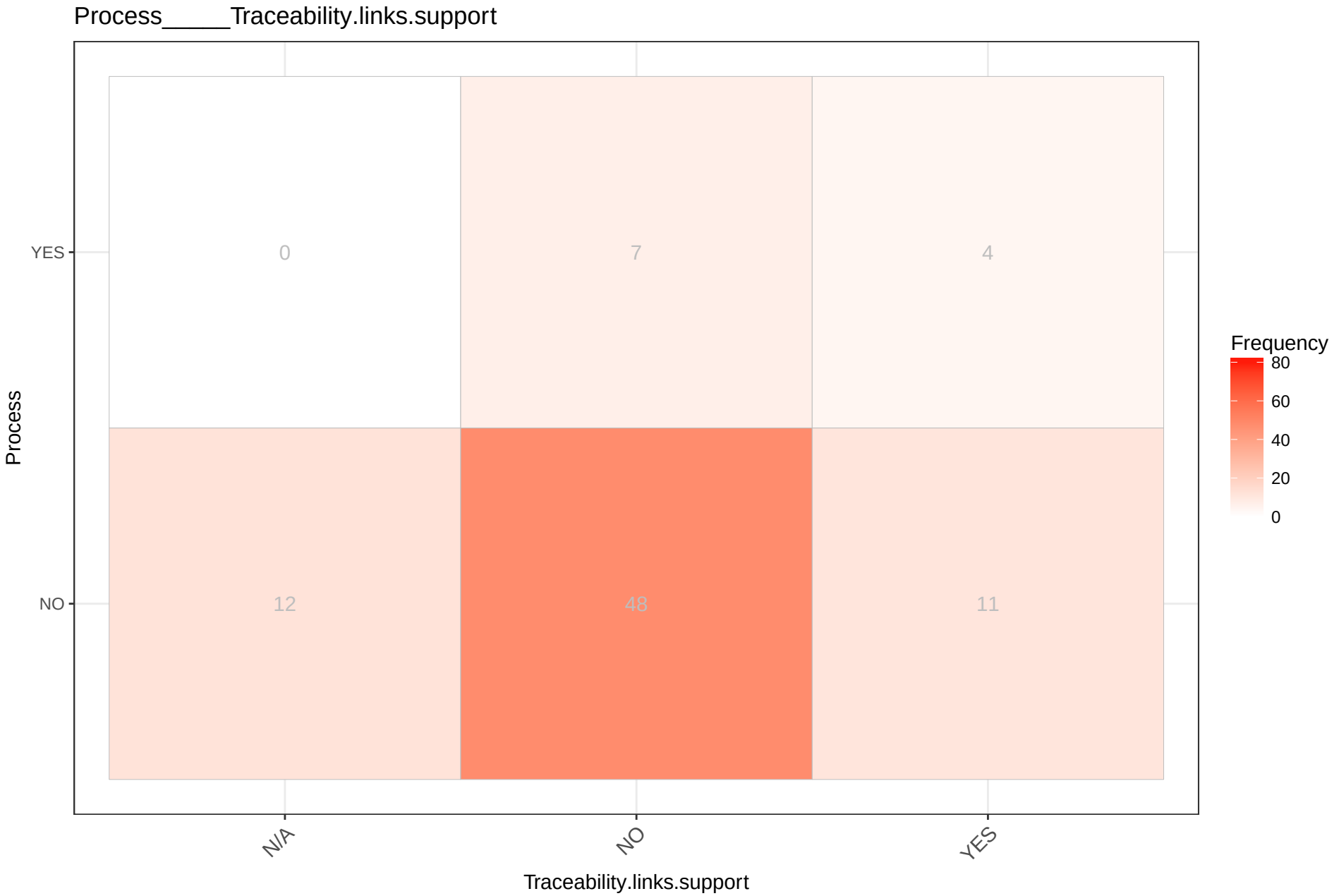

Process_____Production.system
YES
NO
1
10
28
43
Process
NO
YES
Production.system
Frequency
80
60
40
20
0

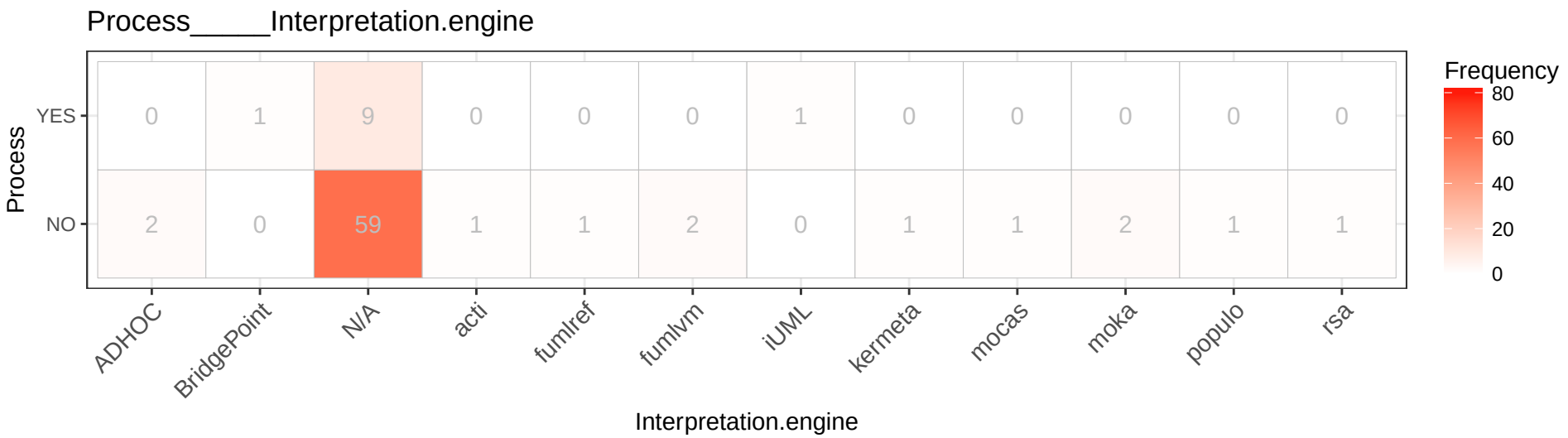

Process_____Model.level.debugging
YES
NO
8
3
53
18
Process
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

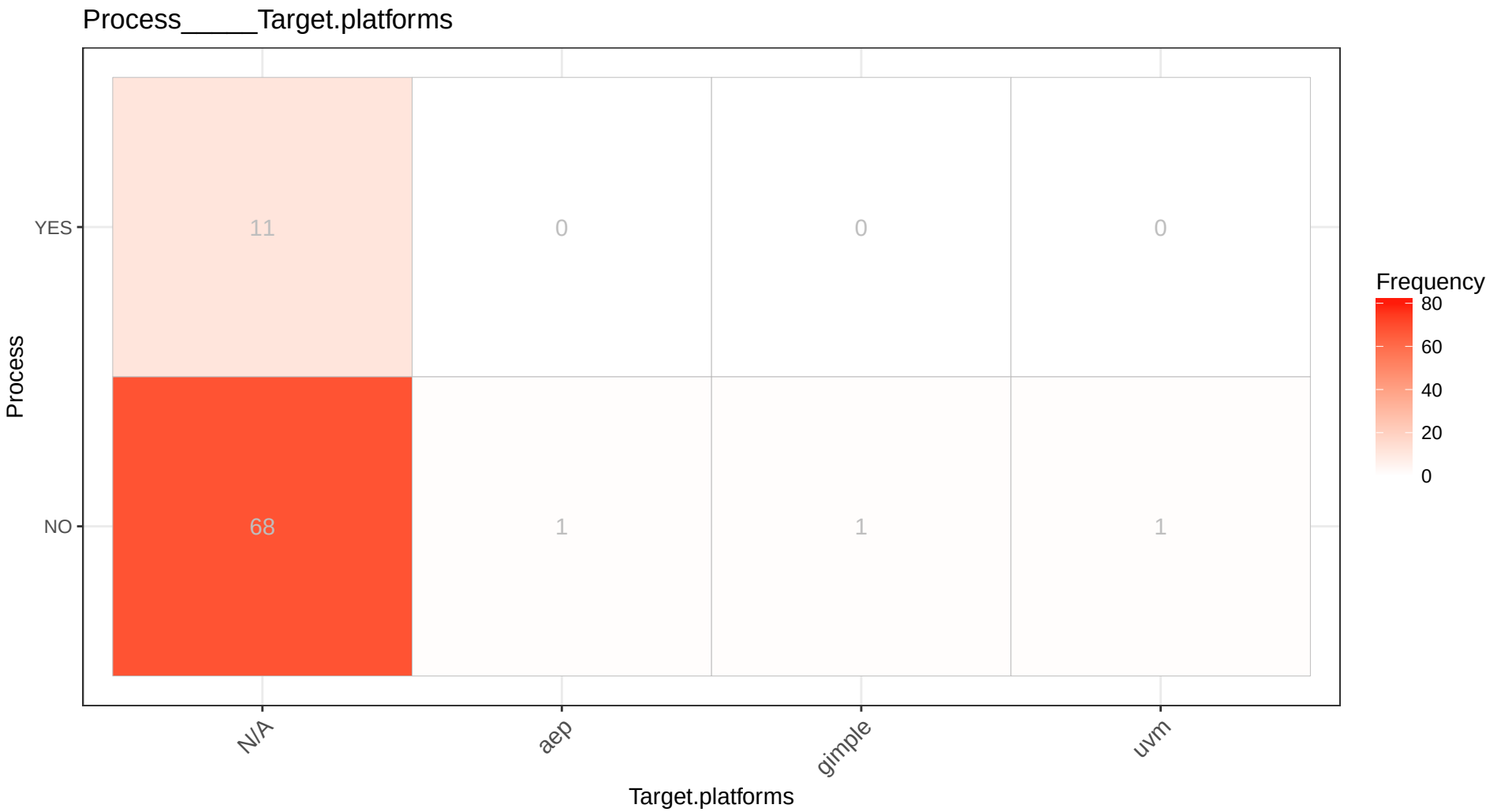

Process_____Formal.specification.languages
Process
YES
NO
0 1 6 1 1 0 0 1 0 1 1 0
2 0 63 0 0 1 1 0 2 1 0 1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

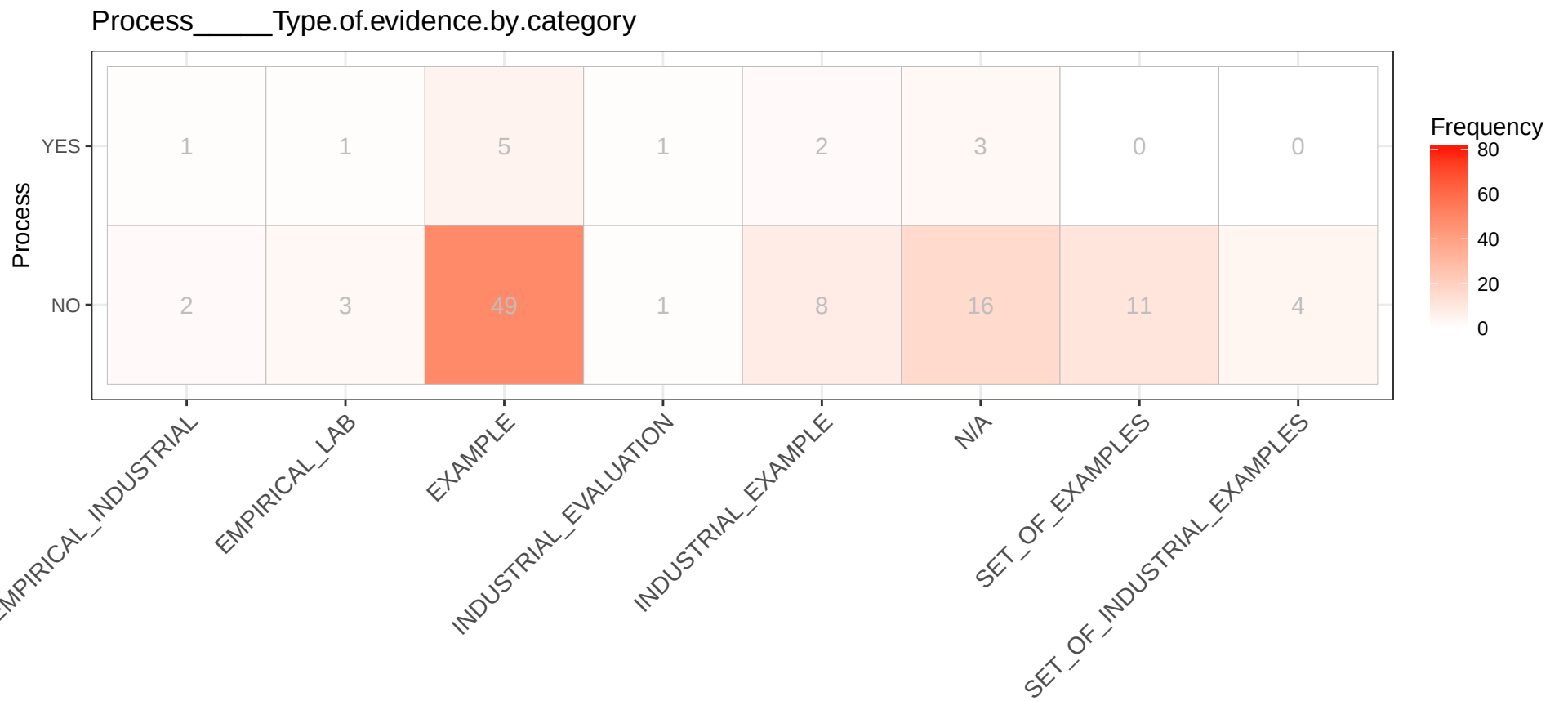

Process_____Software.platform
YES
NO
0
6
5
12
26
33
Process
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

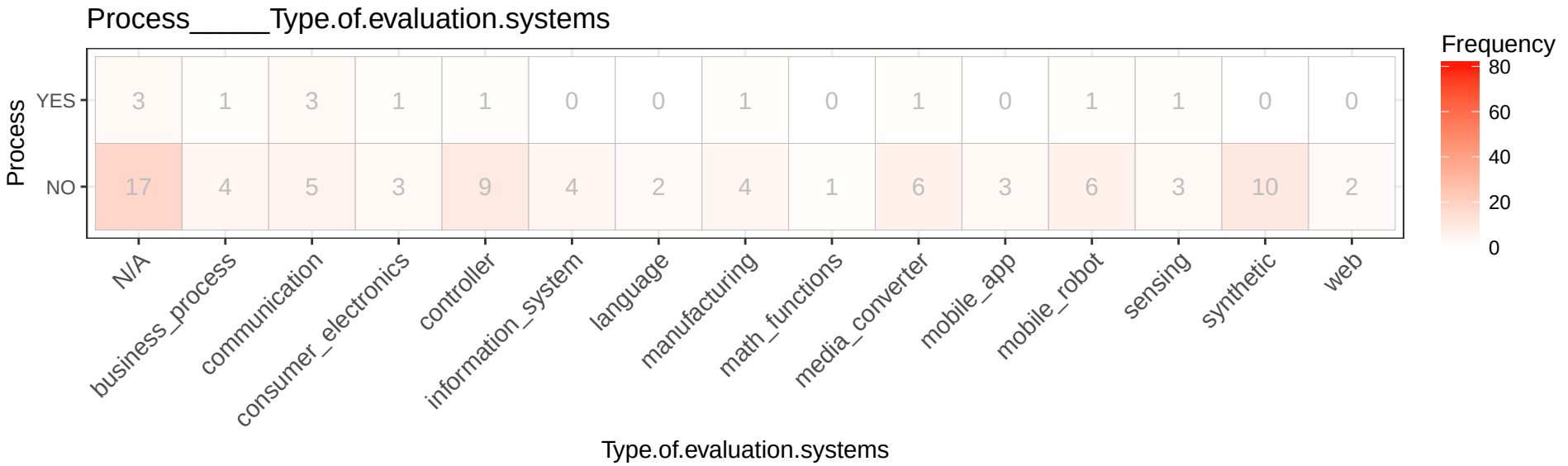

Process_____Translation.steps
YES
NO
Process
4
5
2
11
0
31
15
5
71
12
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

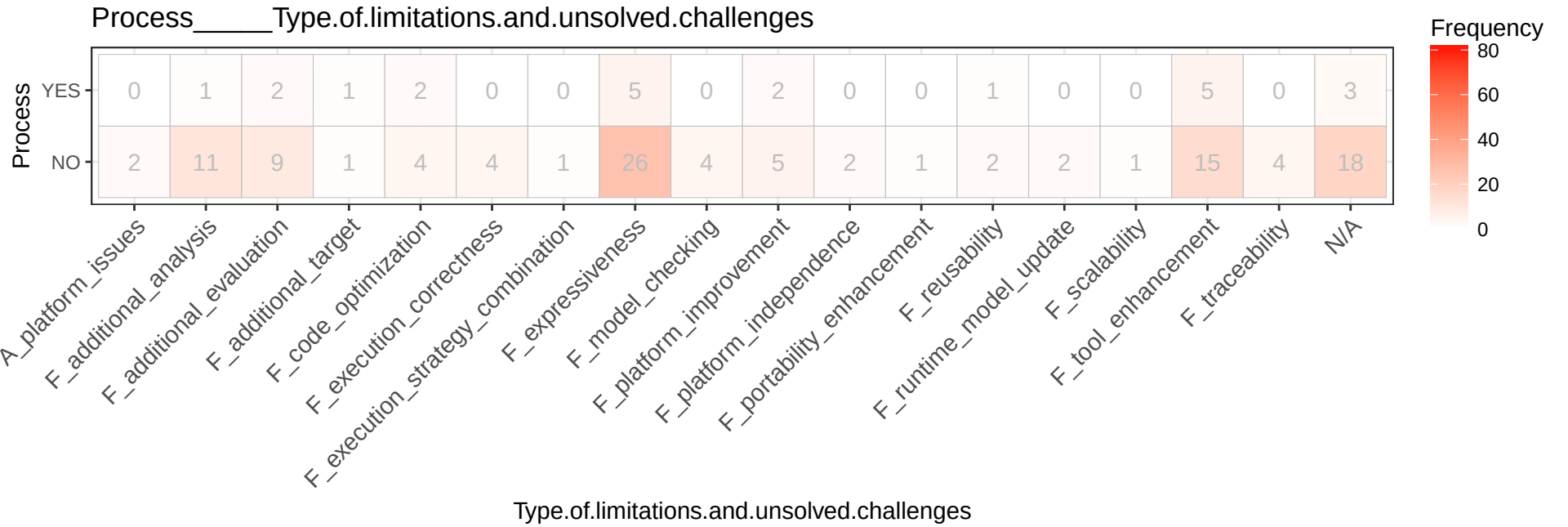

Process_____Traceability.links.support
YES
NO
0
7
4
12
48
11
Process
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

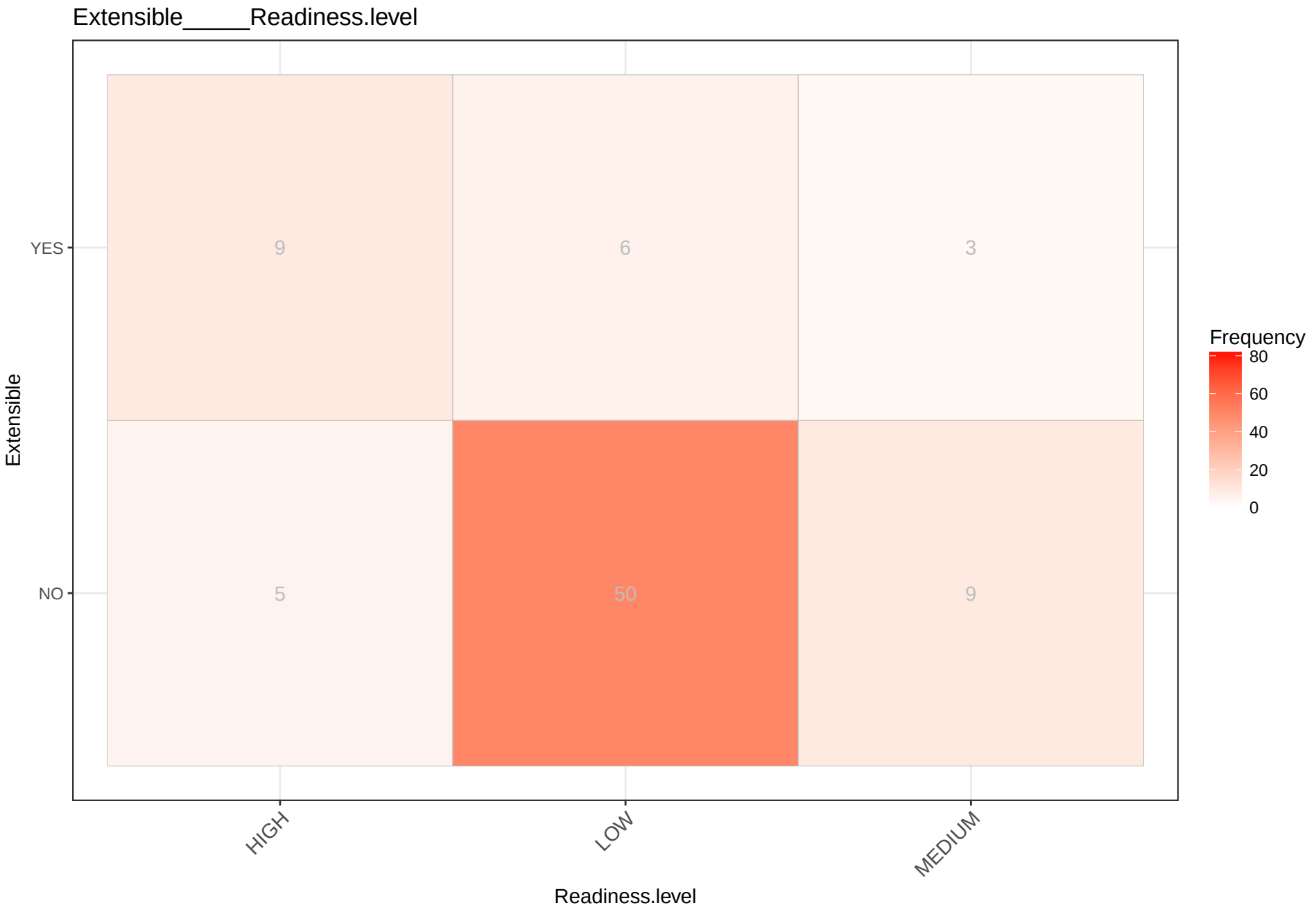

Process_____Interpretation.engine
Process
YES
NO
0
1
9
0
0
0
1
0
0
0
0
0
2
0
59
1
1
2
0
1
1
2
1
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

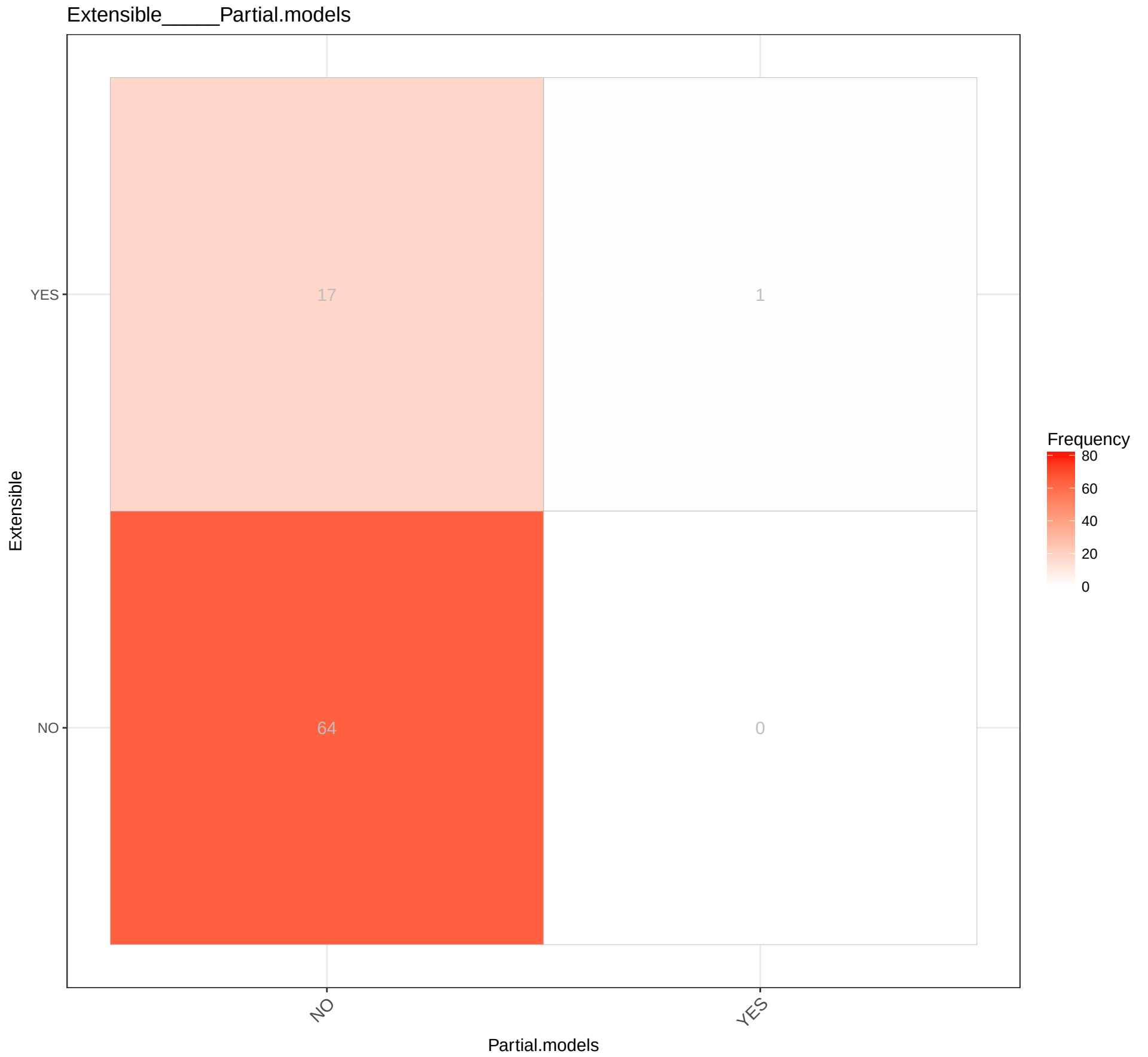

Process_____Target.platforms
YES
NO
Process
11
0
0
0
68
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

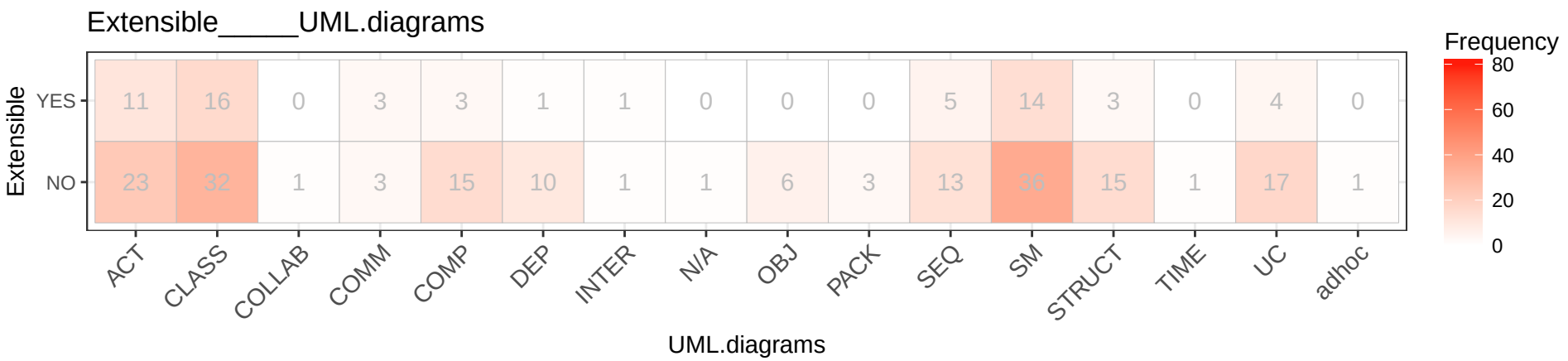

Process_____Type.of.evidence.by.category
Process
YES
NO
1
1
5
1
2
3
0
0
2
3
49
1
8
16
11
4
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

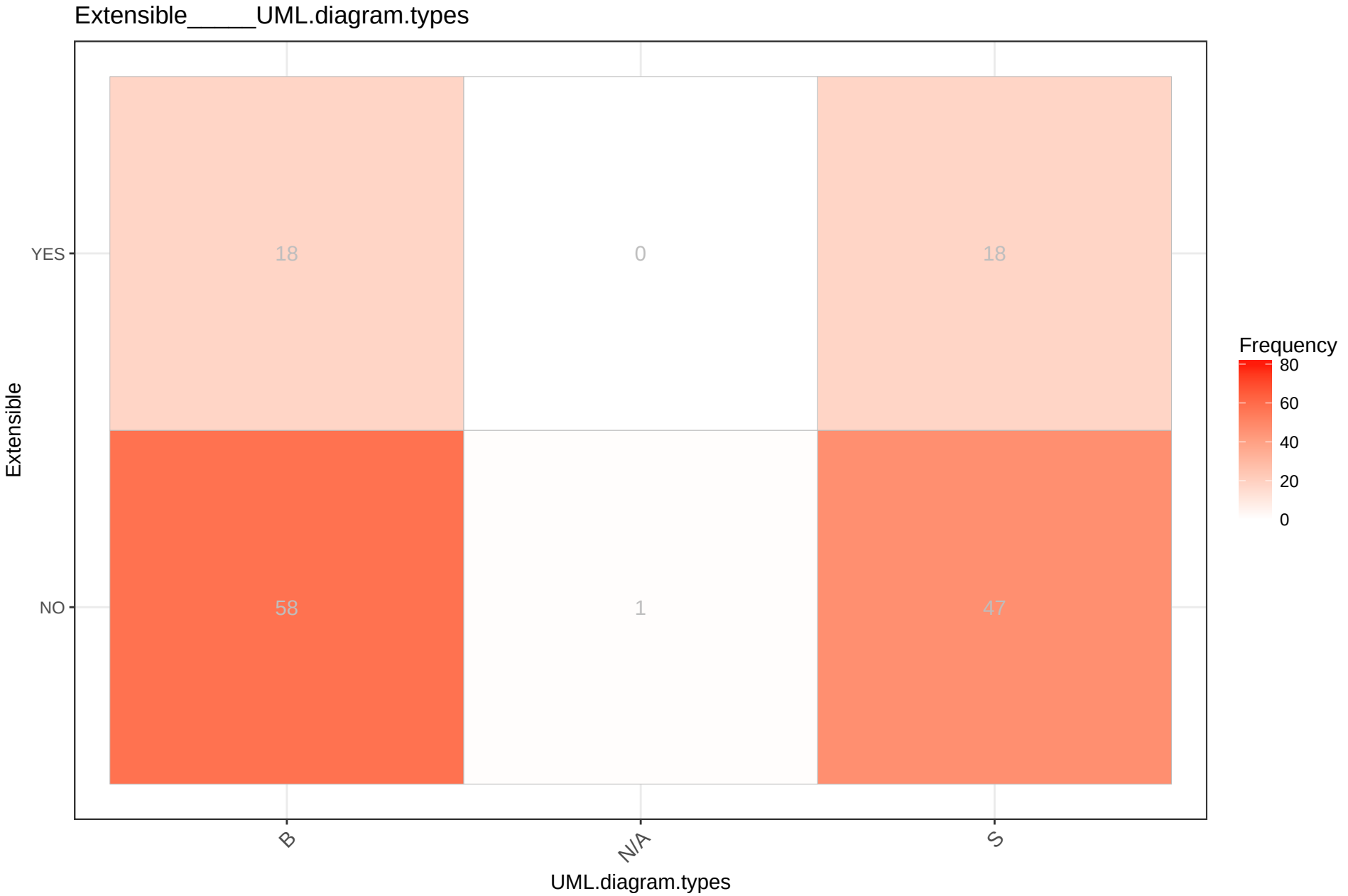

Process_____Type.of.evaluation.systems
Process
YES
NO
3 1 3 1 1 0 0 1 0 1 0 1 1 0 0
17 4 5 3 9 4 2 4 1 6 3 6 3 10 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

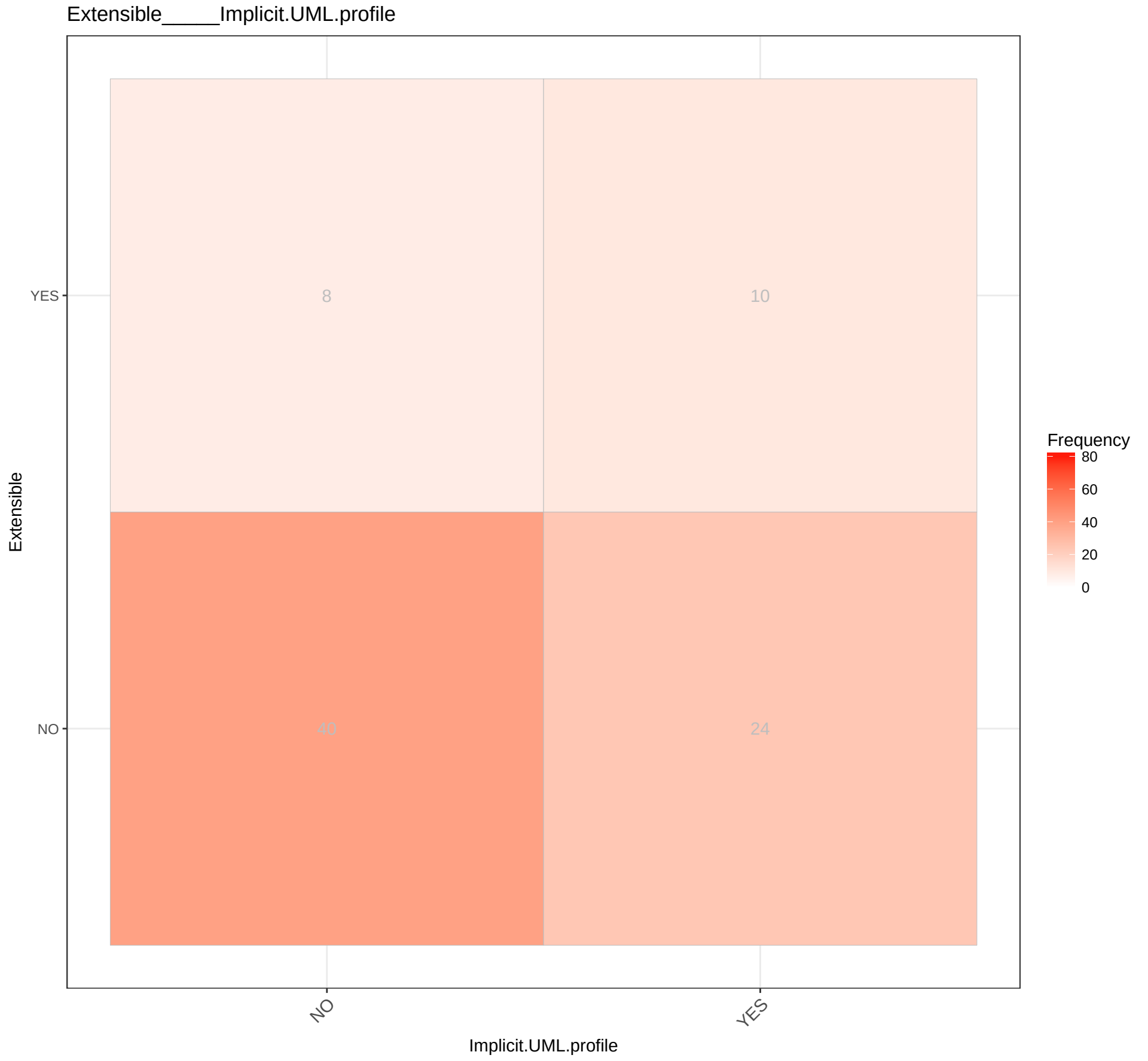

Process_____Type.of.limitations.and.unsolved.challenges
Process
YES
NO
0 1 2 1 2 0 0 5 0 2 0 0 1 0 0 5 0 3
2 11 9 1 4 4 1 26 4 5 2 1 2 2 1 15 4 18
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

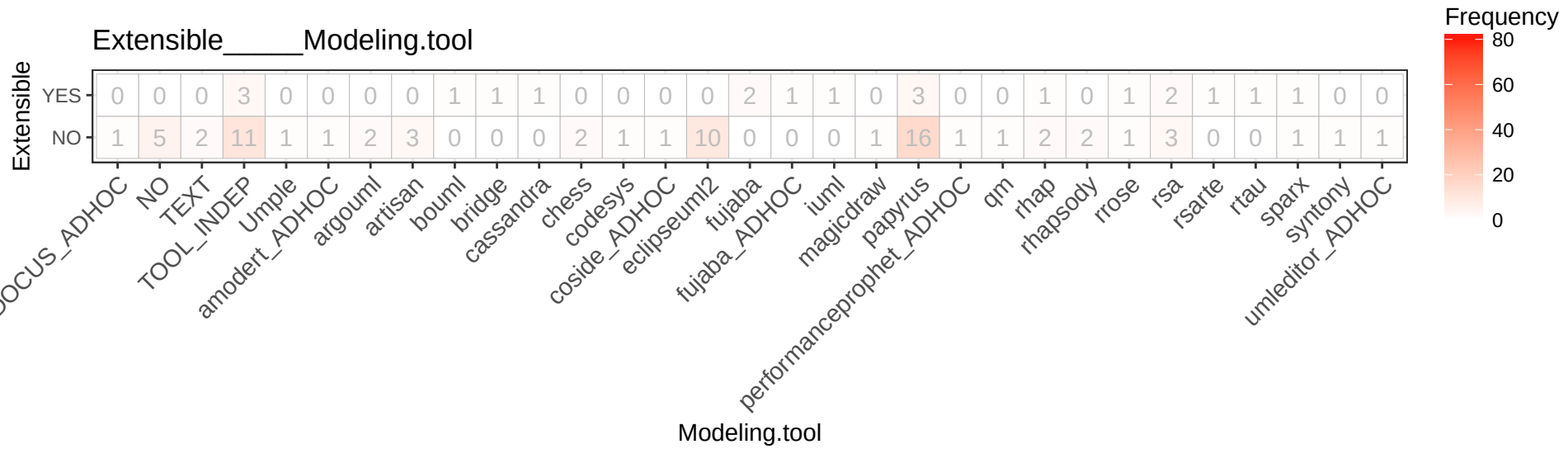

Extensible_____Readiness.level
YES
NO
9
6
3
5
50
9
HIGH
LOW
MEDIUM
Readiness.level
Extensible
Frequency
80
60
40
20
0

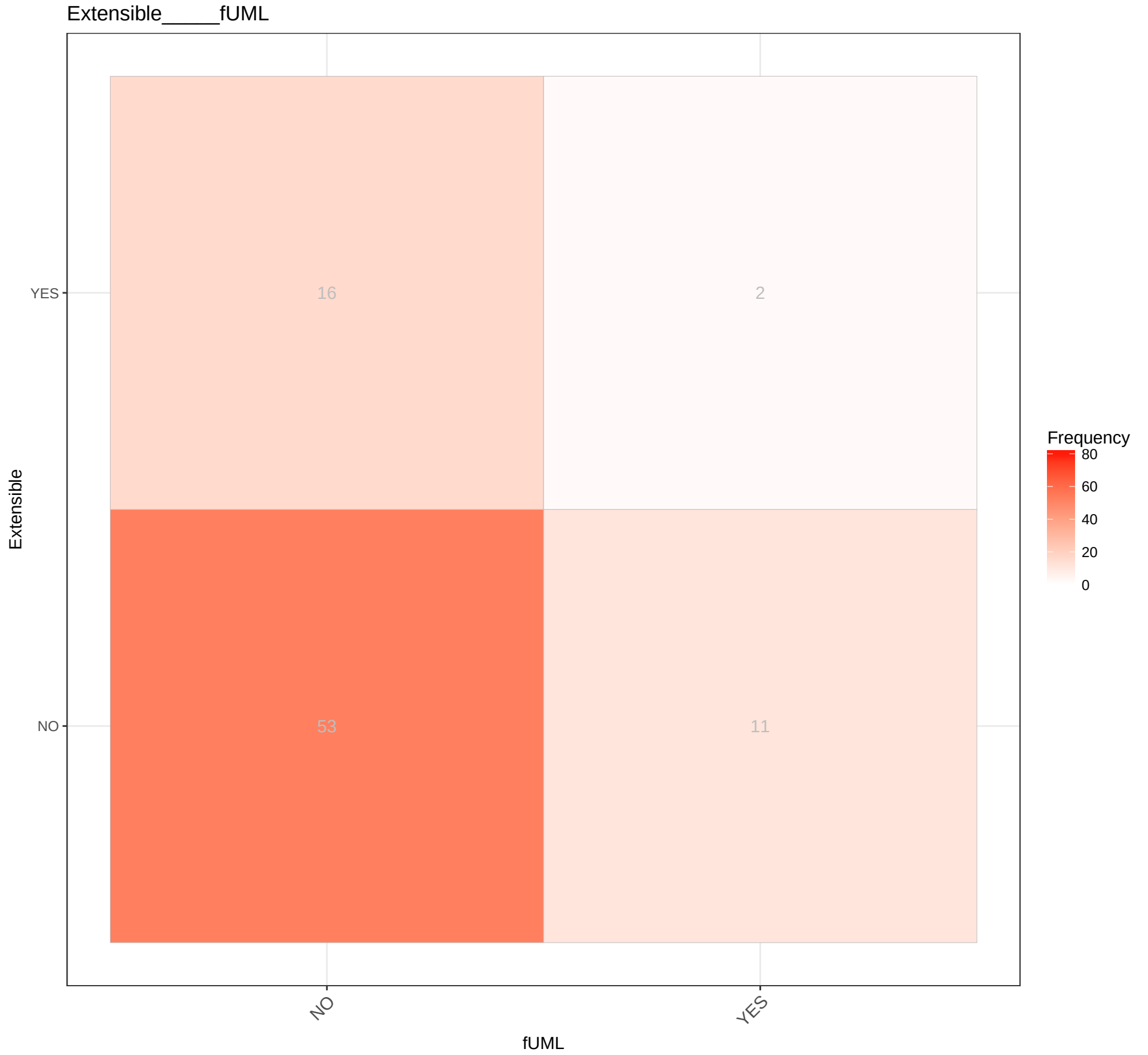

Extensible_____Partial.models
YES
NO
17
1
64
0
Extensible
NO
YES
Partial.models
Frequency
80
60
40
20
0

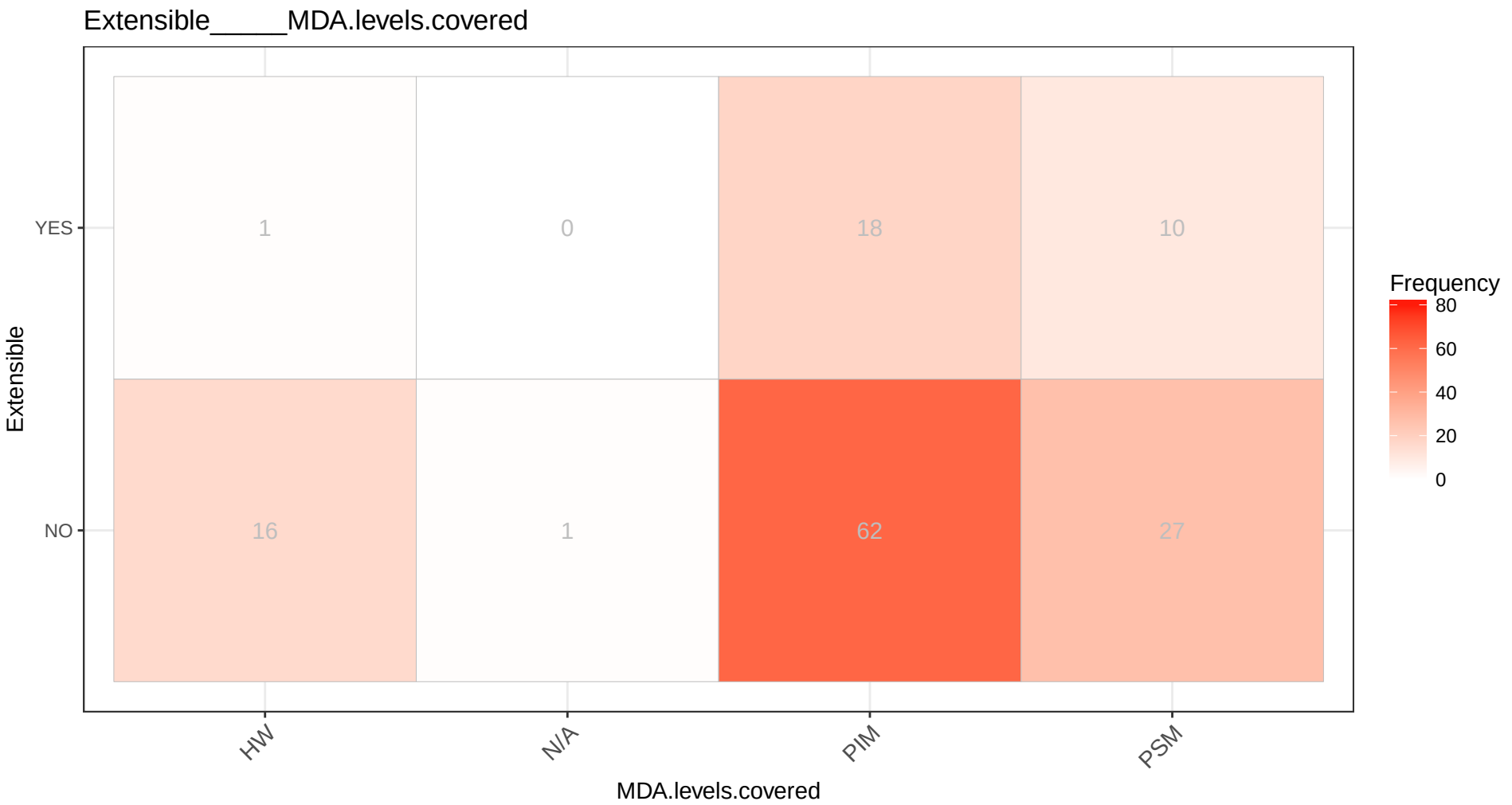

Extensible_____UML.diagrams
Extensible
YES
NO
11
16
0
3
3
1
1
0
0
0
5
14
3
0
4
0
23
32
1
3
15
10
1
1
6
3
13
36
15
1
17
1
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

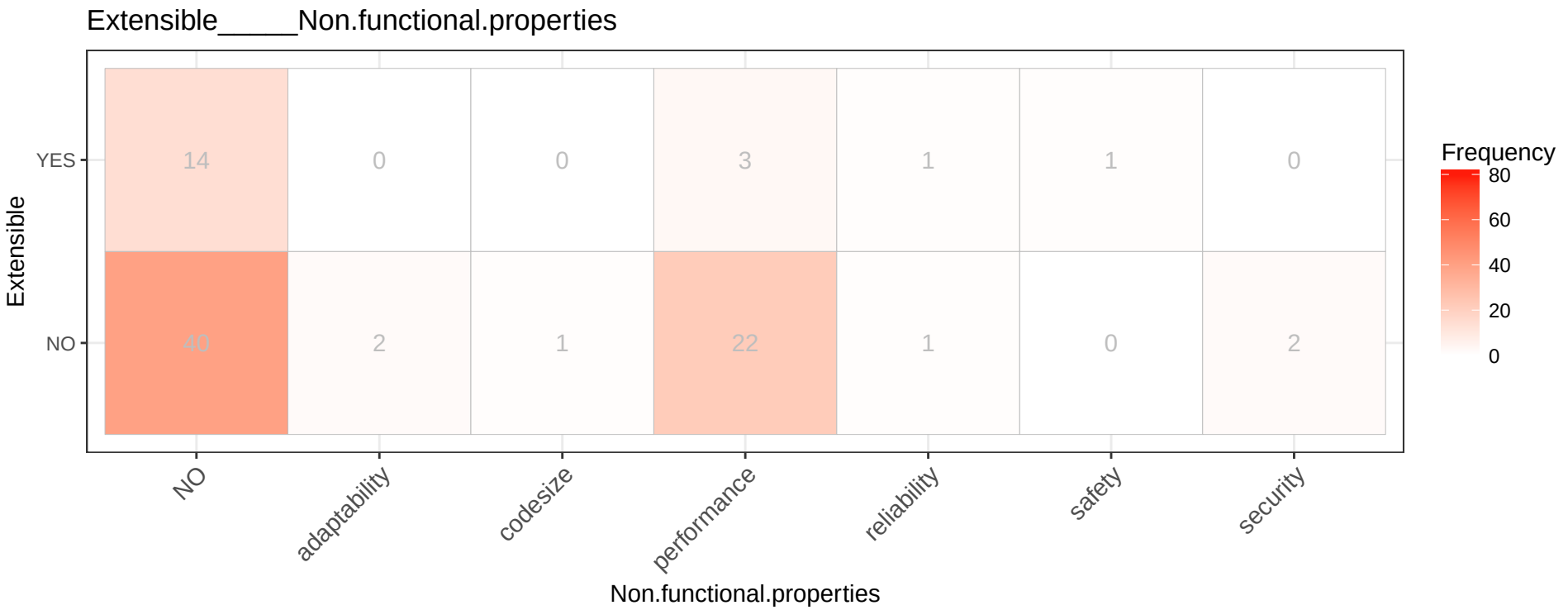

Extensible_____UML.diagram.types
YES
NO
18
0
18
58
1
47
Extensible
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

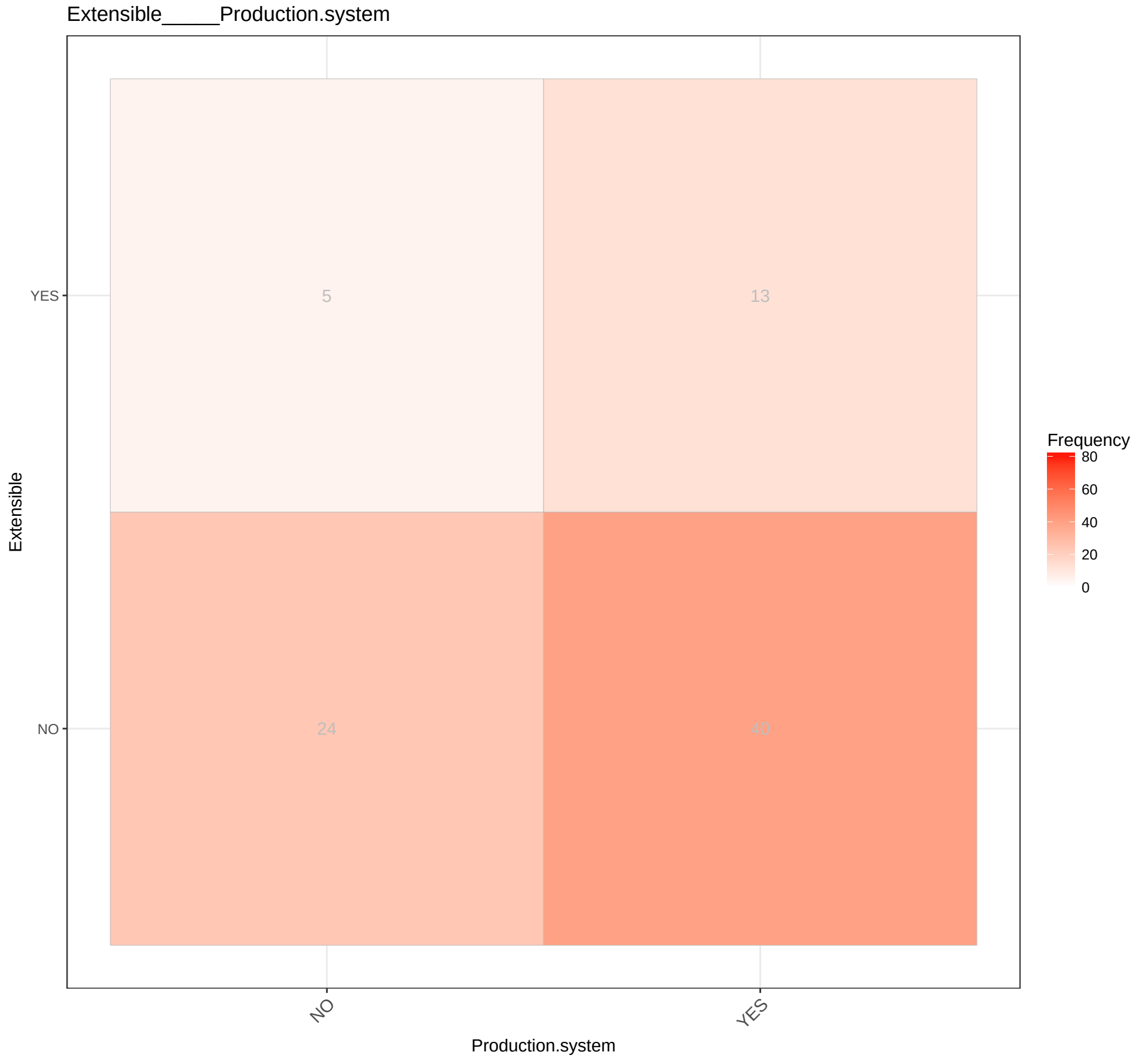

Extensible_____Implicit.UML.profile
YES
NO
8
10
40
24
Extensible
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

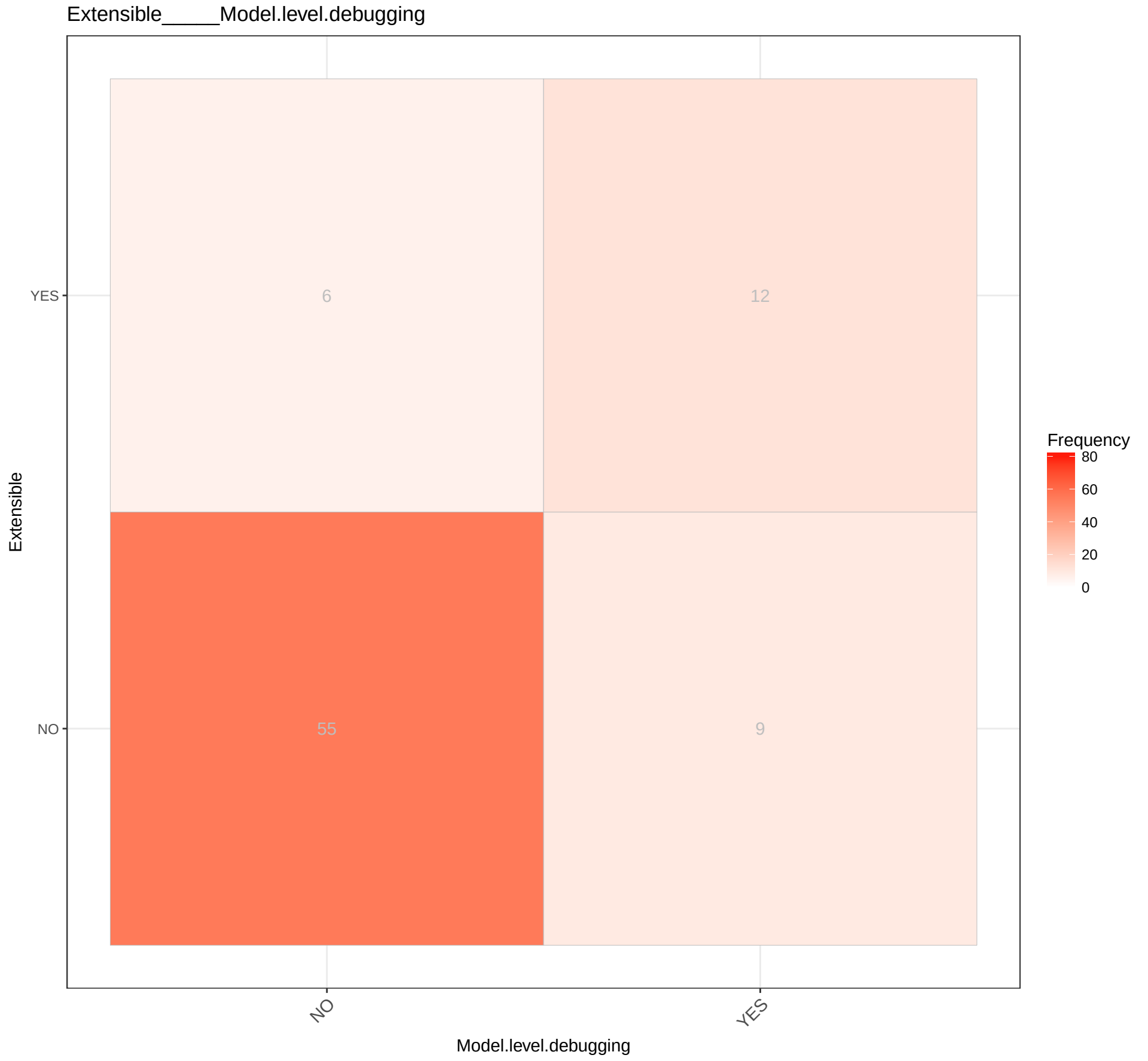

Extensible_____Modeling.tool
Extensible
YES
NO
0 0 0 3 0 0 0 0 1 1 1 0 0 0 0 2 1 1 0 3 0 0 1 0 1 2 1 1 1 0 0
1 5 2 11 1 1 2 3 0 0 0 2 1 1 10 0 0 0 1 16 1 1 2 2 1 3 0 0 1 1 1
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

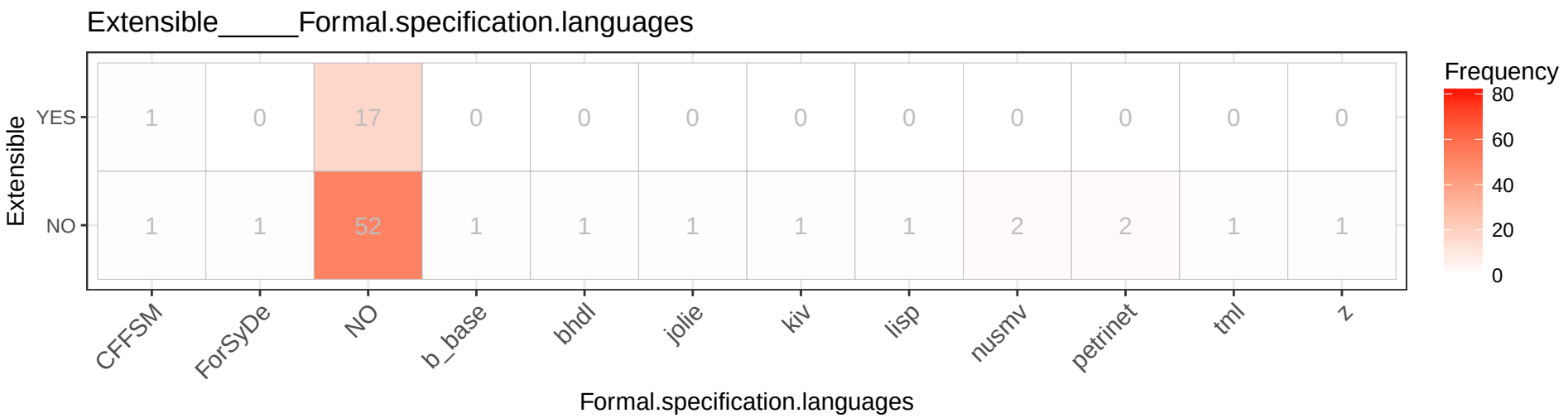

Extensible_____fUML
16
2
53
11
YES
NO
Extensible
NO
YES
fUML
Frequency
80
60
40
20
0

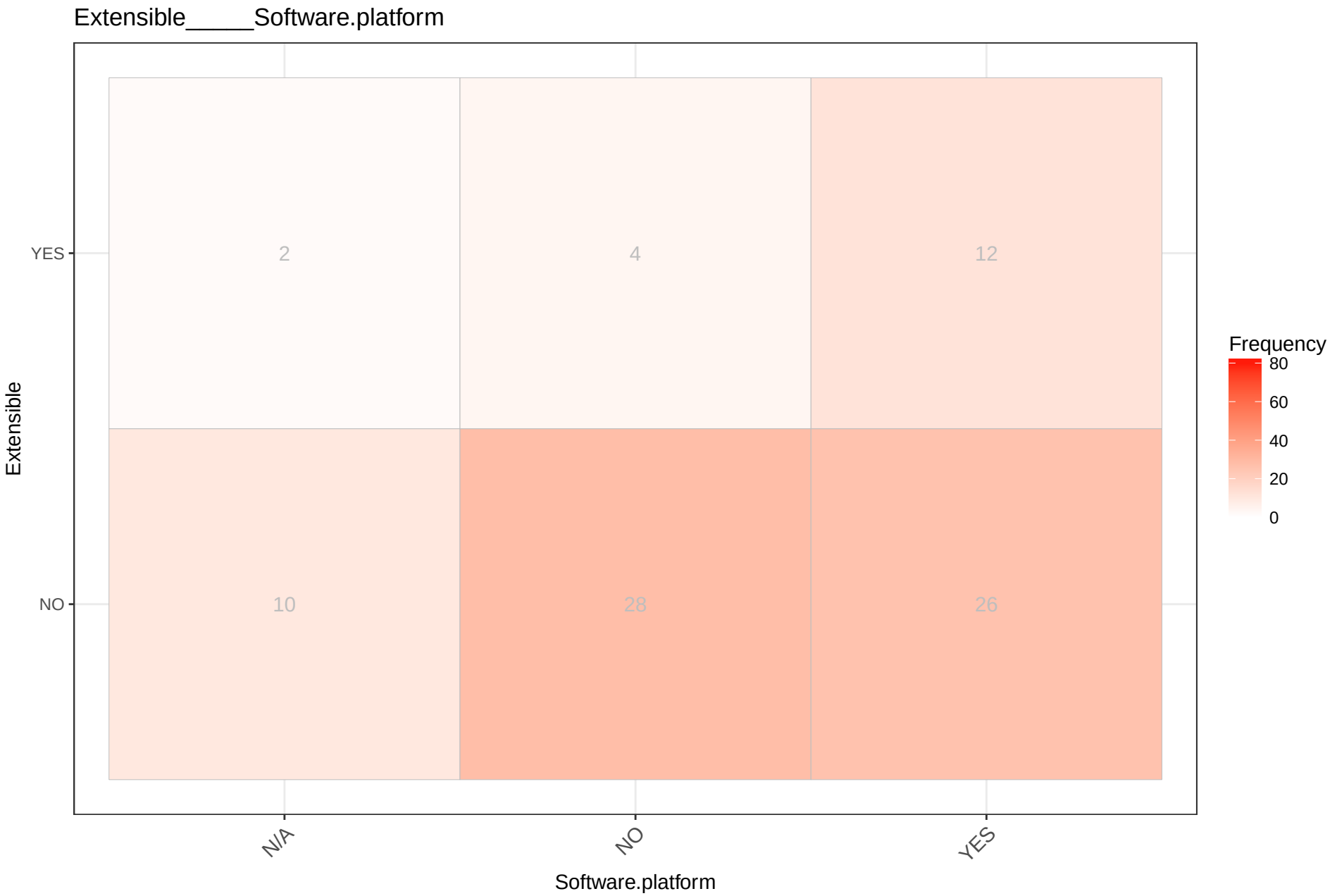

Extensible_____MDA.levels.covered
YES
NO
Extensible
1
0
18
10
16
1
62
27
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

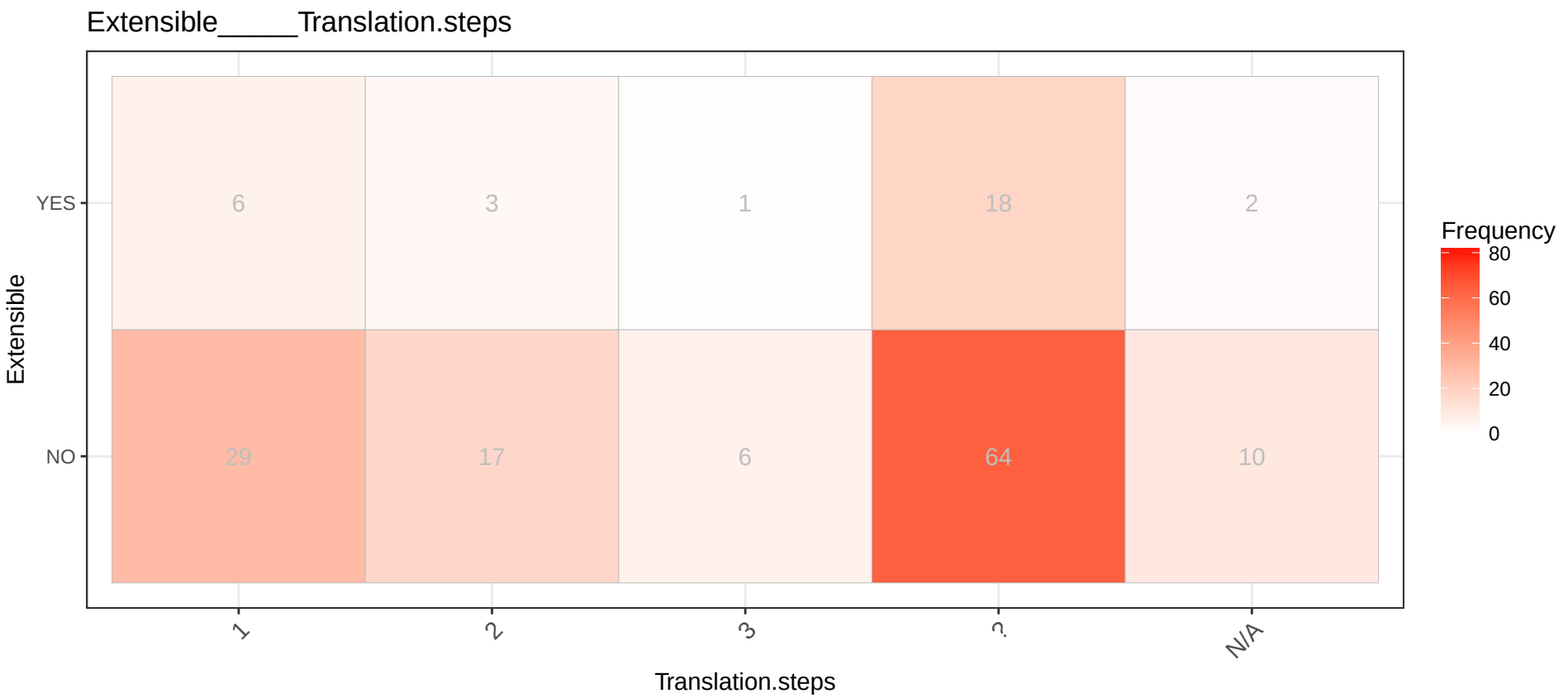

Extensible_____Non.functional.properties
YES
NO
Extensible
14
0
0
3
1
1
0
40
2
1
22
1
0
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

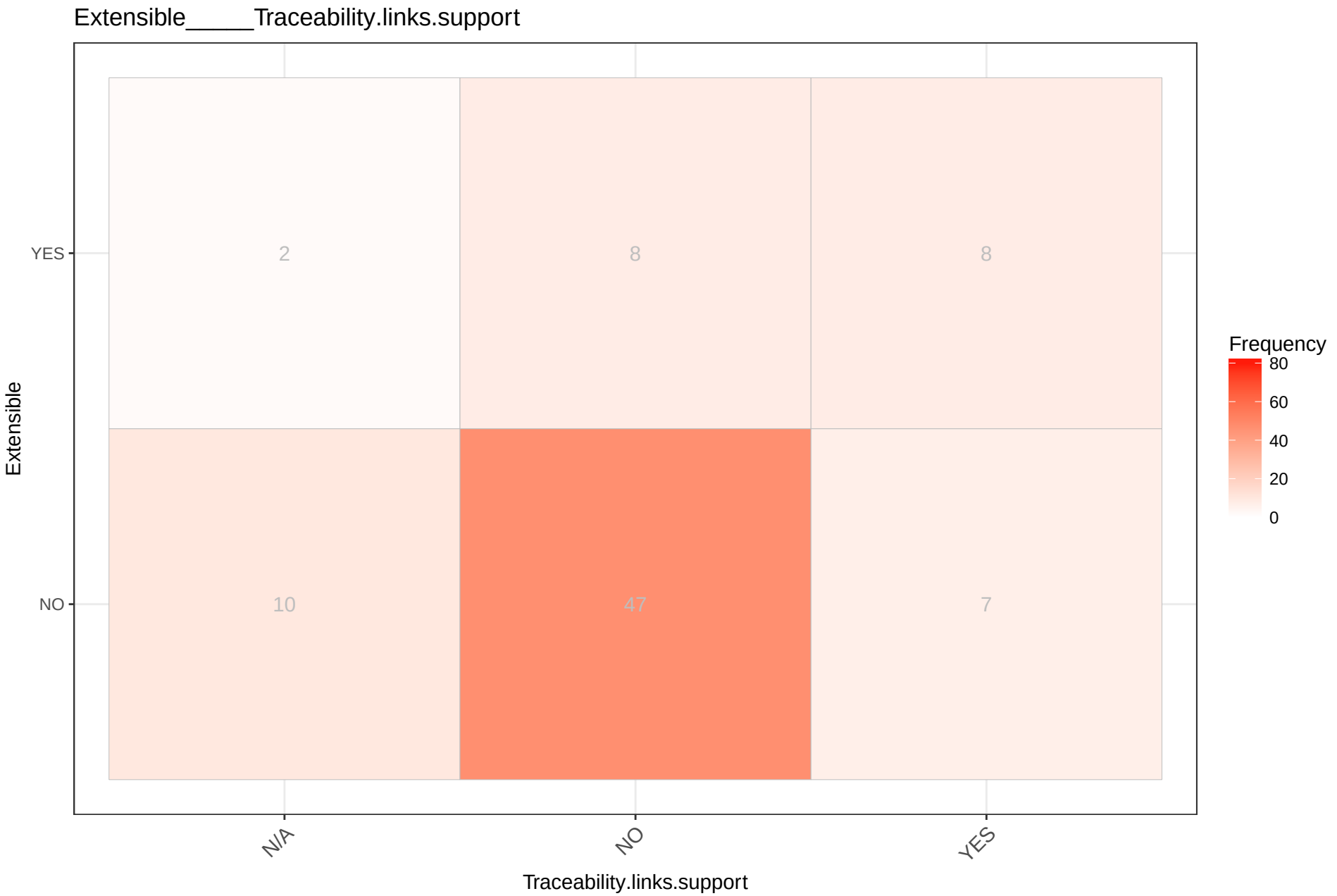

Extensible_____Production.system
YES
NO
5
13
24
40
Extensible
NO
YES
Production.system
Frequency
80
60
40
20
0

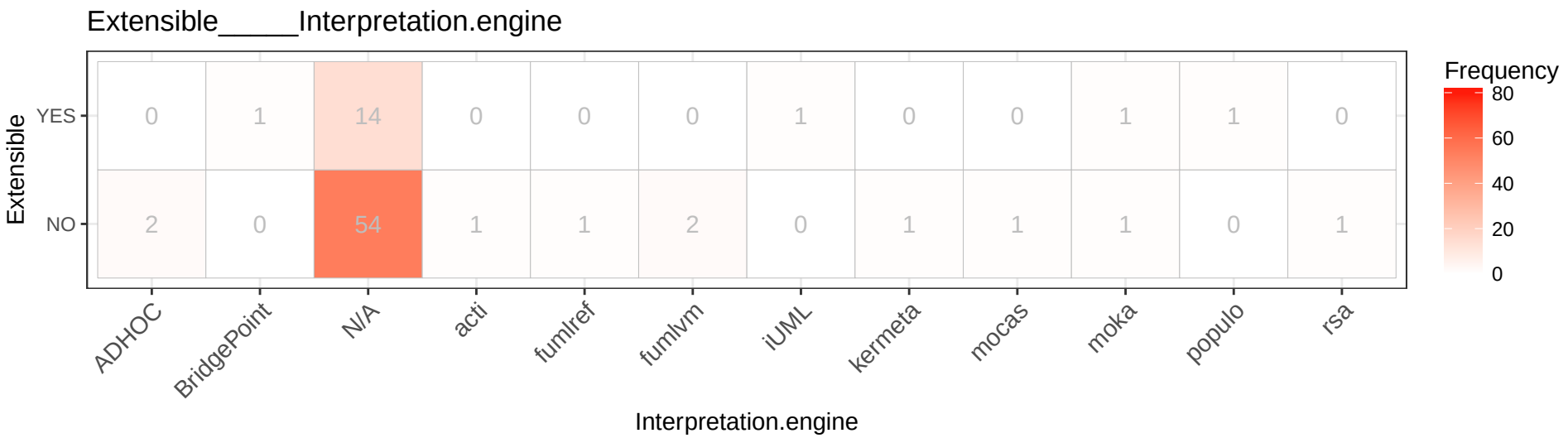

Extensible_____Model.level.debugging
YES
NO
6
12
55
9
Extensible
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

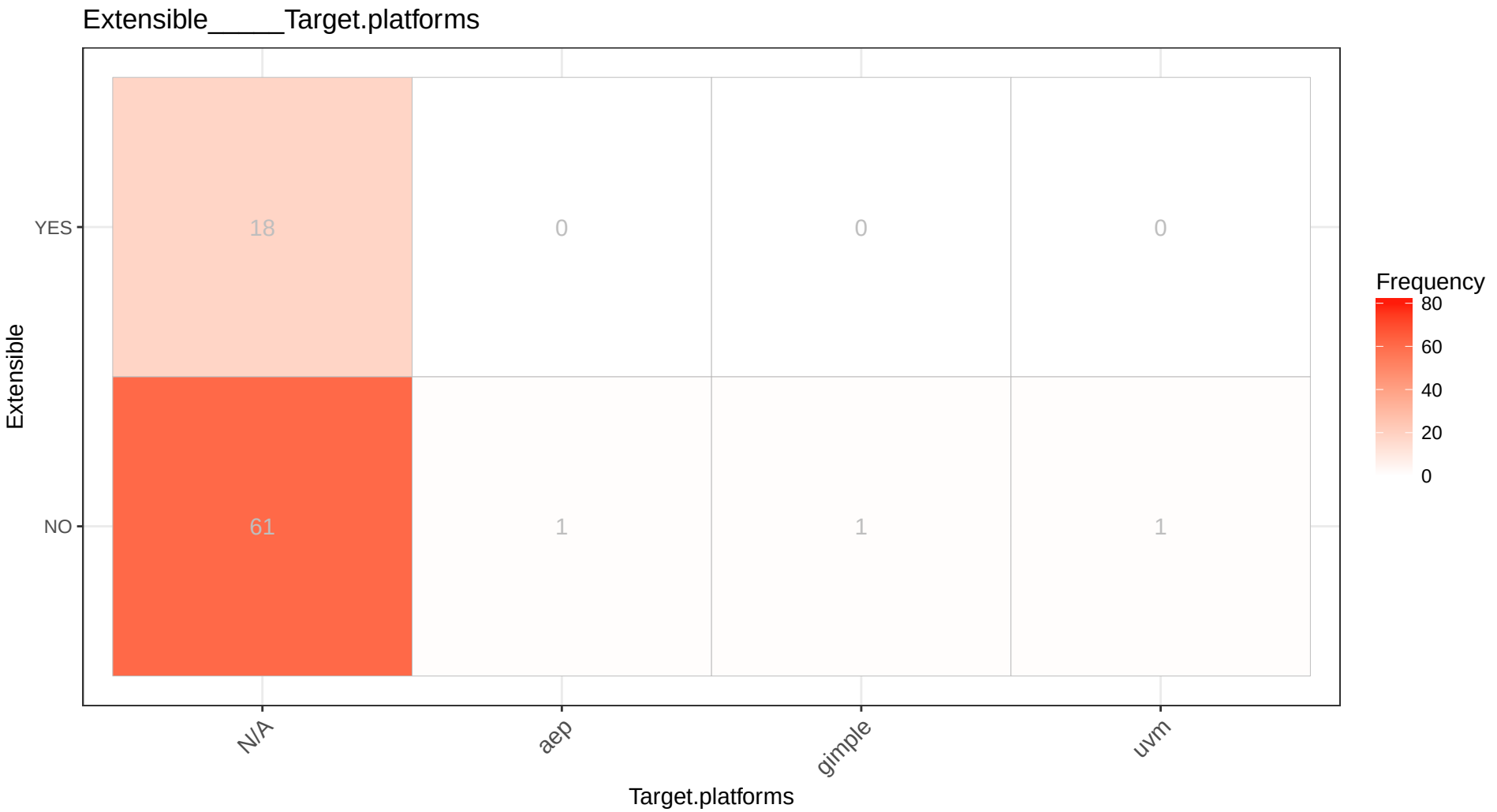

Extensible_____Formal.specification.languages
Extensible
YES
NO
1
0
17
0
0
0
0
0
0
0
0
0
1
1
52
1
1
1
1
1
2
2
1
1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

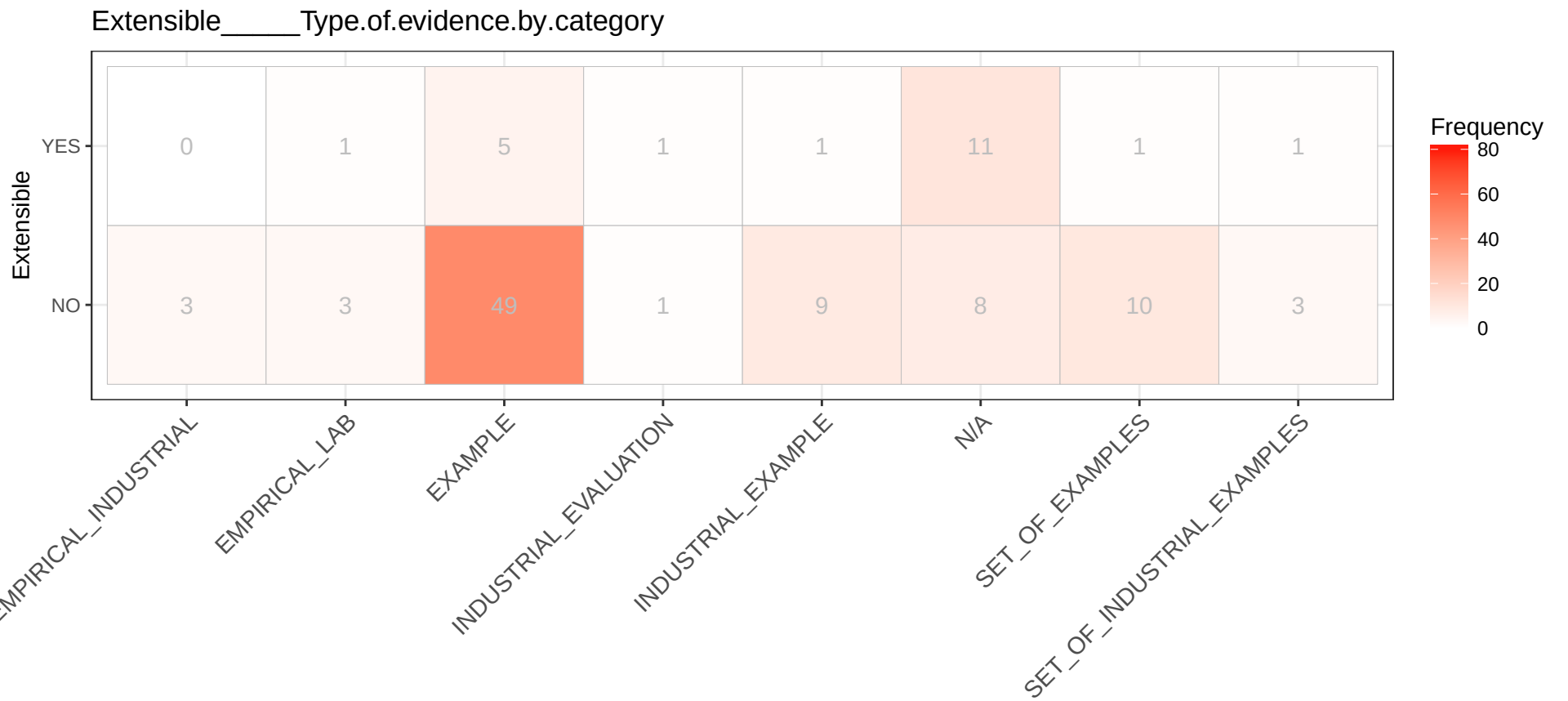

Extensible_____Software.platform
YES
NO
2
4
12
10
28
26
Extensible
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

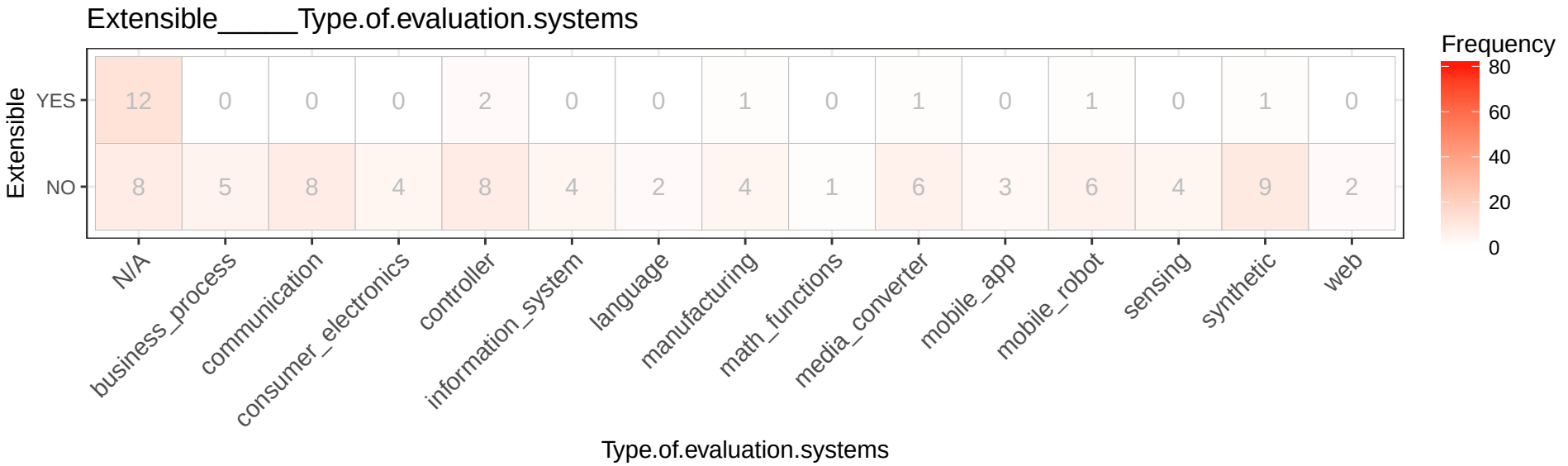

Extensible_____Translation.steps
YES
NO
Extensible
6
3
1
18
2
29
17
6
64
10
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

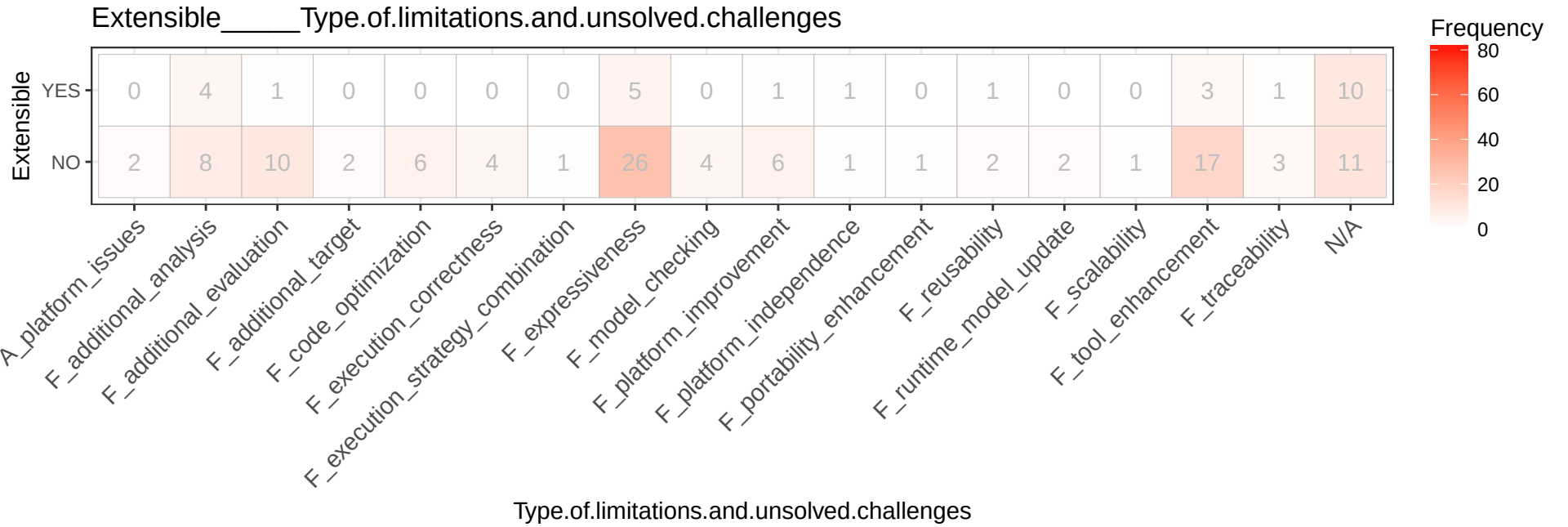

Extensible_____Traceability.links.support
YES
NO
2
8
8
10
47
7
Extensible
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

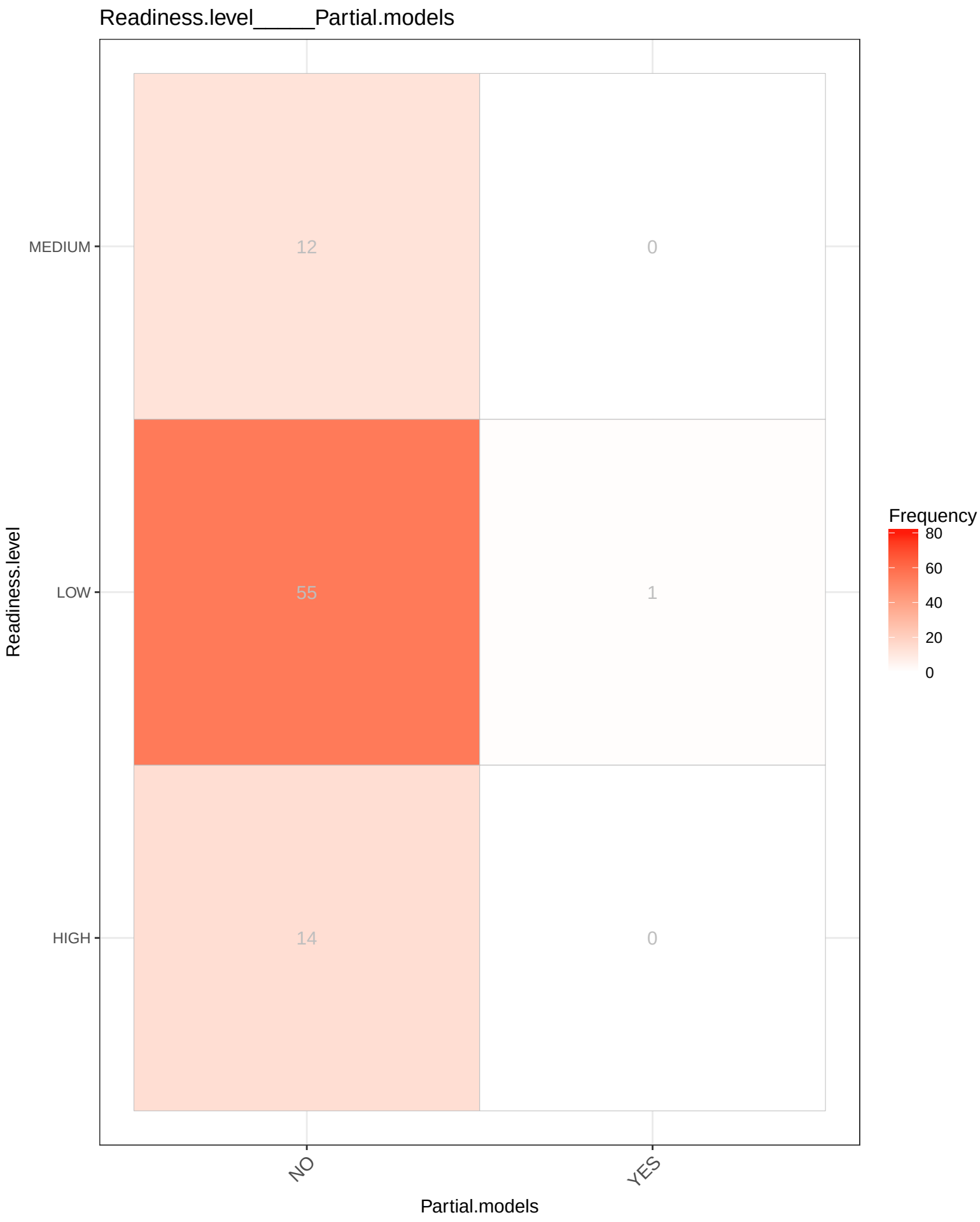

Extensible_____Interpretation.engine
Extensible
YES
NO
0
1
14
0
0
0
1
0
0
1
1
0
2
0
54
1
1
2
0
1
1
1
0
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

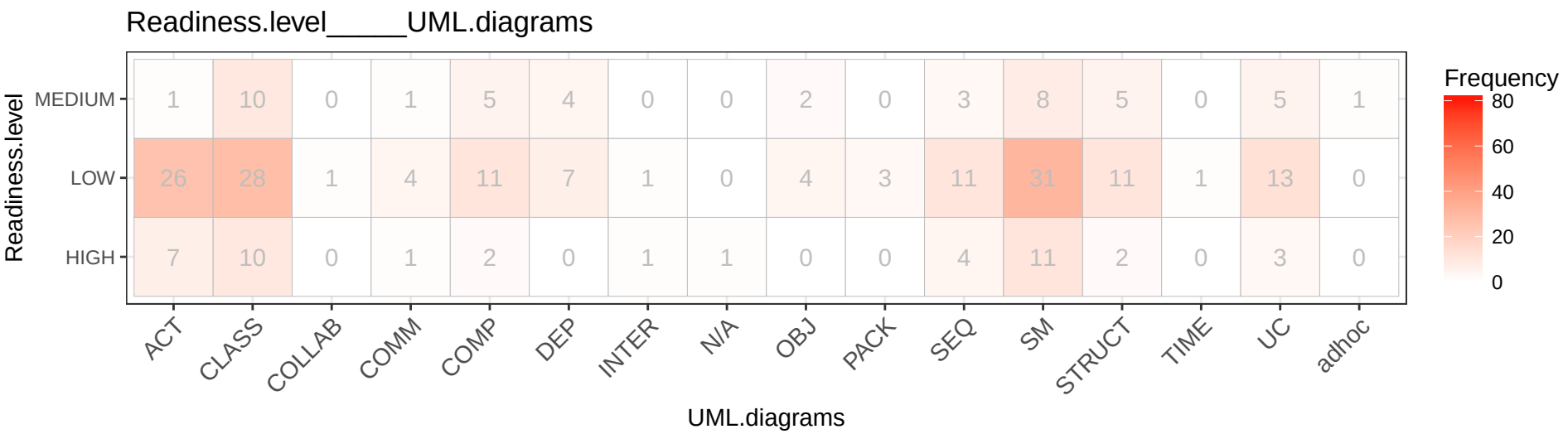

Extensible_____Target.platforms
YES
NO
Extensible
18
0
0
0
61
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

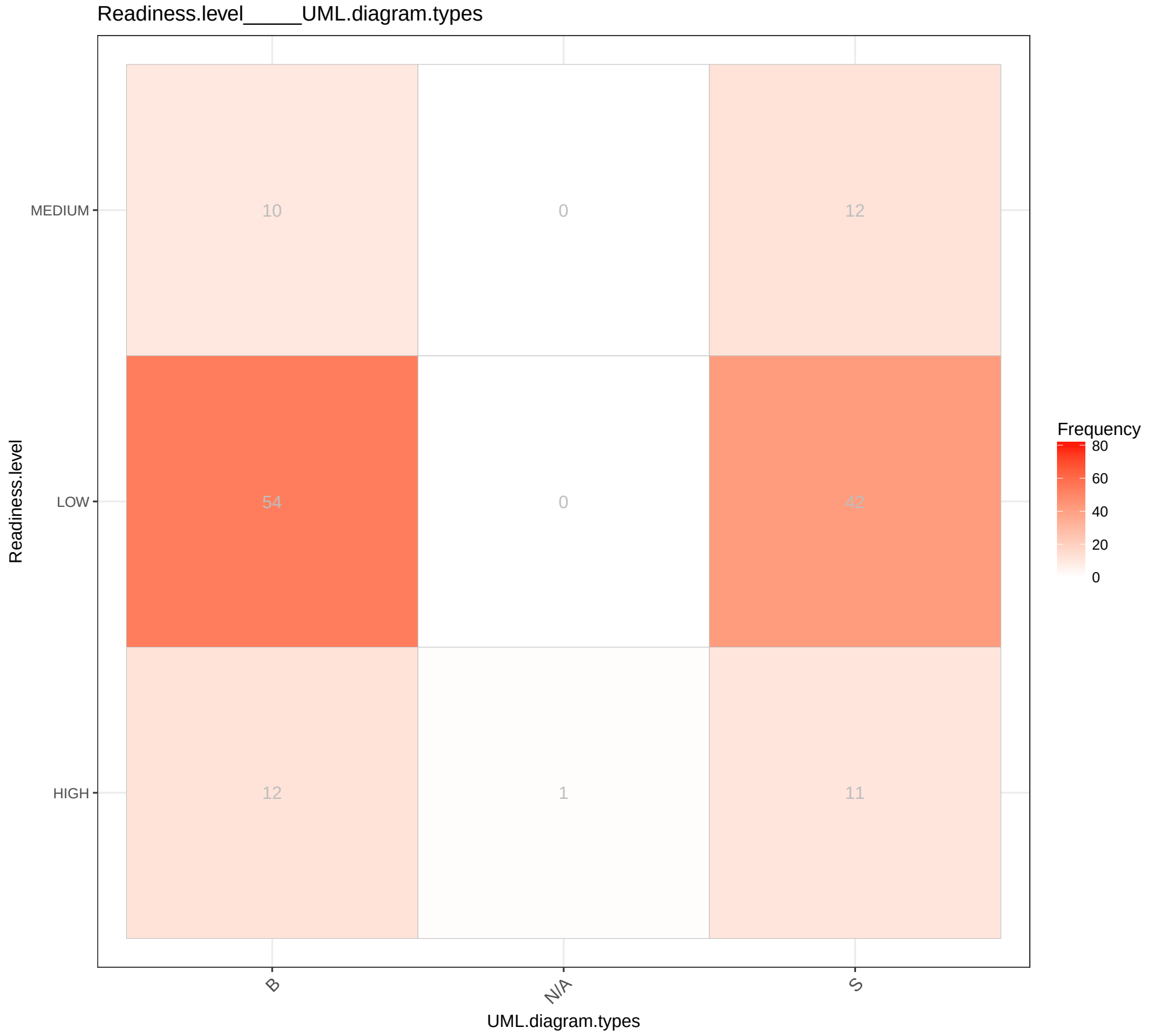

Extensible_____Type.of.evidence.by.category
Extensible
YES
NO
0
1
5
1
1
11
1
1
3
3
49
1
9
8
10
3
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

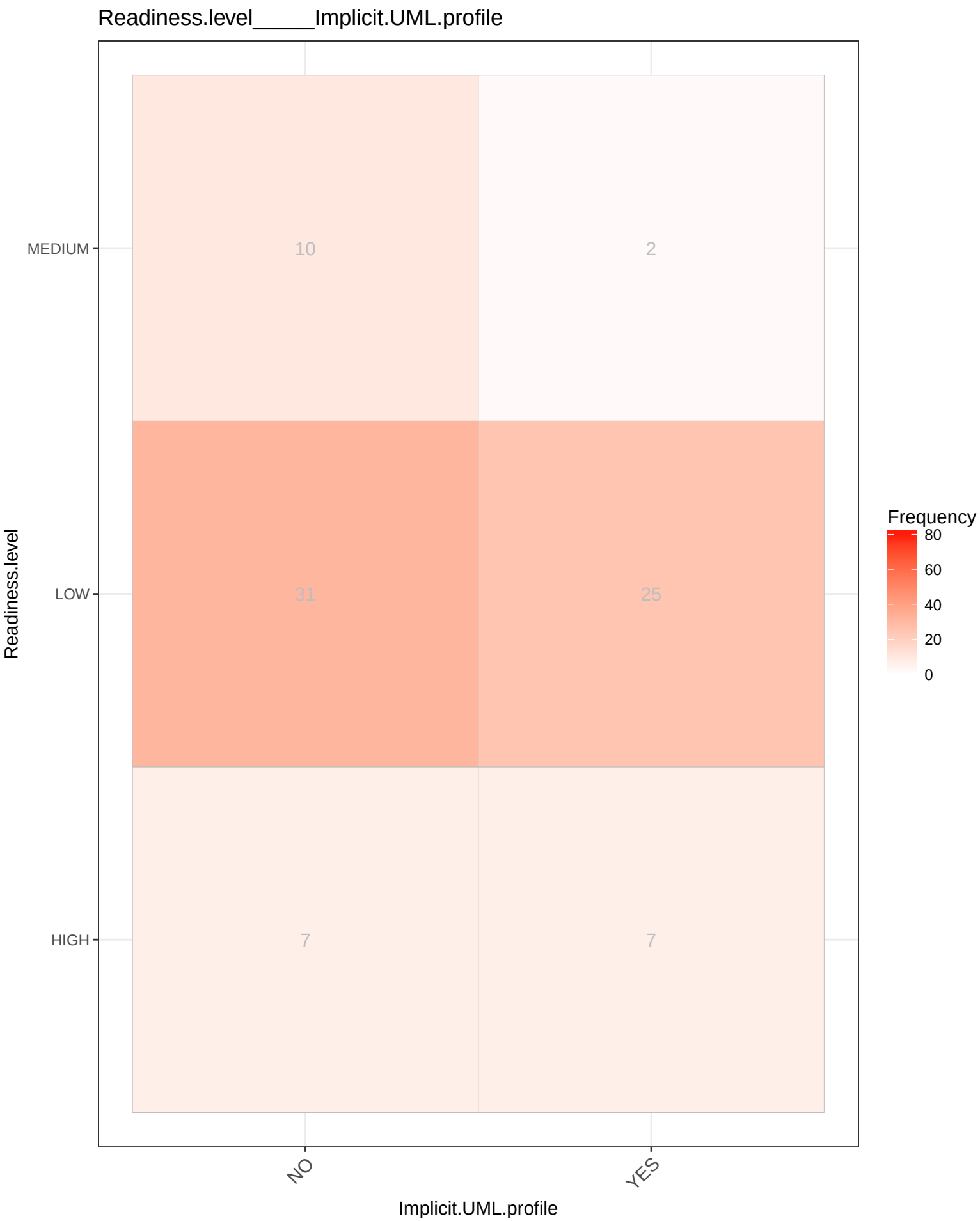

Extensible_____Type.of.evaluation.systems
Extensible
YES
NO
12 0 0 0 2 0 0 1 0 1 0 1 0 1 0
8 5 8 4 8 4 2 4 1 6 3 6 4 9 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

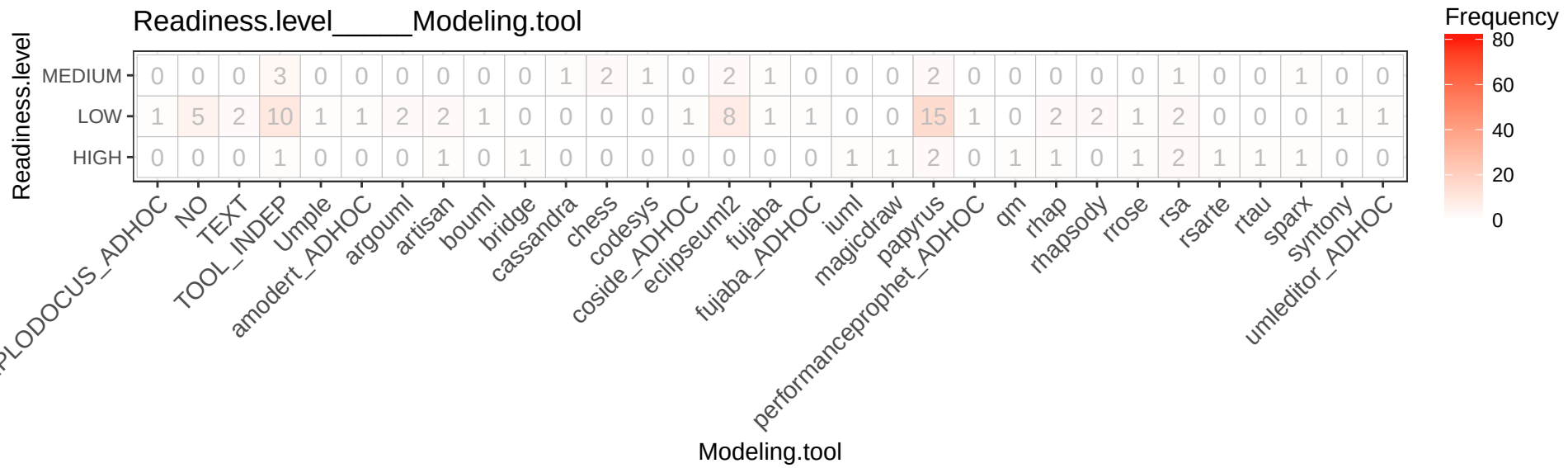

Extensible_____Type.of.limitations.and.unsolved.challenges
Extensible
YES
NO
0 4 1 0 0 0 0 5 0 1 1 0 1 0 0 3 1 10
2 8 10 2 6 4 1 26 4 6 1 1 2 2 1 17 3 11
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Frequency
80
60
40
20
0
Type.of.limitations.and.unsolved.challenges

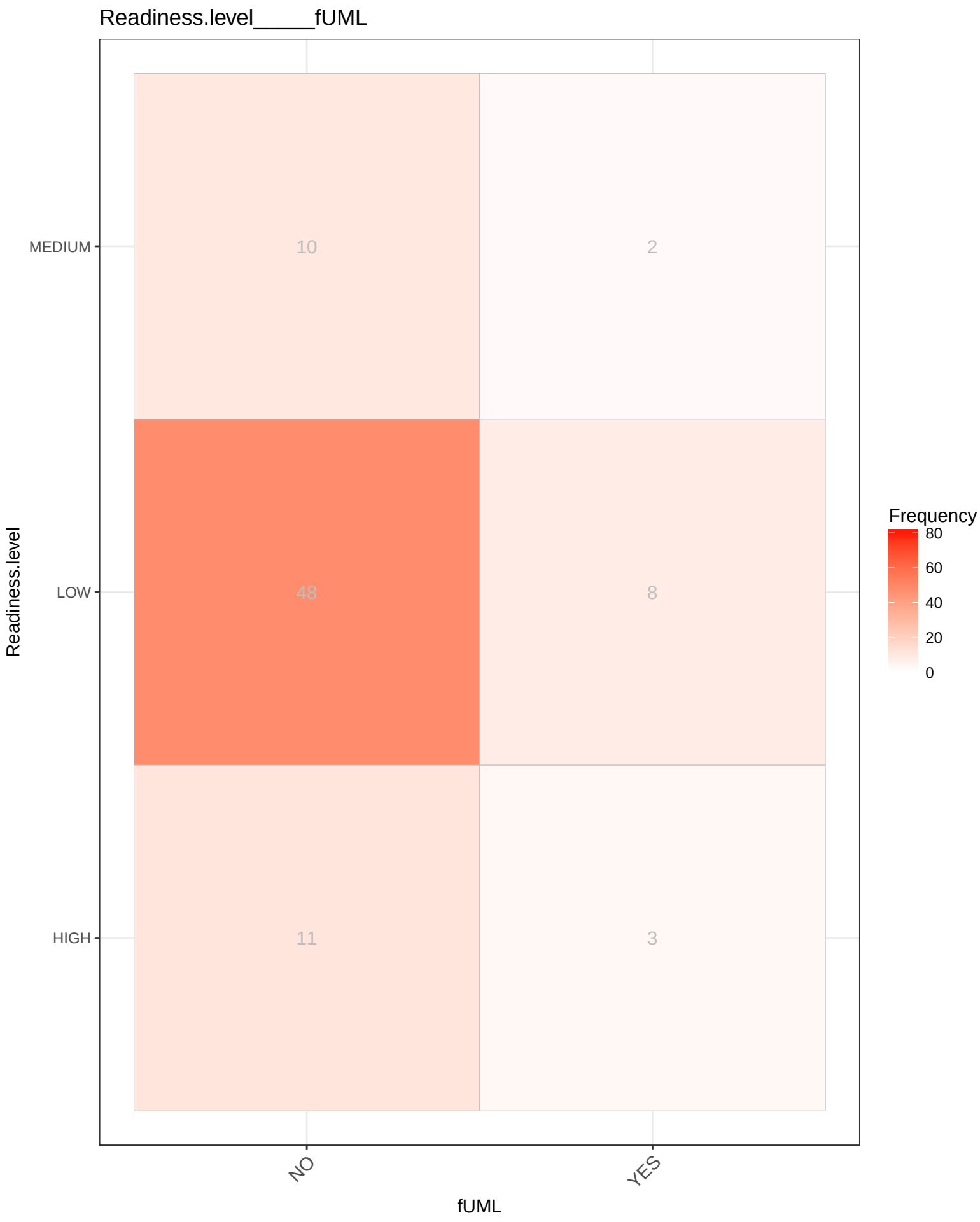

Readiness.level_____Partial.models
MEDIUM
LOW
HIGH
12
0
55
1
14
0
Readiness.level
NO
YES
Partial.models
Frequency
80
60
40
20
0

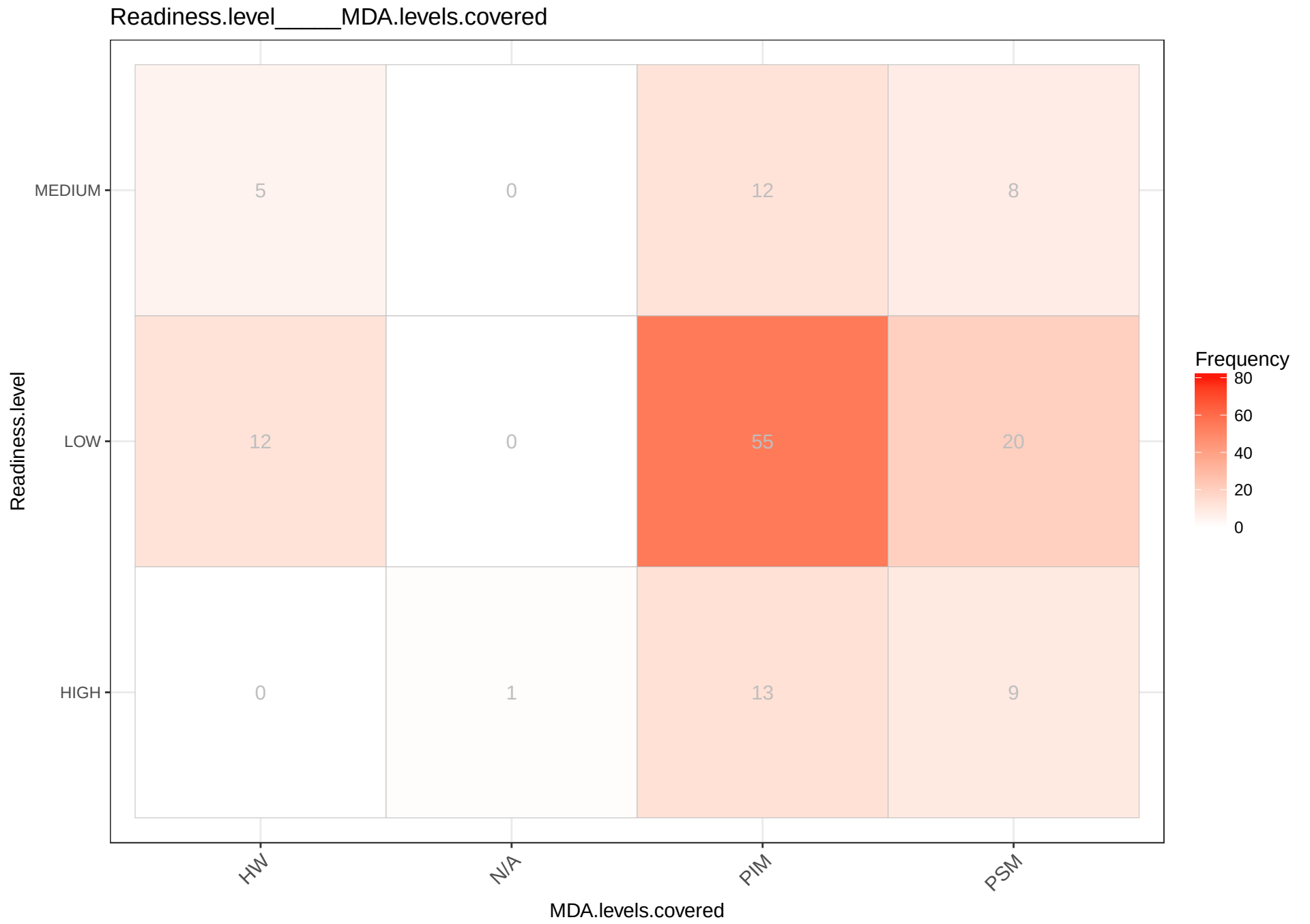

Readiness.level_____UML.diagrams
Readiness.level
MEDIUM
LOW
HIGH
1 10 0 1 5 4 0 0 2 0 3 8 5 0 5 1
26 28 1 4 11 7 1 0 4 3 11 31 11 1 13 0
7 10 0 1 2 0 1 1 0 0 4 11 2 0 3 0
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

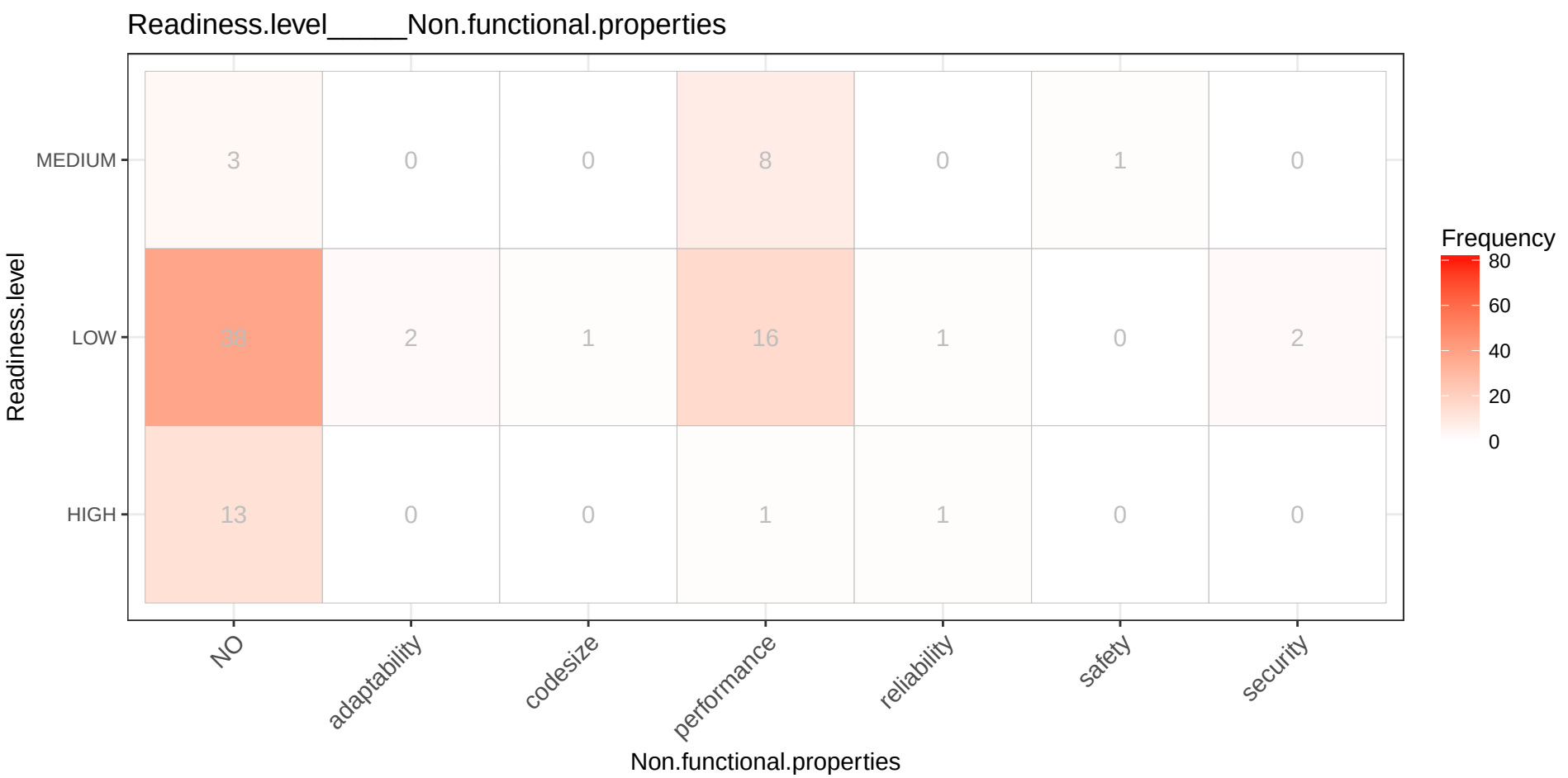

Readiness.level_____UML.diagram.types
MEDIUM
LOW
HIGH
10
0
12
54
0
42
12
1
11
B
N/A
S
UML.diagram.types
Readiness.level
Frequency
80
60
40
20
0

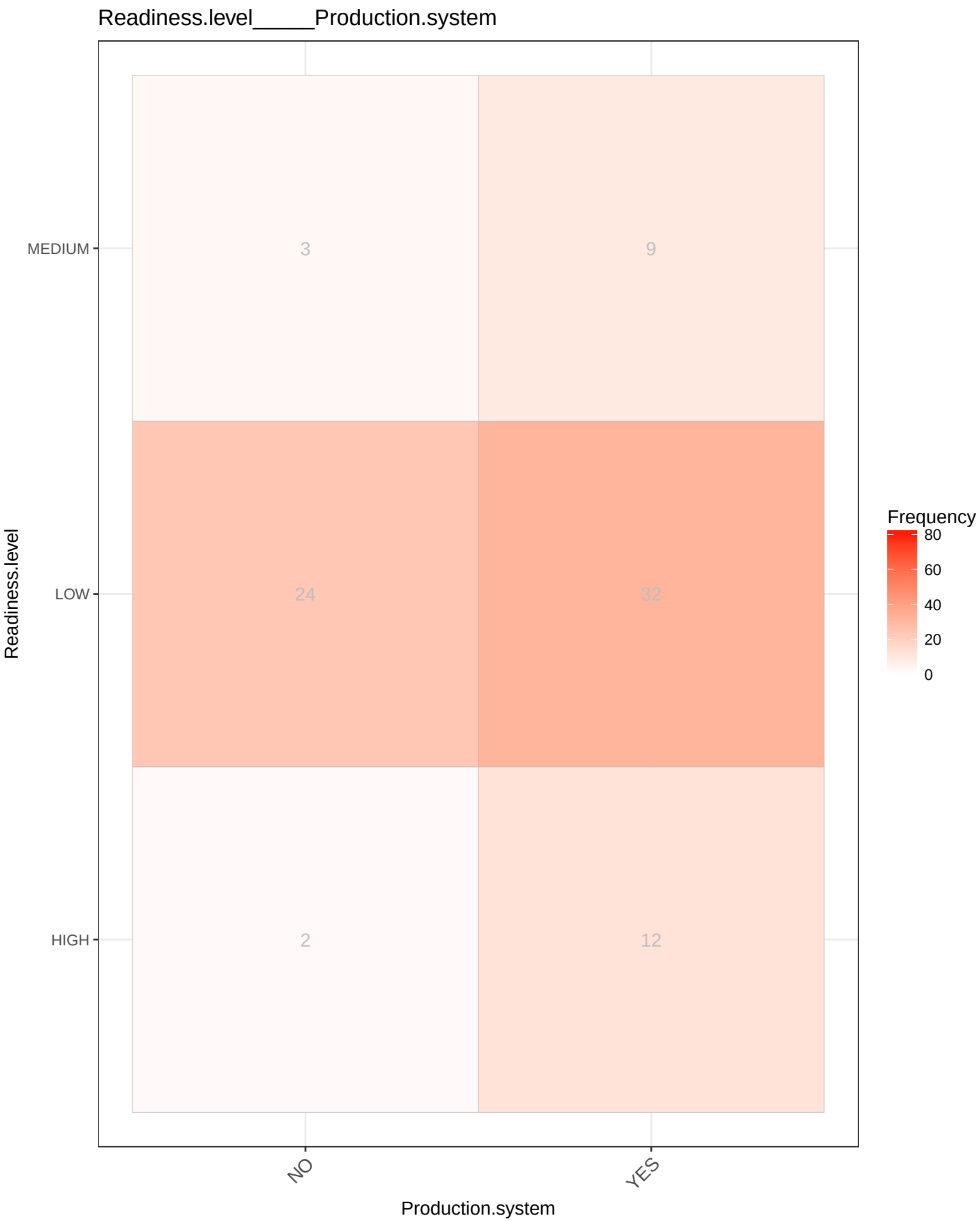

Readiness.level_____Implicit.UML.profile
MEDIUM
LOW
HIGH
10
2
31
25
7
7
Readiness.level
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

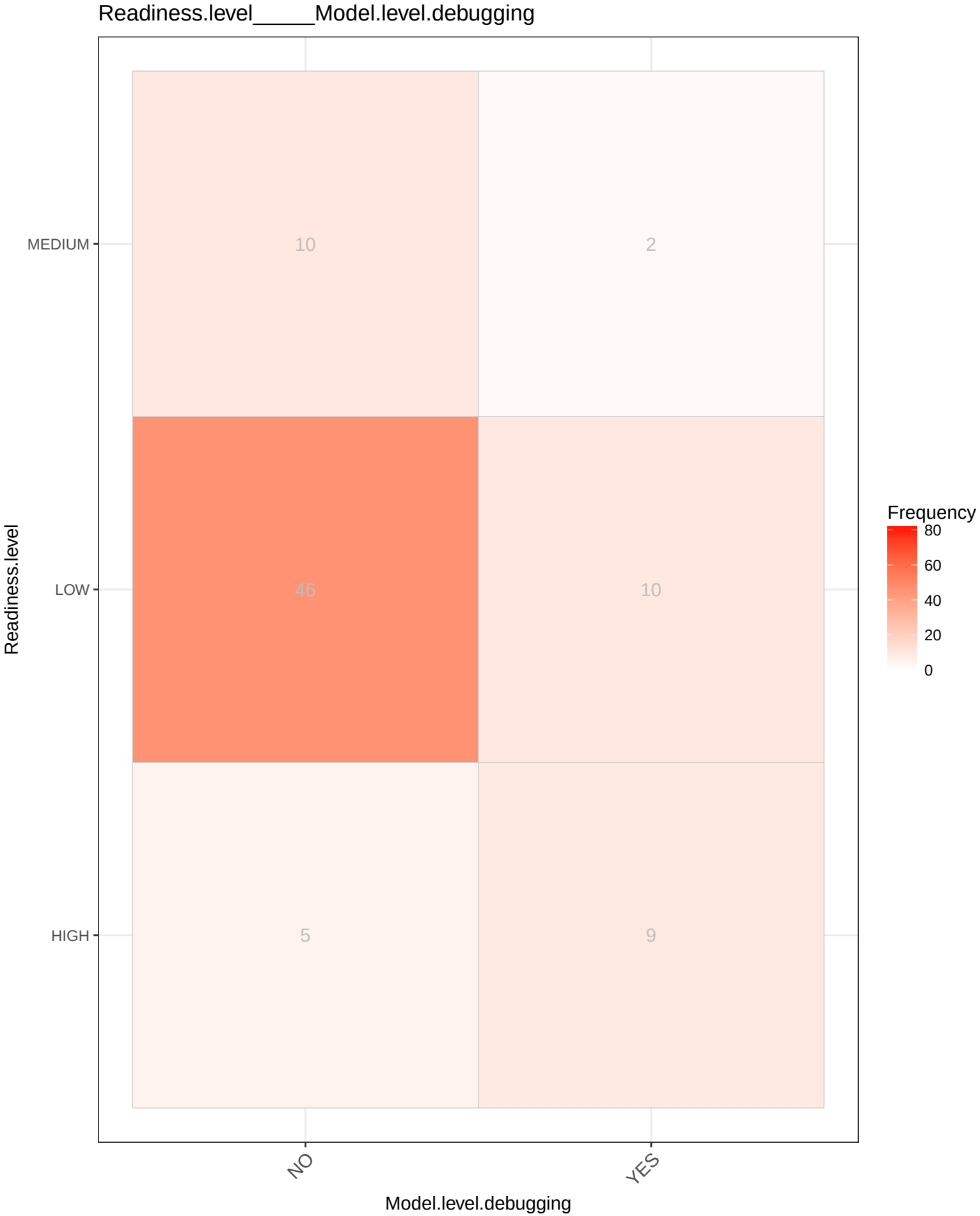

Readiness.level_____Modeling.tool
Readiness.level
MEDIUM
LOW
HIGH
0 0 0 3 0 0 0 0 0 0 1 2 1 0 2 1 0 0 0 2 0 0 0 0 0 1 0 0 1 0 0
1 5 2 10 1 1 2 2 1 0 0 0 0 1 8 1 1 0 0 15 1 0 2 2 1 2 0 0 0 1 1
0 0 0 1 0 0 0 1 0 1 0 0 0 0 0 0 0 1 1 2 0 1 1 0 1 2 1 1 1 0 0
PLODOCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

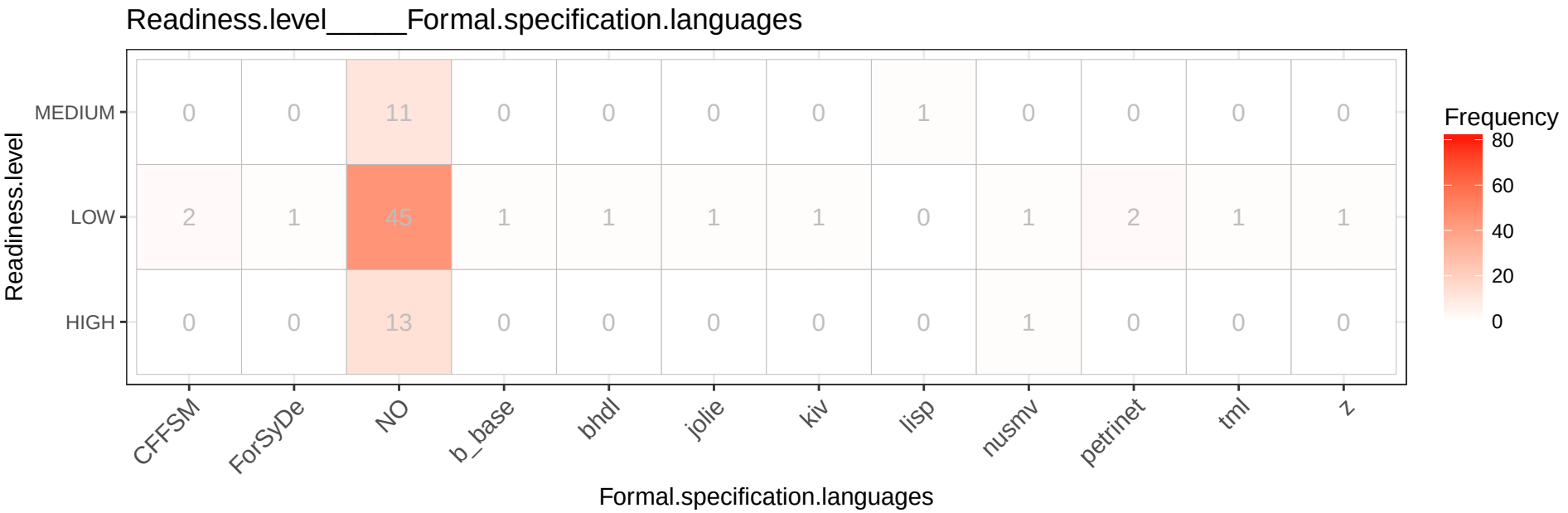

Readiness.level_____fUML
MEDIUM
LOW
HIGH
10
2
48
8
11
3
Readiness.level
NO
YES
fUML
Frequency
80
60
40
20
0

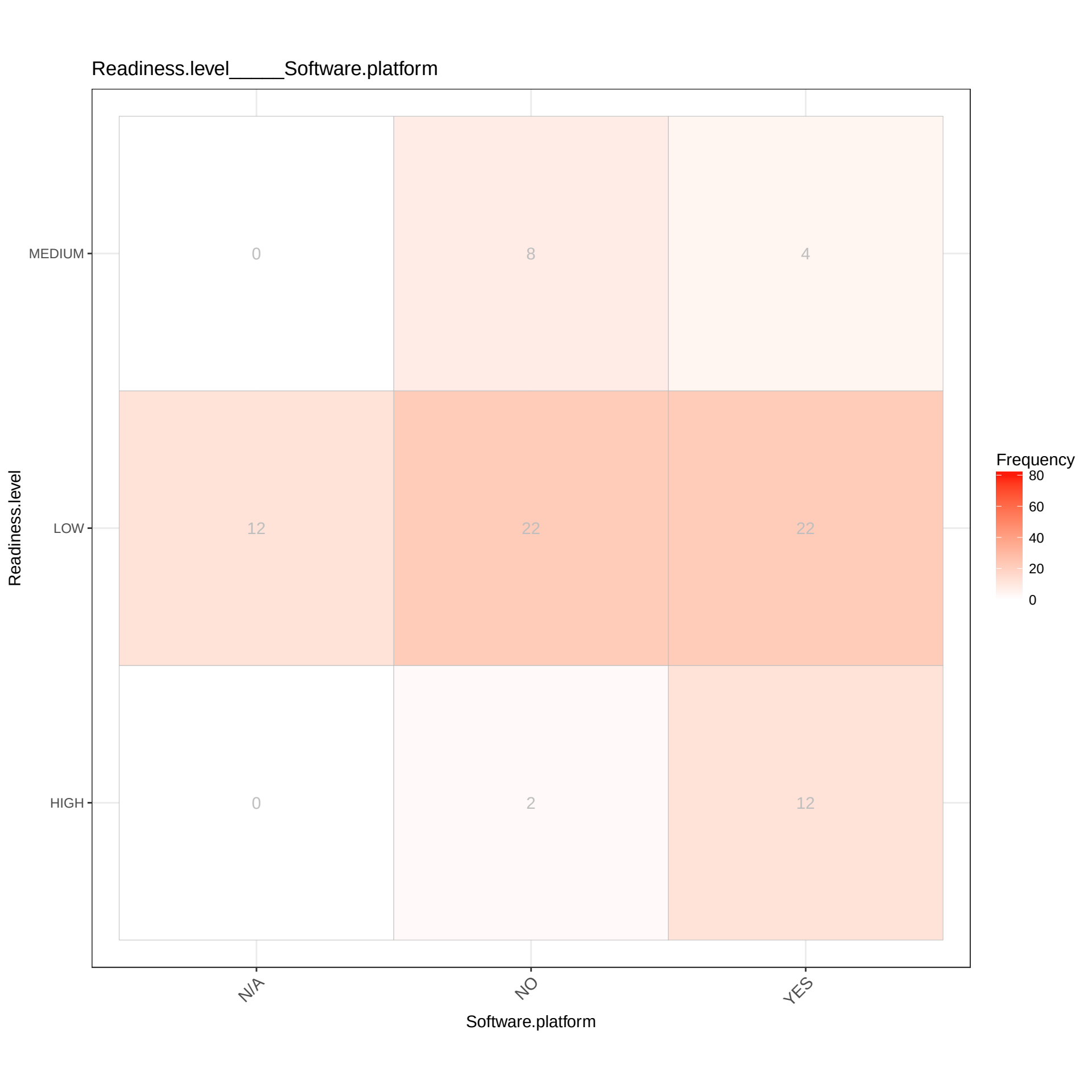

Readiness.level_____MDA.levels.covered
MEDIUM
LOW
HIGH
Readiness.level
5
0
12
8
12
0
55
20
0
1
13
9
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

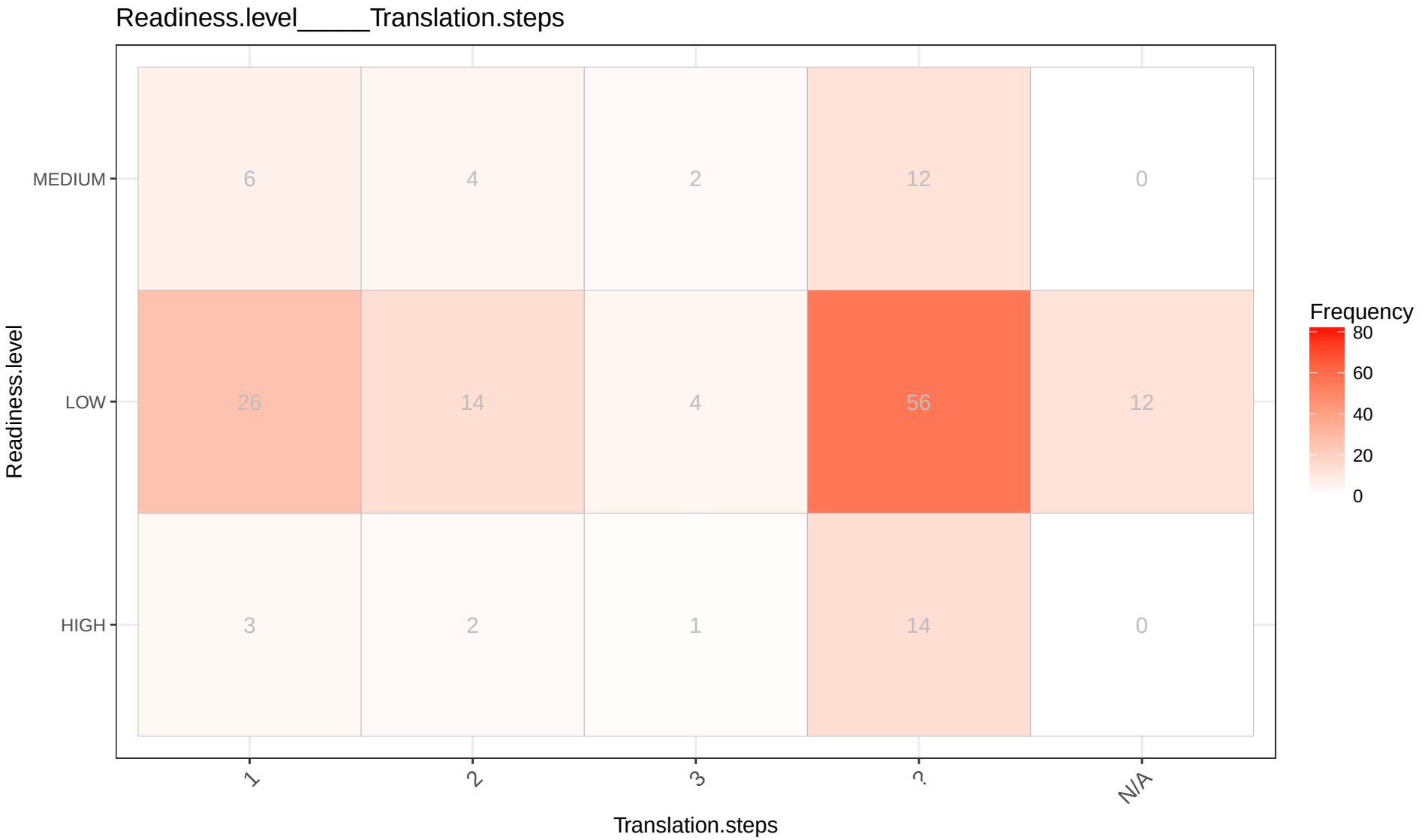

Readiness.level_____Non.functional.properties
MEDIUM
LOW
HIGH
Readiness.level
3
0
0
8
0
1
0
38
2
1
16
1
0
2
13
0
0
1
1
0
0
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

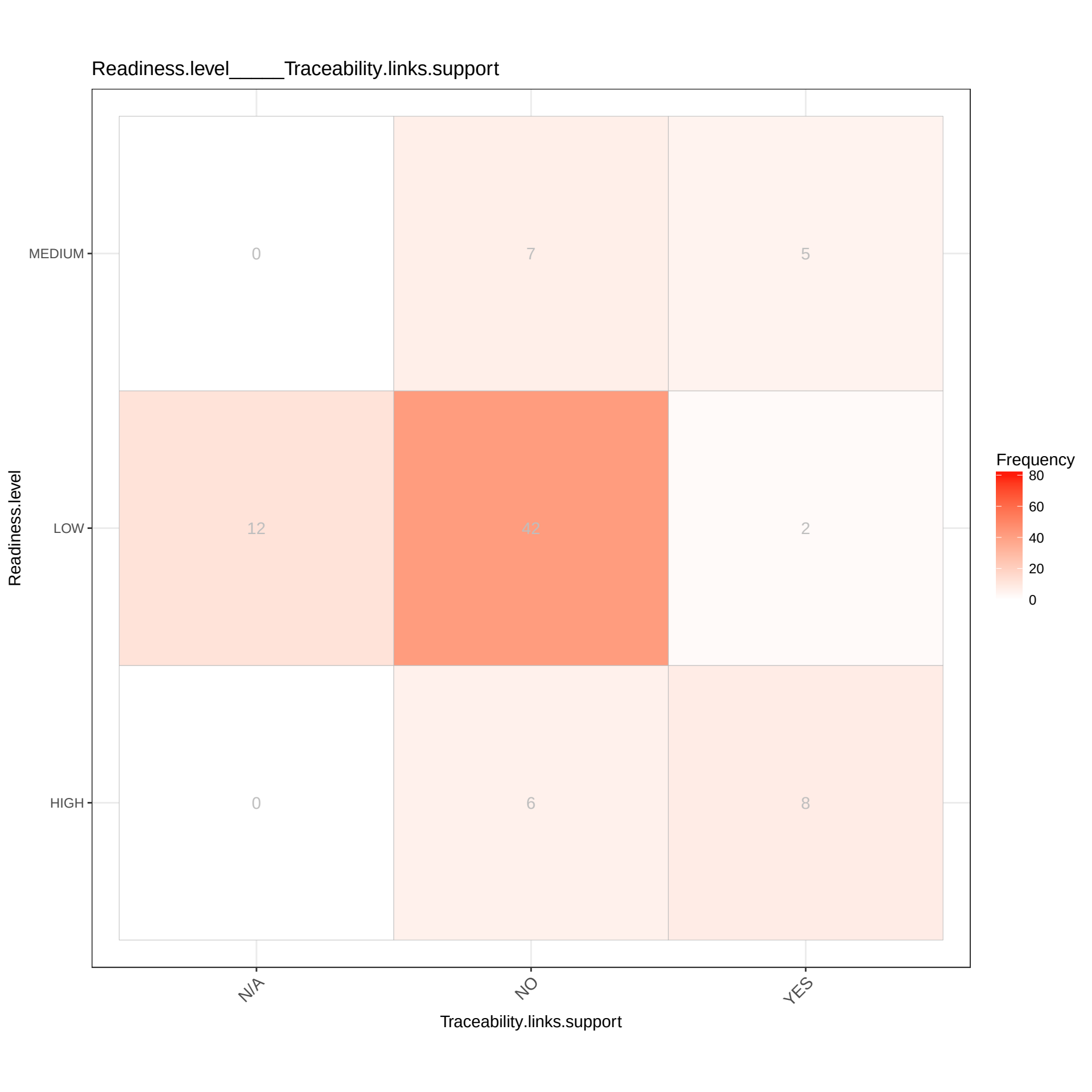

Readiness.level_____Production.system
MEDIUM
LOW
HIGH
Readiness.level
3
9
24
32
2
12
NO
YES
Production.system
Frequency
80
60
40
20
0

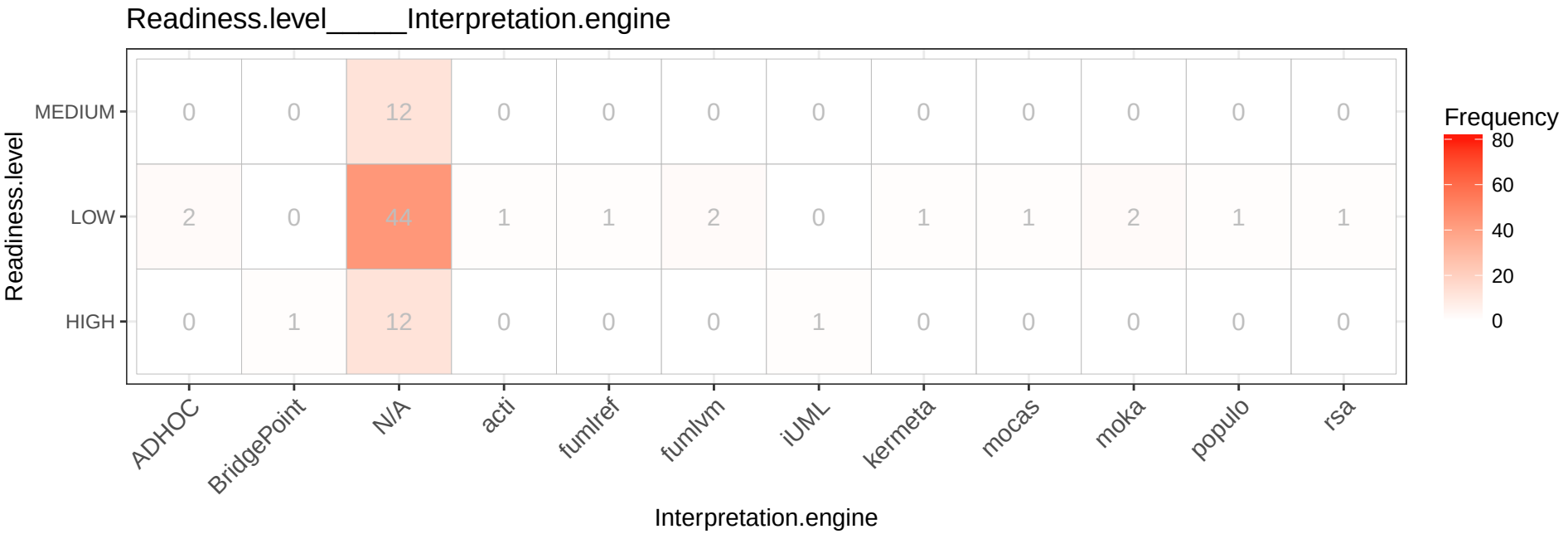

Readiness.level_____Model.level.debugging
MEDIUM
LOW
HIGH
Readiness.level
10
2
46
10
5
9
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

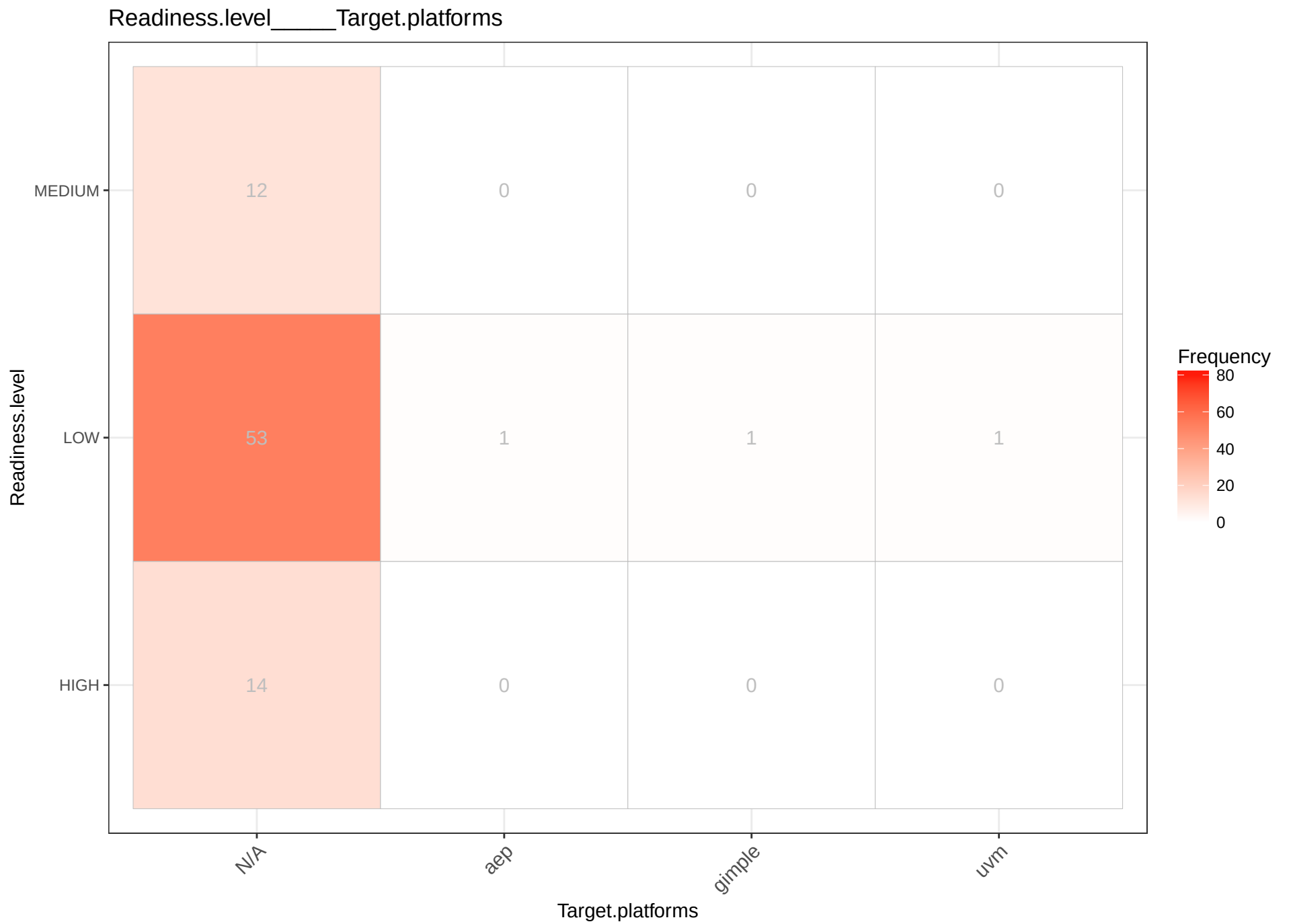

Readiness.level_____Formal.specification.languages
Readiness.level
MEDIUM
LOW
HIGH
0 0 11 0 0 0 0 1 0 0 0 0
2 1 45 1 1 1 1 0 1 2 1 1
0 0 13 0 0 0 0 0 1 0 0 0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

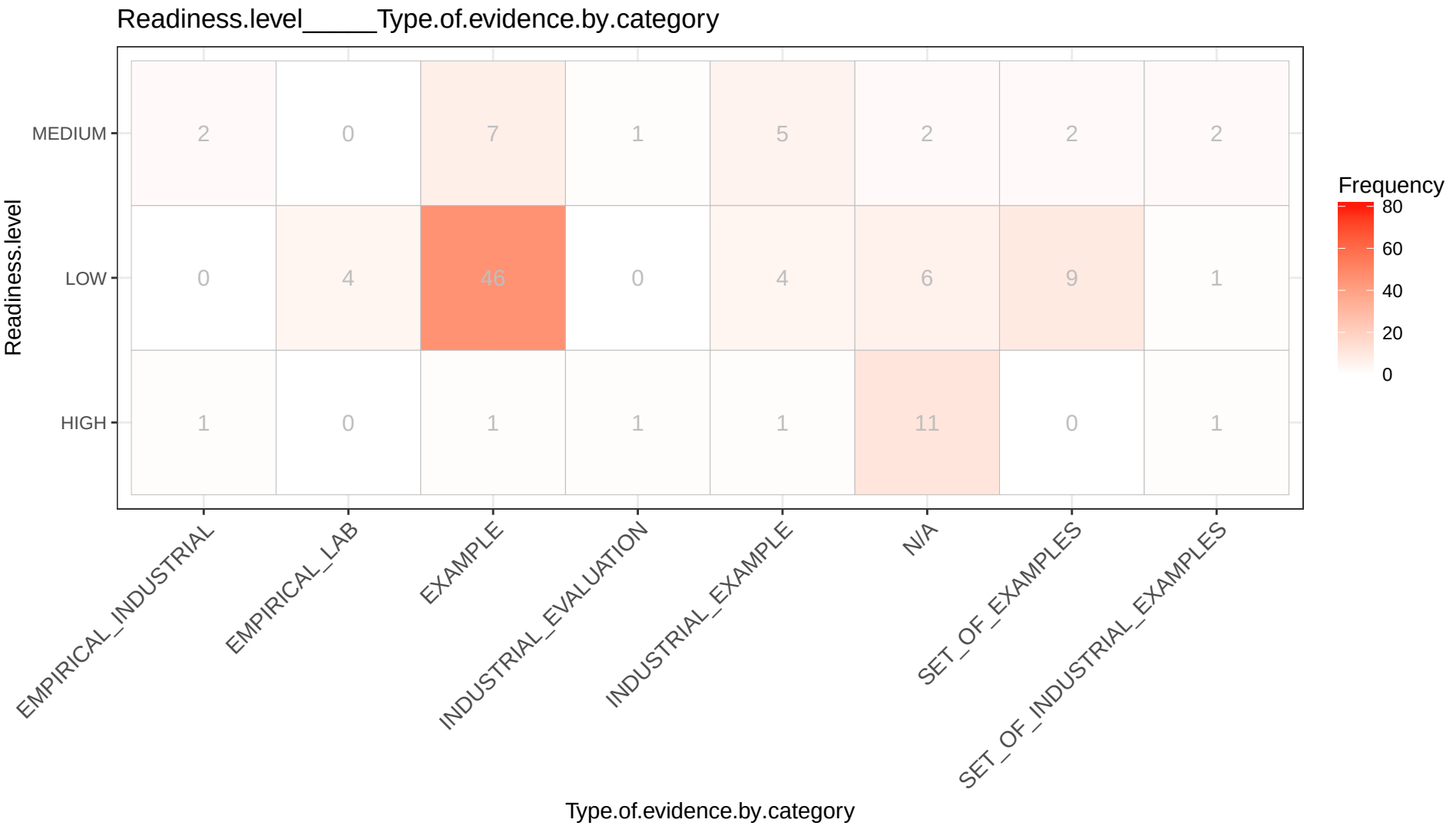

Readiness.level_____Software.platform
MEDIUM
LOW
HIGH
Readiness.level
0
8
4
12
22
22
0
2
12
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

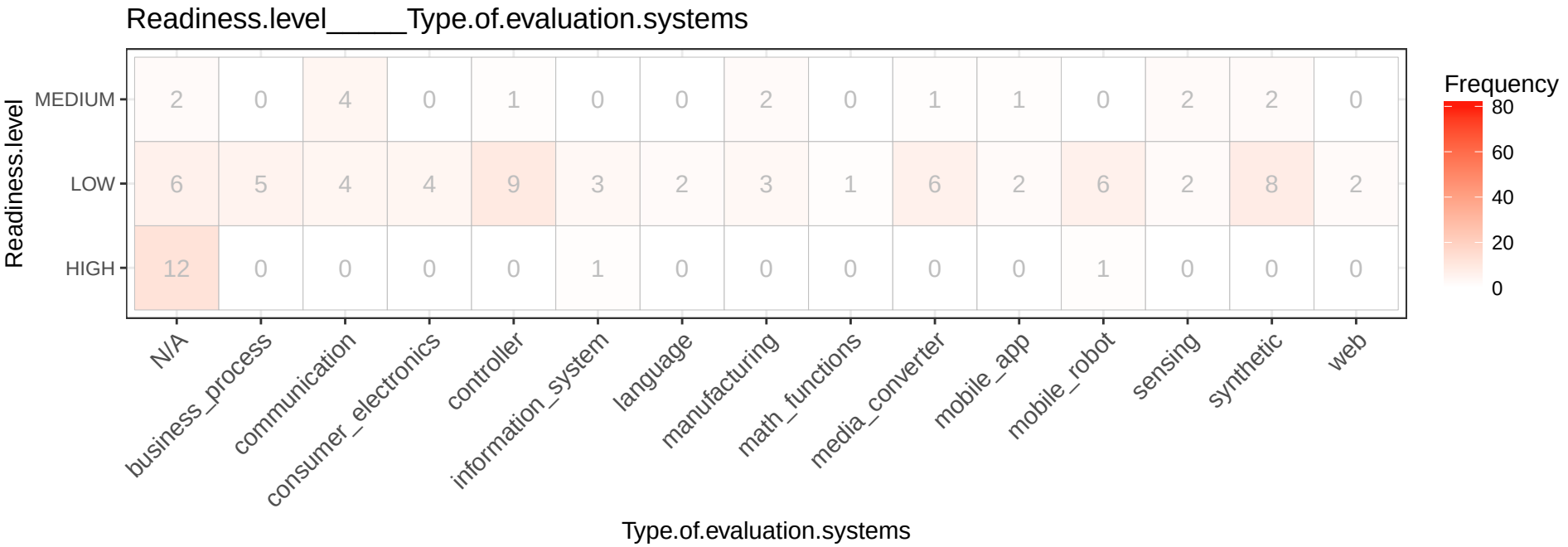

Readiness.level_____Translation.steps
MEDIUM
LOW
HIGH
Readiness.level
6
4
2
12
0
26
14
4
56
12
3
2
1
14
0
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

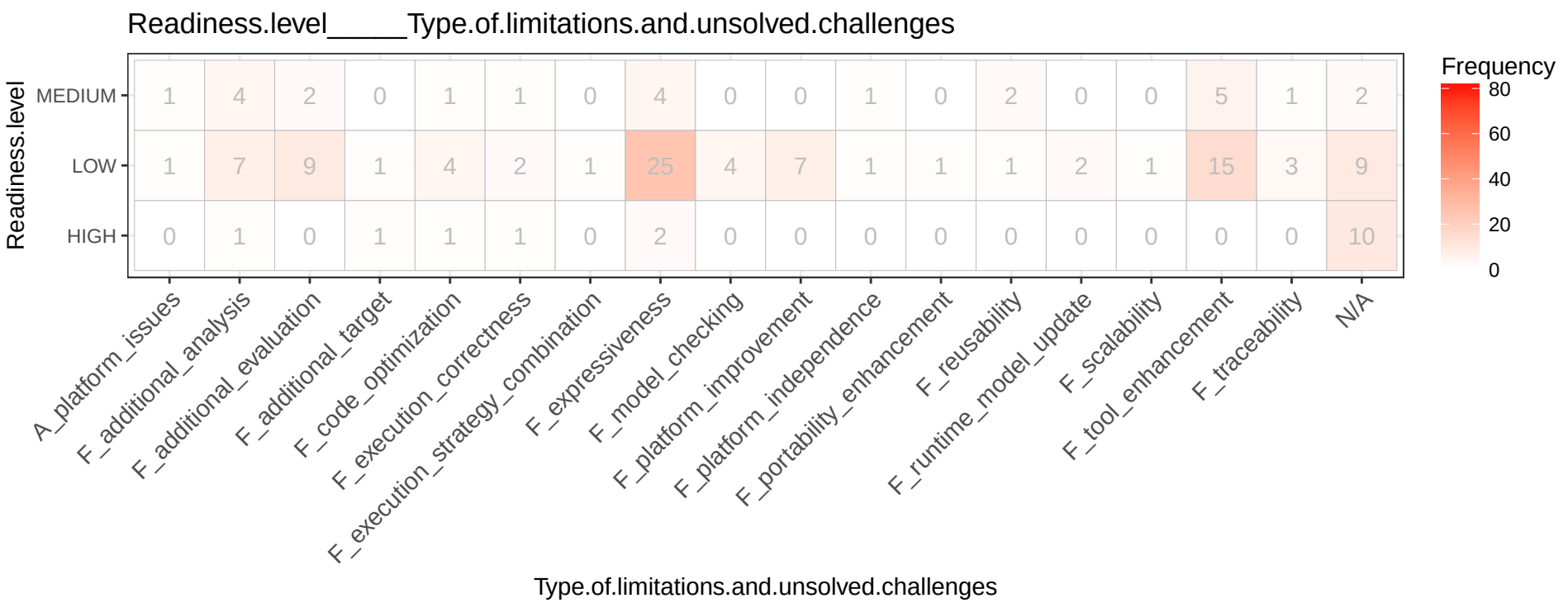

Readiness.level_____Traceability.links.support
MEDIUM
LOW
HIGH
0
7
5
12
42
2
0
6
8
Readiness.level
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

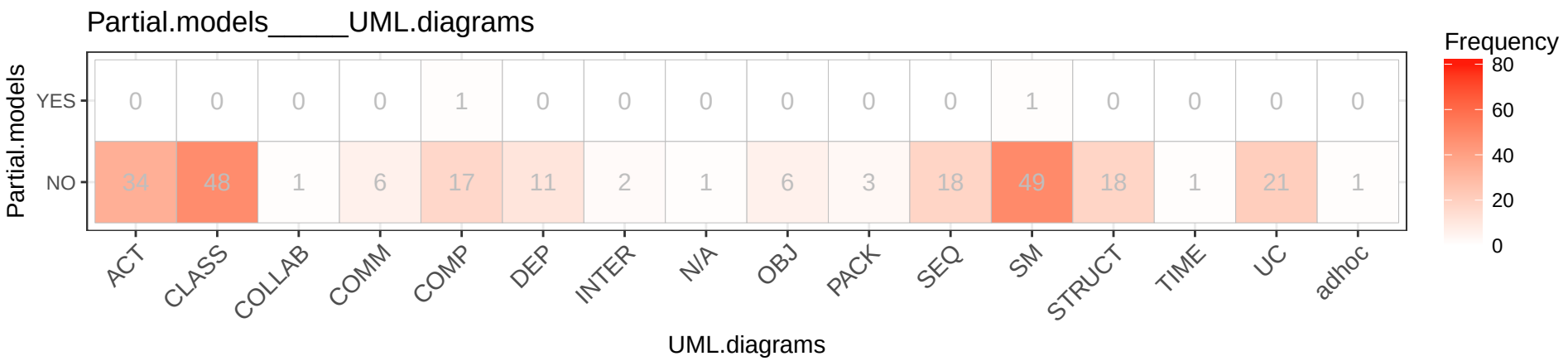

Readiness.level_____Interpretation.engine
Readiness.level
MEDIUM
LOW
HIGH
0 0 12 0 0 0 0 0 0 0 0 0
2 0 44 1 1 2 0 1 1 2 1 1
0 1 12 0 0 0 1 0 0 0 0 0
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

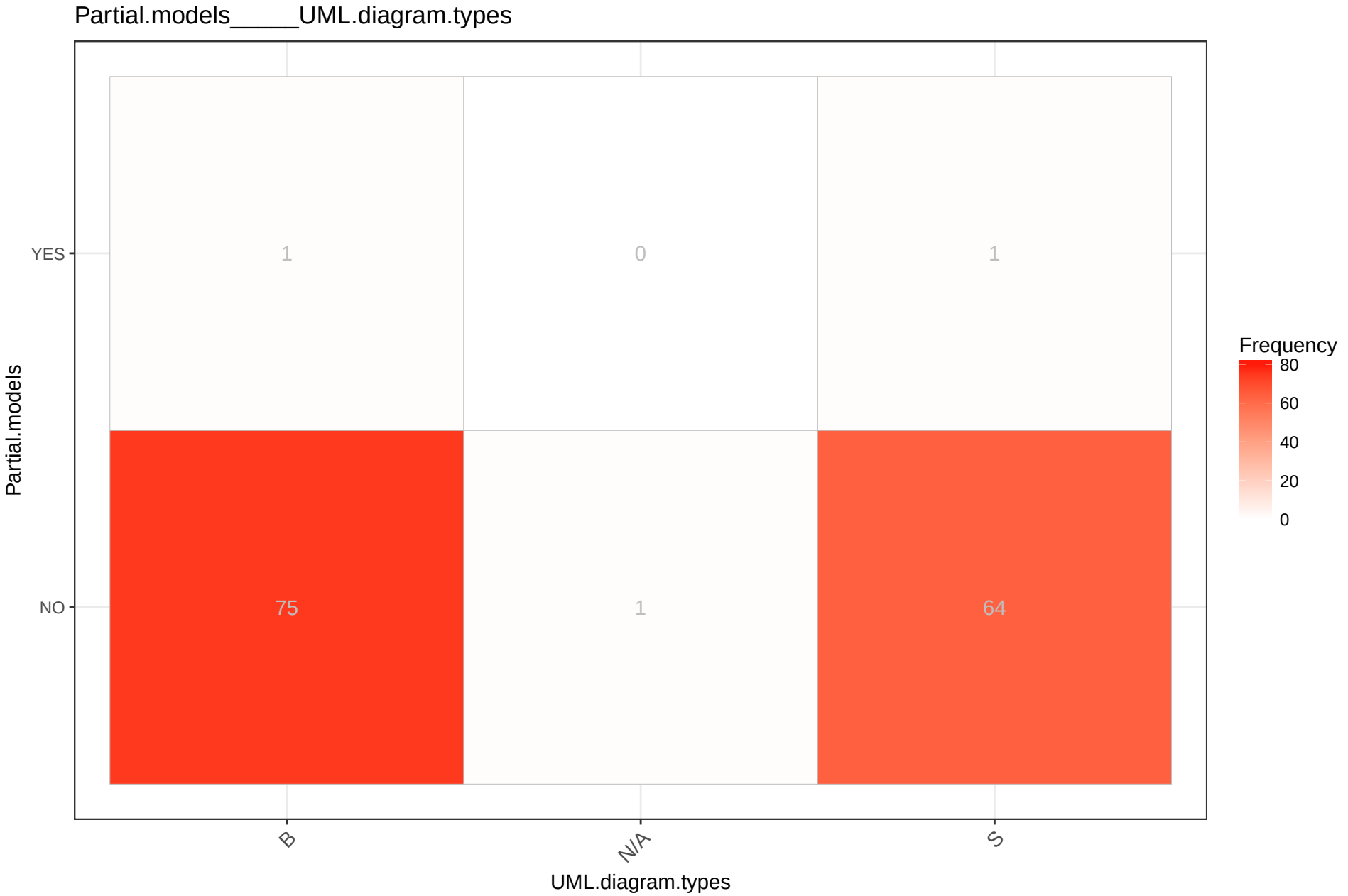

Readiness.level_____Target.platforms
MEDIUM
LOW
HIGH
12
0
0
0
53
1
1
1
14
0
0
0
Readiness.level
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

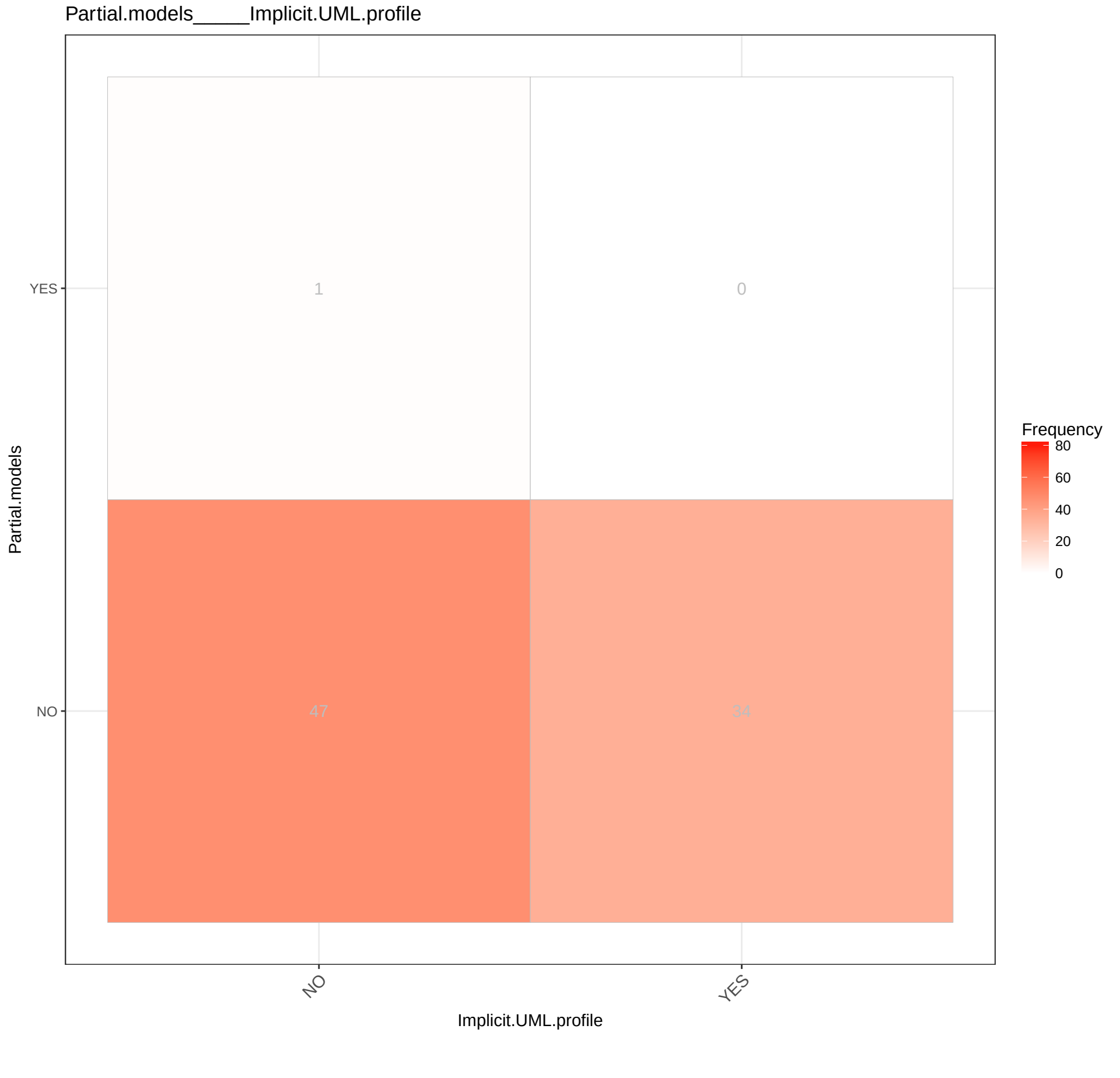

Readiness.level_____Type.of.evidence.by.category
Readiness.level
MEDIUM
LOW
HIGH
2
0
7
1
5
2
2
2
0
4
46
0
4
6
9
1
1
0
1
1
1
11
0
1
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

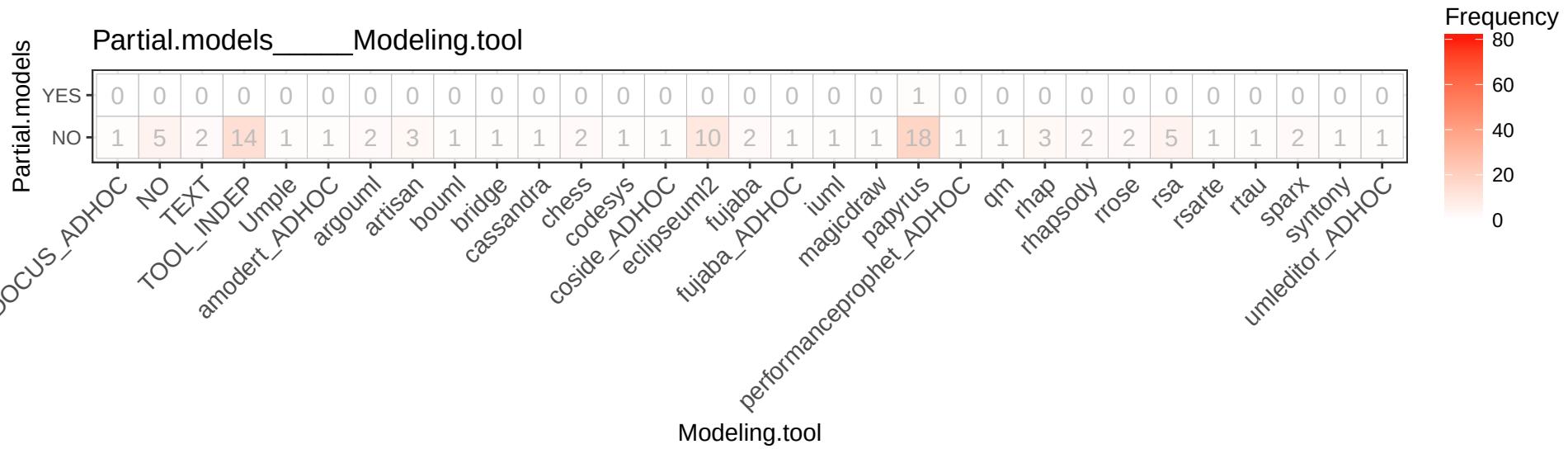

Readiness.level_____Type.of.evaluation.systems
Readiness.level
MEDIUM
LOW
HIGH
2 0 4 0 1 0 0 2 0 1 1 0 2 2 0
6 5 4 4 9 3 2 3 1 6 2 6 2 8 2
12 0 0 0 0 1 0 0 0 0 0 1 0 0 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

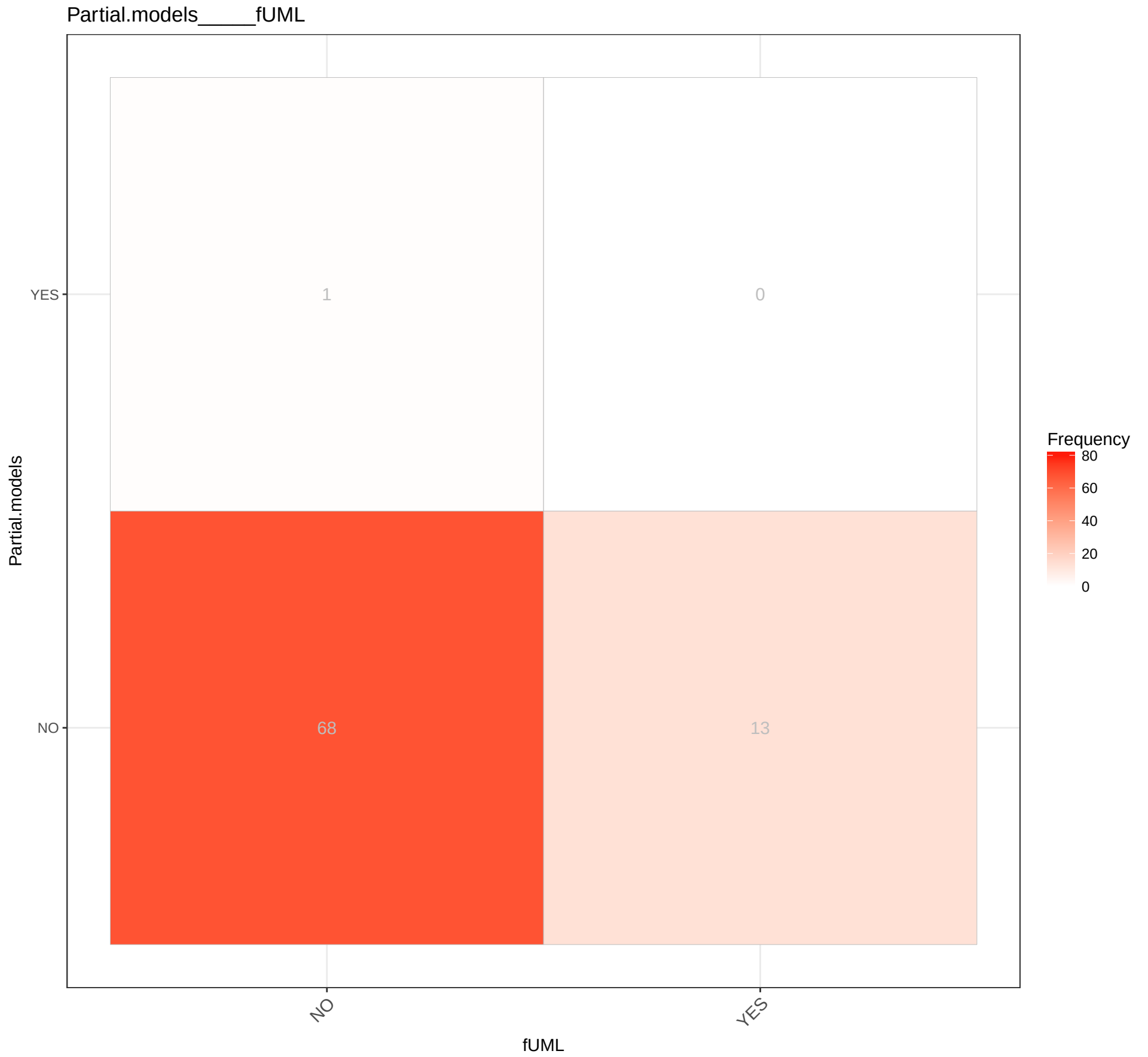

Readiness.level_____Type.of.limitations.and.unsolved.challenges
Readiness.level
MEDIUM
LOW
HIGH
1 4 2 0 1 1 0 4 0 0 1 0 2 0 0 5 1 2
1 7 9 1 4 2 1 25 4 7 1 1 1 2 1 15 3 9
0 1 0 1 1 1 0 2 0 0 0 0 0 0 0 0 0 10
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

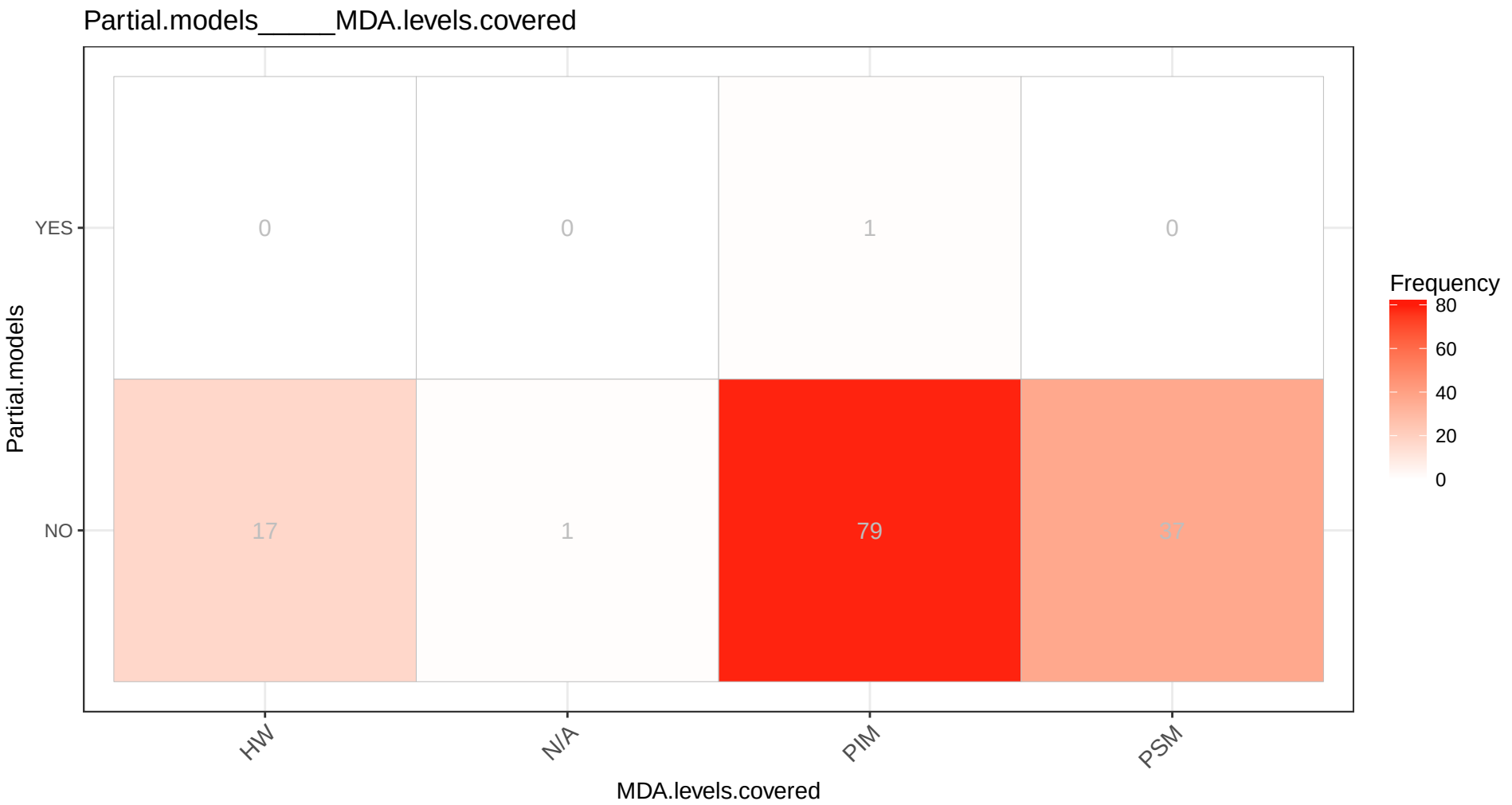

Partial.models_____UML.diagrams
Partial.models
YES
NO
0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0
34 48 1 6 17 11 2 1 6 3 18 49 18 1 21 1
ACT
CLASS
COLLAB
COMM
COMP
DEP
INTER
N/A
OBJ
PACK
SEQ
SM
STRUCT
TIME
UC
adhoc
UML.diagrams
Frequency
80
60
40
20
0

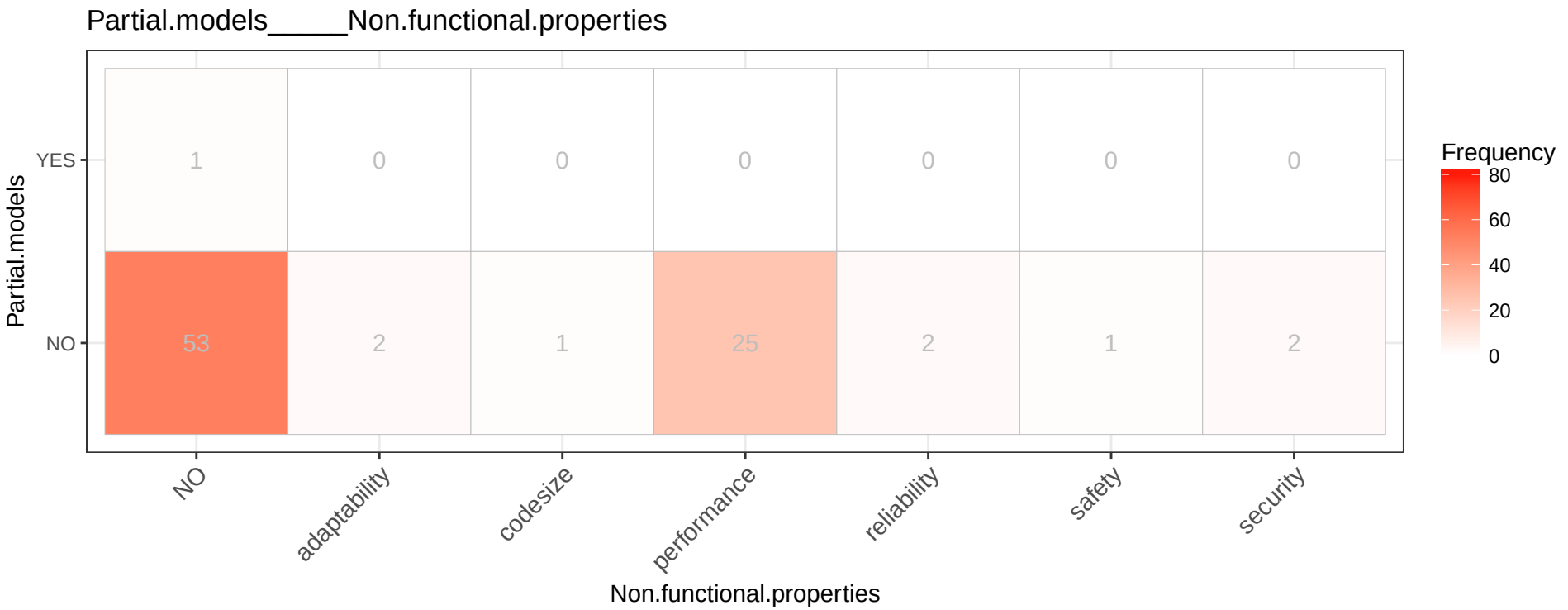

Partial.models_____UML.diagram.types
YES
NO
1
0
1
75
1
64
Partial.models
B
N/A
S
UML.diagram.types
Frequency
80
60
40
20
0

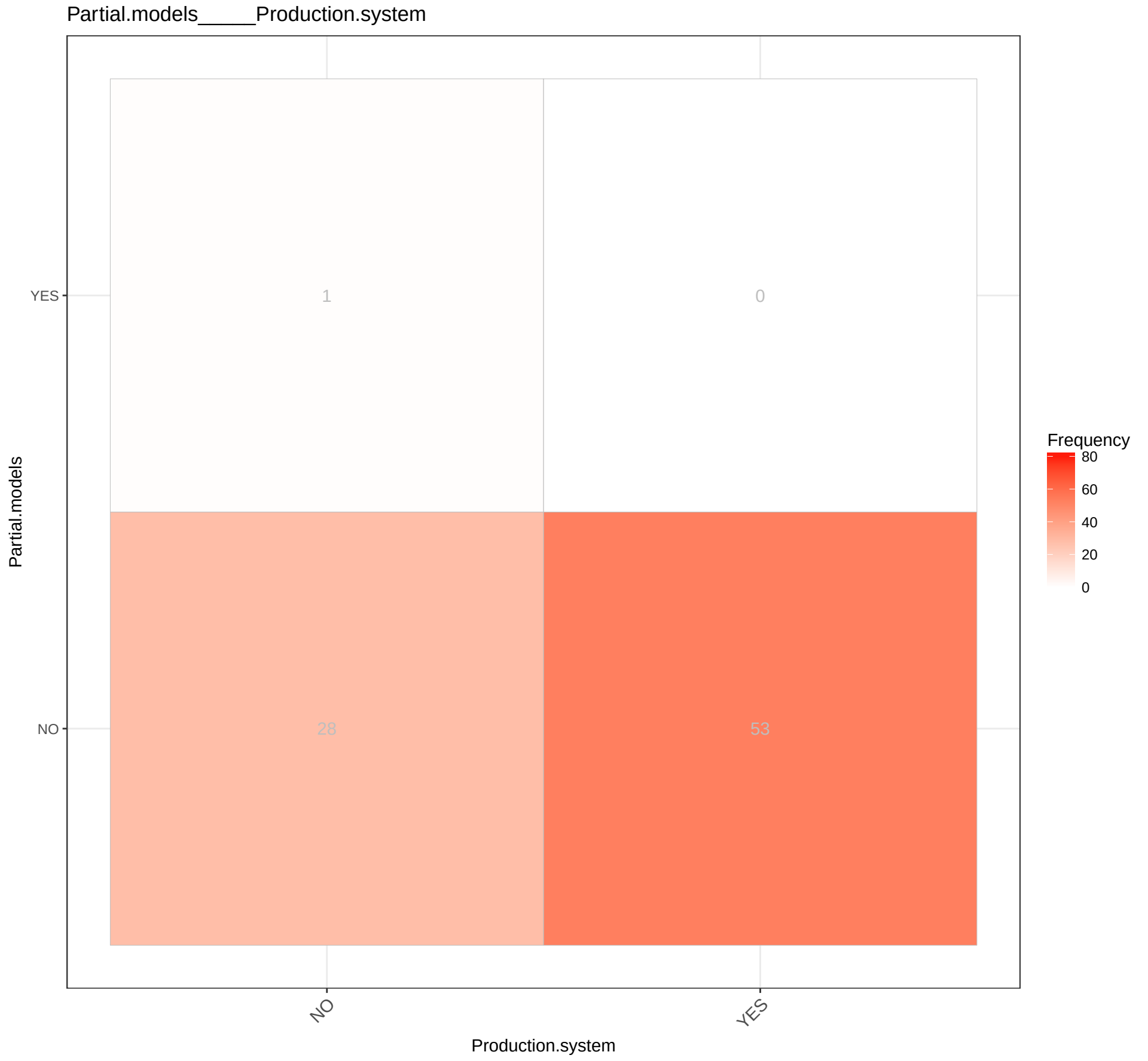

Partial.models_____Implicit.UML.profile
YES
NO
1
0
47
34
Partial.models
NO
YES
Implicit.UML.profile
Frequency
80
60
40
20
0

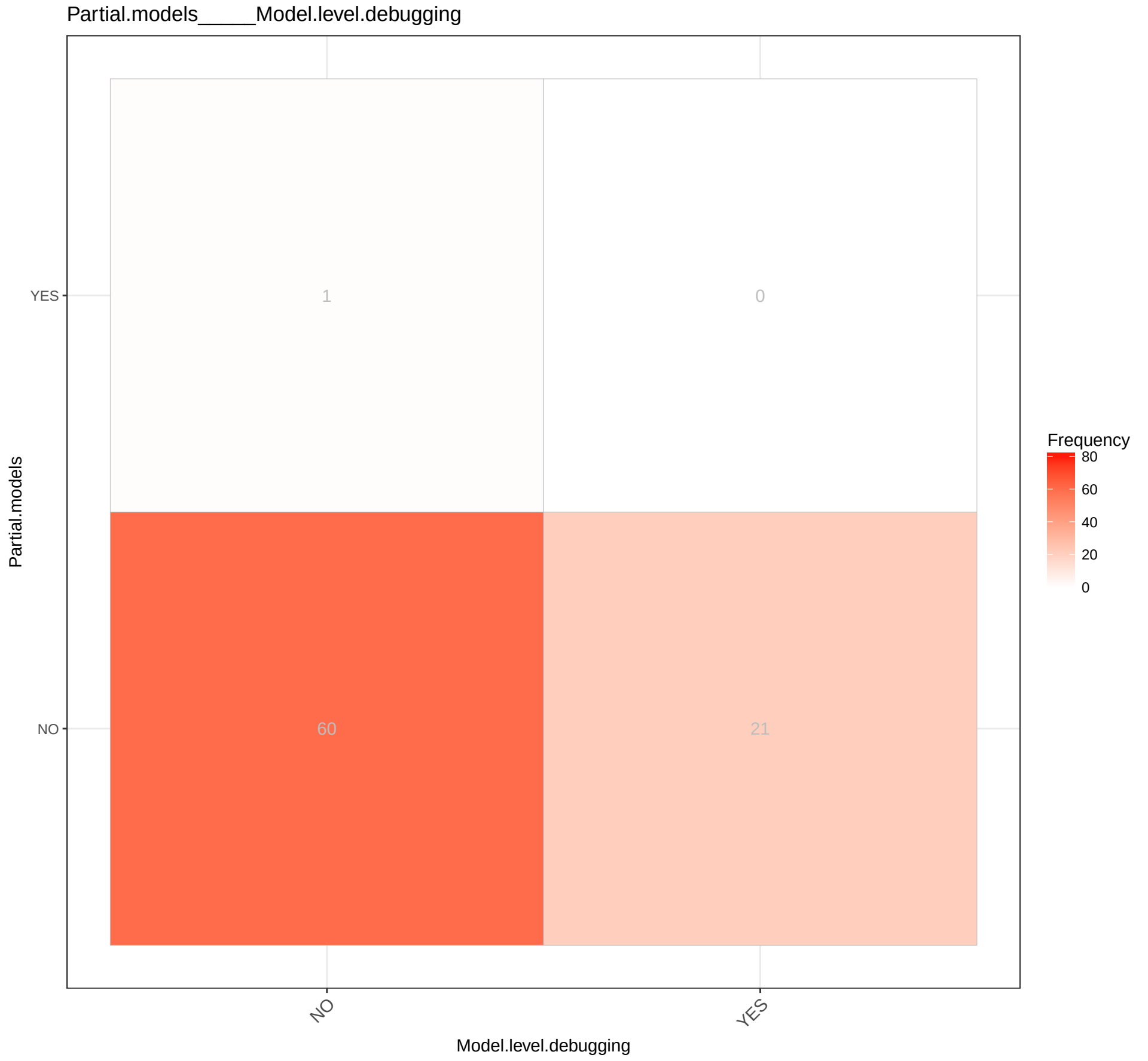

Partial.models_____Modeling.tool
Partial.models
YES
NO
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
1 5 2 14 1 1 2 3 1 1 1 2 1 1 10 2 1 1 1 18 1 1 3 2 2 5 1 1 2 1 1
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

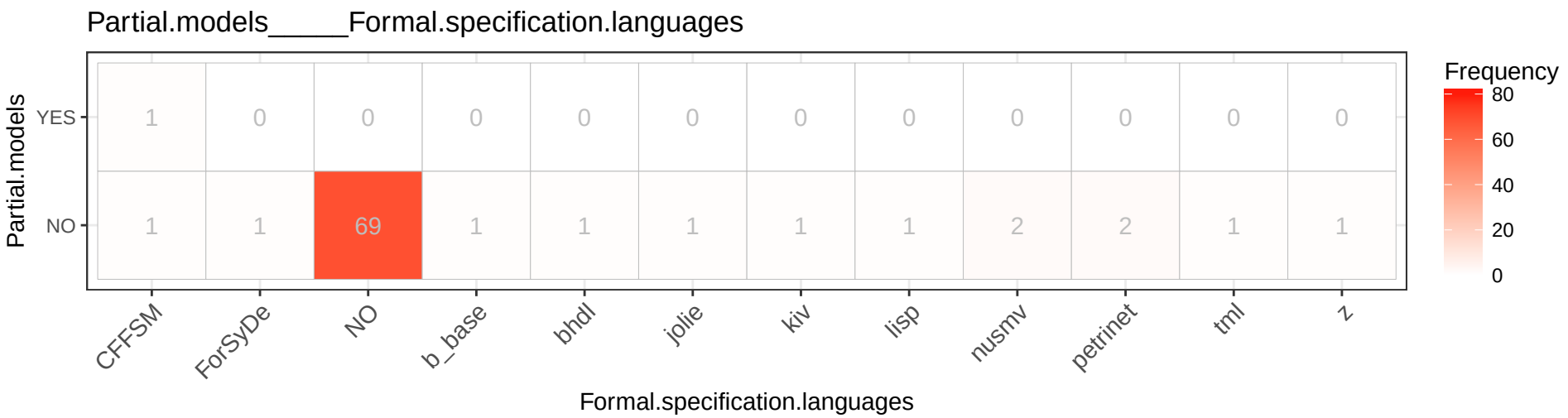

Partial.models_____fUML
YES
NO
1
0
68
13
Partial.models
NO
YES
fUML
Frequency
80
60
40
20
0

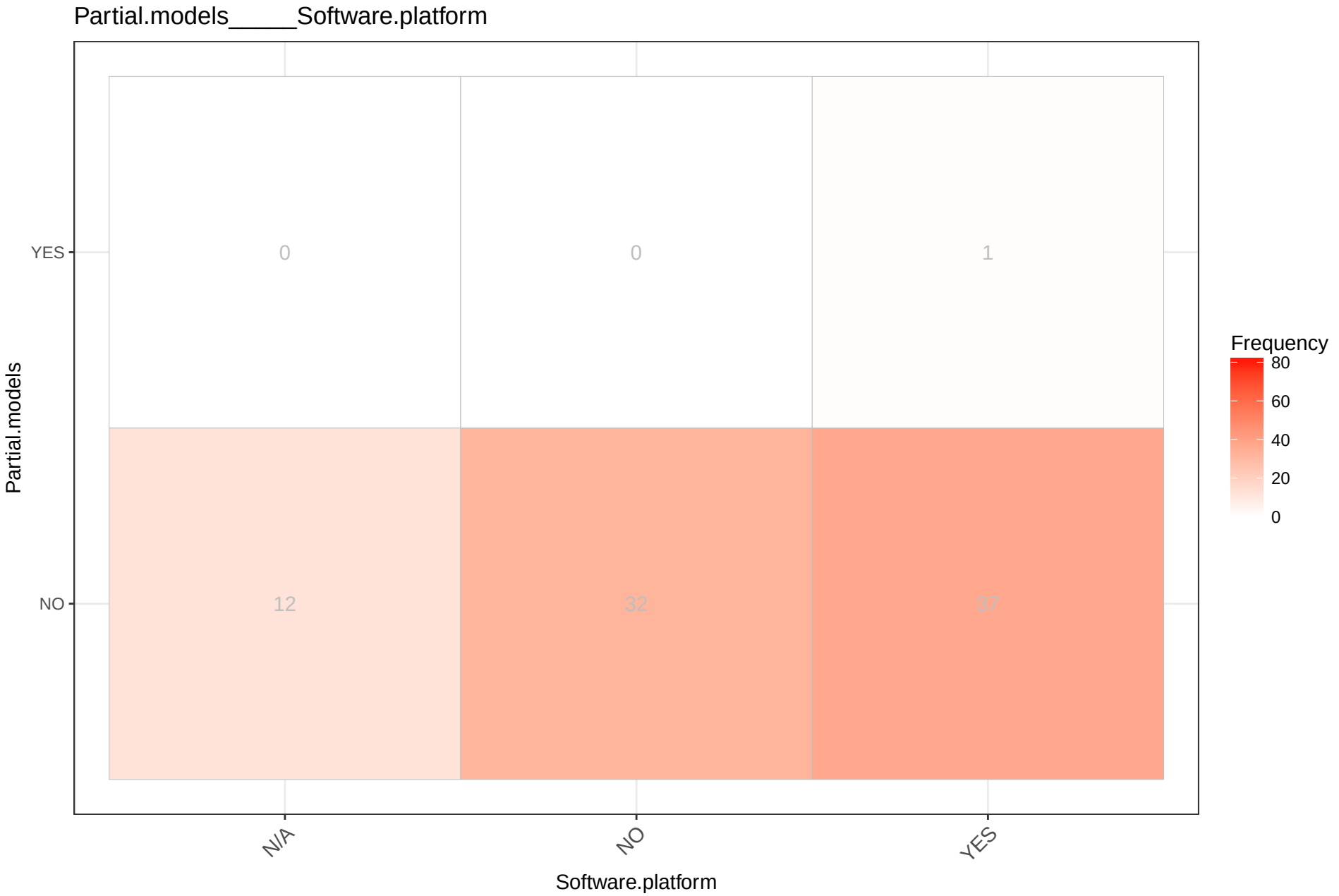

Partial.models_____MDA.levels.covered
YES
NO
Partial.models
0
0
1
0
17
1
79
37
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

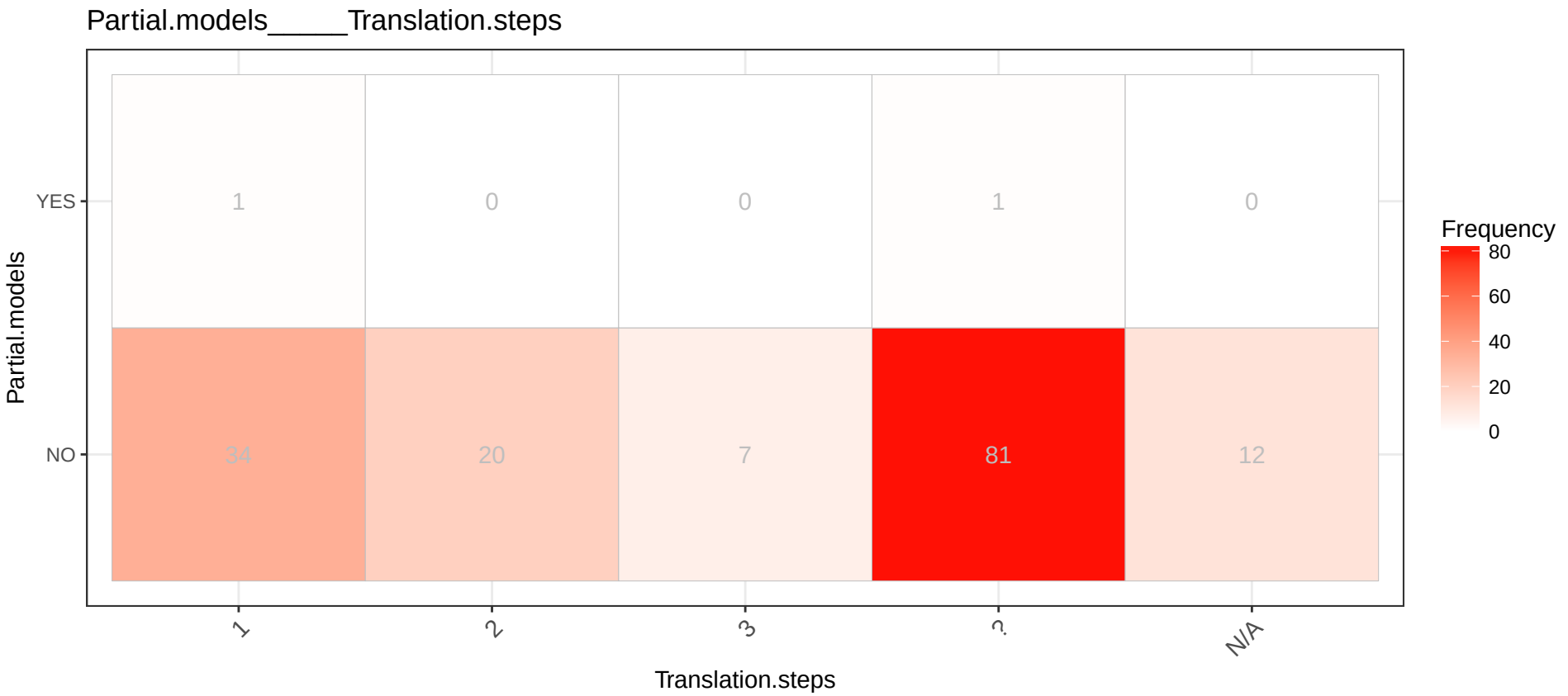

Partial.models_____Non.functional.properties
Partial.models
YES
NO
1
0
0
0
0
0
0
53
2
1
25
2
1
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

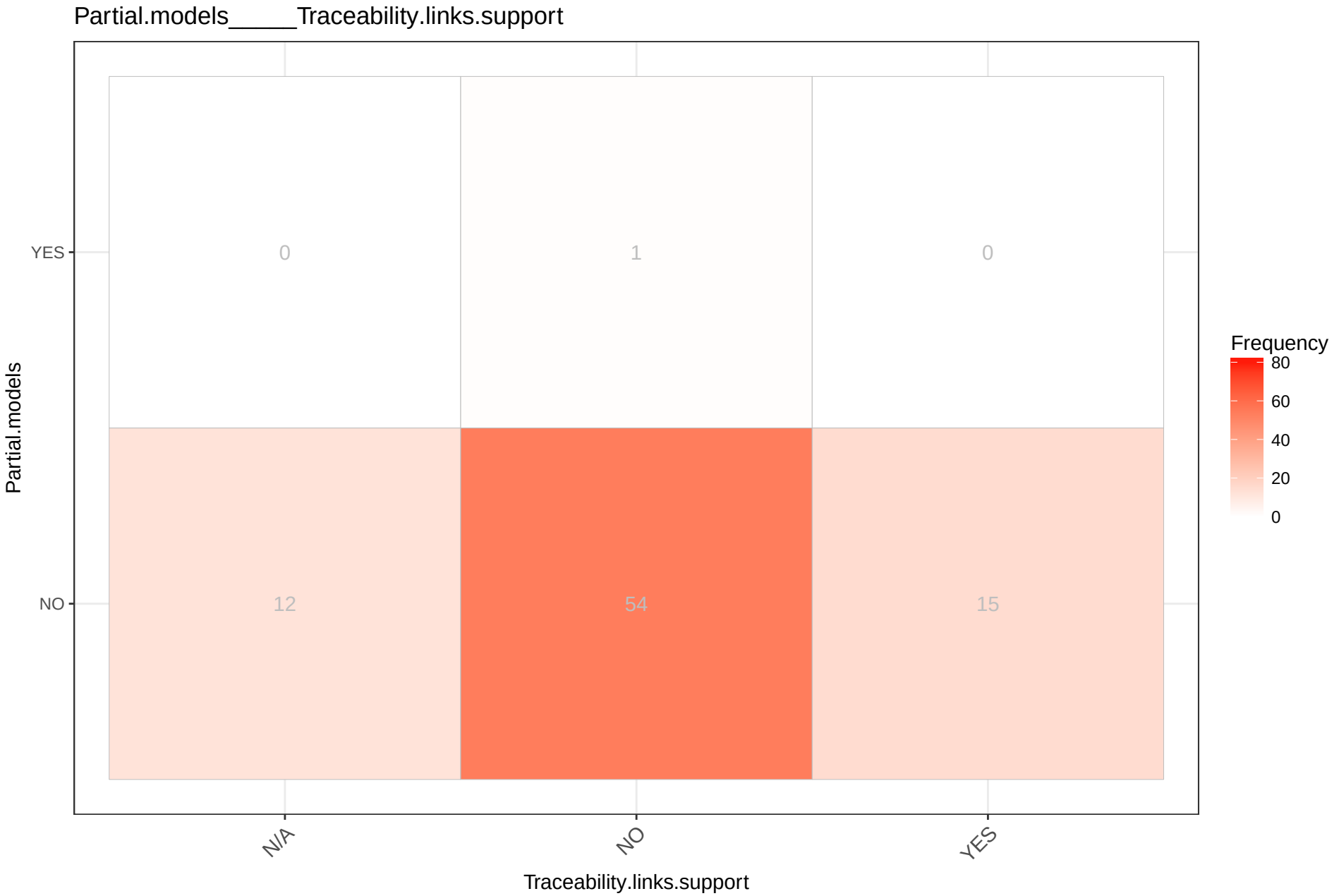

Partial.models_____Production.system
YES
NO
1
0
28
53
Partial.models
NO
YES
Production.system
Frequency
80
60
40
20
0

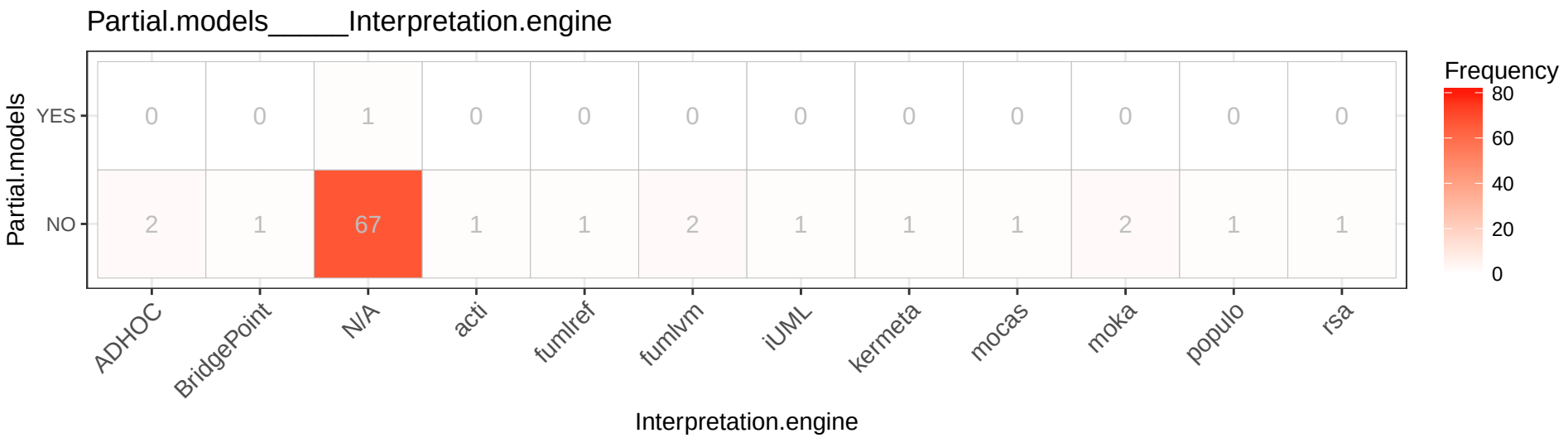

Partial.models_____Model.level.debugging
YES
NO
1
0
60
21
Partial.models
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

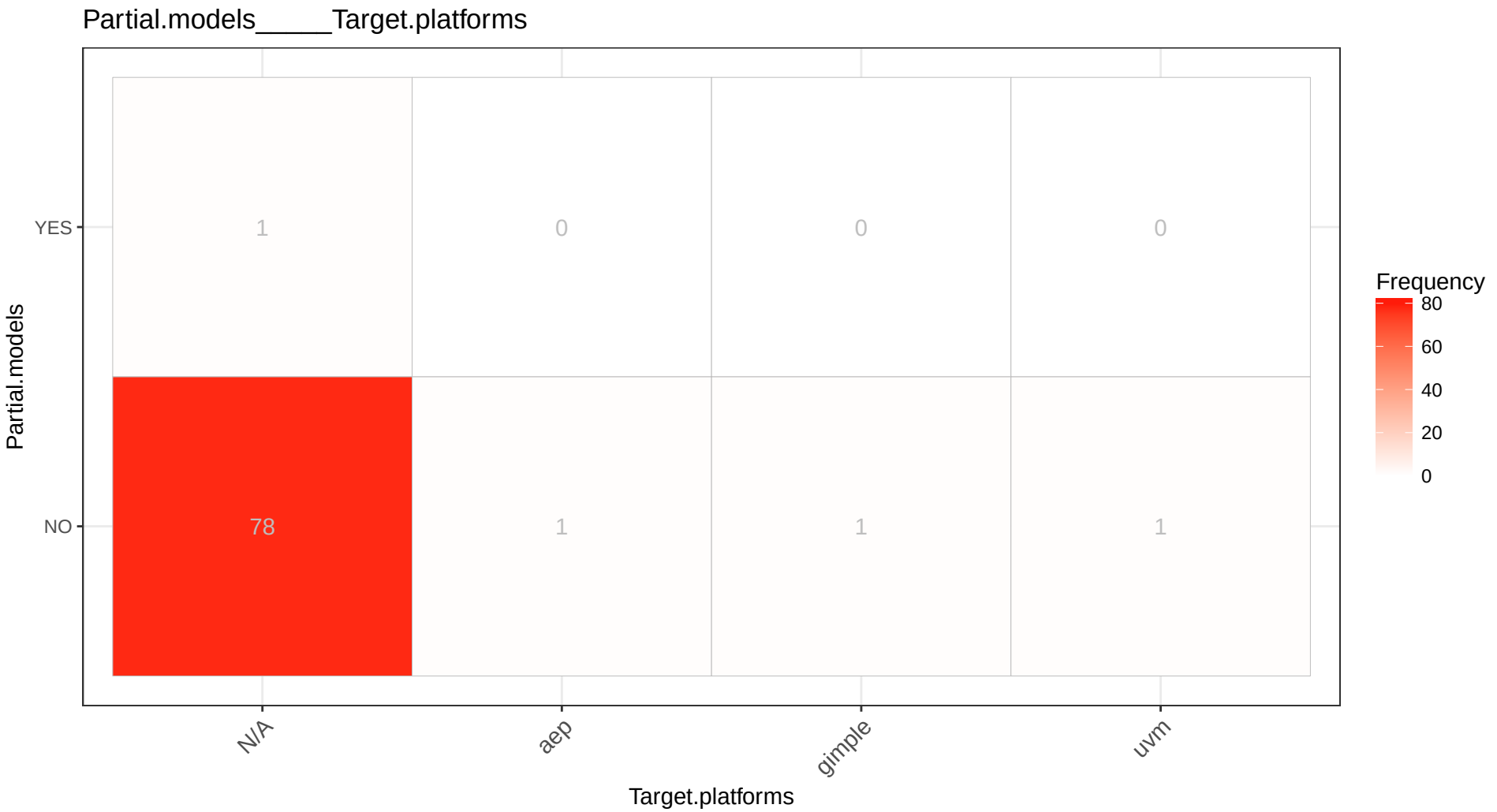

Partial.models_____Formal.specification.languages
Partial.models
YES
NO
1
0
0
0
0
0
0
0
0
0
0
0
1
1
69
1
1
1
1
1
2
2
1
1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

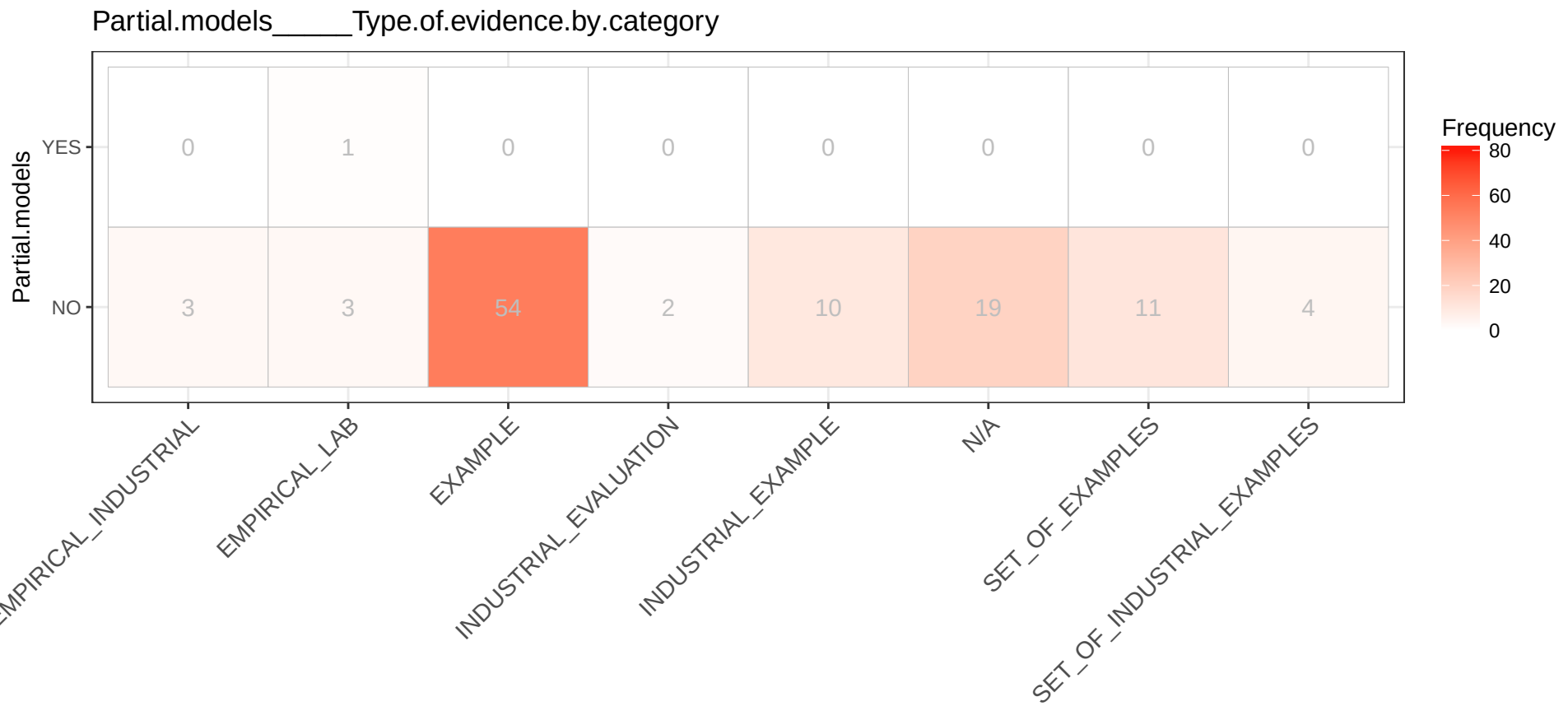

Partial.models_____Software.platform
YES
NO
0
0
1
12
32
37
Partial.models
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

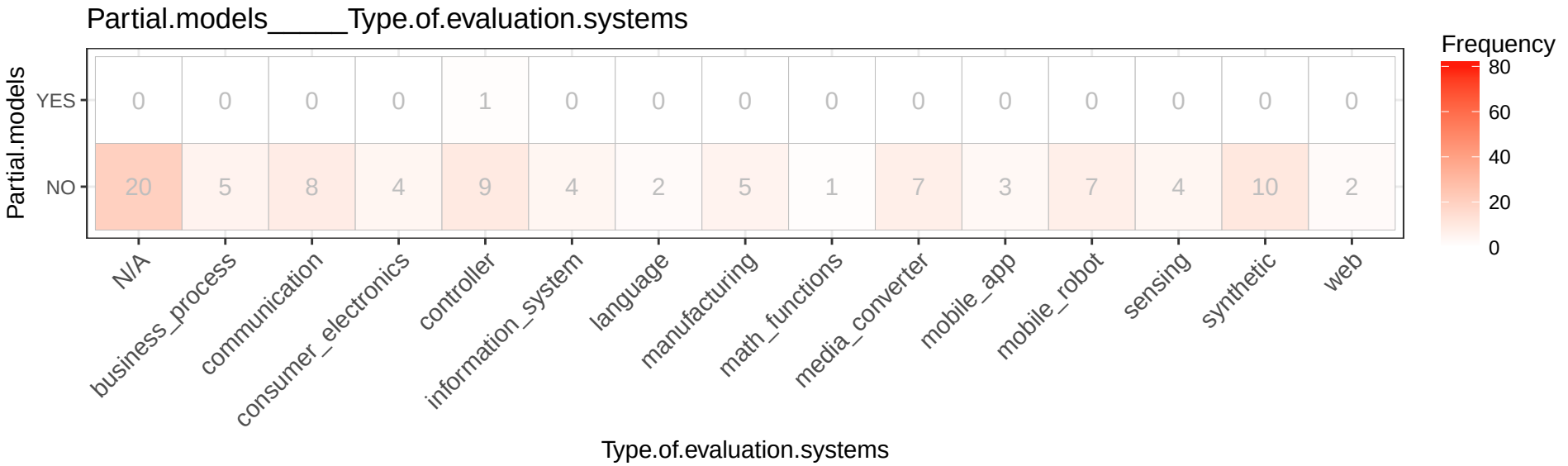

Partial.models_____Translation.steps
YES
NO
Partial.models
1
0
0
1
0
34
20
7
81
12
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

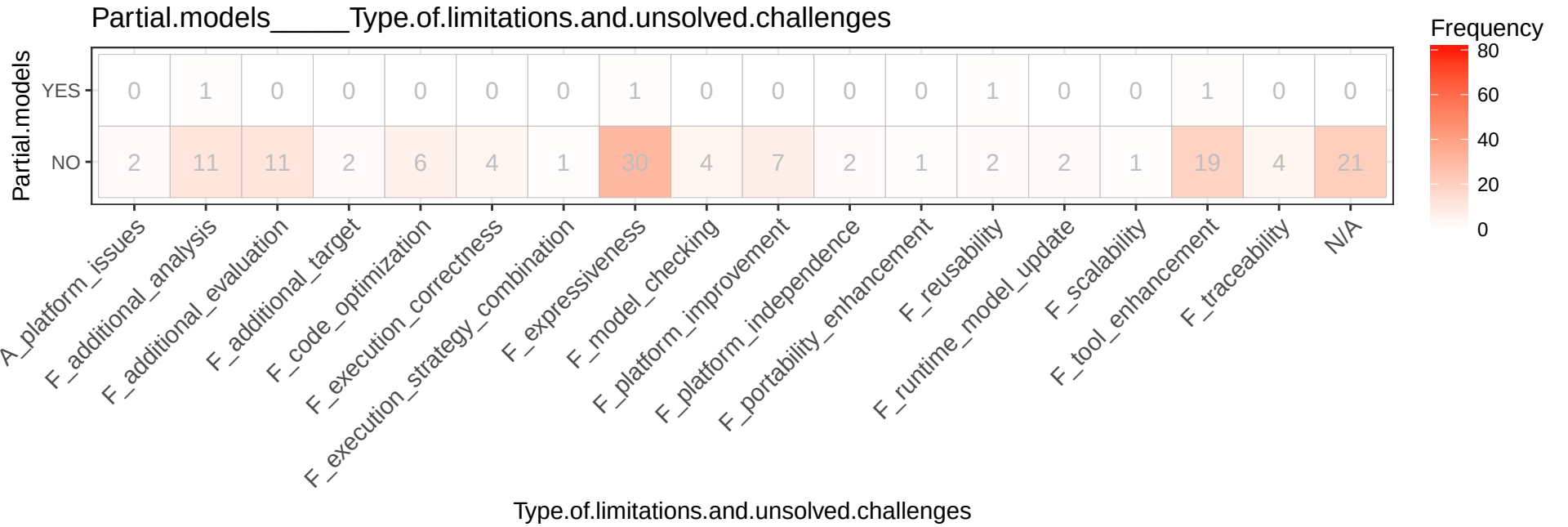

Partial.models_____Traceability.links.support
YES
NO
0
1
0
12
54
15
Partial.models
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

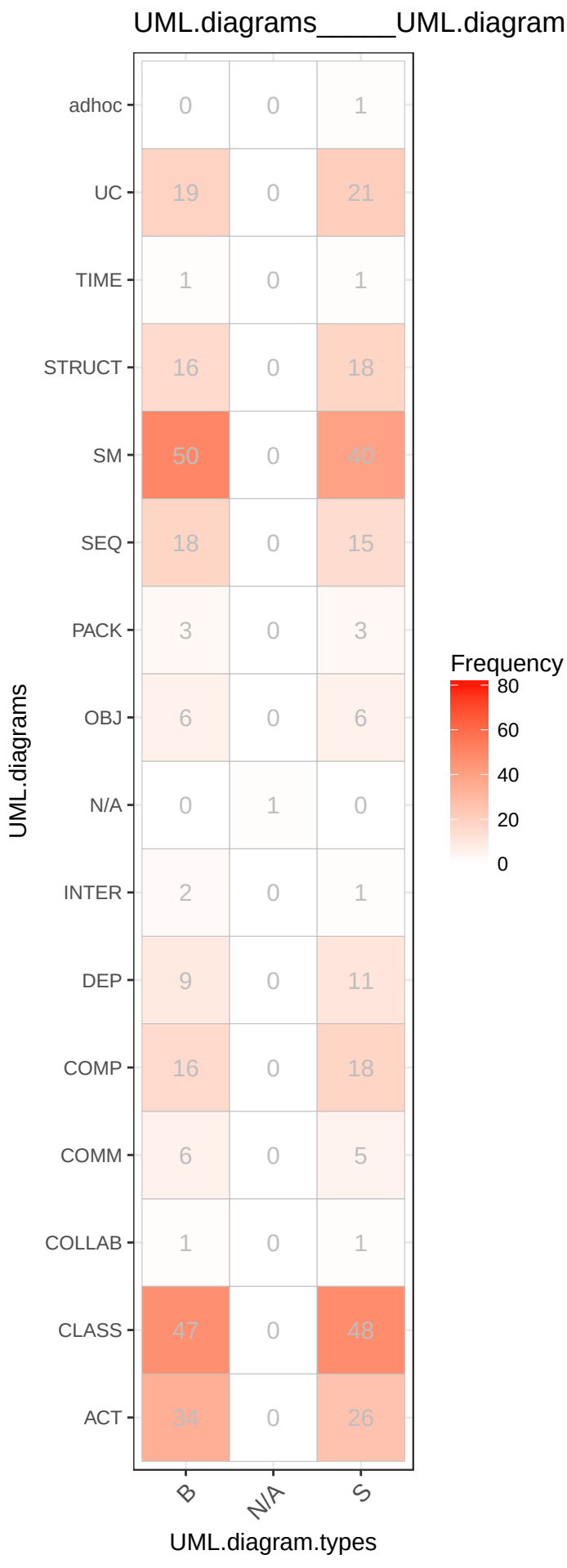

Partial.models_____Interpretation.engine
Partial.models
YES
NO
0 0 1 0 0 0 0 0 0 0 0 0
2 1 67 1 1 2 1 1 1 2 1 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

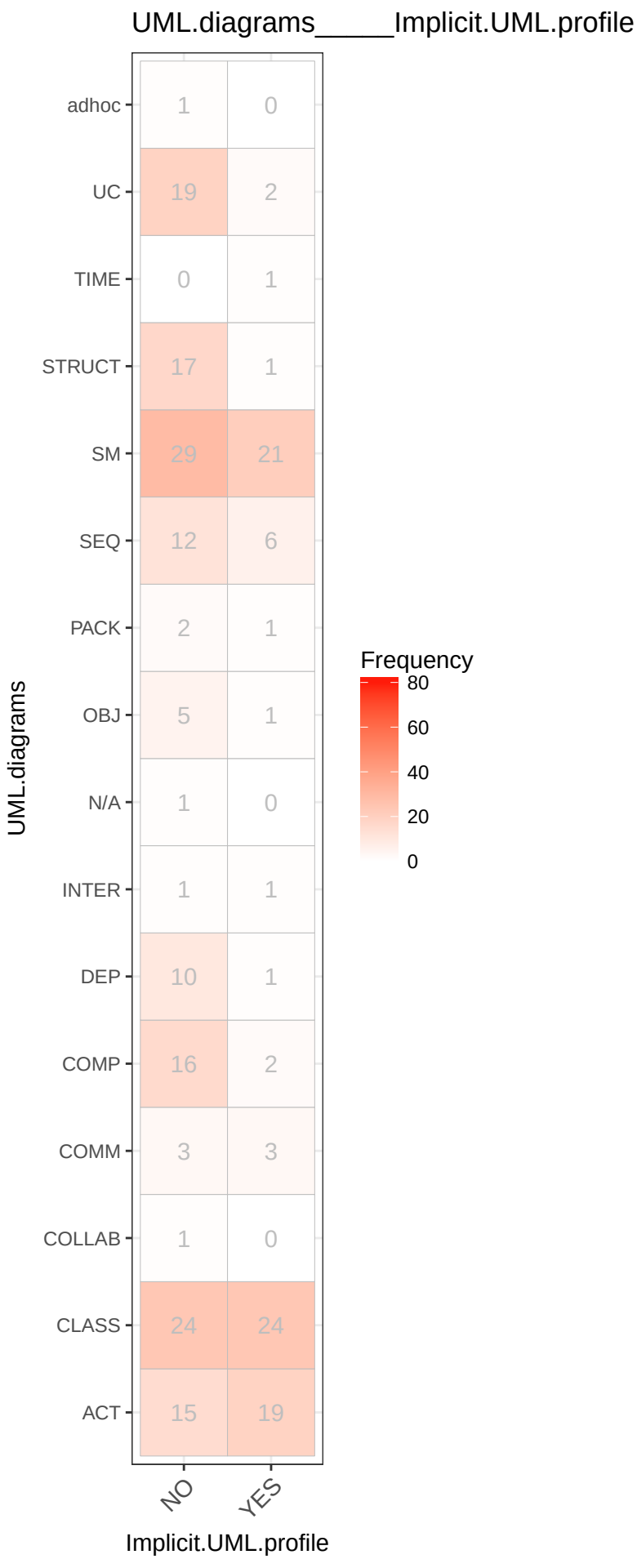

Partial.models_____Target.platforms
YES
NO
Partial.models
1
0
0
0
78
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

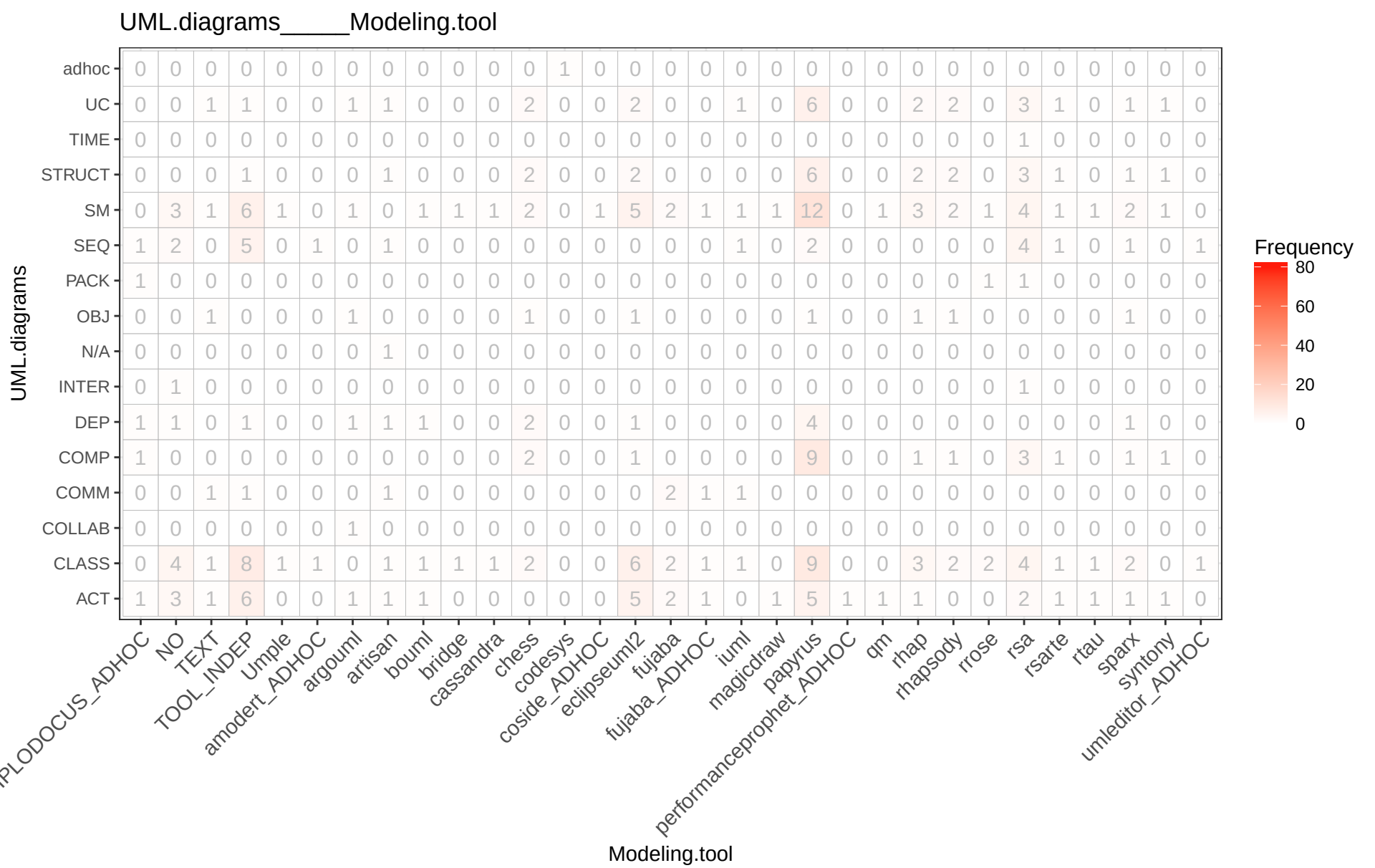

Partial.models_____Type.of.evidence.by.category
Partial.models
YES
NO
0
1
0
0
0
0
0
0
3
3
54
2
10
19
11
4
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

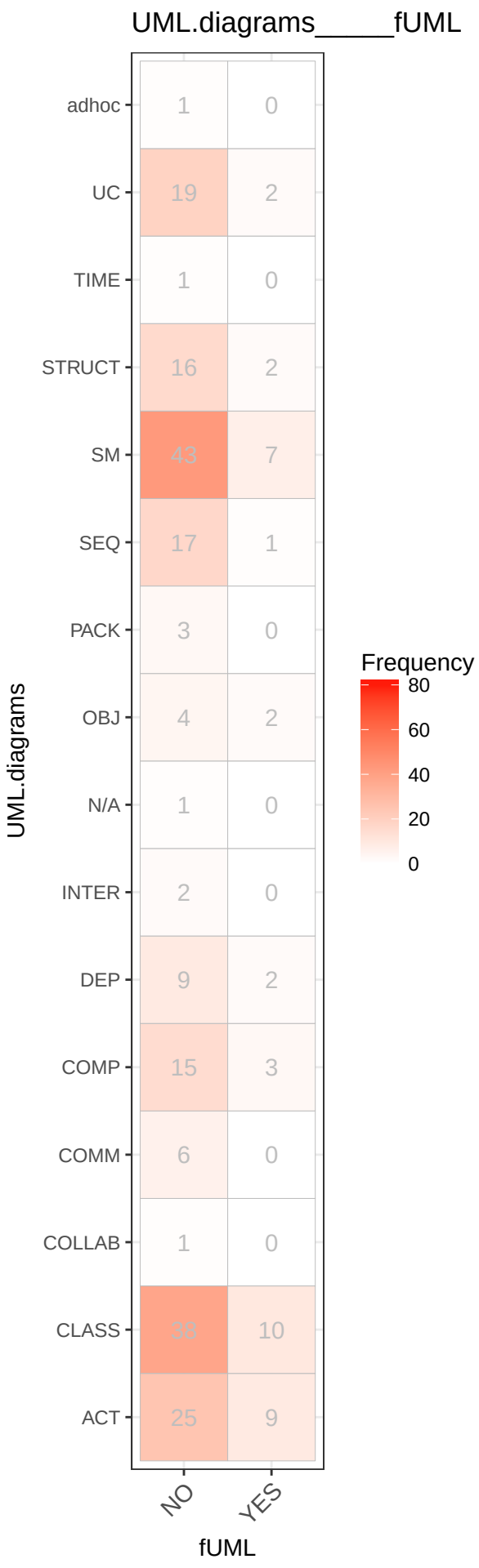

Partial.models_____Type.of.evaluation.systems
Partial.models
YES
NO
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
20 5 8 4 9 4 2 5 1 7 3 7 4 10 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

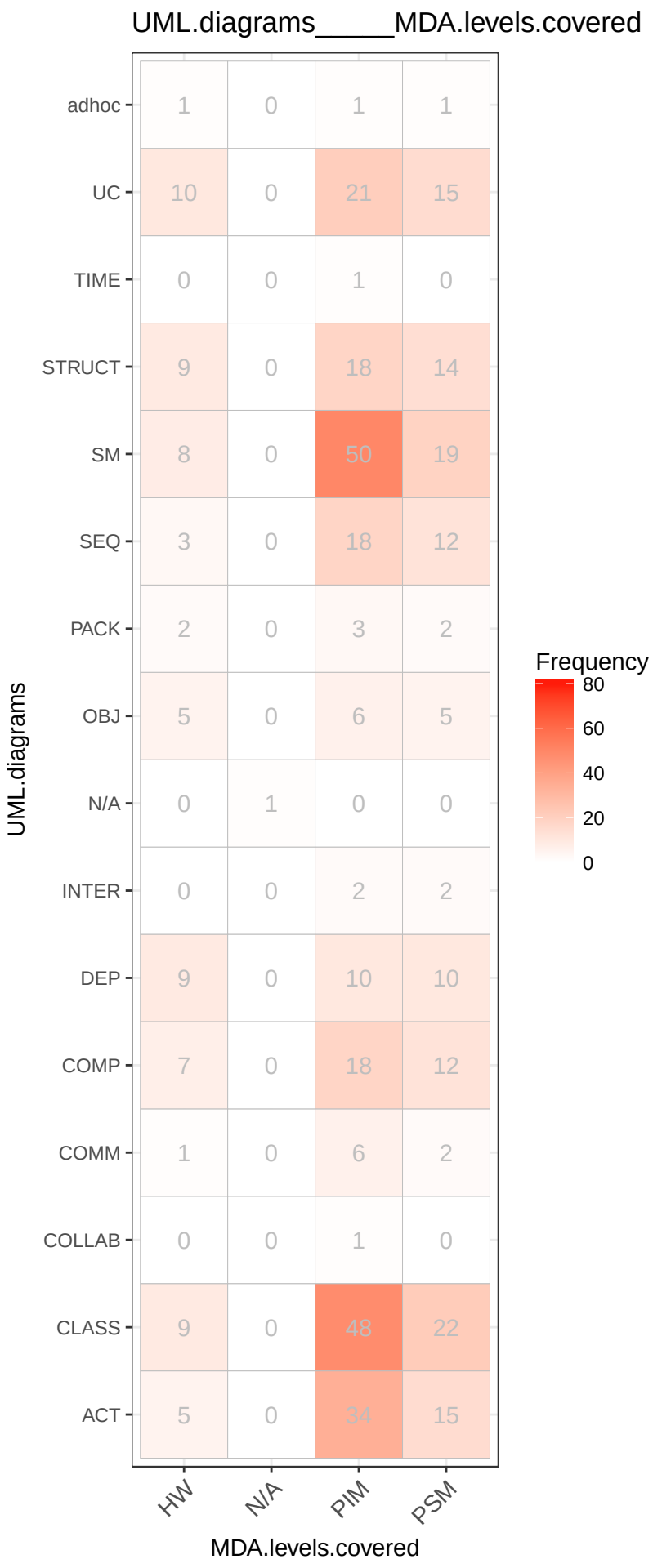

Partial.models_____Type.of.limitations.and.unsolved.challenges
Partial.models
YES
NO
0 1 0 0 0 0 0 1 0 0 0 0 1 0 0 1 0 0
2 11 11 2 6 4 1 30 4 7 2 1 2 2 1 19 4 21
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0


UML.diagrams_____UML.diagram.types
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
0 0 1
19 0 21
1 0 1
16 0 18
50 0 40
18 0 15
3 0 3
6 0 6
0 1 0
2 0 1
9 0 11
16 0 18
6 0 5
1 0 1
47 0 48
34 0 26
B
N/A
S
UML.diagram.types
UML.diagrams
Frequency
80
60
40
20
0

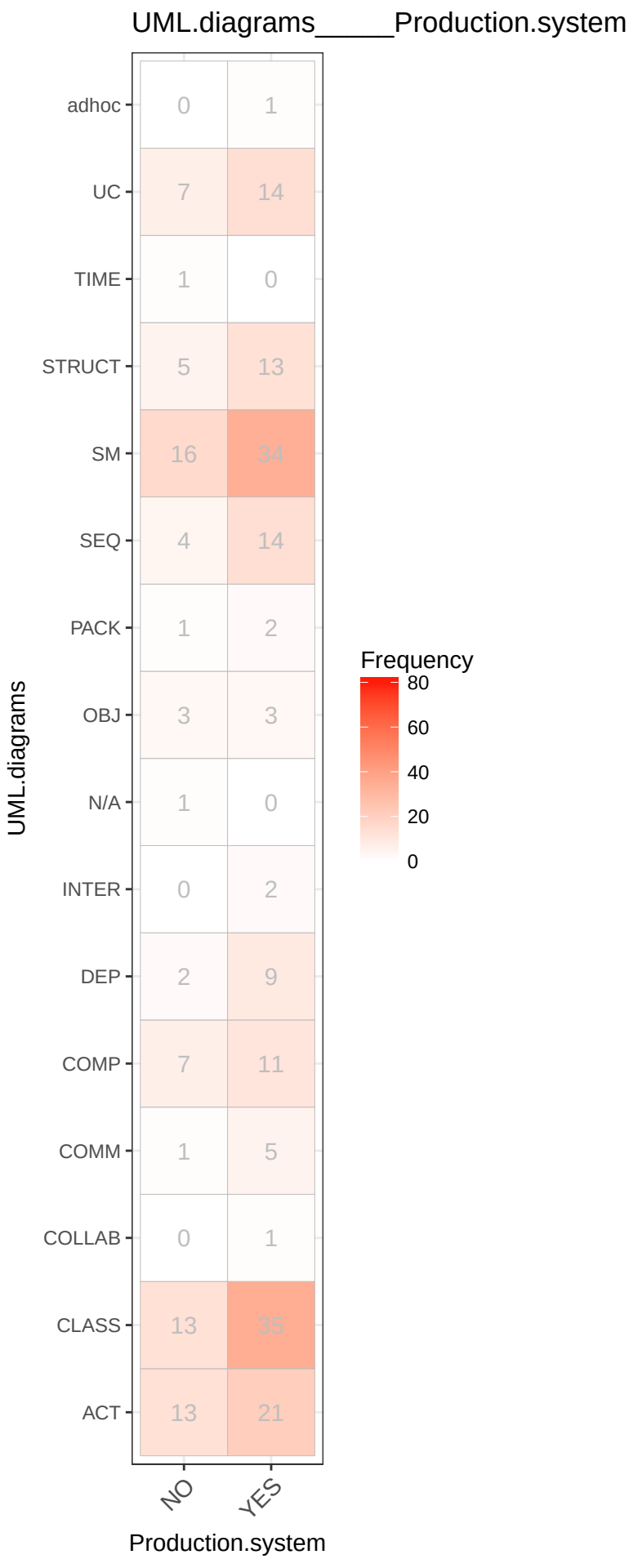

UML.diagrams_____Implicit.UML.profile
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
1
0
19
2
0
1
17
1
29
21
12
6
2
1
5
1
1
0
1
1
10
1
16
2
3
3
1
0
24
24
15
19
NO
YES
Implicit.UML.profile
UML.diagrams
Frequency
80
60
40
20
0

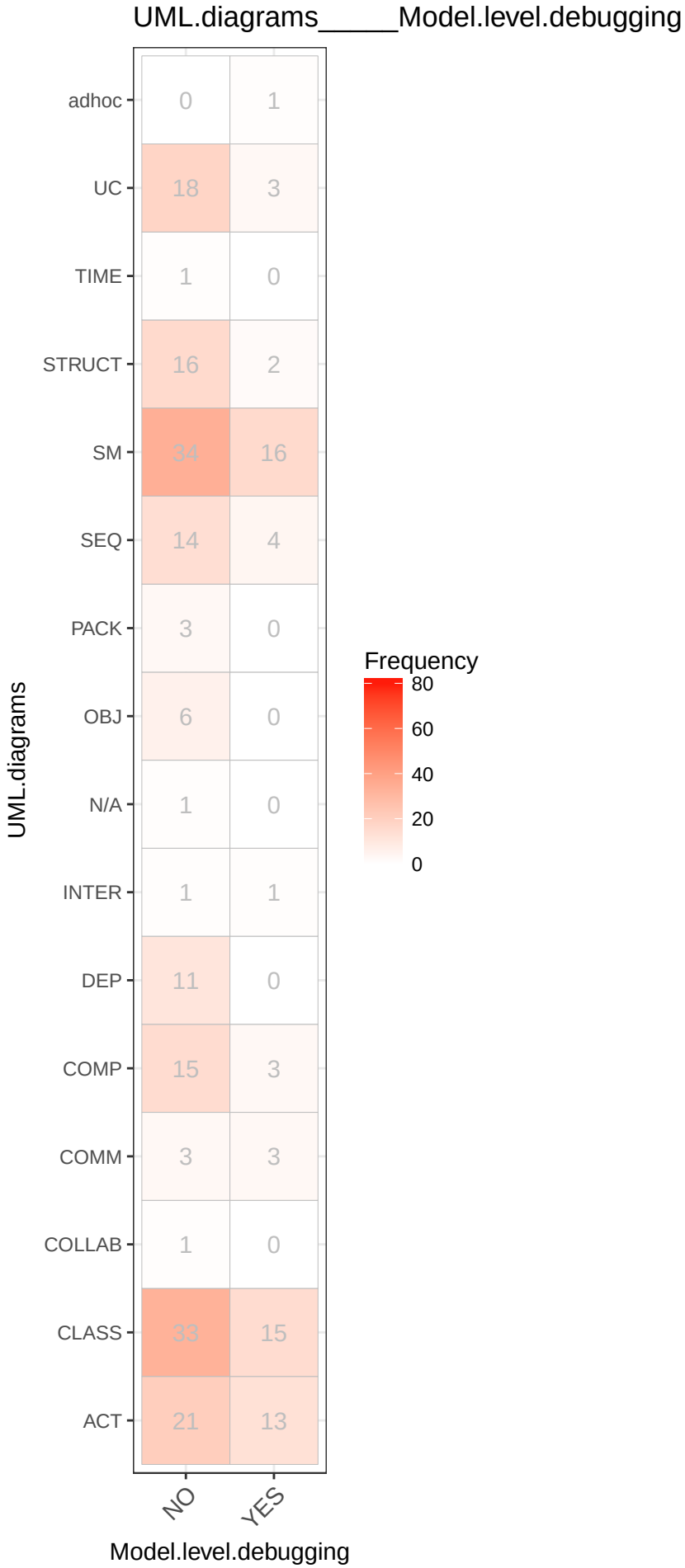

UML.diagrams_____Modeling.tool
UML.diagrams
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
Modeling.tool
PLODOCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Frequency
80
60
40
20
0

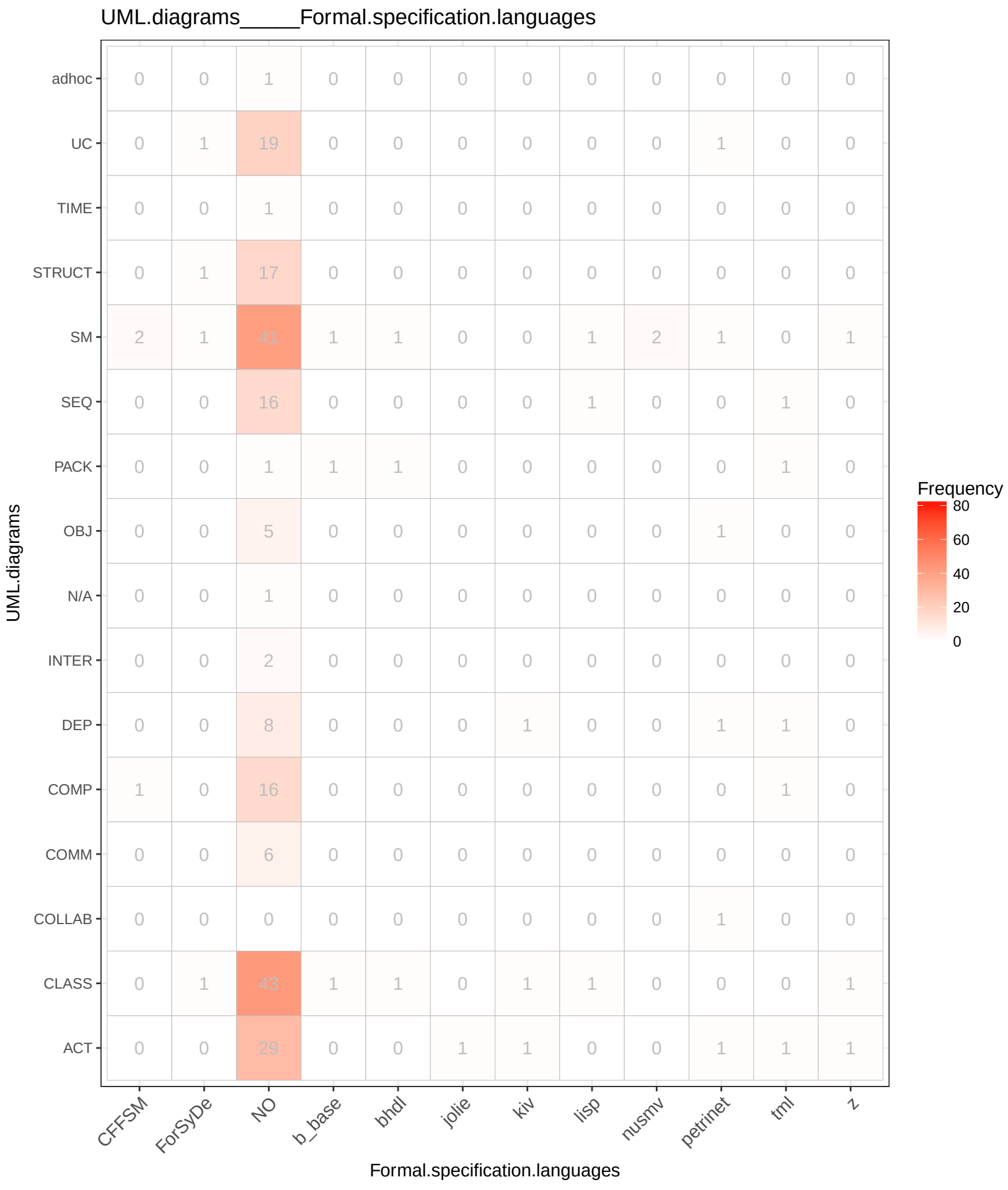

UML.diagrams_____fUML
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
1
0
19
2
1
0
16
2
43
7
17
1
3
0
4
2
1
0
2
0
9
2
15
3
6
0
1
0
38
10
25
9
NO
YES
fUML
UML.diagrams
Frequency
80
60
40
20
0

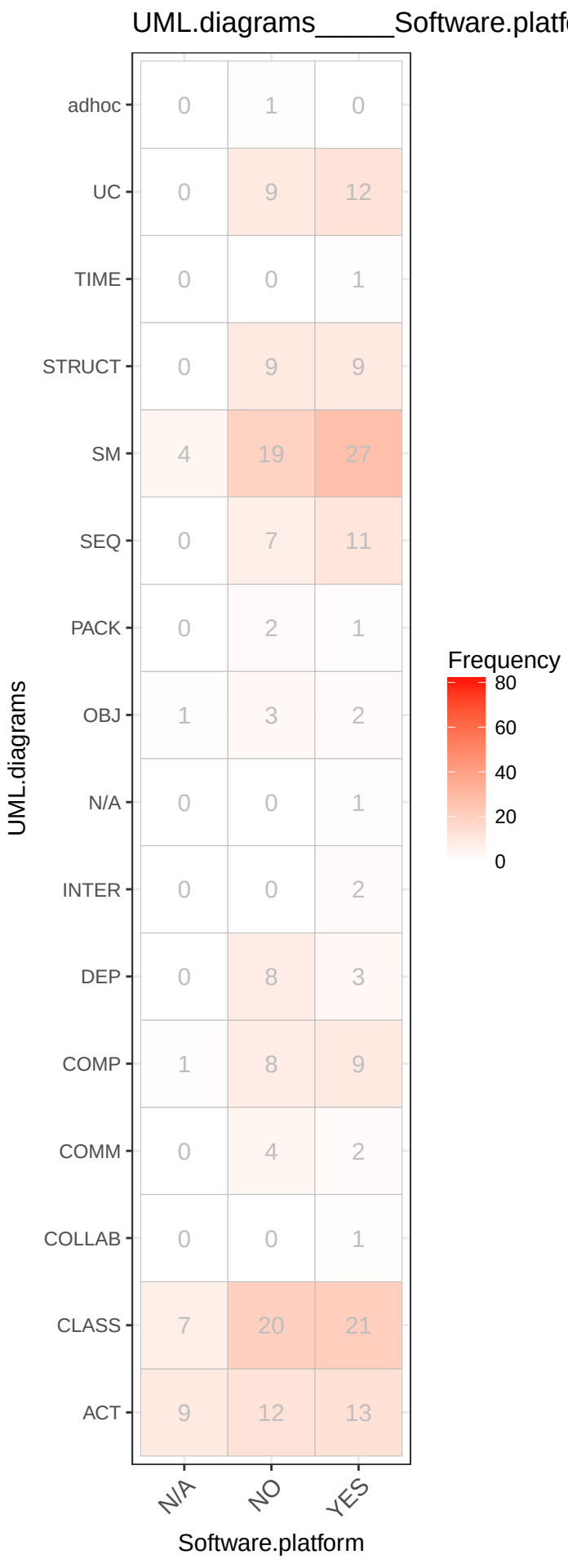

UML.diagrams_____MDA.levels.covered
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
1 0 1 1
10 0 21 15
0 0 1 0
9 0 18 14
8 0 50 19
3 0 18 12
2 0 3 2
5 0 6 5
0 1 0 0
0 0 2 2
9 0 10 10
7 0 18 12
1 0 6 2
0 0 1 0
9 0 48 22
5 0 34 15
UML.diagrams
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

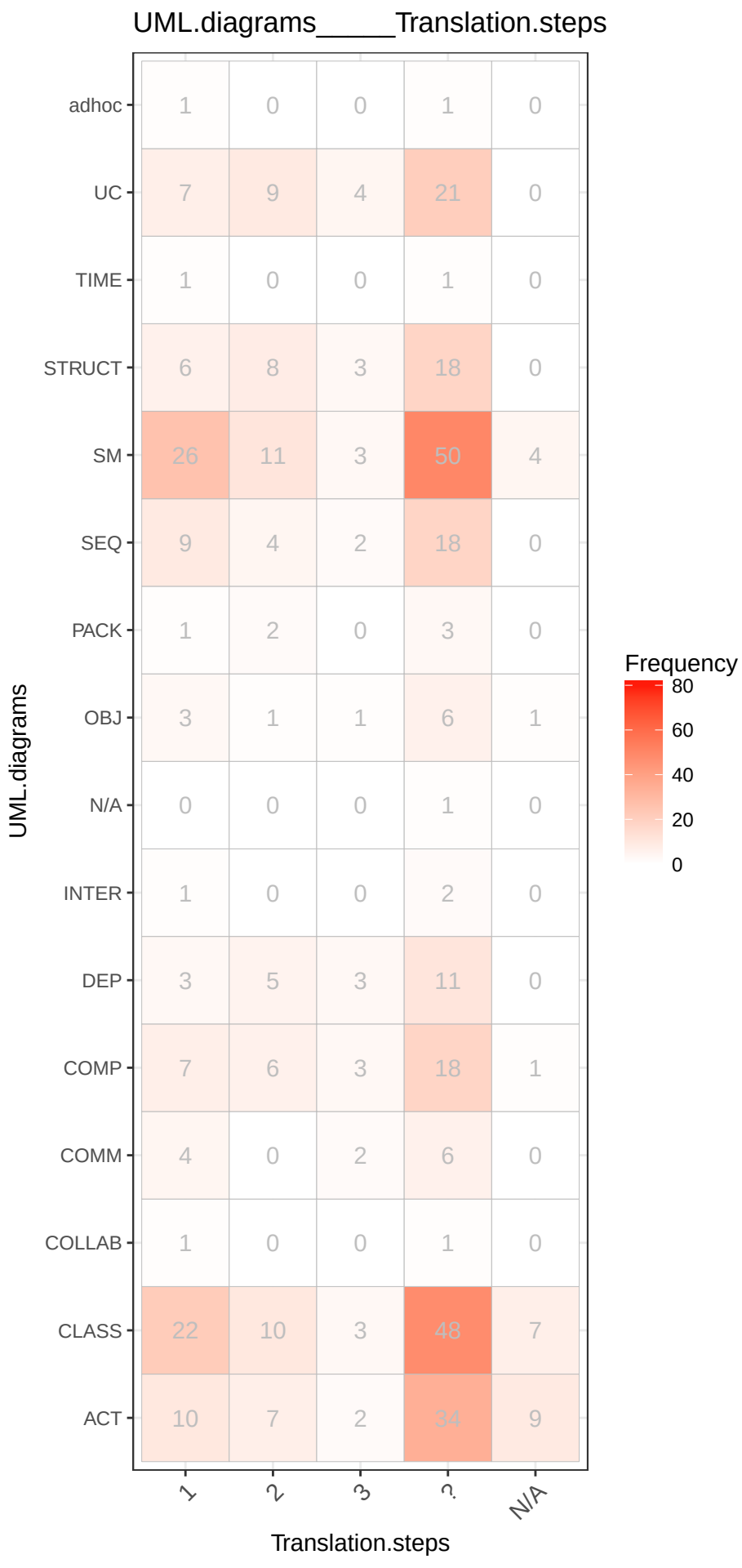
UML.diagrams_____Non.functional.properties
adhoc 1 0 0 0 0 0 0
UC 11 0 0 10 1 0 1
TIME 1 0 0 0 0 0 0
STRUCT 9 0 0 9 1 0 1
SM 36 1 1 12 1 1 0
SEQ 10 1 0 8 1 0 0
PACK 1 1 0 2 0 0 0
OBJ 2 0 0 4 0 0 0
N/A 1 0 0 0 0 0 0
INTER 1 0 0 1 0 0 0
DEP 3 1 0 7 0 0 1
COMP 9 1 0 9 1 0 1
COMM 5 0 0 1 0 0 0
COLLAB 1 0 0 0 0 0 0
CLASS 32 0 0 14 2 1 1
ACT 26 1 1 6 0 0 1
UML.diagrams
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

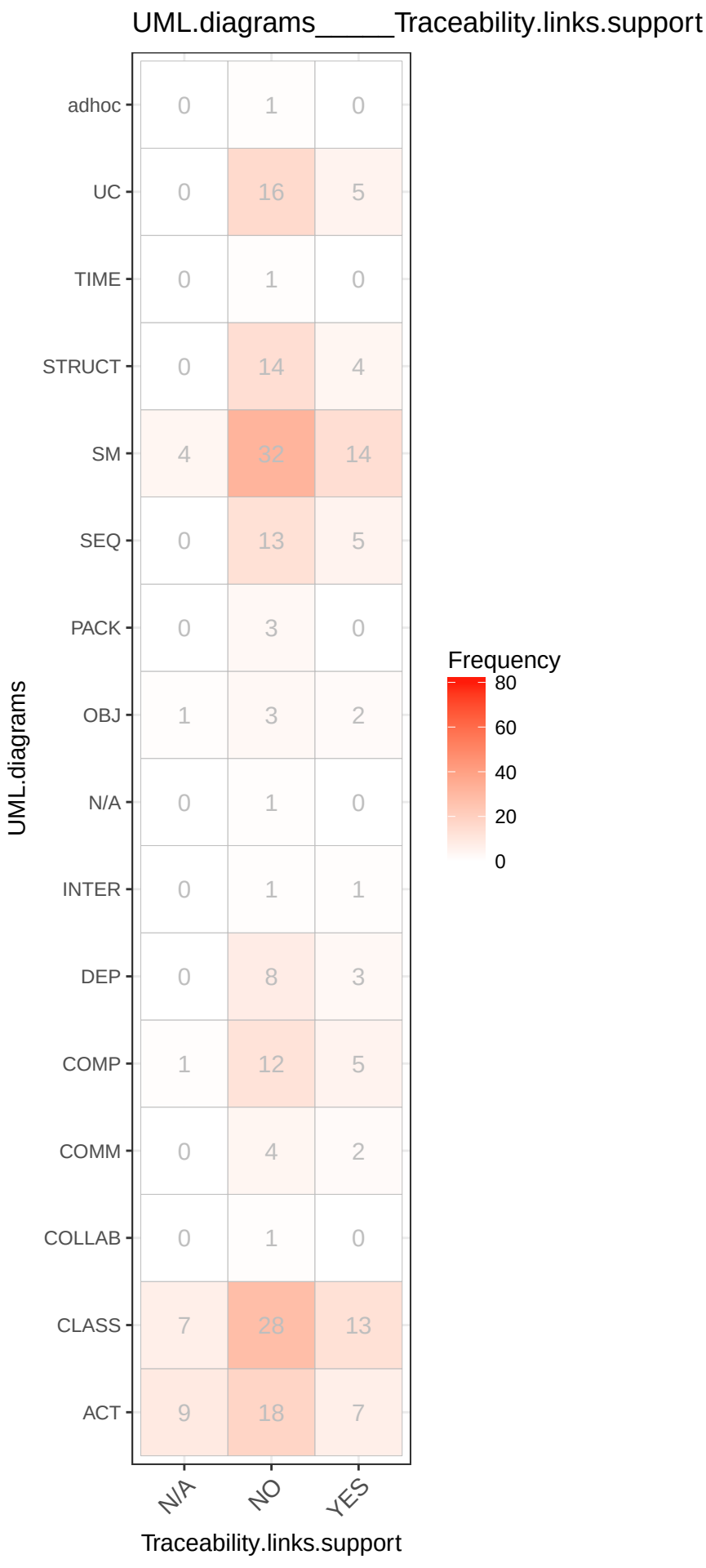

UML.diagrams_____Production.system
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
0
1
7
14
1
0
5
13
16
34
4
14
1
2
3
3
1
0
0
2
2
9
7
11
1
5
0
1
13
35
13
21
NO
YES
Production.system
UML.diagrams
Frequency
80
60
40
20
0

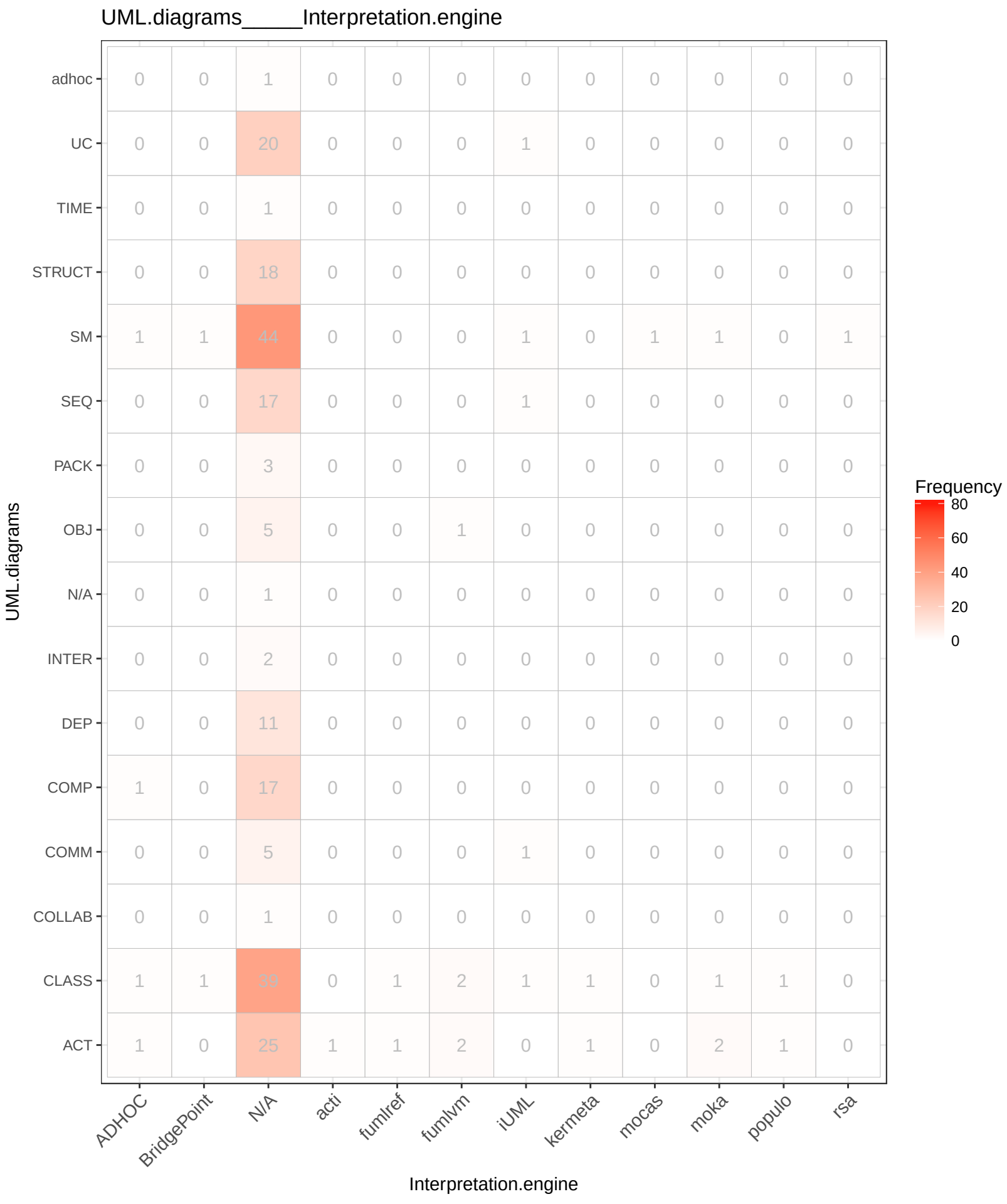

UML.diagrams_____Model.level.debugging
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
0
1
18
3
1
0
16
2
34
16
14
4
3
0
6
0
1
0
1
1
11
0
15
3
3
3
1
0
33
15
21
13
NO
YES
UML.diagrams
Model.level.debugging
Frequency
80
60
40
20
0

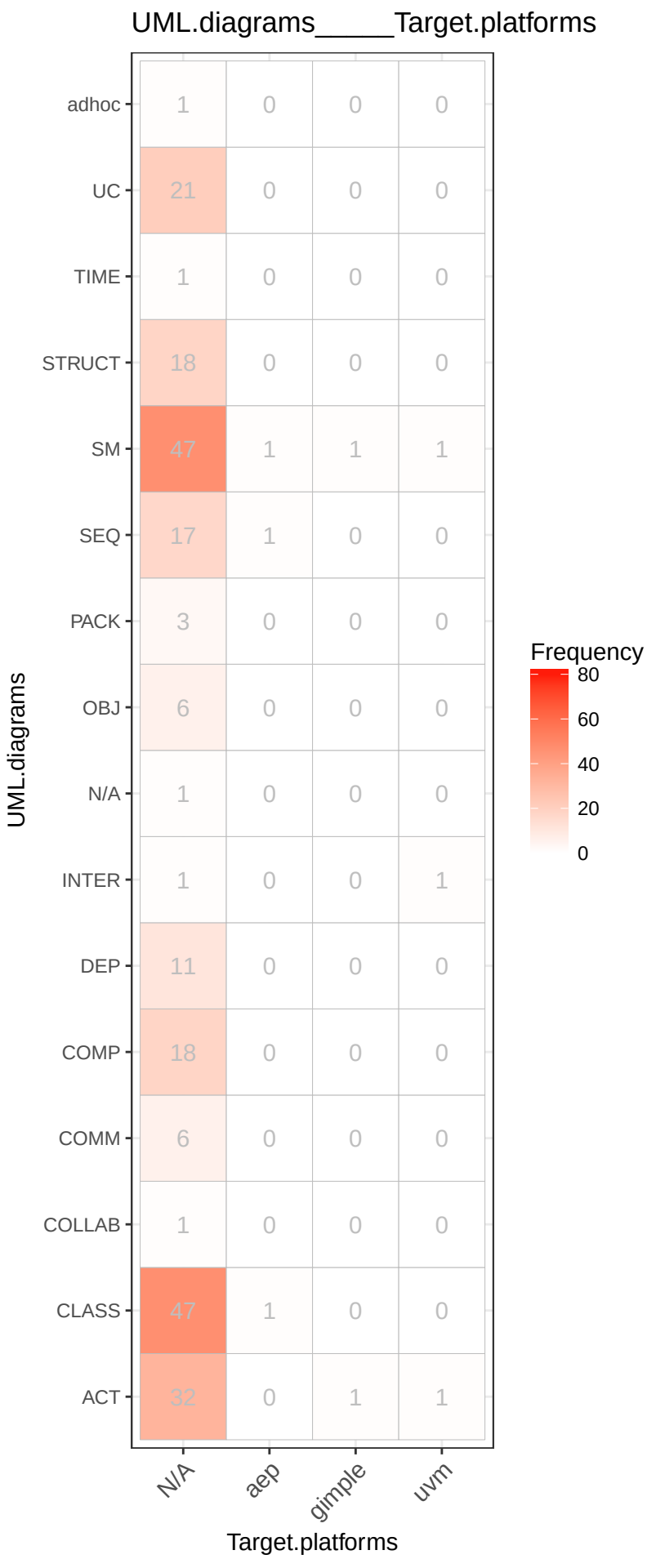

UML.diagrams_____Formal.specification.languages
adhoc 0 0 1 0 0 0 0 0 0 0 0 0
UC 0 1 19 0 0 0 0 0 0 1 0 0
TIME 0 0 1 0 0 0 0 0 0 0 0 0
STRUCT 0 1 17 0 0 0 0 0 0 0 0 0
SM 2 1 41 1 1 0 0 1 2 1 0 1
SEQ 0 0 16 0 0 0 0 1 0 0 1 0
PACK 0 0 1 1 1 0 0 0 0 0 1 0
OBJ 0 0 5 0 0 0 0 0 0 1 0 0
N/A 0 0 1 0 0 0 0 0 0 0 0 0
INTER 0 0 2 0 0 0 0 0 0 0 0 0
DEP 0 0 8 0 0 0 1 0 0 1 1 0
COMP 1 0 16 0 0 0 0 0 0 0 1 0
COMM 0 0 6 0 0 0 0 0 0 0 0 0
COLLAB 0 0 0 0 0 0 0 0 0 1 0 0
CLASS 0 1 43 1 1 0 1 1 0 0 0 1
ACT 0 0 29 0 0 1 1 0 0 1 1 1
UML.diagrams
CFFSM ForSyDe NO b_base bhdl jolie kiv lisp nusmv petrinet tml z
Formal.specification.languages
Frequency
80
60
40
20
0

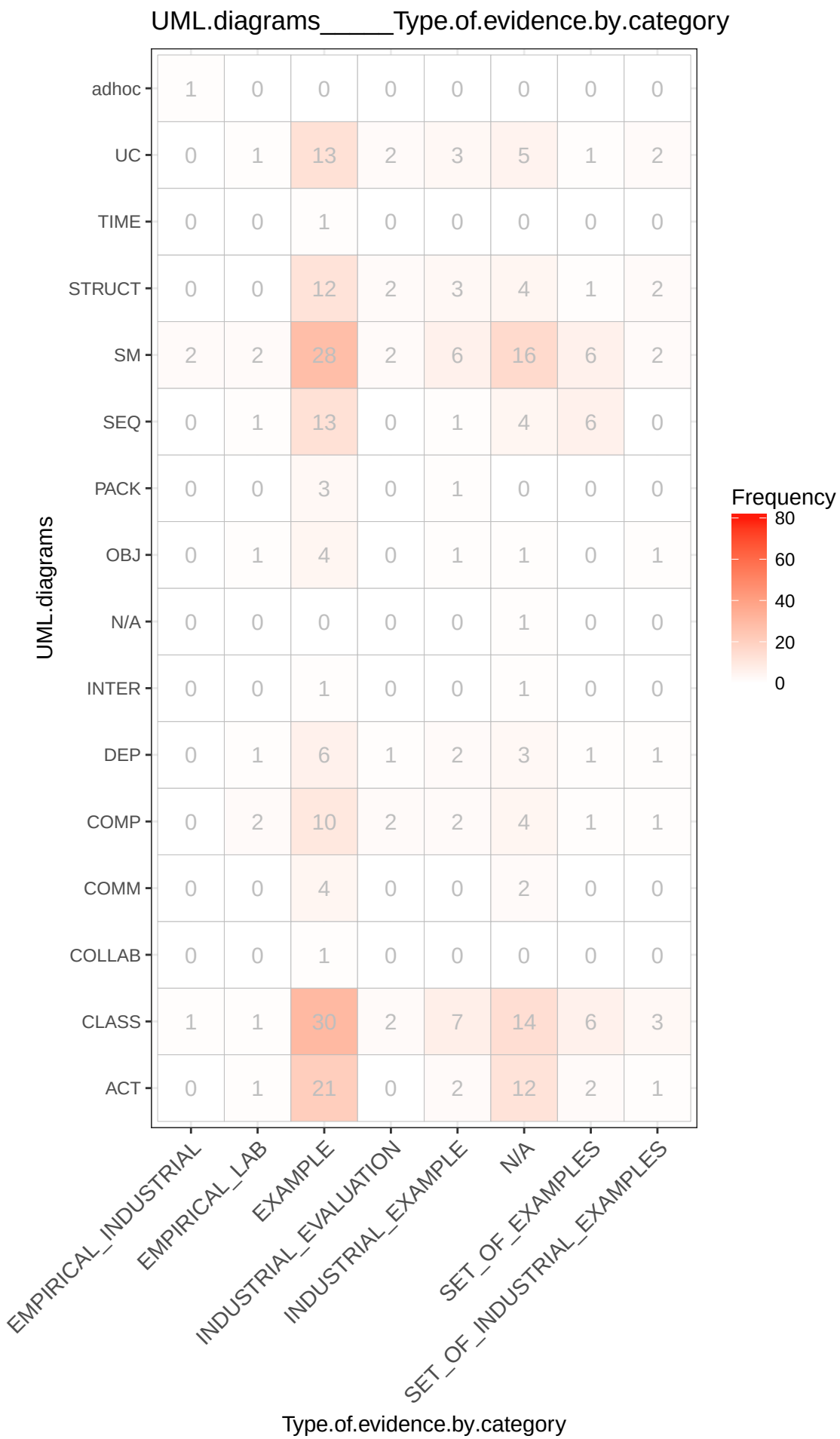

UML.diagrams_____Software.platform
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
0 1 0
0 9 12
0 0 1
0 9 9
4 19 27
0 7 11
0 2 1
1 3 2
0 0 1
0 0 2
0 8 3
1 8 9
0 4 2
0 0 1
7 20 21
9 12 13
N/A
NO
YES
Software.platform
UML.diagrams
Frequency
80
60
40
20
0

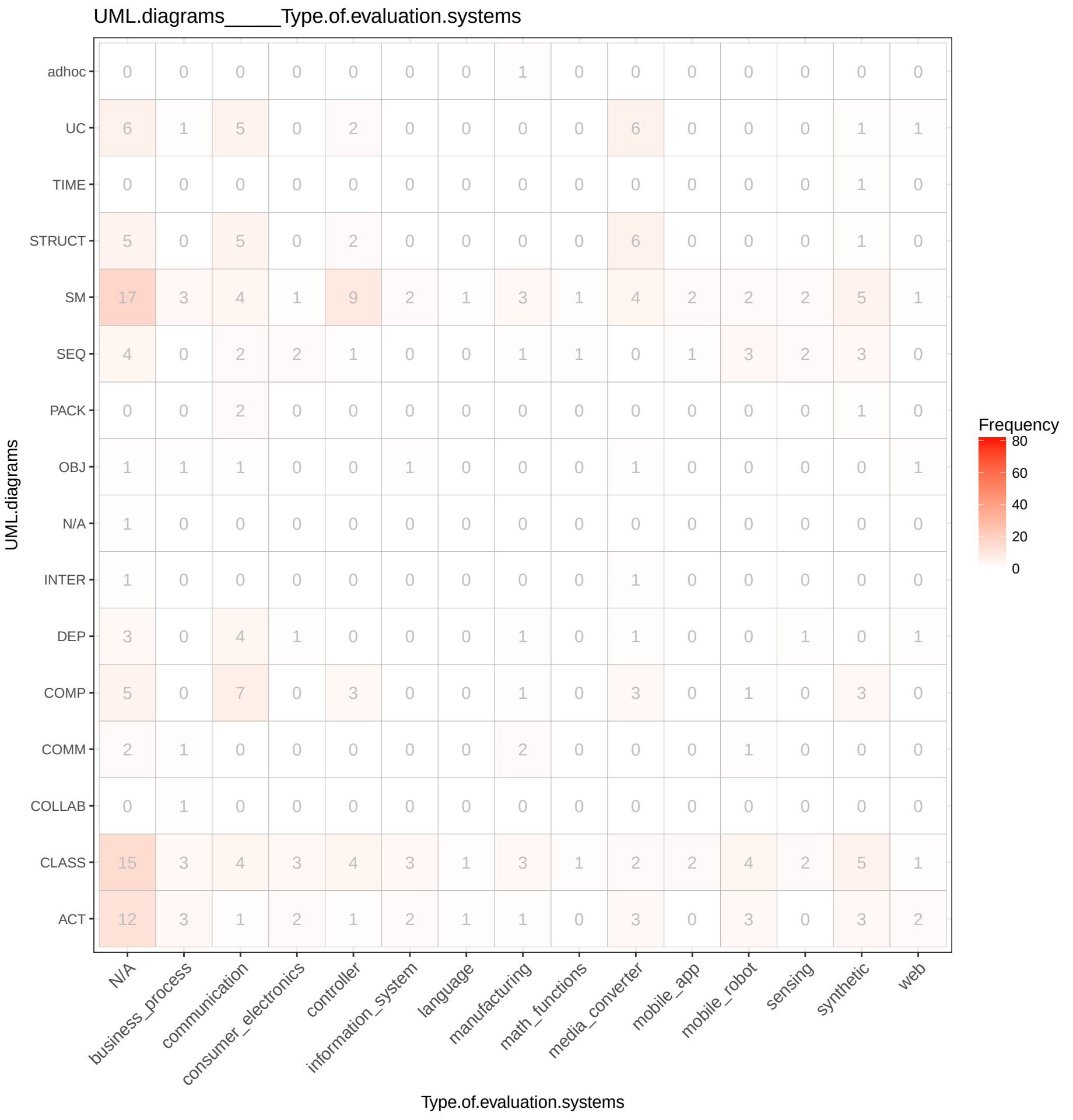

UML.diagrams_____Translation.steps
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
UML.diagrams
1 0 0 1 0
7 9 4 21 0
1 0 0 1 0
6 8 3 18 0
26 11 3 50 4
9 4 2 18 0
1 2 0 3 0
3 1 1 6 1
0 0 0 1 0
1 0 0 2 0
3 5 3 11 0
7 6 3 18 1
4 0 2 6 0
1 0 0 1 0
22 10 3 48 7
10 7 2 34 9
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

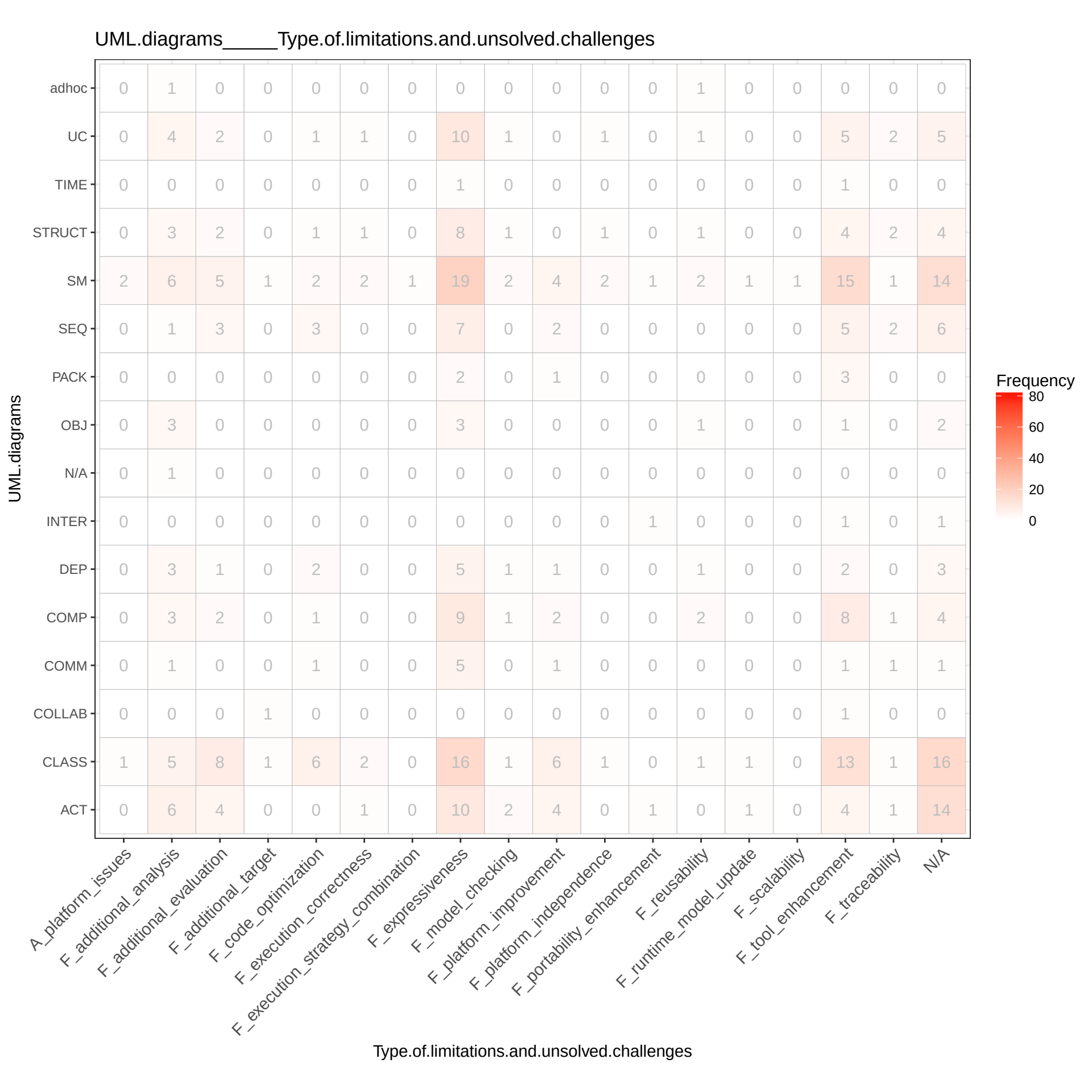

UML.diagrams_____Traceability.links.support
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
0 1 0
0 16 5
0 1 0
0 14 4
4 32 14
0 13 5
0 3 0
1 3 2
0 1 0
0 1 1
0 8 3
1 12 5
0 4 2
0 1 0
7 28 13
9 18 7
N/A
NO
YES
Traceability.links.support
UML.diagrams
Frequency
80
60
40
20
0

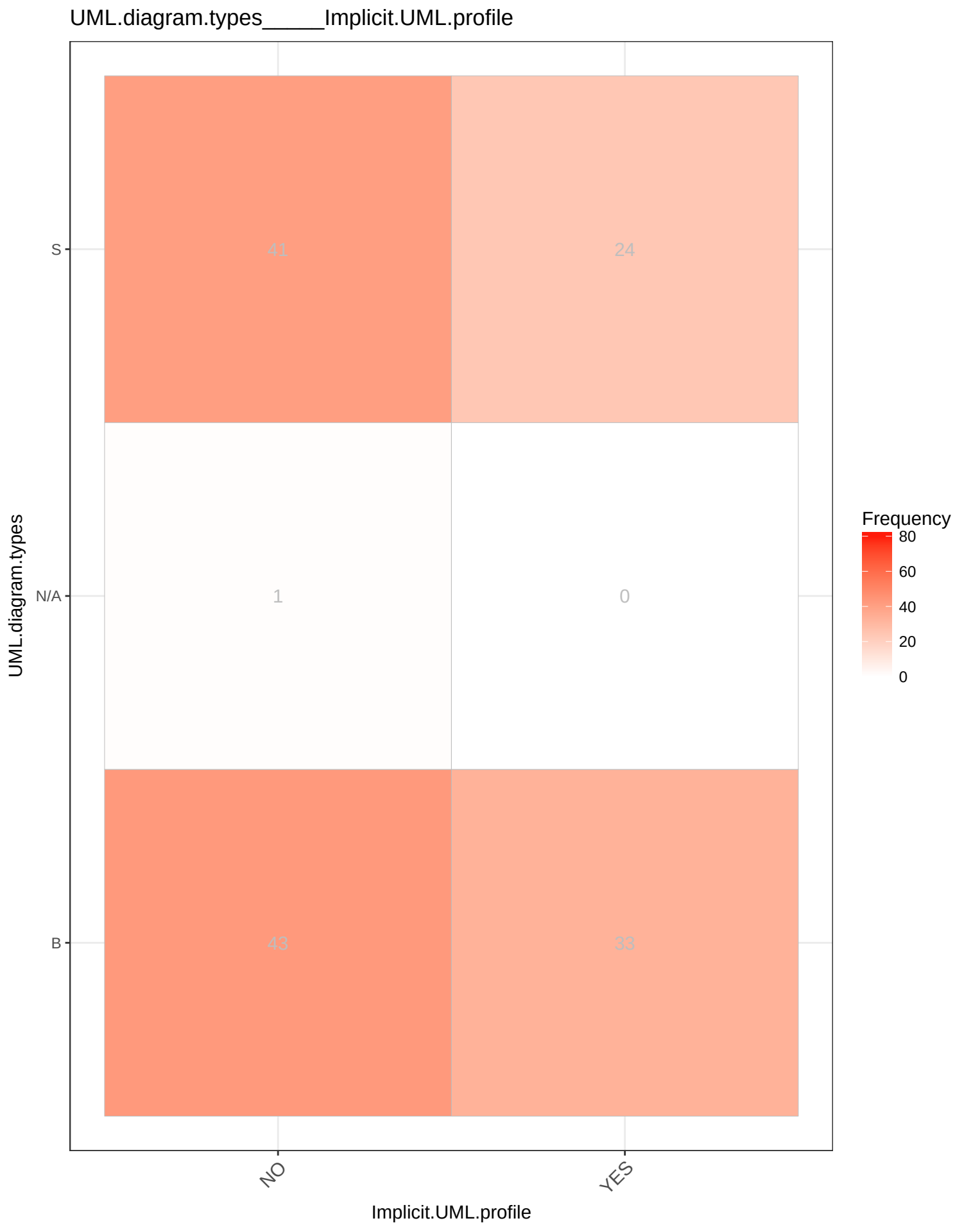

UML.diagrams_____Interpretation.engine
adhoc 0 0 1 0 0 0 0 0 0 0 0 0
UC 0 0 20 0 0 0 1 0 0 0 0 0
TIME 0 0 1 0 0 0 0 0 0 0 0 0
STRUCT 0 0 18 0 0 0 0 0 0 0 0 0
SM 1 1 44 0 0 0 1 0 1 1 0 1
SEQ 0 0 17 0 0 0 1 0 0 0 0 0
PACK 0 0 3 0 0 0 0 0 0 0 0 0
OBJ 0 0 5 0 0 1 0 0 0 0 0 0
N/A 0 0 1 0 0 0 0 0 0 0 0 0
INTER 0 0 2 0 0 0 0 0 0 0 0 0
DEP 0 0 11 0 0 0 0 0 0 0 0 0
COMP 1 0 17 0 0 0 0 0 0 0 0 0
COMM 0 0 5 0 0 0 1 0 0 0 0 0
COLLAB 0 0 1 0 0 0 0 0 0 0 0 0
CLASS 1 1 39 0 1 2 1 1 0 1 1 0
ACT 1 0 25 1 1 2 0 1 0 2 1 0
UML.diagrams
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

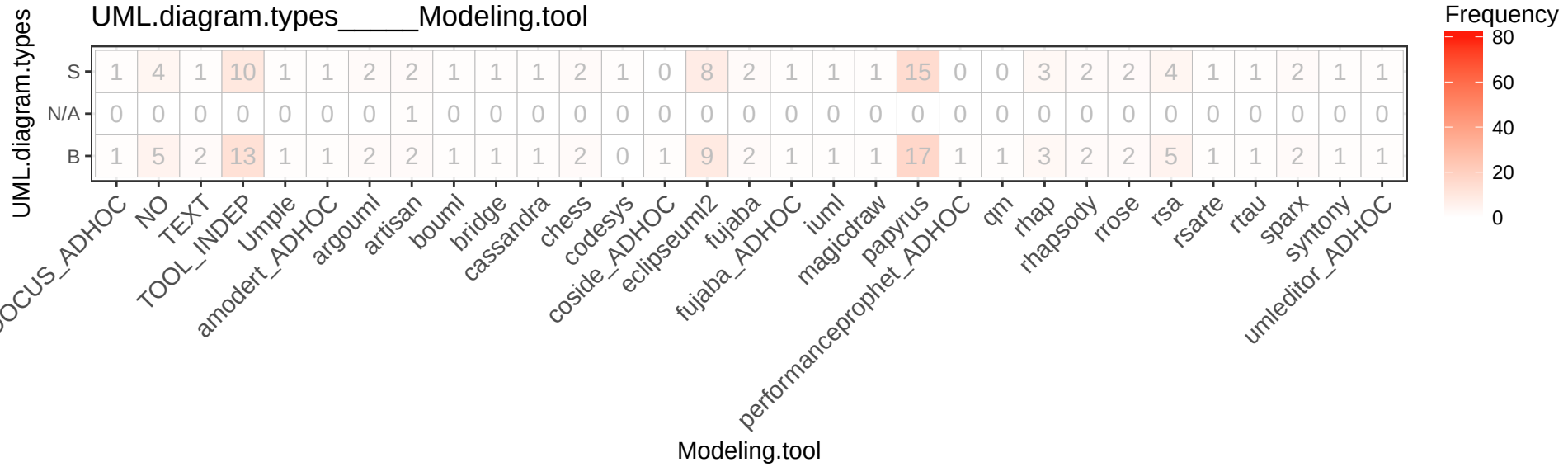

UML.diagrams_____Target.platforms
adhoc
UC
TIME
STRUCT
SM
SEQ
PACK
OBJ
N/A
INTER
DEP
COMP
COMM
COLLAB
CLASS
ACT
1 0 0 0
21 0 0 0
1 0 0 0
18 0 0 0
47 1 1 1
17 1 0 0
3 0 0 0
6 0 0 0
1 0 0 0
1 0 0 1
11 0 0 0
18 0 0 0
6 0 0 0
1 0 0 0
47 1 0 0
32 0 1 1
UML.diagrams
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

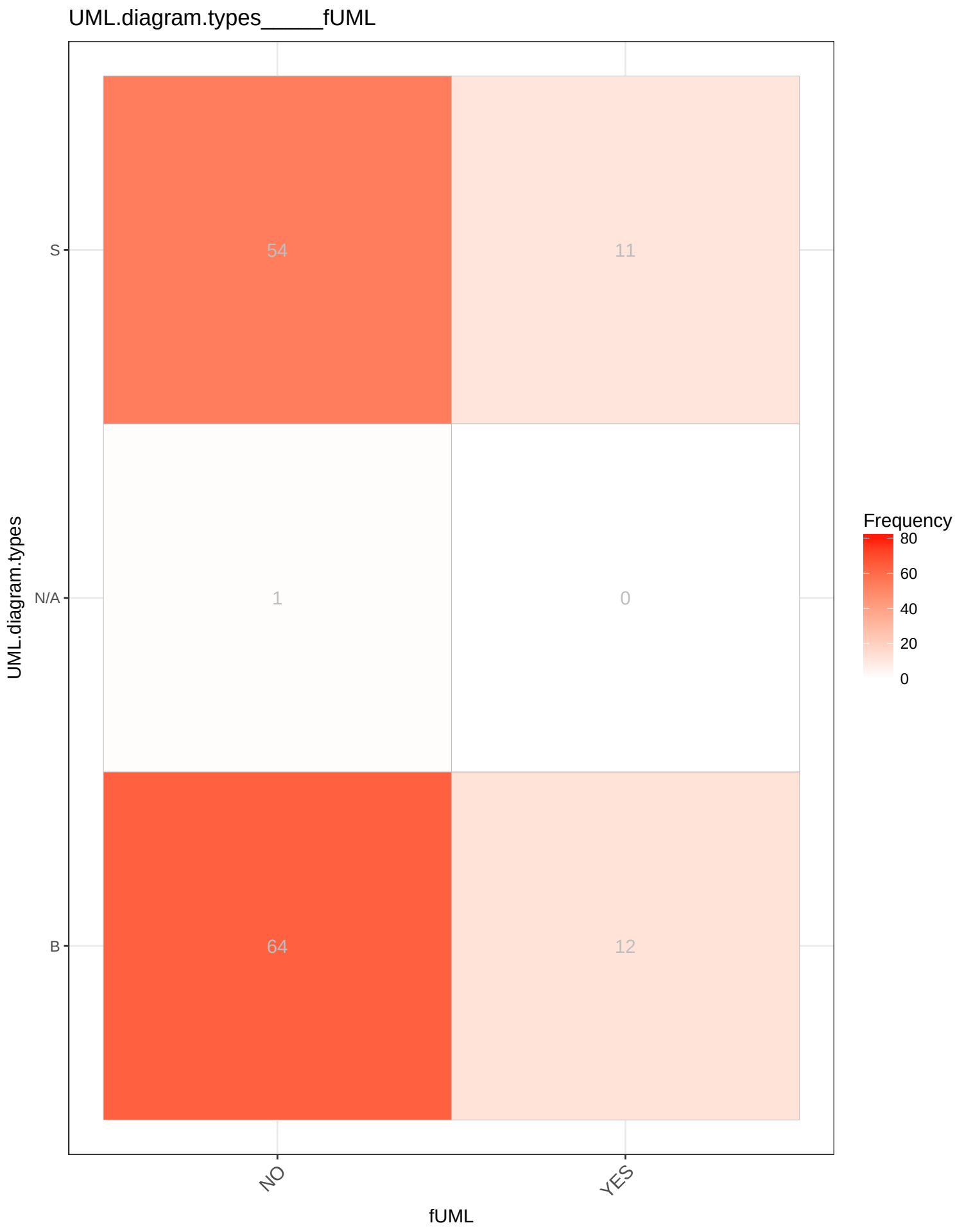

UML.diagrams_____Type.of.evidence.by.category
adhoc 1 0 0 0 0 0 0 0
UC 0 1 13 2 3 5 1 2
TIME 0 0 1 0 0 0 0 0
STRUCT 0 0 12 2 3 4 1 2
SM 2 2 28 2 6 16 6 2
SEQ 0 1 13 0 1 4 6 0
PACK 0 0 3 0 1 0 0 0
OBJ 0 1 4 0 1 1 0 1
N/A 0 0 0 0 0 1 0 0
INTER 0 0 1 0 0 1 0 0
DEP 0 1 6 1 2 3 1 1
COMP 0 2 10 2 2 4 1 1
COMM 0 0 4 0 0 2 0 0
COLLAB 0 0 1 0 0 0 0 0
CLASS 1 1 30 2 7 14 6 3
ACT 0 1 21 0 2 12 2 1
UML.diagrams
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

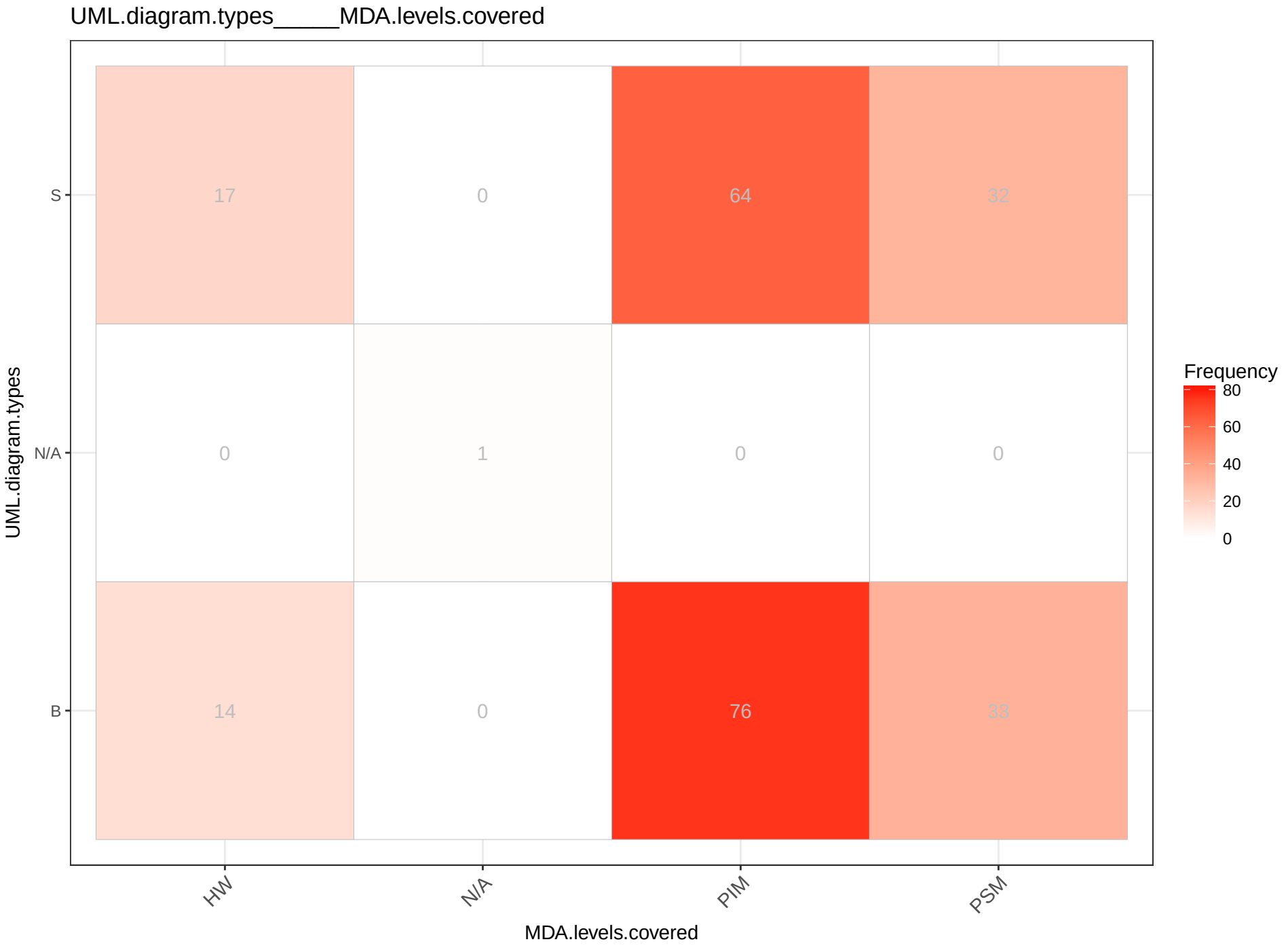

UML.diagrams_____Type.of.evaluation.systems
adhoc 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
UC 6 1 5 0 2 0 0 0 0 6 0 0 0 1 1
TIME 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
STRUCT 5 0 5 0 2 0 0 0 0 6 0 0 0 1 0
SM 17 3 4 1 9 2 1 3 1 4 2 2 2 5 1
SEQ 4 0 2 2 1 0 0 1 1 0 1 3 2 3 0
PACK 0 0 2 0 0 0 0 0 0 0 0 0 0 1 0
OBJ 1 1 1 0 0 1 0 0 0 1 0 0 0 0 1
N/A 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
INTER 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0
DEP 3 0 4 1 0 0 0 1 0 1 0 0 1 0 1
COMP 5 0 7 0 3 0 0 1 0 3 0 1 0 3 0
COMM 2 1 0 0 0 0 0 2 0 0 0 1 0 0 0
COLLAB 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
CLASS 15 3 4 3 4 3 1 3 1 2 2 4 2 5 1
ACT 12 3 1 2 1 2 1 1 0 3 0 3 0 3 2
UML.diagrams
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

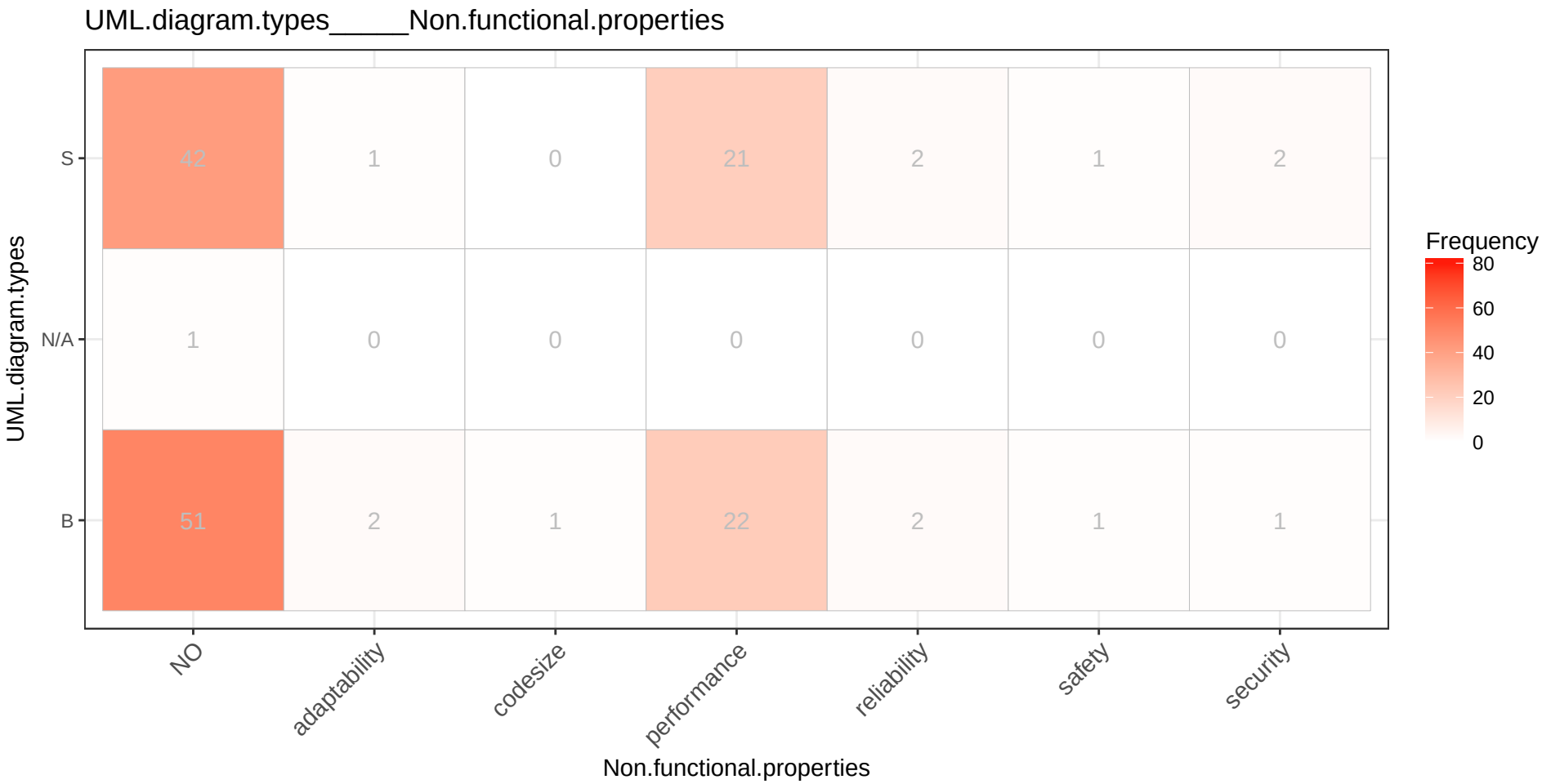

UML.diagrams_____Type.of.limitations.and.unsolved.challenges
adhoc 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
UC 0 4 2 0 1 1 0 10 1 0 1 0 1 0 0 5 2 5
TIME 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0
STRUCT 0 3 2 0 1 1 0 8 1 0 1 0 1 0 0 4 2 4
SM 2 6 5 1 2 2 1 19 2 4 2 1 2 1 1 15 1 14
SEQ 0 1 3 0 3 0 0 7 0 2 0 0 0 0 0 5 2 6
PACK 0 0 0 0 0 0 0 2 0 1 0 0 0 0 0 3 0 0
OBJ 0 3 0 0 0 0 0 3 0 0 0 0 1 0 0 1 0 2
N/A 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
INTER 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 1
DEP 0 3 1 0 2 0 0 5 1 1 0 0 1 0 0 2 0 3
COMP 0 3 2 0 1 0 0 9 1 2 0 0 2 0 0 8 1 4
COMM 0 1 0 0 1 0 0 5 0 1 0 0 0 0 0 1 1 1
COLLAB 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0
CLASS 1 5 8 1 6 2 0 16 1 6 1 0 1 1 0 13 1 16
ACT 0 6 4 0 0 1 0 10 2 4 0 1 0 1 0 4 1 14
UML.diagrams
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

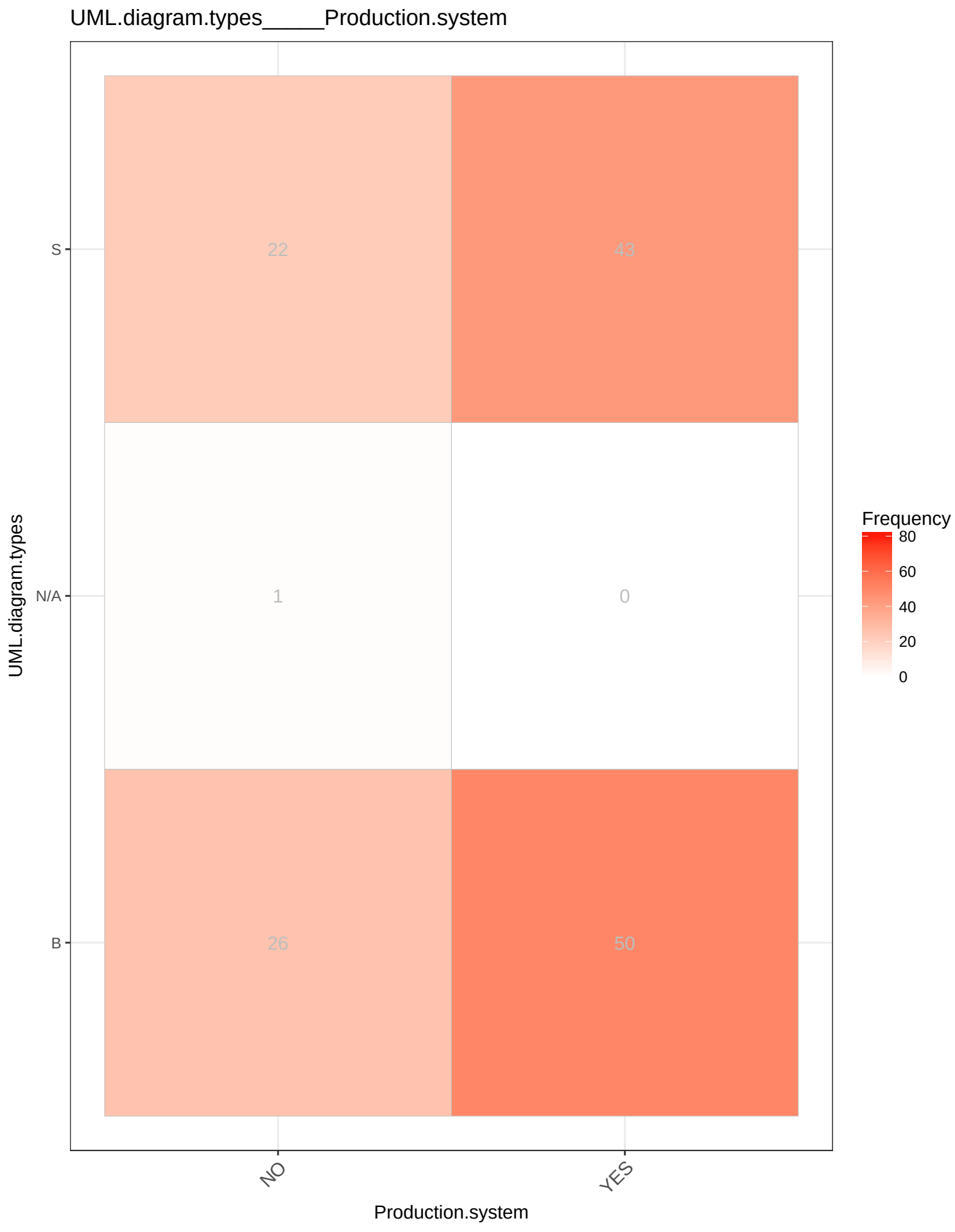

UML.diagram.types_____Implicit.UML.profile
S
N/A
B
41
24
1
0
43
33
NO
YES
Implicit.UML.profile
UML.diagram.types
Frequency
80
60
40
20
0

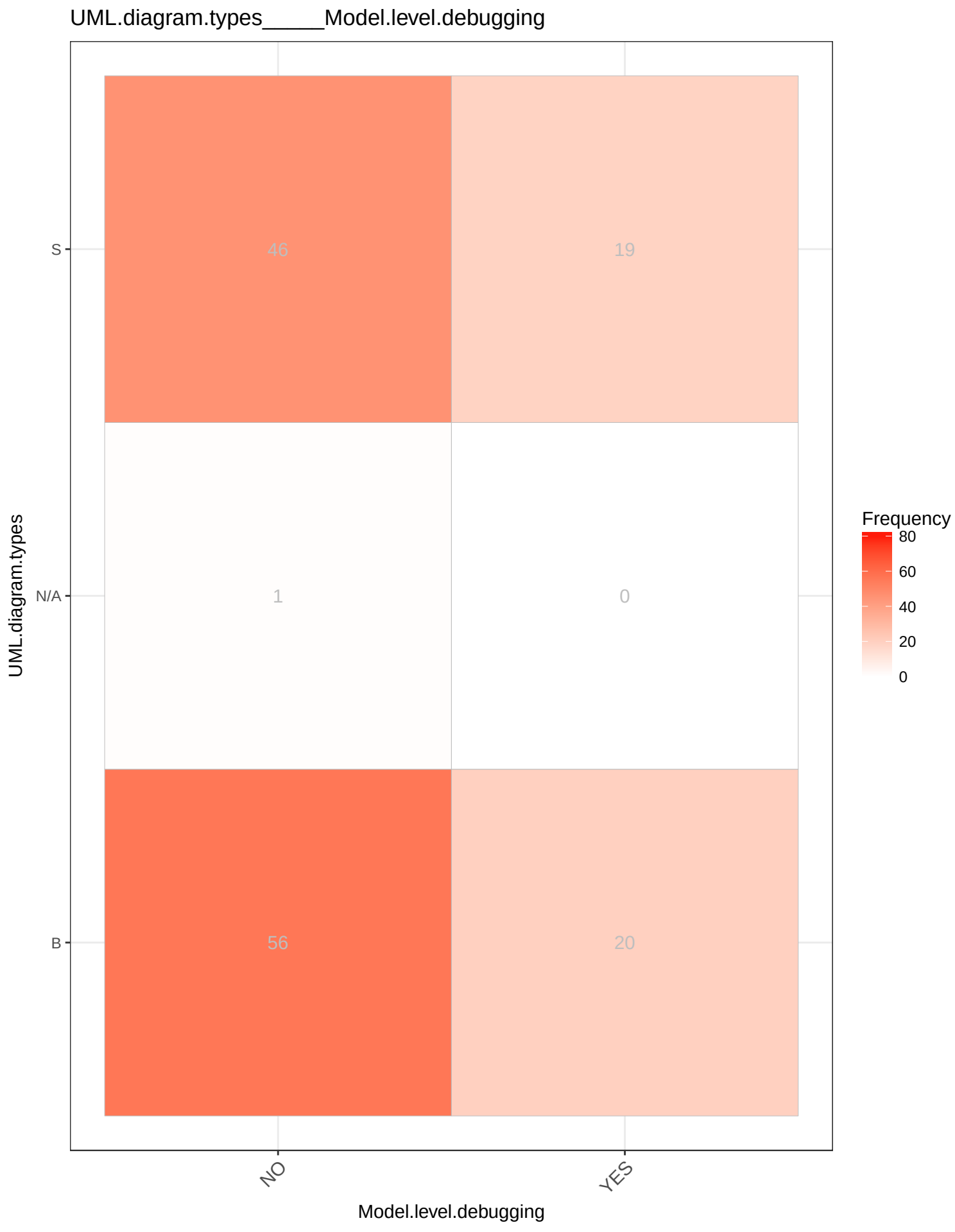

UML.diagram.types_____Modeling.tool
UML.diagram.types
S
N/A
B
1 4 1 10 1 1 2 2 1 1 1 2 1 0 8 2 1 1 1 15 0 0 3 2 2 4 1 1 2 1 1
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 5 2 13 1 1 2 2 1 1 1 2 0 1 9 2 1 1 1 17 1 1 3 2 2 5 1 1 2 1 1
OCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

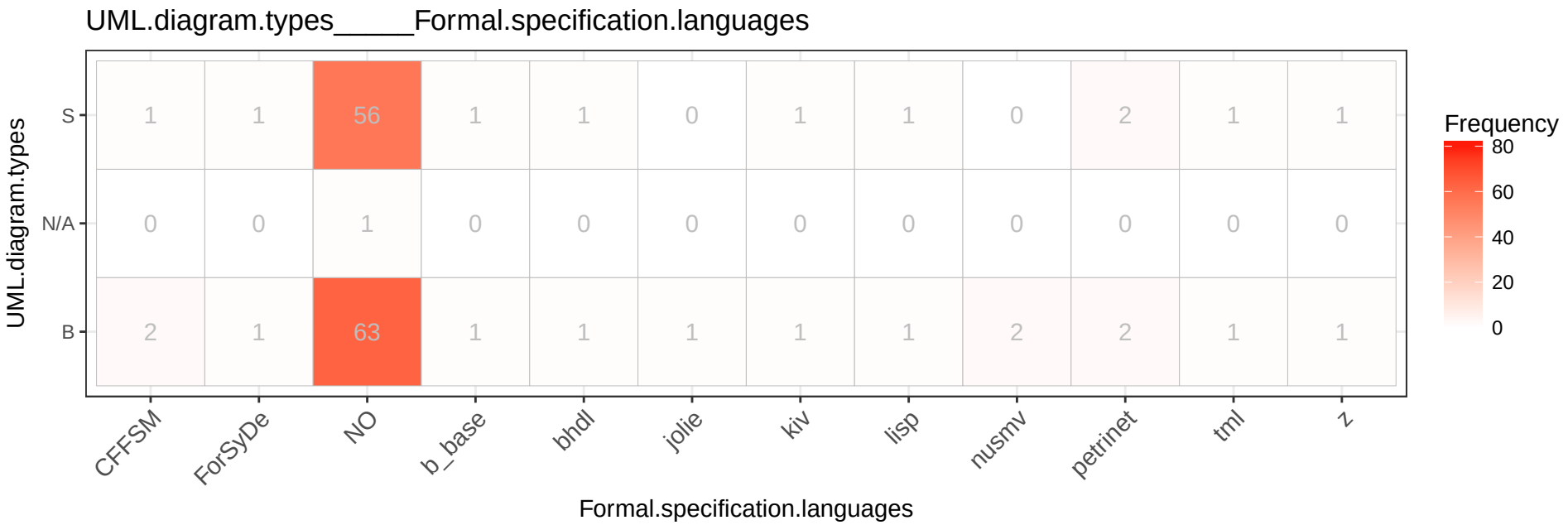

UML.diagram.types_____fUML
S
N/A
B
54
11
1
0
64
12
NO
YES
fUML
UML.diagram.types
Frequency
80
60
40
20
0

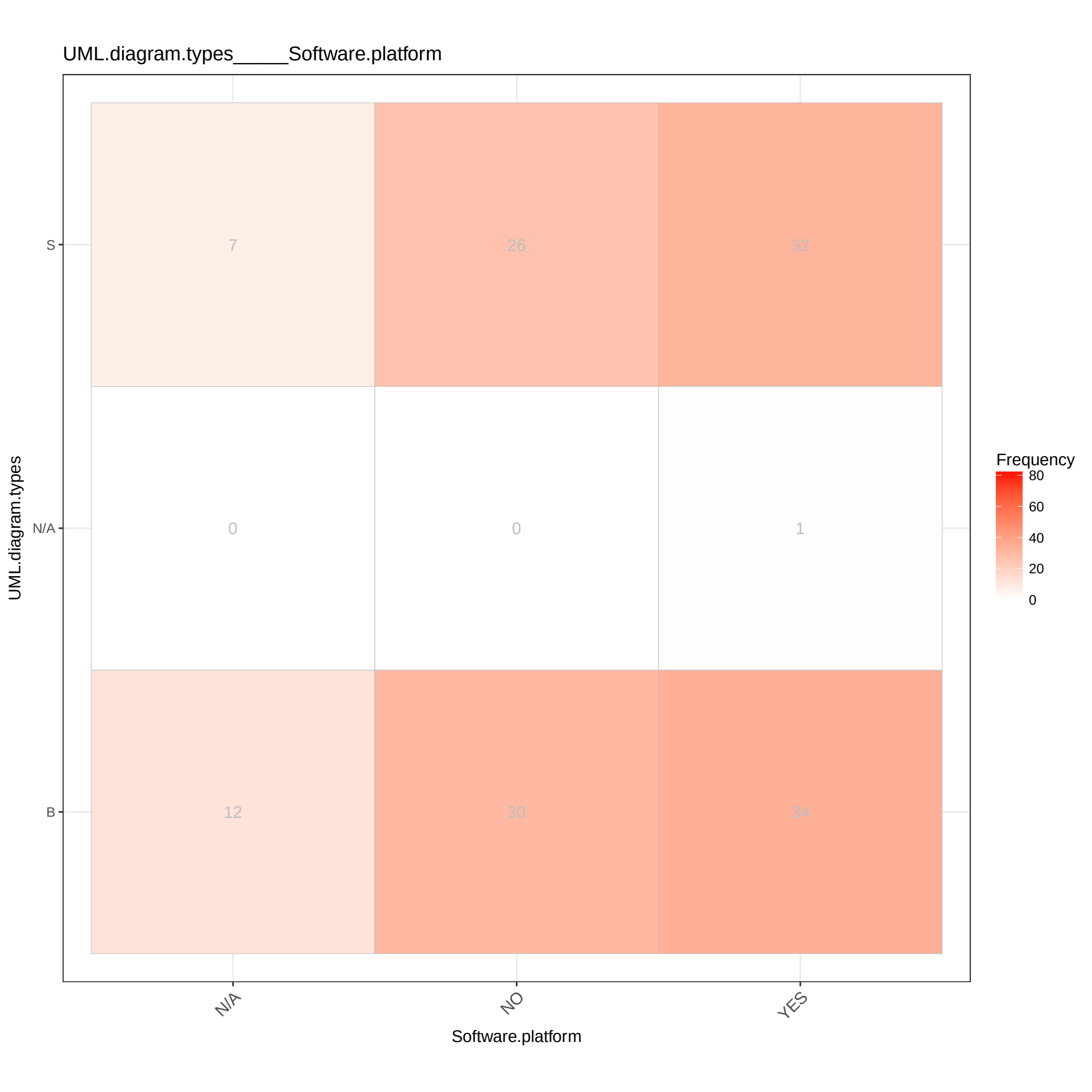

UML.diagram.types_____MDA.levels.covered
S
N/A
B
17
0
64
32
0
1
0
0
14
0
76
33
HW
N/A
PIM
PSM
MDA.levels.covered
UML.diagram.types
Frequency
80
60
40
20
0

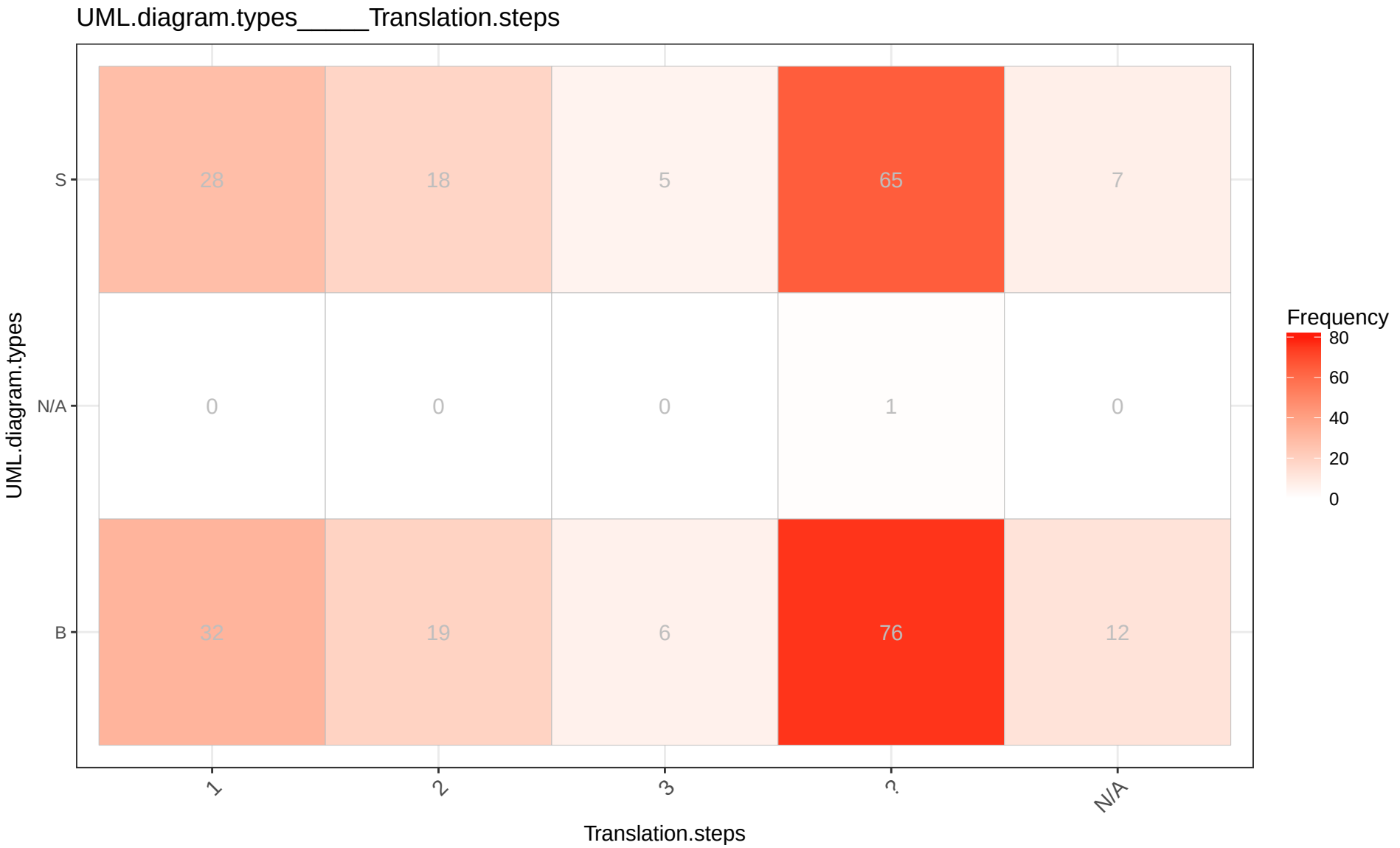

UML.diagram.types_____Non.functional.properties
UML.diagram.types
S
N/A
B
42
1
0
21
2
1
2
1
0
0
0
0
0
0
51
2
1
22
2
1
1
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

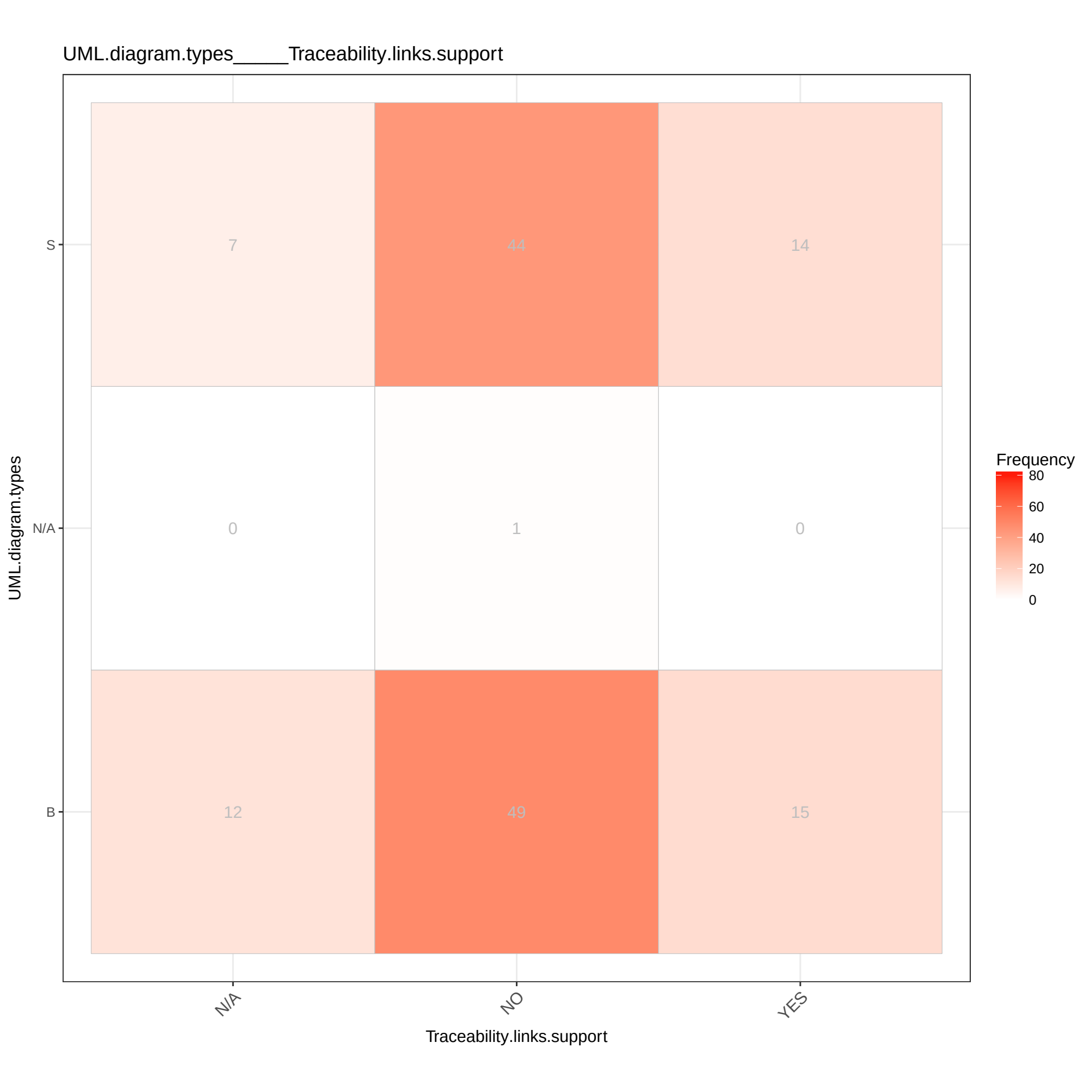

UML.diagram.types_____Production.system
S
N/A
B
22
43
1
0
26
50
NO
YES
Production.system
UML.diagram.types
Frequency
80
60
40
20
0

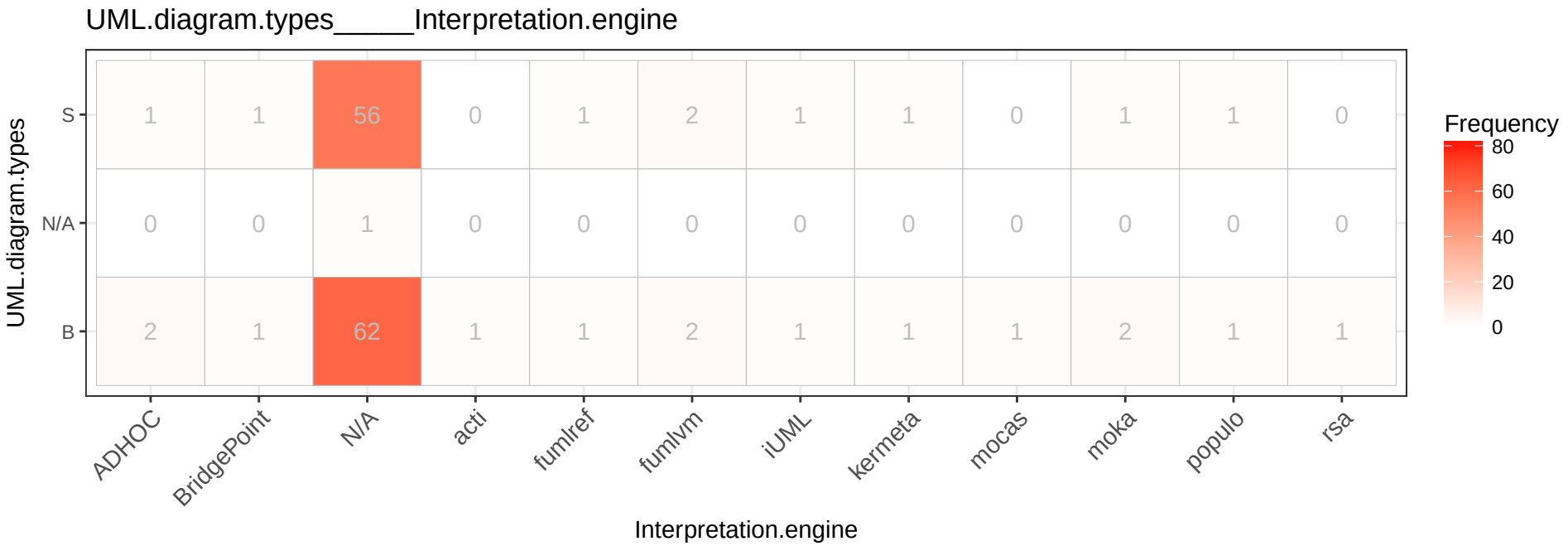

UML.diagram.types_____Model.level.debugging
S
N/A
B
46
19
1
0
56
20
UML.diagram.types
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

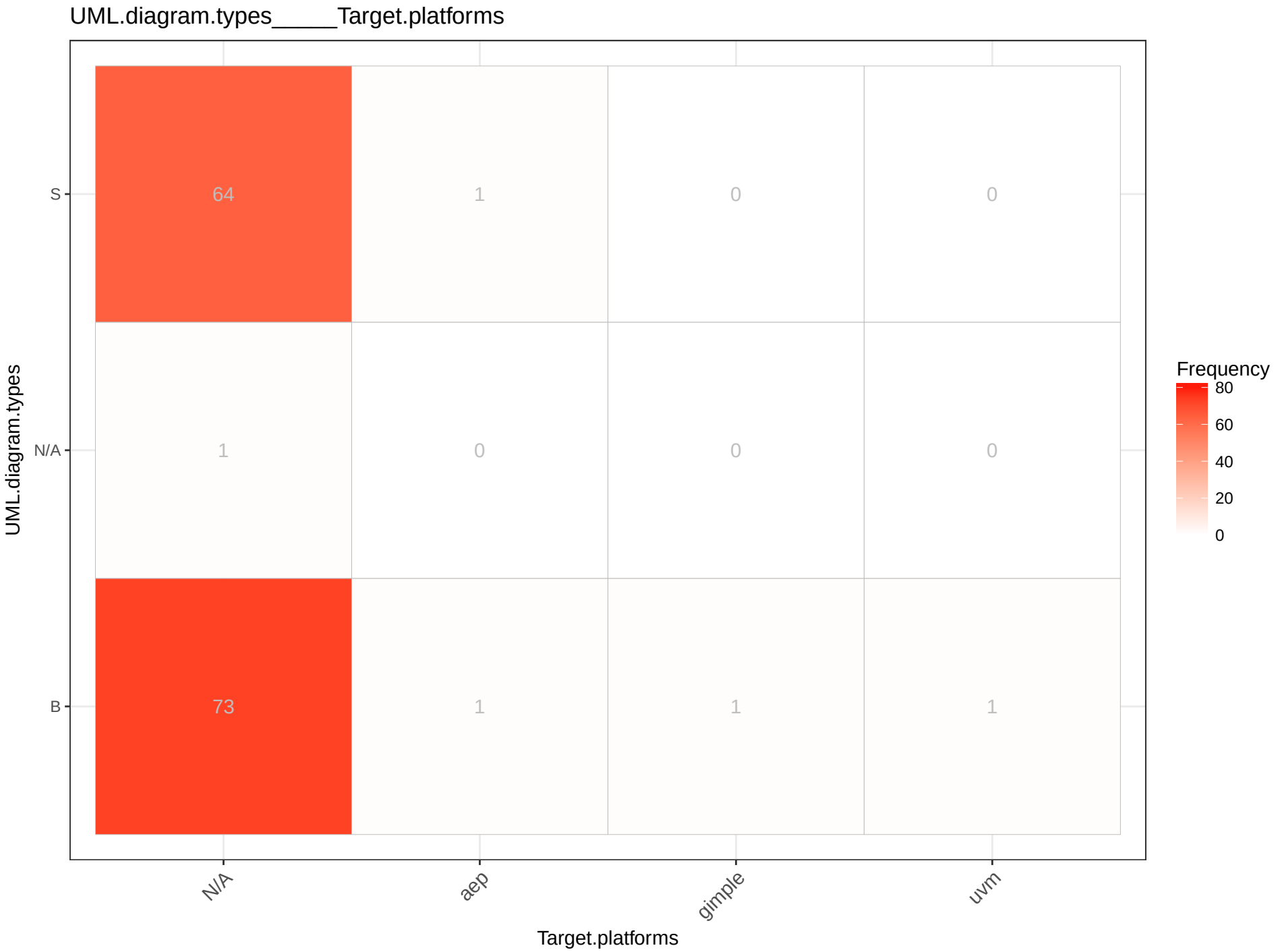

UML.diagram.types_____Formal.specification.languages
UML.diagram.types
S
N/A
B
1 1 56 1 1 0 1 1 0 2 1 1
0 0 1 0 0 0 0 0 0 0 0 0
2 1 63 1 1 1 1 1 2 2 1 1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

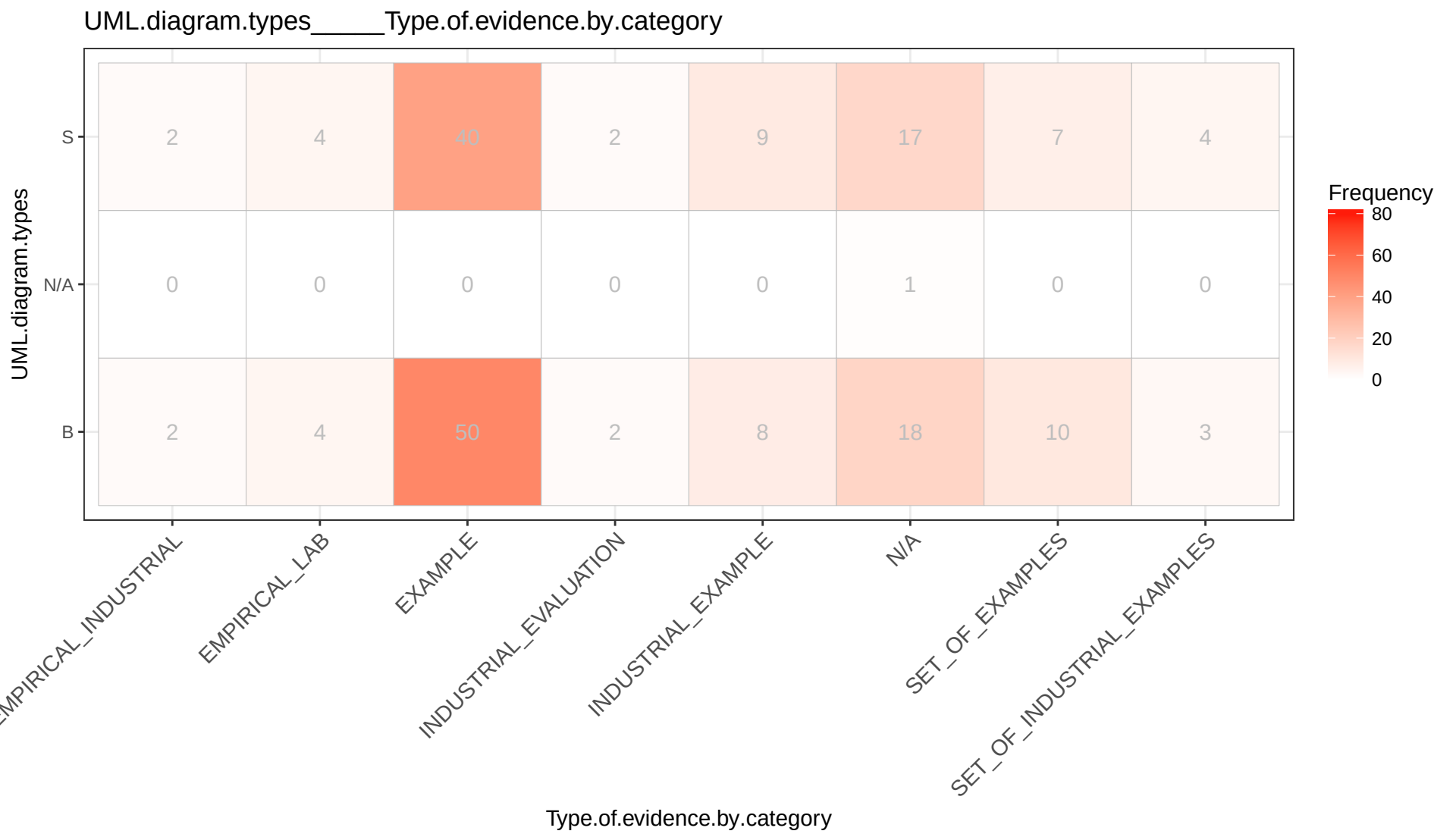

UML.diagram.types_____Software.platform
UML.diagram.types
S
N/A
B
7
26
32
0
0
1
12
30
34
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

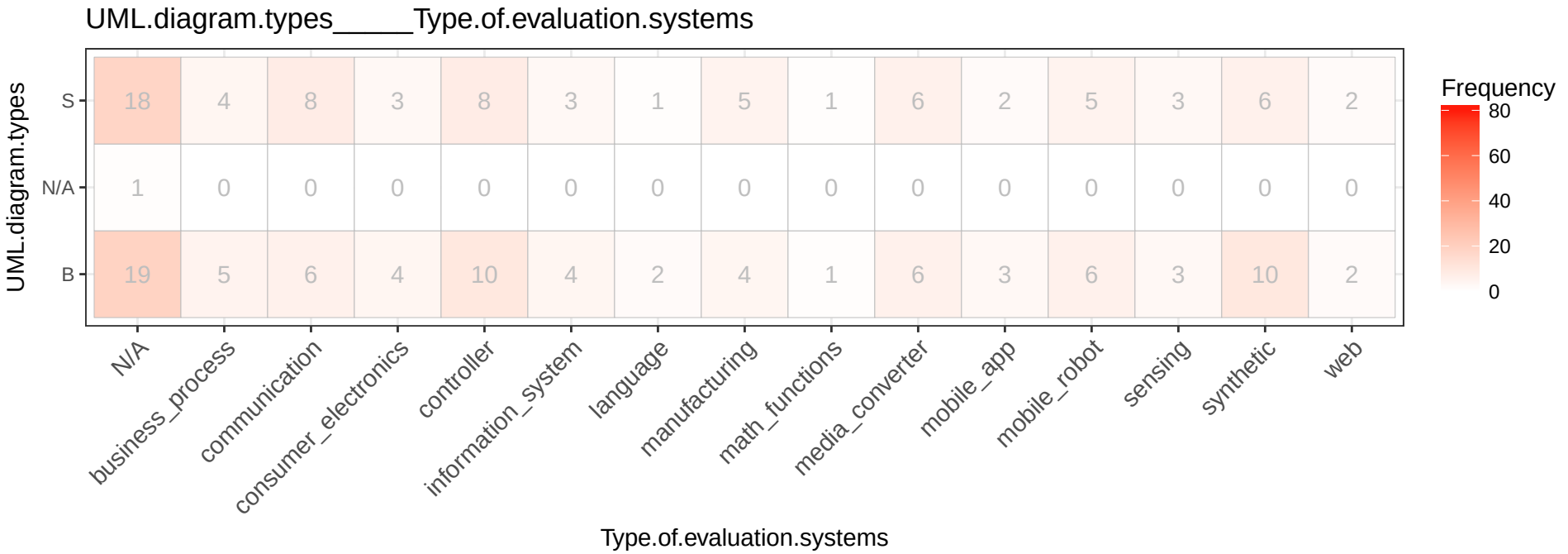

UML.diagram.types_____Translation.steps
S
N/A
B
28
18
5
65
7
0
0
0
1
0
32
19
6
76
12
1
2
3
?
N/A
Translation.steps
UML.diagram.types
Frequency
80
60
40
20
0

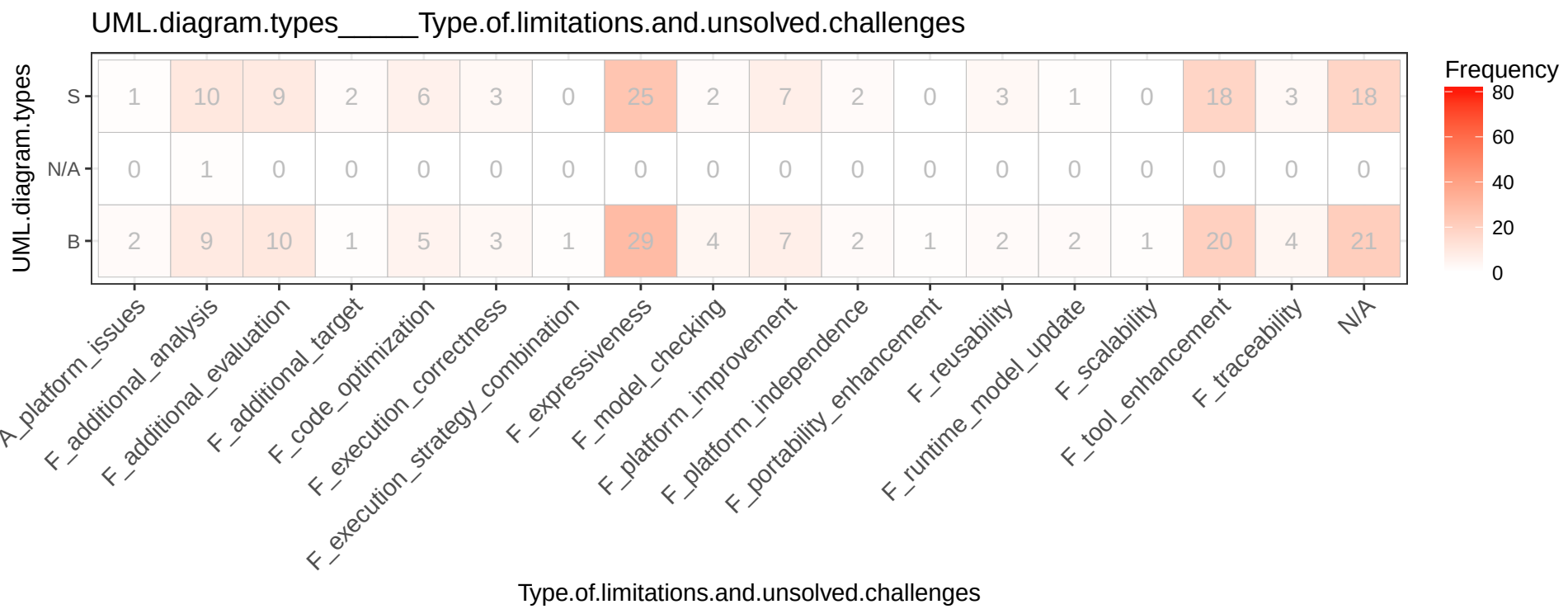

UML.diagram.types_____Traceability.links.support
7
44
14
0
1
0
12
49
15
S
N/A
B
UML.diagram.types
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

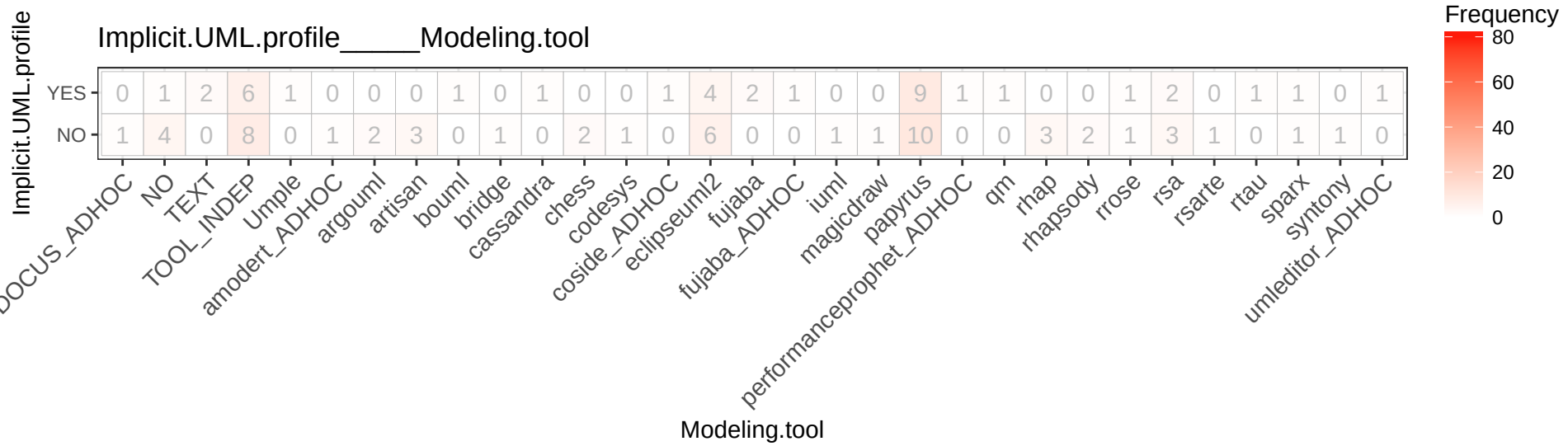

UML.diagram.types_____Interpretation.engine
UML.diagram.types
S
N/A
B
1 1 56 0 1 2 1 1 0 1 1 0
0 0 1 0 0 0 0 0 0 0 0 0
2 1 62 1 1 2 1 1 1 2 1 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

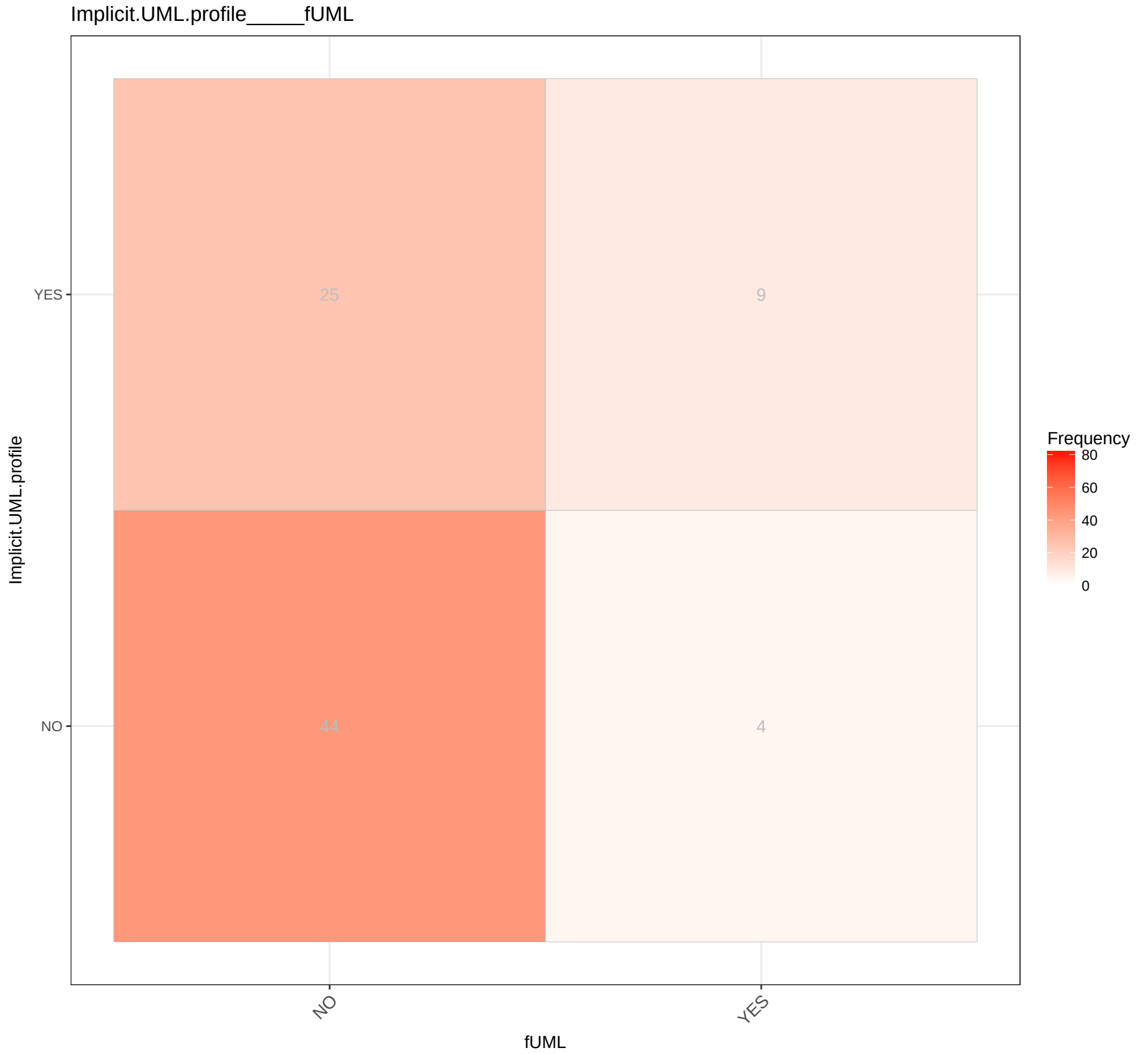

UML.diagram.types_____Target.platforms
UML.diagram.types
S
N/A
B
64
1
0
0
1
0
0
0
73
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

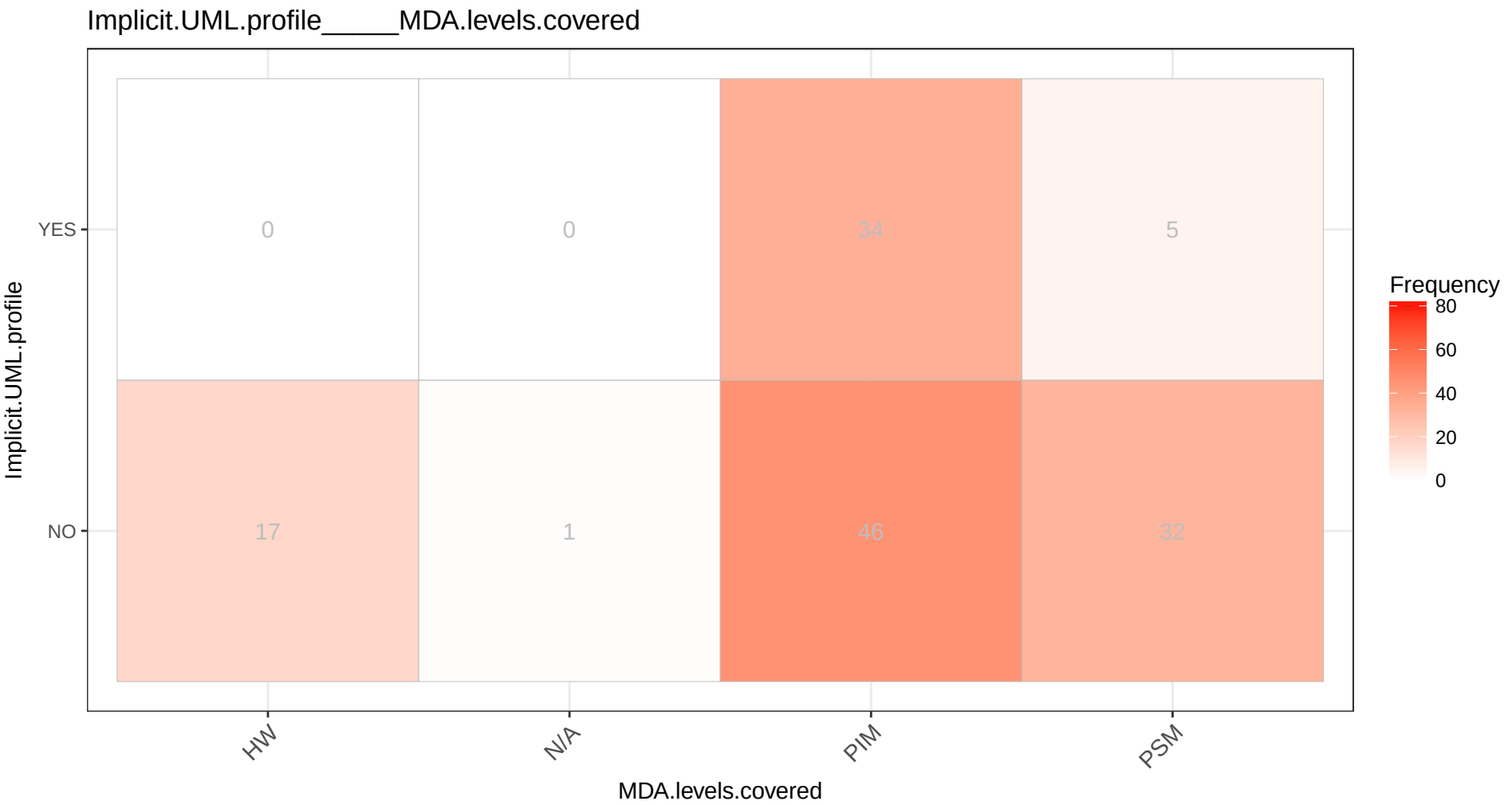

UML.diagram.types_____Type.of.evidence.by.category
UML.diagram.types
S
N/A
B
2
4
40
2
9
17
7
4
0
0
0
0
0
1
0
0
2
4
50
2
8
18
10
3
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

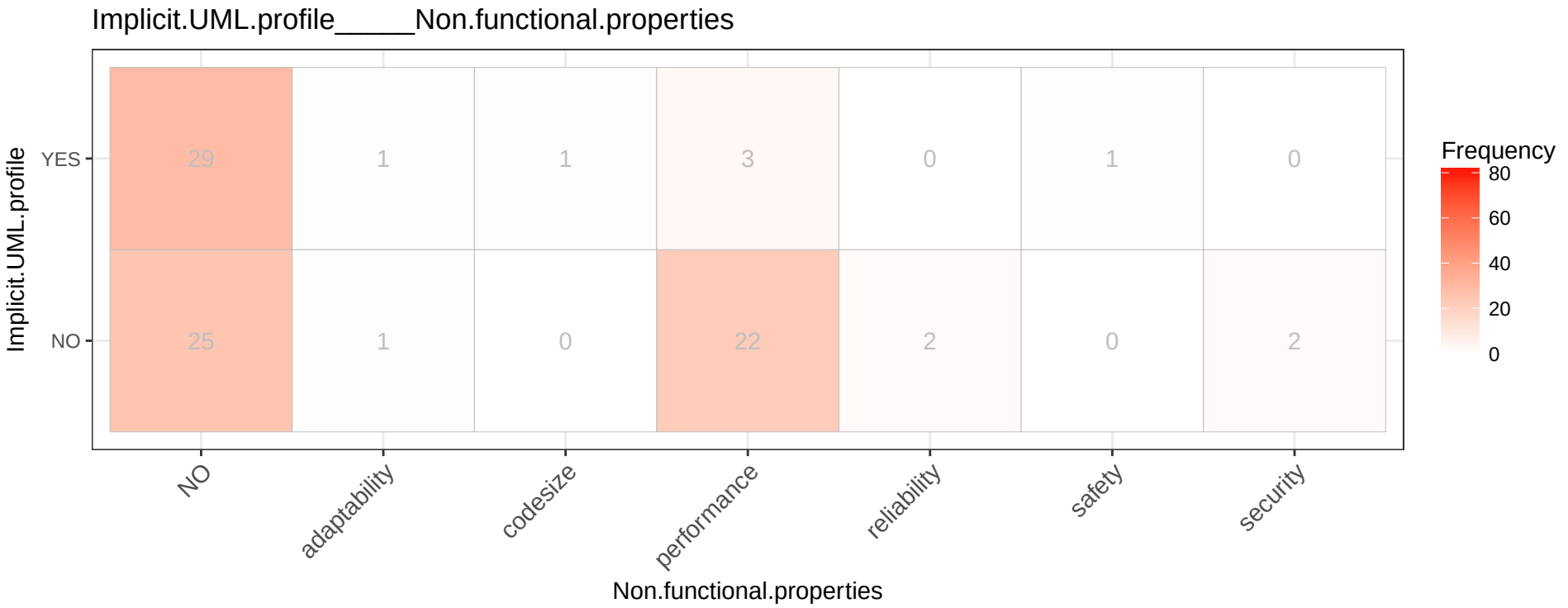

UML.diagram.types_____Type.of.evaluation.systems
UML.diagram.types
S
N/A
B
18 4 8 3 8 3 1 5 1 6 2 5 3 6 2
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
19 5 6 4 10 4 2 4 1 6 3 6 3 10 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

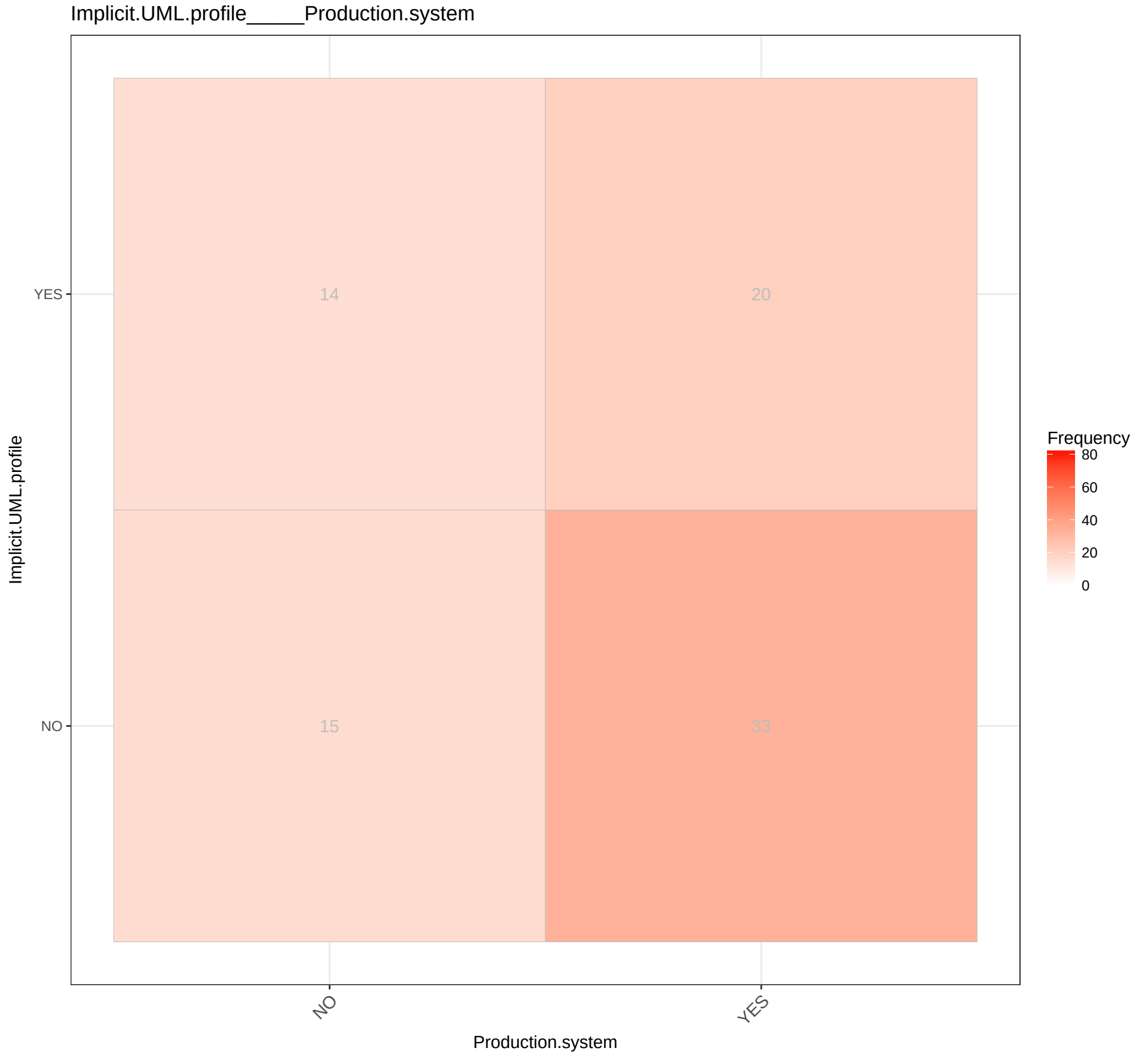

UML.diagram.types_____Type.of.limitations.and.unsolved.challenges
UML.diagram.types
S
N/A
B
1 10 9 2 6 3 0 25 2 7 2 0 3 1 0 18 3 18
0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2 9 10 1 5 3 1 29 4 7 2 1 2 2 1 20 4 21
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

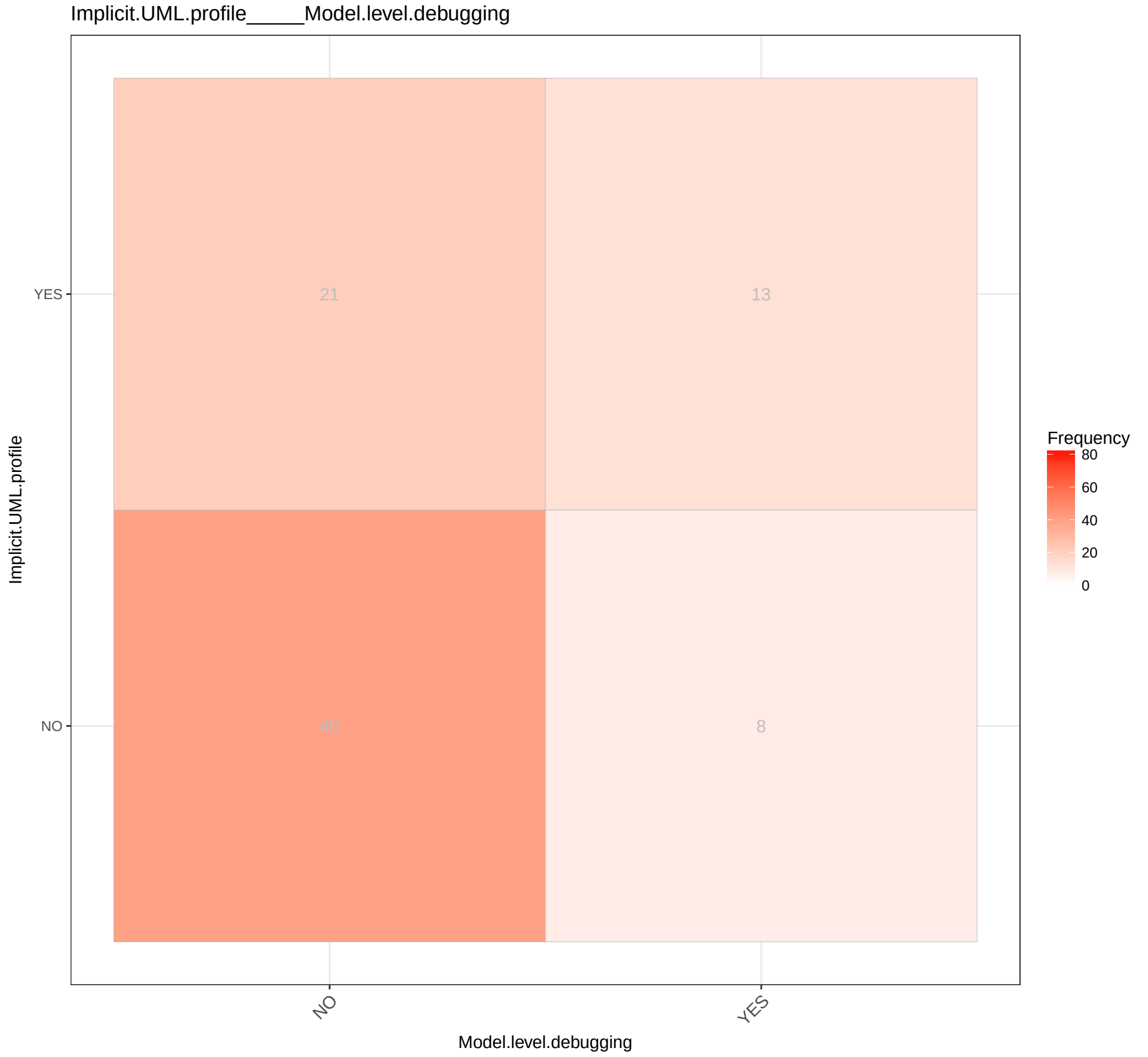

Implicit.UML.profile_____Modeling.tool
Implicit.UML.profile
YES
NO
0 1 2 6 1 0 0 0 1 0 1 0 0 1 4 2 1 0 0 9 1 1 0 0 1 2 0 1 1 0 1
1 4 0 8 0 1 2 3 0 1 0 2 1 0 6 0 0 1 1 10 0 0 3 2 1 3 1 0 1 1 0
DOCUS_ADHOC
NO
TEXT
TOOL_INDEP
Umple
amodert_ADHOC
argouml
artisan
bouml
bridge
cassandra
chess
codesys
coside_ADHOC
eclipseuml2
fujaba
fujaba_ADHOC
iuml
magicdraw
papyrus
performanceprophet_ADHOC
qm
rhap
rhapsody
rrose
rsa
rsarte
rtau
sparx
syntony
umleditor_ADHOC
Modeling.tool
Frequency
80
60
40
20
0

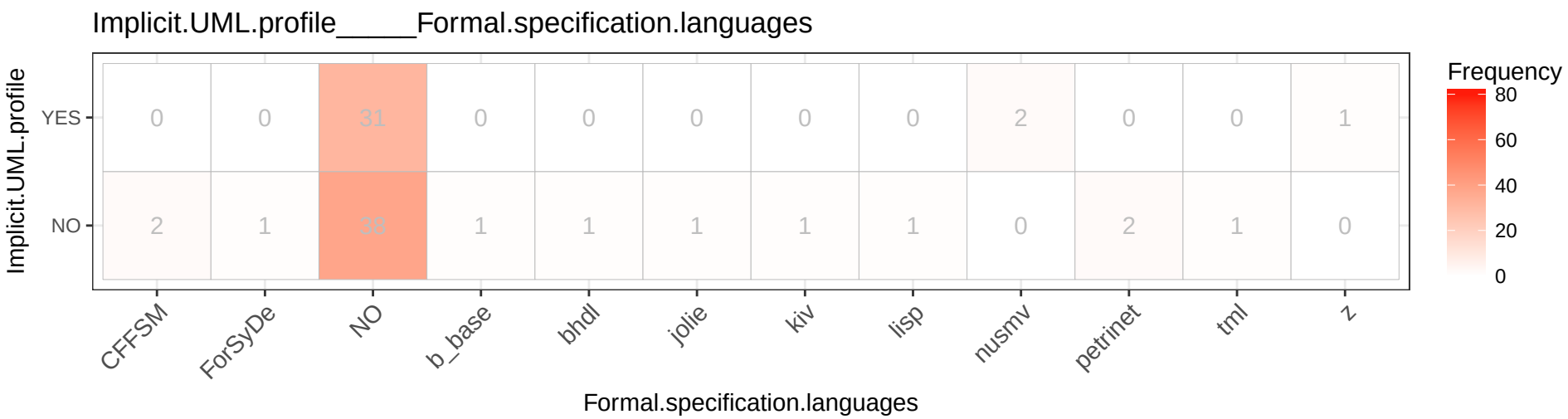

Implicit.UML.profile_____fUML
YES
NO
25
9
44
4
Implicit.UML.profile
NO
YES
fUML
Frequency
80
60
40
20
0

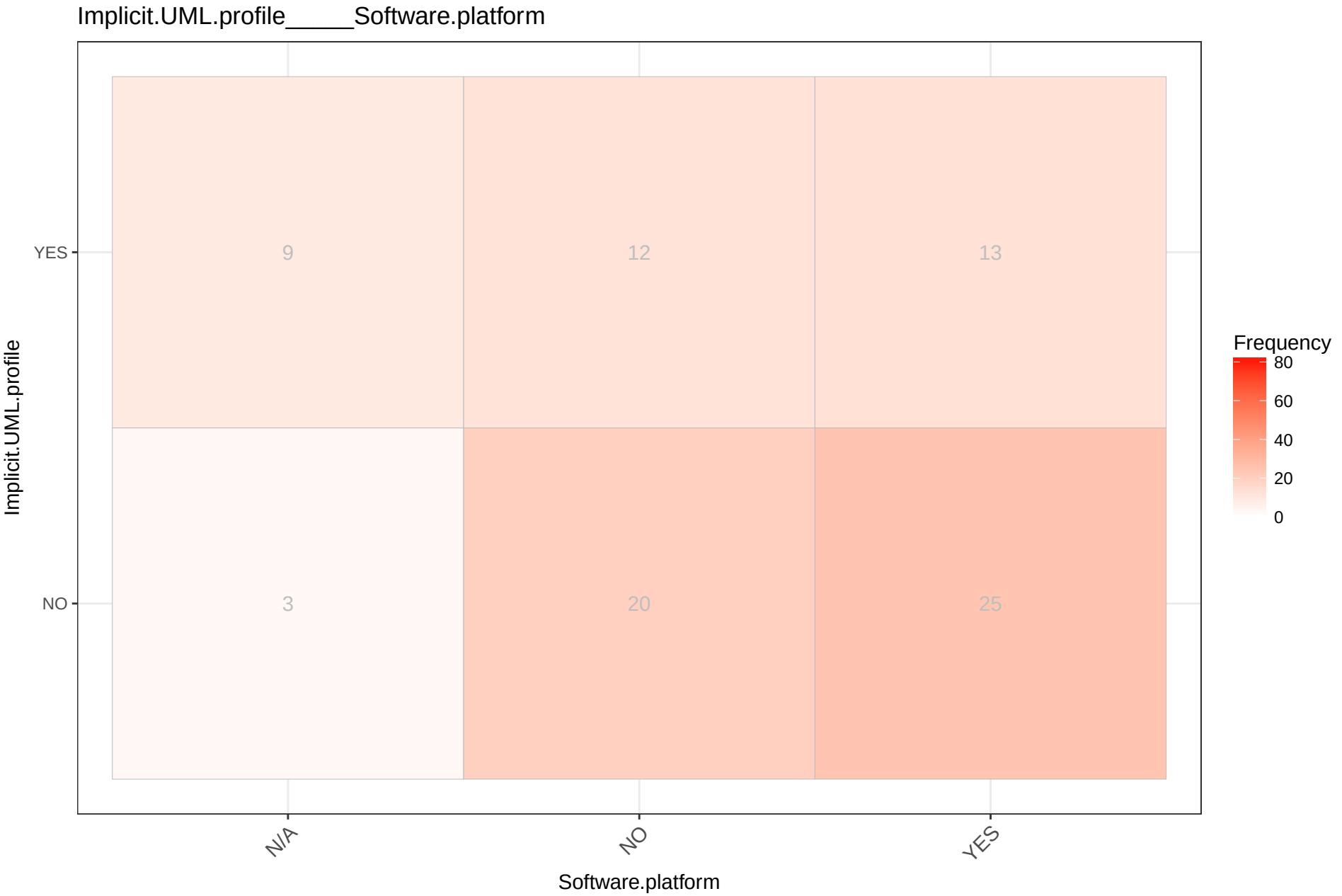

Implicit.UML.profile_____MDA.levels.covered
YES
NO
0
0
34
5
17
1
46
32
HW
N/A
PIM
PSM
MDA.levels.covered
Implicit.UML.profile
Frequency
80
60
40
20
0

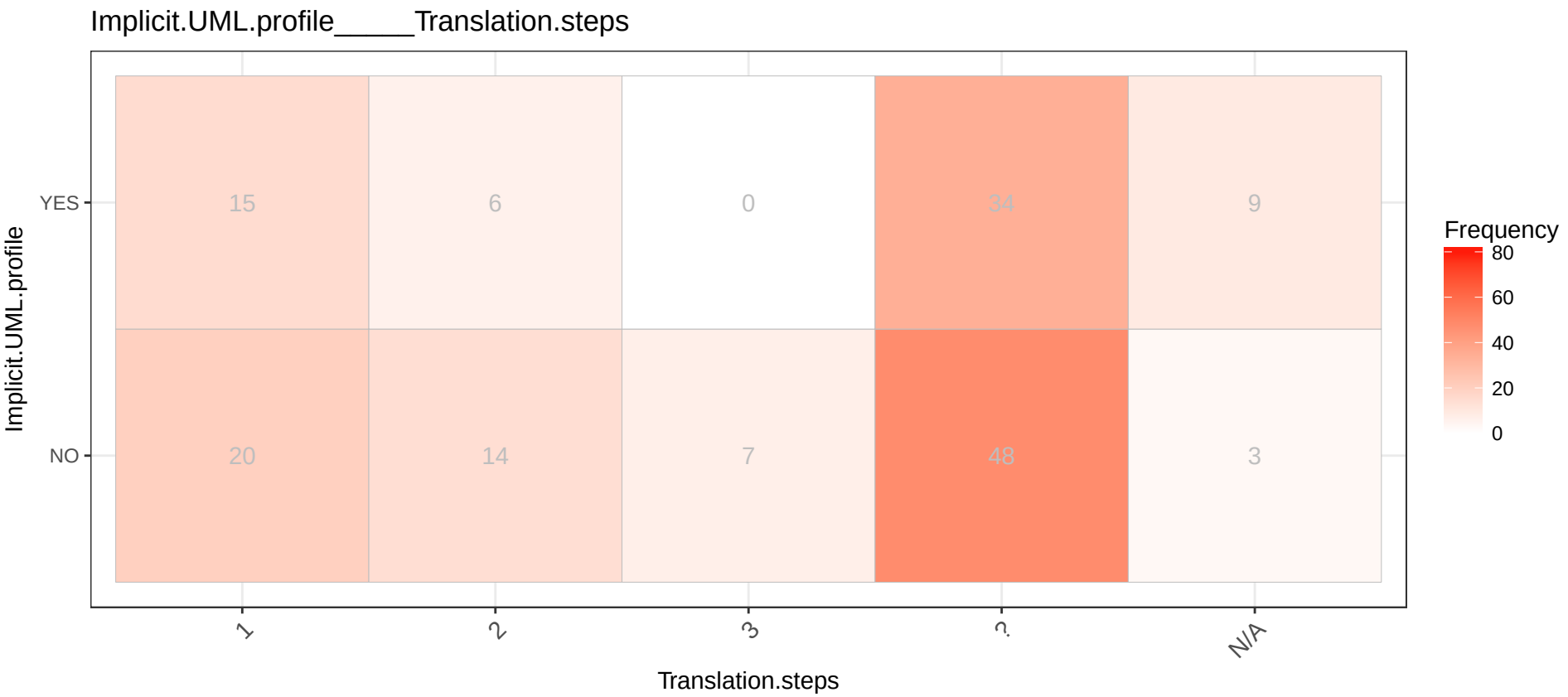

Implicit.UML.profile_____Non.functional.properties
Implicit.UML.profile
YES
NO
29
1
1
3
0
1
0
25
1
0
22
2
0
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

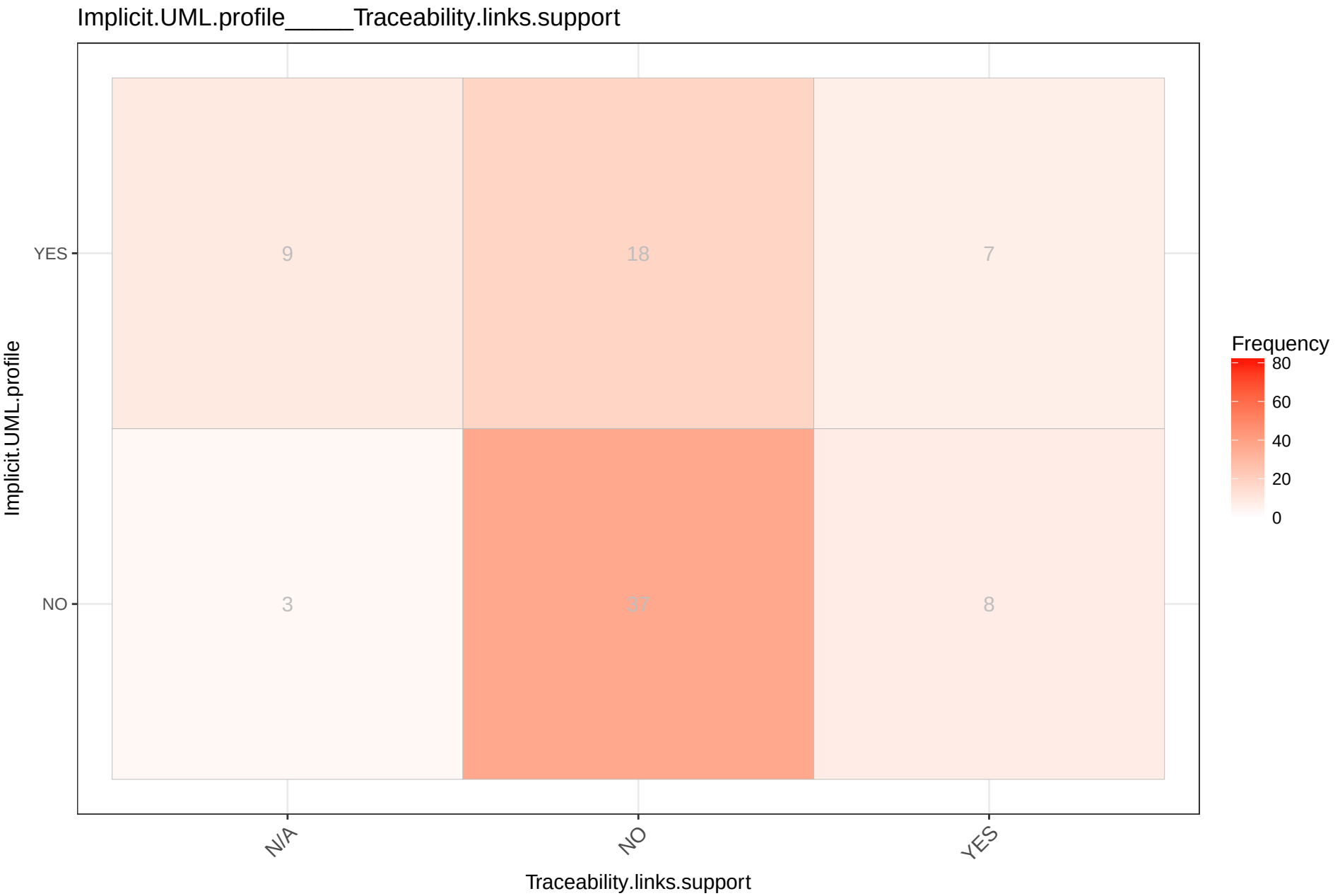

Implicit.UML.profile_____Production.system
YES
NO
14
20
15
33
Implicit.UML.profile
NO
YES
Production.system
Frequency
80
60
40
20
0

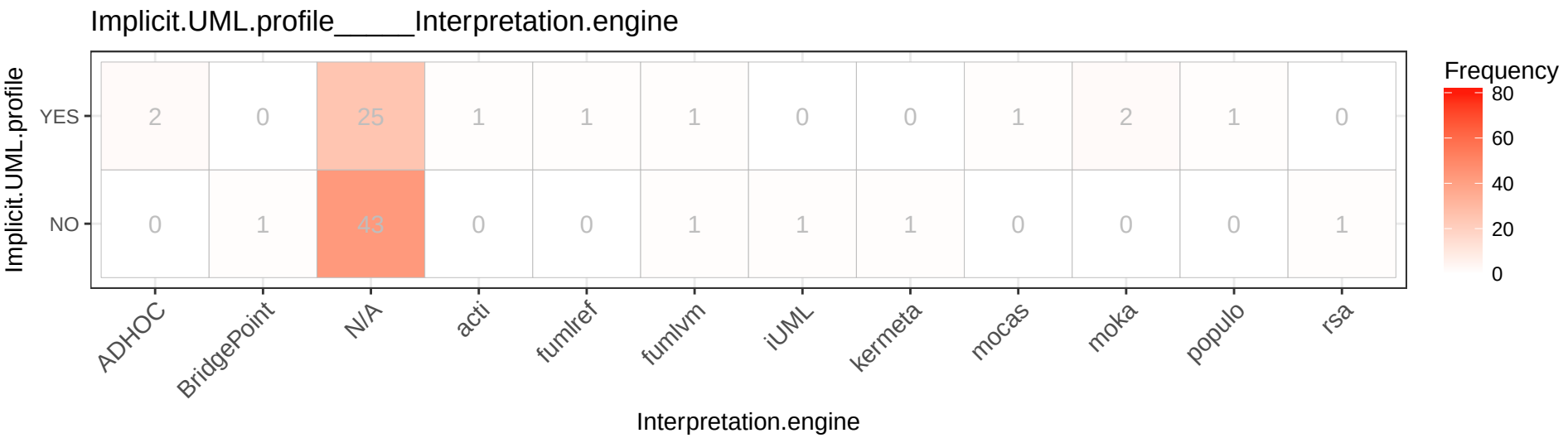

Implicit.UML.profile_____Model.level.debugging
YES
NO
21
13
40
8
Implicit.UML.profile
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

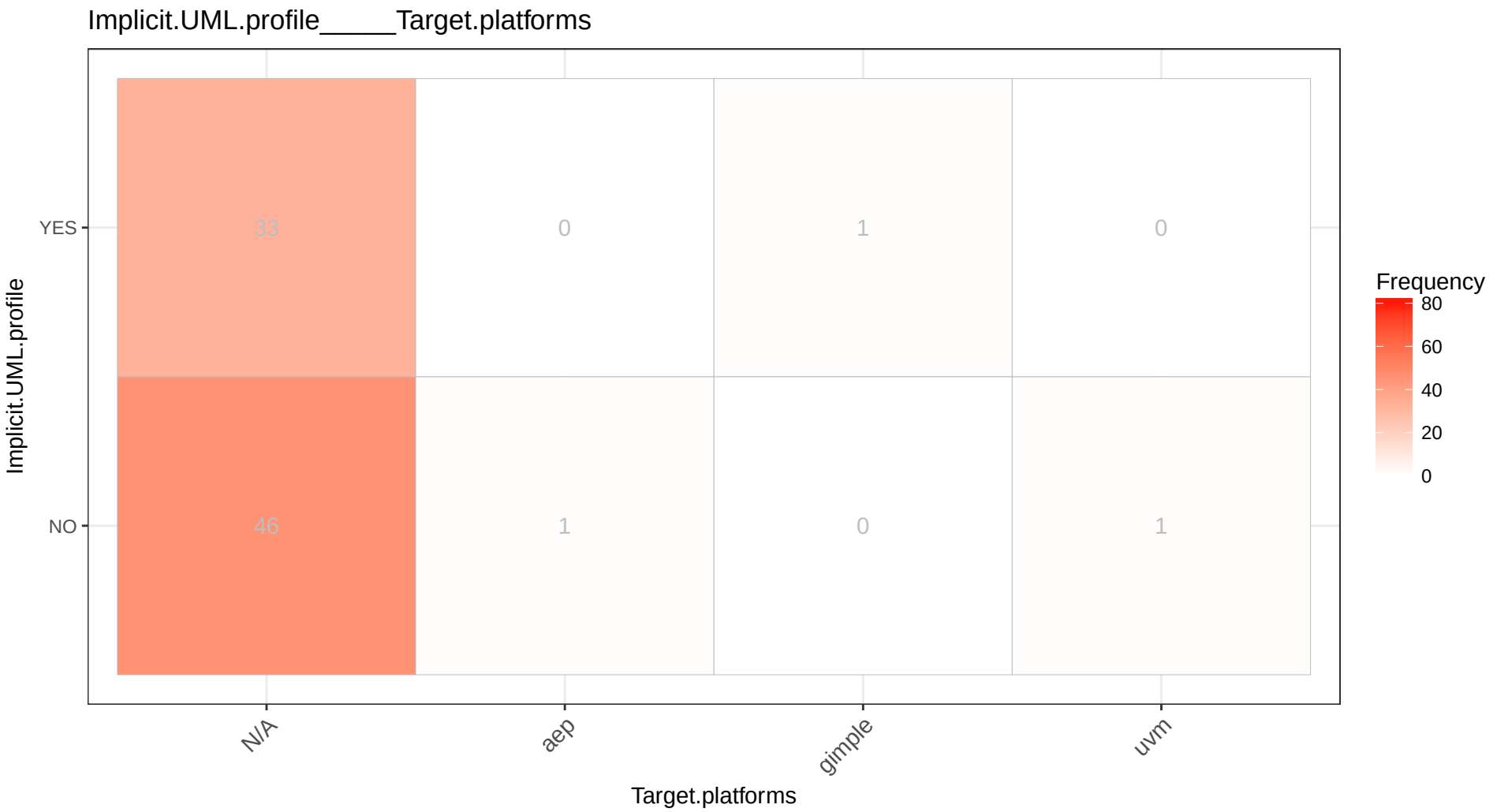

Implicit.UML.profile_____Formal.specification.languages
Implicit.UML.profile
YES
NO
0 0 31 0 0 0 0 0 2 0 0 1
2 1 38 1 1 1 1 1 0 2 1 0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

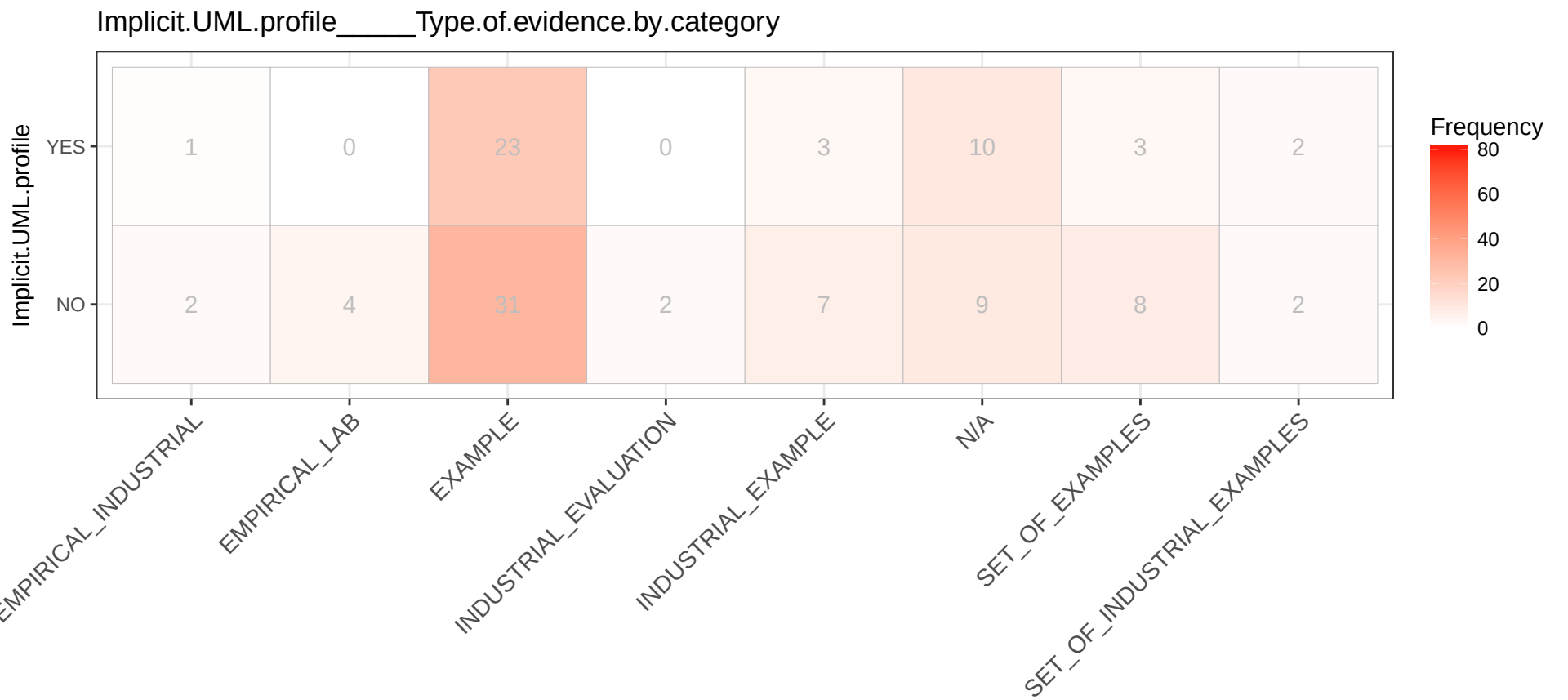

Implicit.UML.profile_____Software.platform
YES
NO
9
12
13
3
20
25
Implicit.UML.profile
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

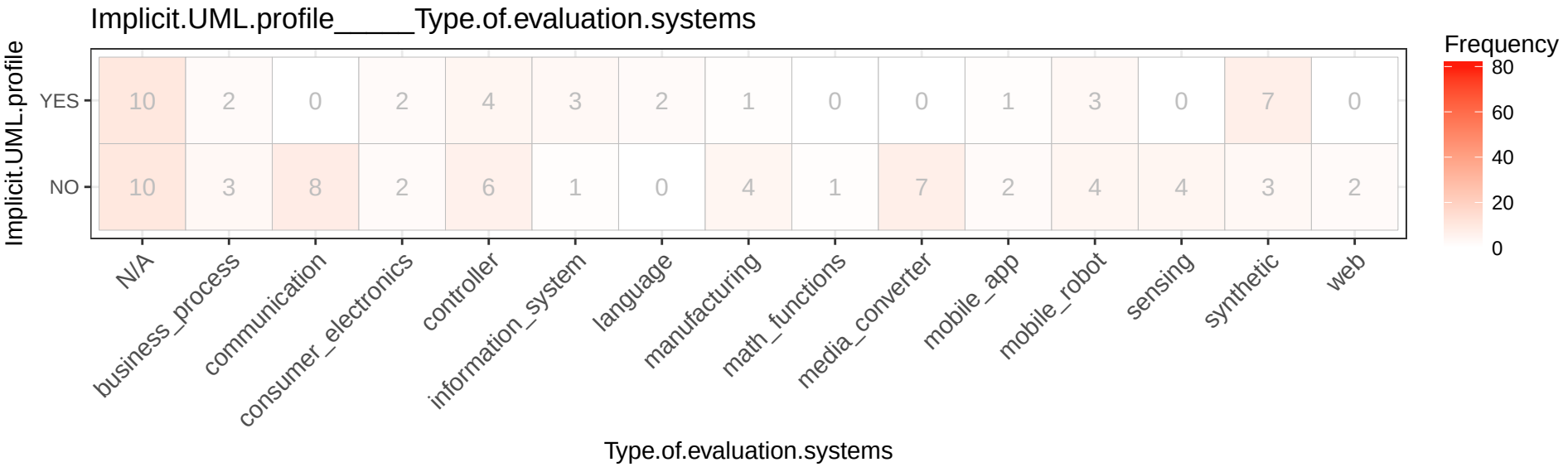

Implicit.UML.profile_____Translation.steps
YES
NO
15
6
0
34
9
20
14
7
48
3
1
2
3
?
N/A
Translation.steps
Implicit.UML.profile
Frequency
80
60
40
20
0

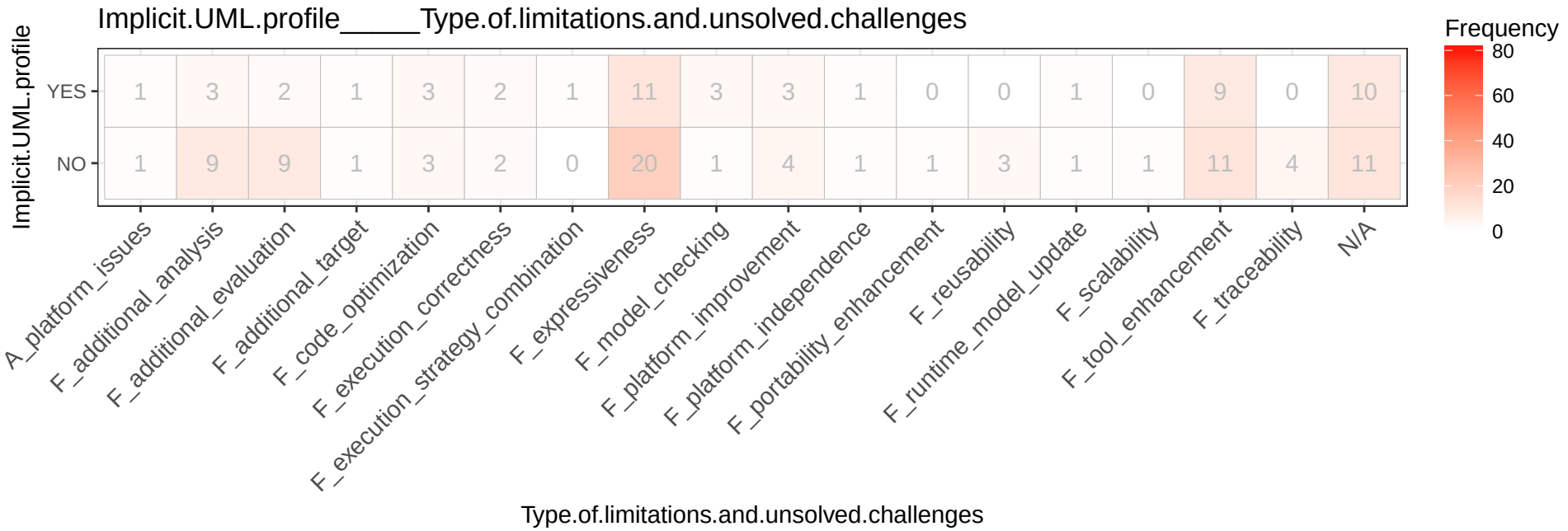

Implicit.UML.profile_____Traceability.links.support
YES
NO
9
18
7
3
37
8
Implicit.UML.profile
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

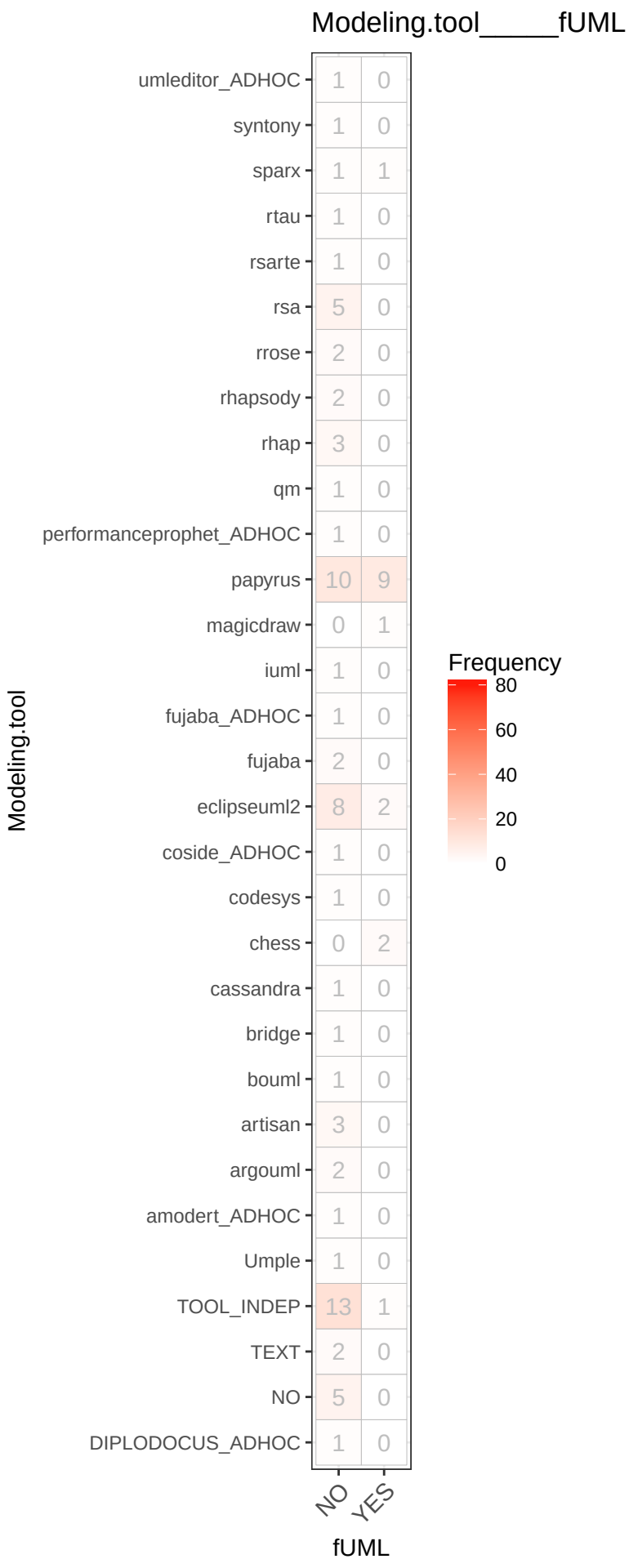

Implicit.UML.profile_____Interpretation.engine
Implicit.UML.profile
YES
NO
2
0
25
1
1
1
0
0
1
2
1
0
0
1
43
0
0
1
1
1
0
0
0
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

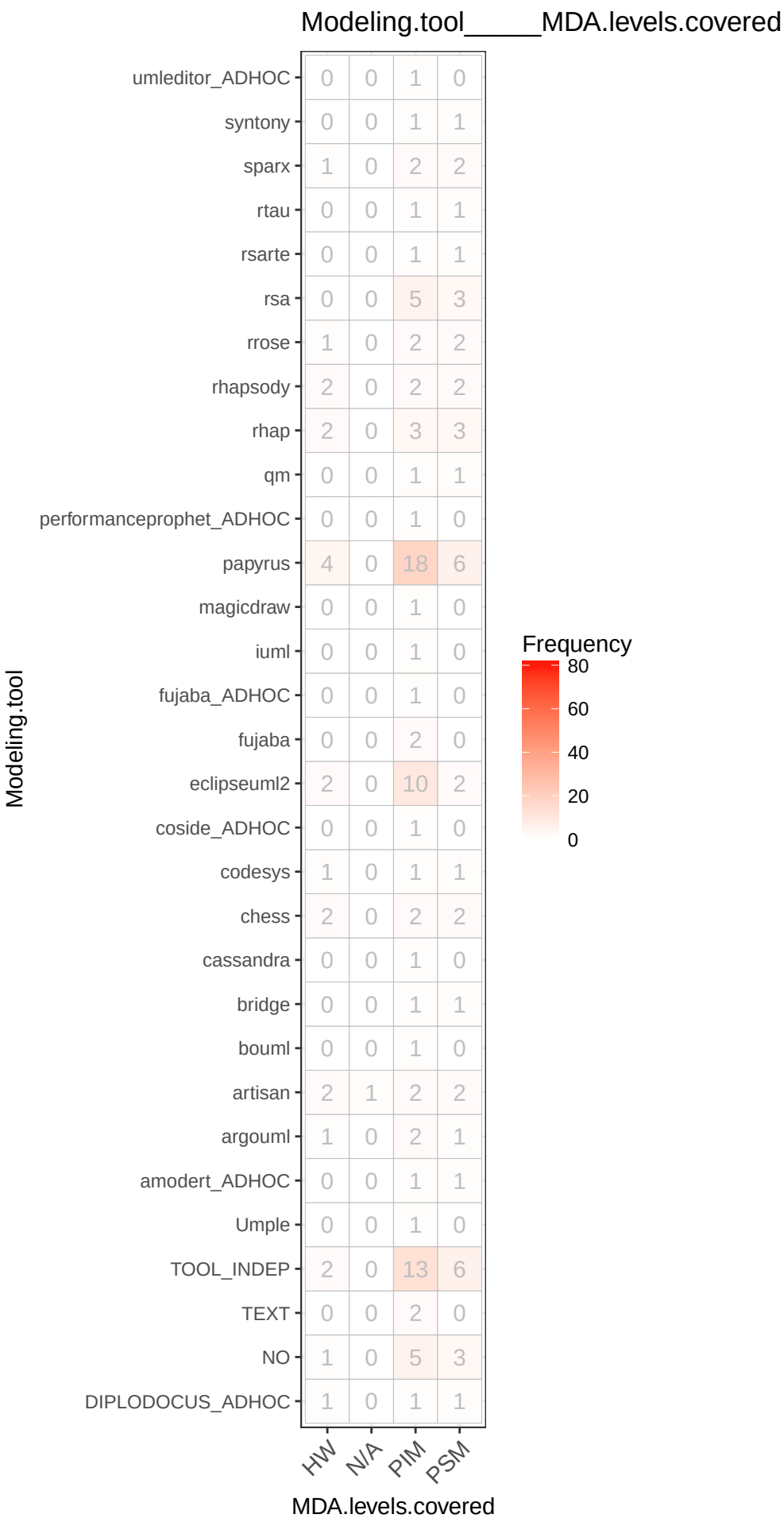

Implicit.UML.profile_____Target.platforms
Implicit.UML.profile
YES
NO
33
0
1
0
46
1
0
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

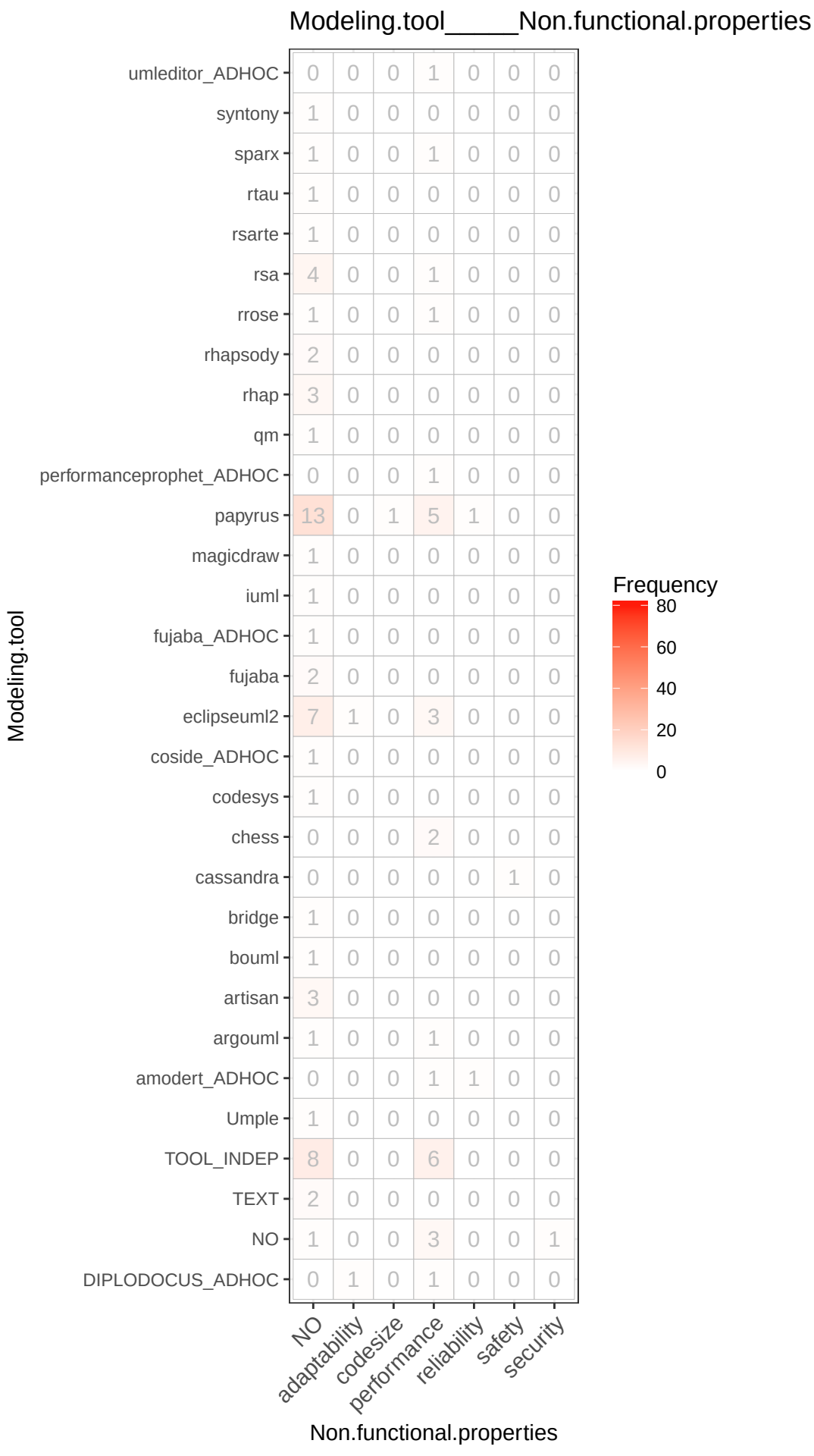

Implicit.UML.profile_____Type.of.evidence.by.category
Implicit.UML.profile
YES
NO
1
0
23
0
3
10
3
2
2
4
31
2
7
9
8
2
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

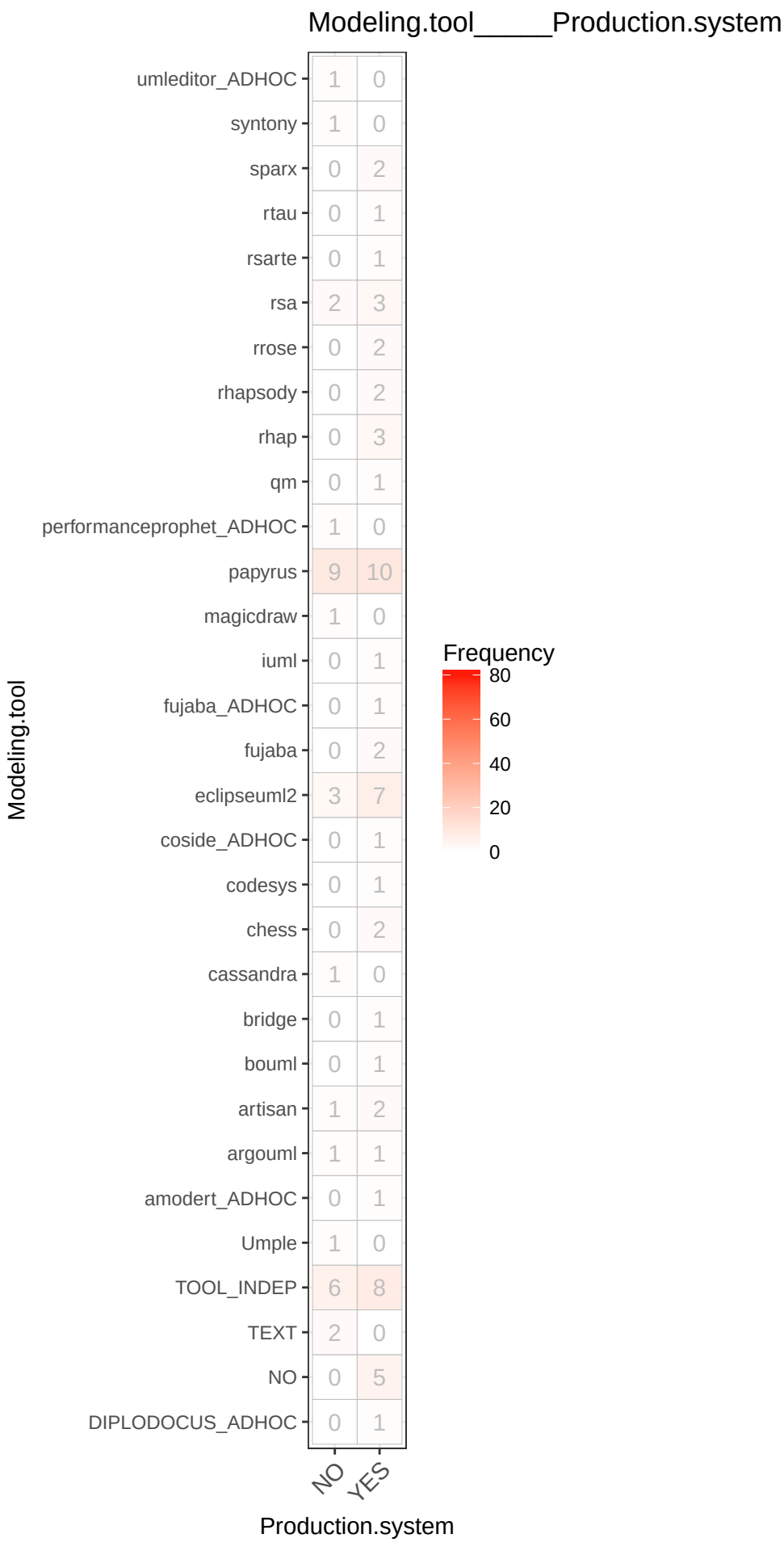

Implicit.UML.profile_____Type.of.evaluation.systems
Implicit.UML.profile
YES
NO
10 2 0 2 4 3 2 1 0 0 1 3 0 7 0
10 3 8 2 6 1 0 4 1 7 2 4 4 3 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

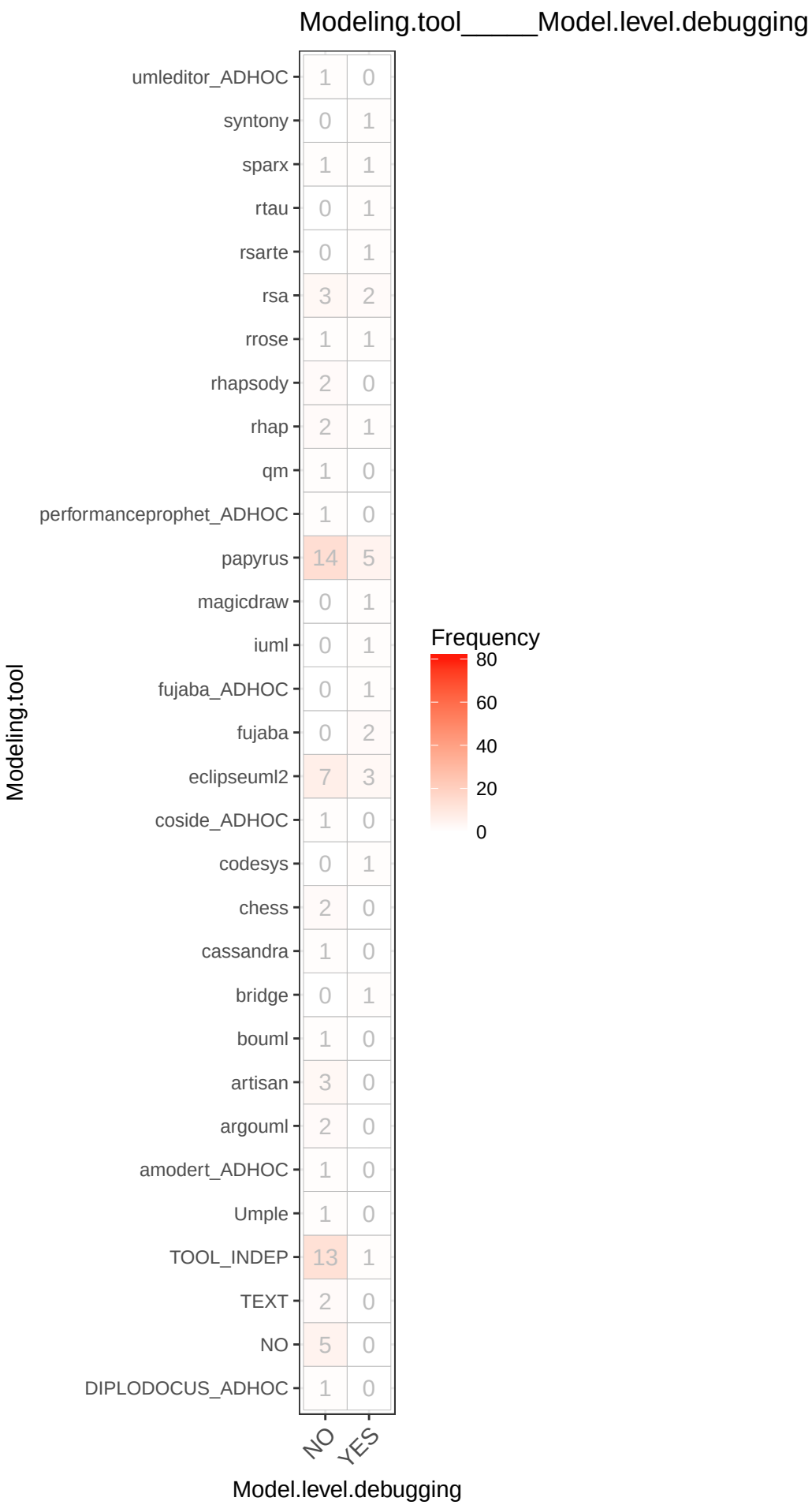

Implicit.UML.profile_____Type.of.limitations.and.unsolved.challenges
Implicit.UML.profile
YES
NO
1 3 2 1 3 2 1 11 3 3 1 0 0 1 0 9 0 10
1 9 9 1 3 2 0 20 1 4 1 1 3 1 1 11 4 11
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

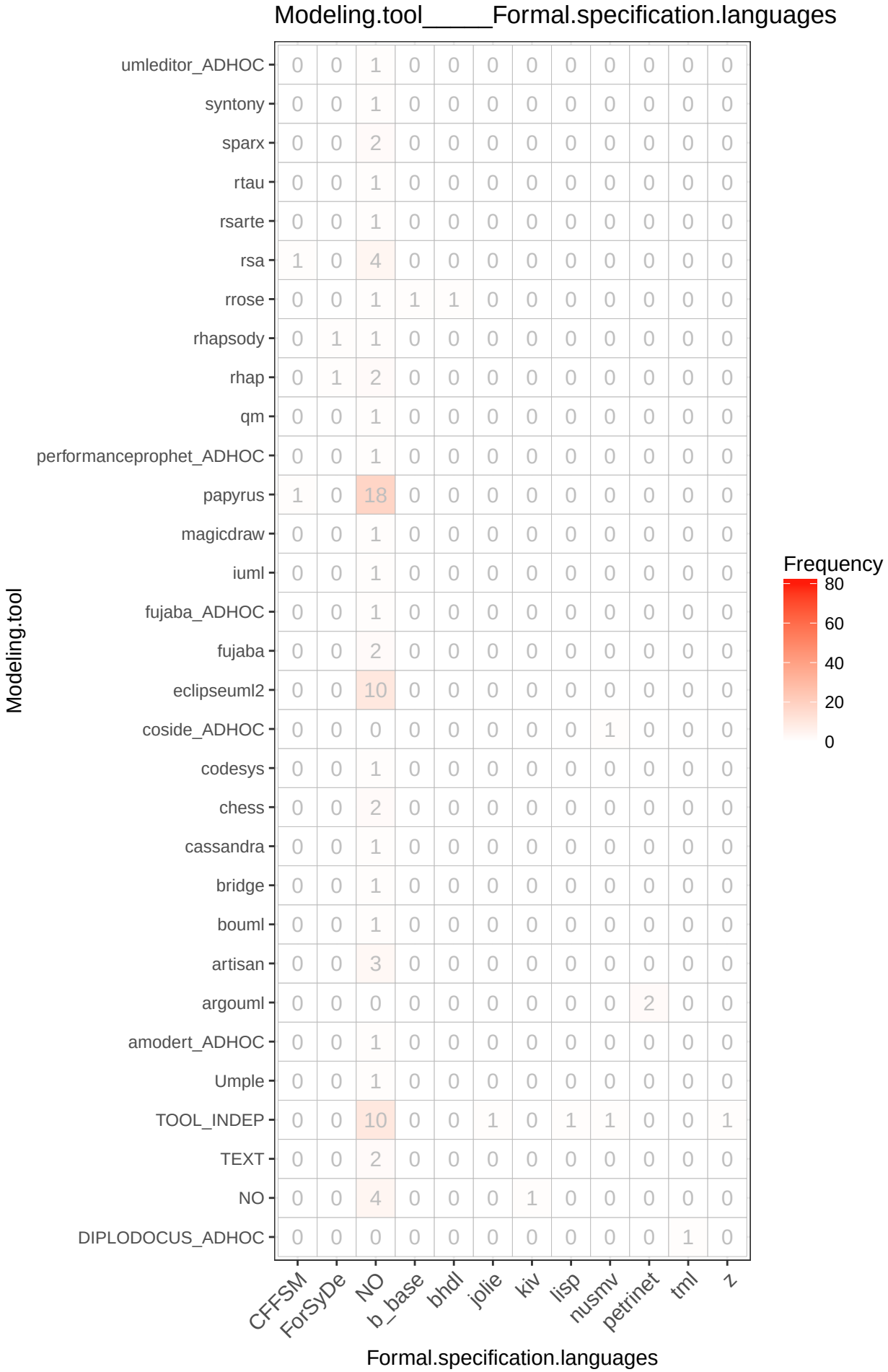

Modeling.tool_____fUML
umleditor_ADHOC 1 0
syntony 1 0
sparx 1 1
rtau 1 0
rsarte 1 0
rsa 5 0
rrose 2 0
rhapsody 2 0
rhap 3 0
qm 1 0
performanceprophet_ADHOC 1 0
papyrus 10 9
magicdraw 0 1
iuml 1 0
fujaba_ADHOC 1 0
fujaba 2 0
eclipseuml2 8 2
coside_ADHOC 1 0
codesys 1 0
chess 0 2
cassandra 1 0
bridge 1 0
bouml 1 0
artisan 3 0
argouml 2 0
amodert_ADHOC 1 0
Umple 1 0
TOOL_INDEP 13 1
TEXT 2 0
NO 5 0
DIPLODOCUS_ADHOC 1 0
Modeling.tool
NO
YES
fUML
Frequency
80
60
40
20
0

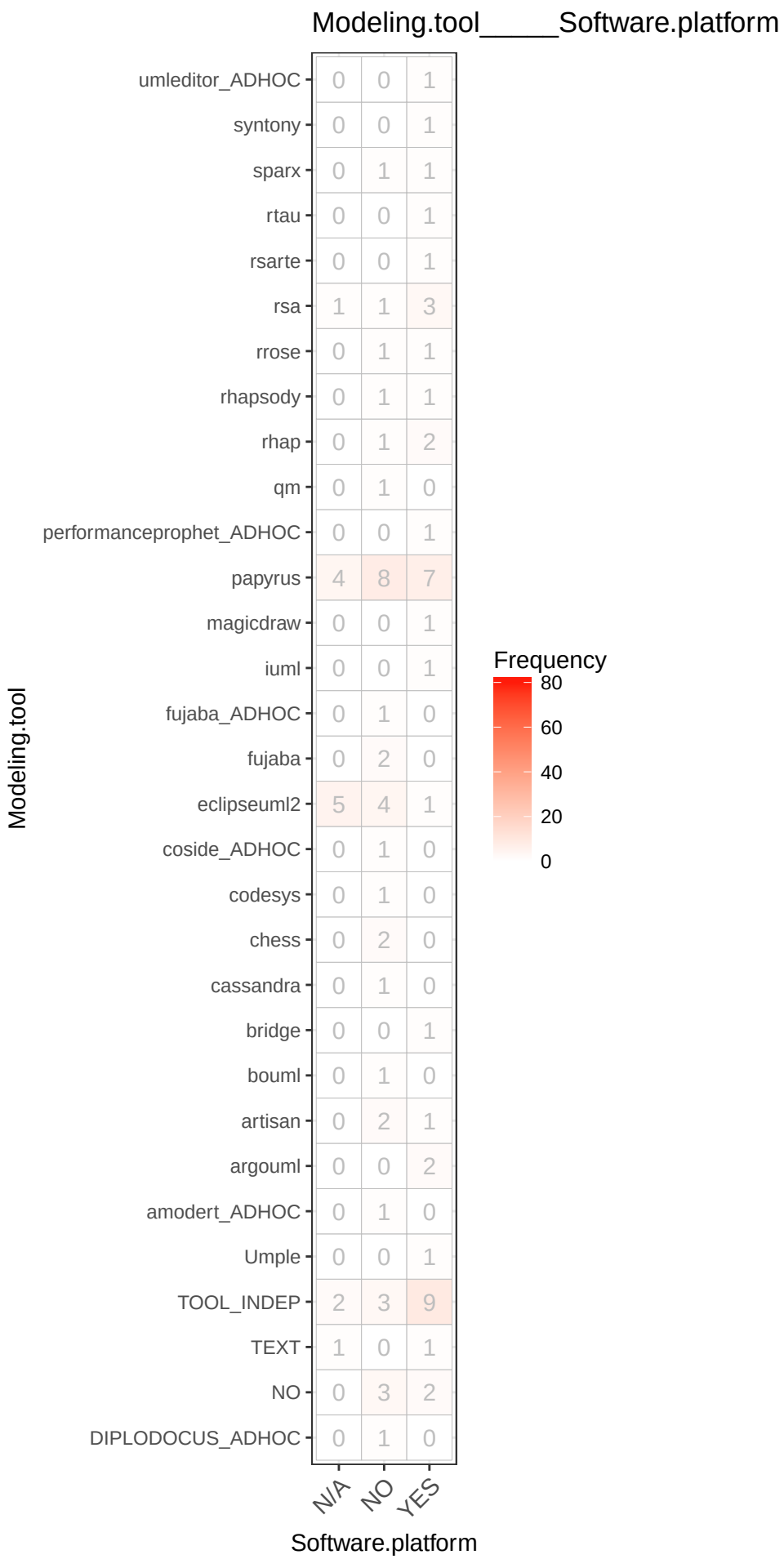

Modeling.tool_____MDA.levels.covered
umleditor_ADHOC 0 0 1 0
syntony 0 0 1 1
sparx 1 0 2 2
rtau 0 0 1 1
rsarte 0 0 1 1
rsa 0 0 5 3
rrose 1 0 2 2
rhapsody 2 0 2 2
rhap 2 0 3 3
qm 0 0 1 1
performanceprophet_ADHOC 0 0 1 0
papyrus 4 0 18 6
magicdraw 0 0 1 0
iuml 0 0 1 0
fujaba_ADHOC 0 0 1 0
fujaba 0 0 2 0
eclipseuml2 2 0 10 2
coside_ADHOC 0 0 1 0
codesys 1 0 1 1
chess 2 0 2 2
cassandra 0 0 1 0
bridge 0 0 1 1
bouml 0 0 1 0
artisan 2 1 2 2
argouml 1 0 2 1
amodert_ADHOC 0 0 1 1
Umple 0 0 1 0
TOOL_INDEP 2 0 13 6
TEXT 0 0 2 0
NO 1 0 5 3
DIPLODOCUS_ADHOC 1 0 1 1
Modeling.tool
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

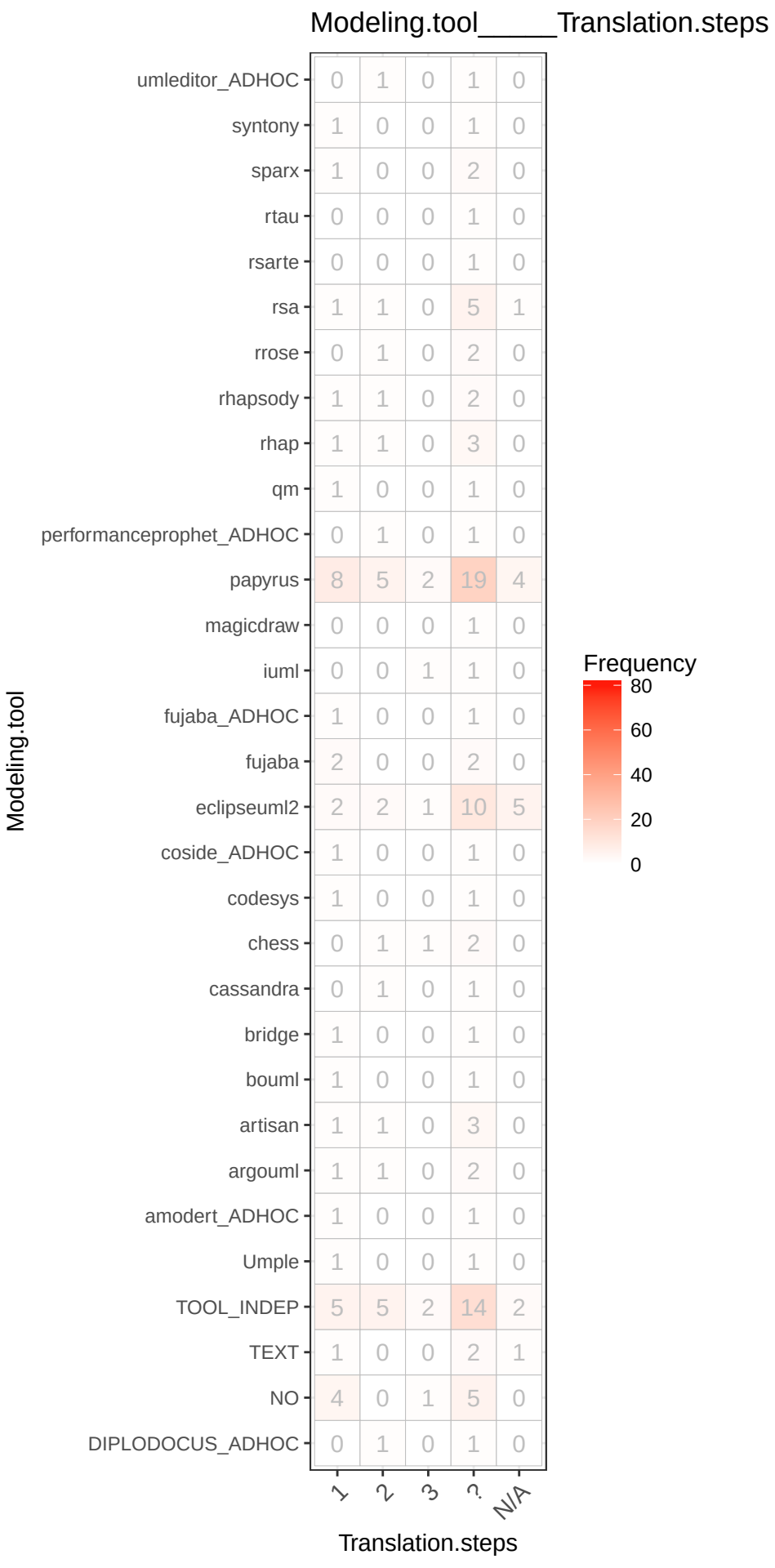

Modeling.tool_____Non.functional.properties
umleditor_ADHOC 0 0 0 1 0 0 0
syntony 1 0 0 0 0 0 0
sparx 1 0 0 1 0 0 0
rtau 1 0 0 0 0 0 0
rsarte 1 0 0 0 0 0 0
rsa 4 0 0 1 0 0 0
rrose 1 0 0 1 0 0 0
rhapsody 2 0 0 0 0 0 0
rhap 3 0 0 0 0 0 0
qm 1 0 0 0 0 0 0
performanceprophet_ADHOC 0 0 0 1 0 0 0
papyrus 13 0 1 5 1 0 0
magicdraw 1 0 0 0 0 0 0
iuml 1 0 0 0 0 0 0
fujaba_ADHOC 1 0 0 0 0 0 0
fujaba 2 0 0 0 0 0 0
eclipseuml2 7 1 0 3 0 0 0
coside_ADHOC 1 0 0 0 0 0 0
codesys 1 0 0 0 0 0 0
chess 0 0 0 2 0 0 0
cassandra 0 0 0 0 0 1 0
bridge 1 0 0 0 0 0 0
bouml 1 0 0 0 0 0 0
artisan 3 0 0 0 0 0 0
argouml 1 0 0 1 0 0 0
amodert_ADHOC 0 0 0 1 1 0 0
Umple 1 0 0 0 0 0 0
TOOL_INDEP 8 0 0 6 0 0 0
TEXT 2 0 0 0 0 0 0
NO 1 0 0 3 0 0 1
DIPLODOCUS_ADHOC 0 1 0 1 0 0 0
Modeling.tool
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

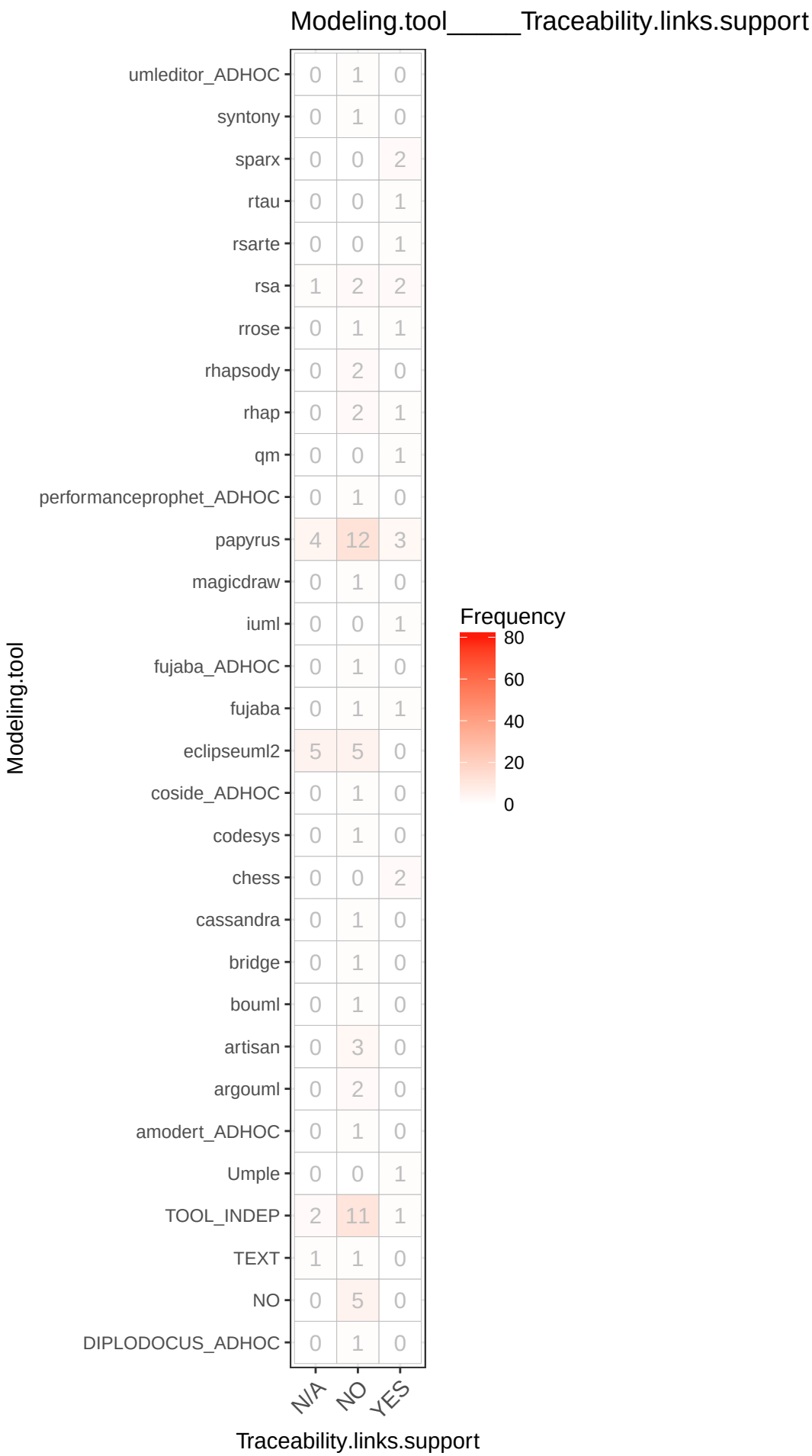

Modeling.tool_____Production.system
umleditor_ADHOC 1 0
syntony 1 0
sparx 0 2
rtau 0 1
rsarte 0 1
rsa 2 3
rrose 0 2
rhapsody 0 2
rhap 0 3
qm 0 1
performanceprophet_ADHOC 1 0
papyrus 9 10
magicdraw 1 0
iuml 0 1
fujaba_ADHOC 0 1
fujaba 0 2
eclipseuml2 3 7
coside_ADHOC 0 1
codesys 0 1
chess 0 2
cassandra 1 0
bridge 0 1
bouml 0 1
artisan 1 2
argouml 1 1
amodert_ADHOC 0 1
Umple 1 0
TOOL_INDEP 6 8
TEXT 2 0
NO 0 5
DIPLODOCUS_ADHOC 0 1
Modeling.tool
Frequency
80
60
40
20
0
NO
YES
Production.system

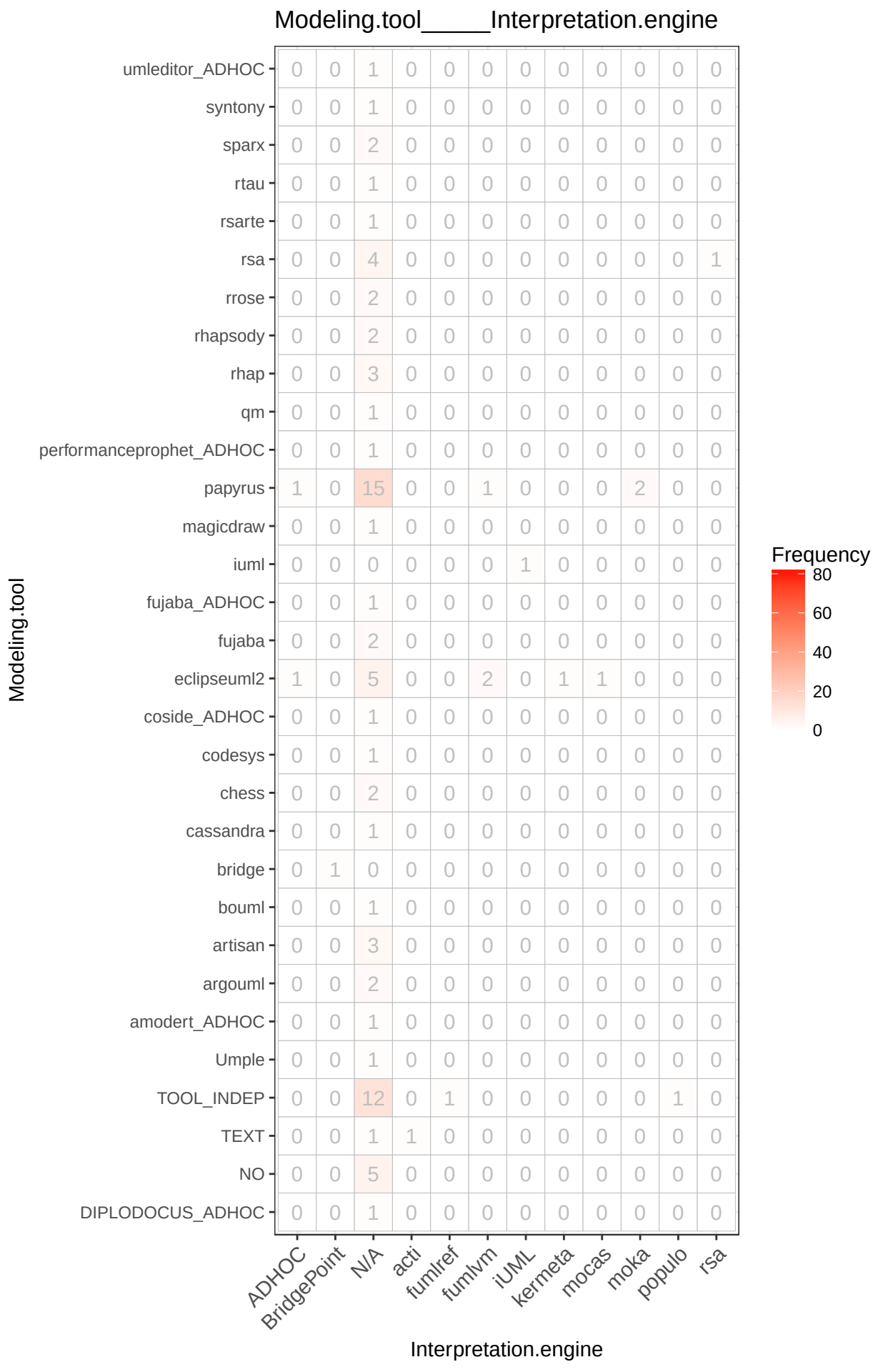

Modeling.tool_____Model.level.debugging
umleditor_ADHOC 1 0
syntony 0 1
sparx 1 1
rtau 0 1
rsarte 0 1
rsa 3 2
rrose 1 1
rhapsody 2 0
rhap 2 1
qm 1 0
performanceprophet_ADHOC 1 0
papyrus 14 5
magicdraw 0 1
iuml 0 1
fujaba_ADHOC 0 1
fujaba 0 2
eclipseuml2 7 3
coside_ADHOC 1 0
codesys 0 1
chess 2 0
cassandra 1 0
bridge 0 1
bouml 1 0
artisan 3 0
argouml 2 0
amodert_ADHOC 1 0
Umple 1 0
TOOL_INDEP 13 1
TEXT 2 0
NO 5 0
DIPLODOCUS_ADHOC 1 0
Modeling.tool
Frequency
80
60
40
20
0
NO
YES
Model.level.debugging

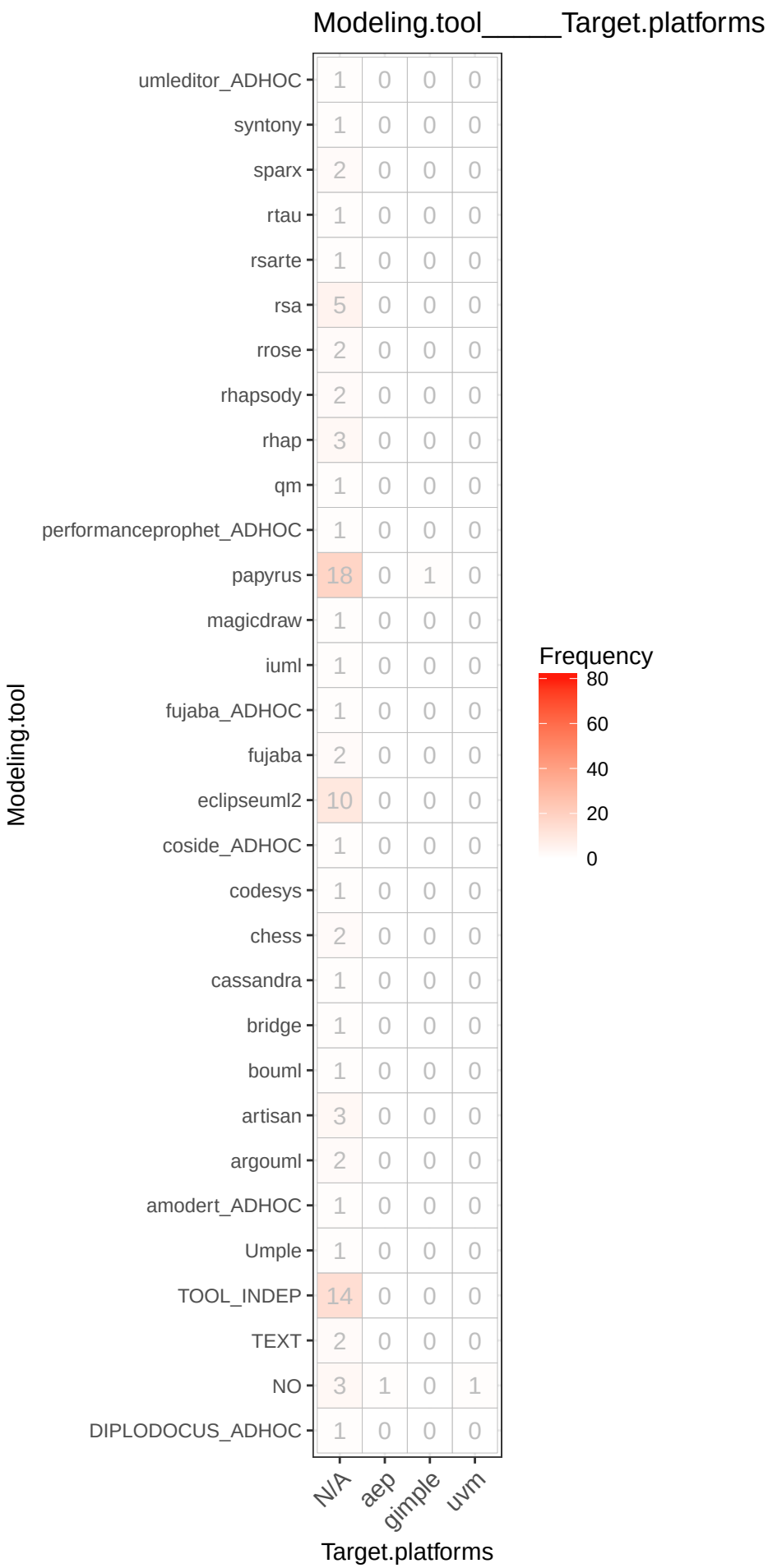

Modeling.tool_____Formal.specification.languages
umleditor_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
syntony 0 0 1 0 0 0 0 0 0 0 0 0
sparx 0 0 2 0 0 0 0 0 0 0 0 0
rtau 0 0 1 0 0 0 0 0 0 0 0 0
rsarte 0 0 1 0 0 0 0 0 0 0 0 0
rsa 1 0 4 0 0 0 0 0 0 0 0 0
rrose 0 0 1 1 1 0 0 0 0 0 0 0
rhapsody 0 1 1 0 0 0 0 0 0 0 0 0
rhap 0 1 2 0 0 0 0 0 0 0 0 0
qm 0 0 1 0 0 0 0 0 0 0 0 0
performanceprophet_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
papyrus 1 0 18 0 0 0 0 0 0 0 0 0
magicdraw 0 0 1 0 0 0 0 0 0 0 0 0
iuml 0 0 1 0 0 0 0 0 0 0 0 0
fujaba_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
fujaba 0 0 2 0 0 0 0 0 0 0 0 0
eclipseuml2 0 0 10 0 0 0 0 0 0 0 0 0
coside_ADHOC 0 0 0 0 0 0 0 0 1 0 0 0
codesys 0 0 1 0 0 0 0 0 0 0 0 0
chess 0 0 2 0 0 0 0 0 0 0 0 0
cassandra 0 0 1 0 0 0 0 0 0 0 0 0
bridge 0 0 1 0 0 0 0 0 0 0 0 0
bouml 0 0 1 0 0 0 0 0 0 0 0 0
artisan 0 0 3 0 0 0 0 0 0 0 0 0
argouml 0 0 0 0 0 0 0 0 0 2 0 0
amodert_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
Umple 0 0 1 0 0 0 0 0 0 0 0 0
TOOL_INDEP 0 0 10 0 0 1 0 1 1 0 0 1
TEXT 0 0 2 0 0 0 0 0 0 0 0 0
NO 0 0 4 0 0 0 1 0 0 0 0 0
DIPLODOCUS_ADHOC 0 0 0 0 0 0 0 0 0 0 1 0
Modeling.tool
CFFSM ForSyDe NO b_base bhdl jolie kiv lisp nusmv petrinet tml z
Formal.specification.languages
Frequency
80
60
40
20
0

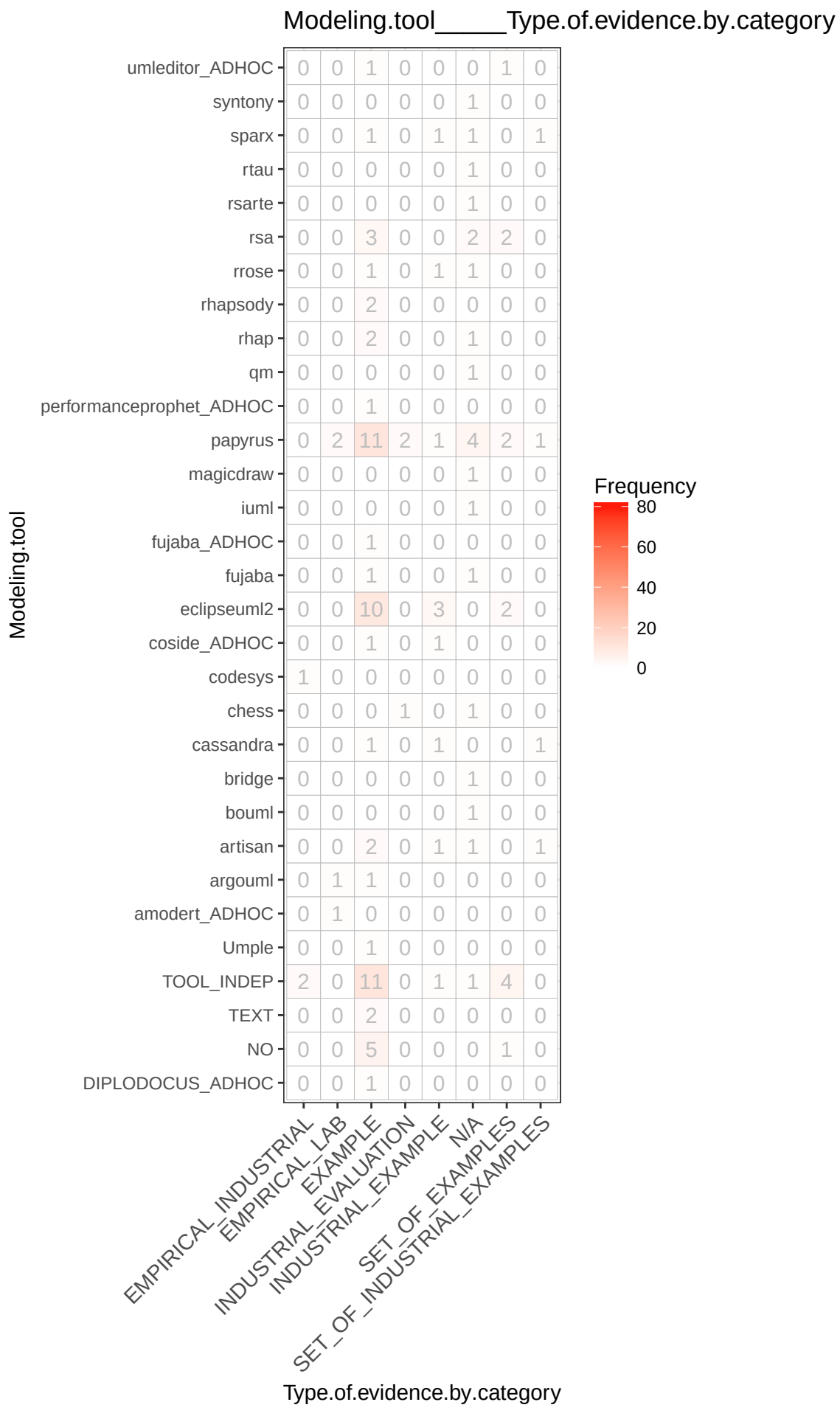

Modeling.tool_____Software.platform
umleditor_ADHOC 0 0 1
syntony 0 0 1
sparx 0 1 1
rtau 0 0 1
rsarte 0 0 1
rsa 1 1 3
rrose 0 1 1
rhapsody 0 1 1
rhap 0 1 2
qm 0 1 0
performanceprophet_ADHOC 0 0 1
papyrus 4 8 7
magicdraw 0 0 1
iuml 0 0 1
fujaba_ADHOC 0 1 0
fujaba 0 2 0
eclipseuml2 5 4 1
coside_ADHOC 0 1 0
codesys 0 1 0
chess 0 2 0
cassandra 0 1 0
bridge 0 0 1
bouml 0 1 0
artisan 0 2 1
argouml 0 0 2
amodert_ADHOC 0 1 0
Umple 0 0 1
TOOL_INDEP 2 3 9
TEXT 1 0 1
NO 0 3 2
DIPLODOCUS_ADHOC 0 1 0
Modeling.tool
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

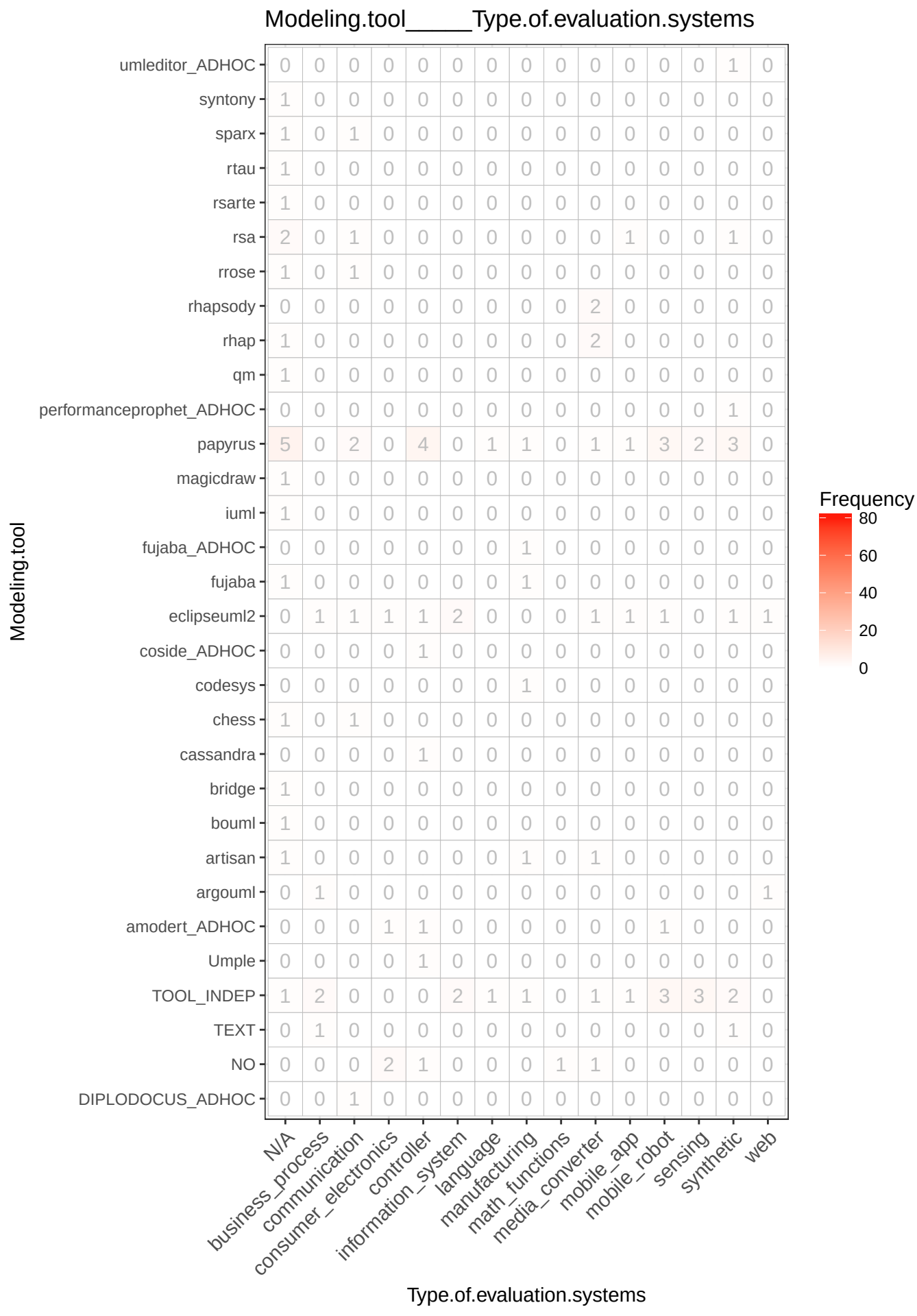

Modeling.tool_____Translation.steps
umleditor_ADHOC 0 1 0 1 0
syntony 1 0 0 1 0
sparx 1 0 0 2 0
rtau 0 0 0 1 0
rsarte 0 0 0 1 0
rsa 1 1 0 5 1
rrose 0 1 0 2 0
rhapsody 1 1 0 2 0
rhap 1 1 0 3 0
qm 1 0 0 1 0
performanceprophet_ADHOC 0 1 0 1 0
papyrus 8 5 2 19 4
magicdraw 0 0 0 1 0
iuml 0 0 1 1 0
fujaba_ADHOC 1 0 0 1 0
fujaba 2 0 0 2 0
eclipseuml2 2 2 1 10 5
coside_ADHOC 1 0 0 1 0
codesys 1 0 0 1 0
chess 0 1 1 2 0
cassandra 0 1 0 1 0
bridge 1 0 0 1 0
bouml 1 0 0 1 0
artisan 1 1 0 3 0
argouml 1 1 0 2 0
amodert_ADHOC 1 0 0 1 0
Umple 1 0 0 1 0
TOOL_INDEP 5 5 2 14 2
TEXT 1 0 0 2 1
NO 4 0 1 5 0
DIPLODOCUS_ADHOC 0 1 0 1 0
Modeling.tool
1 2 3 ? N/A
Translation.steps
Frequency
80
60
40
20
0

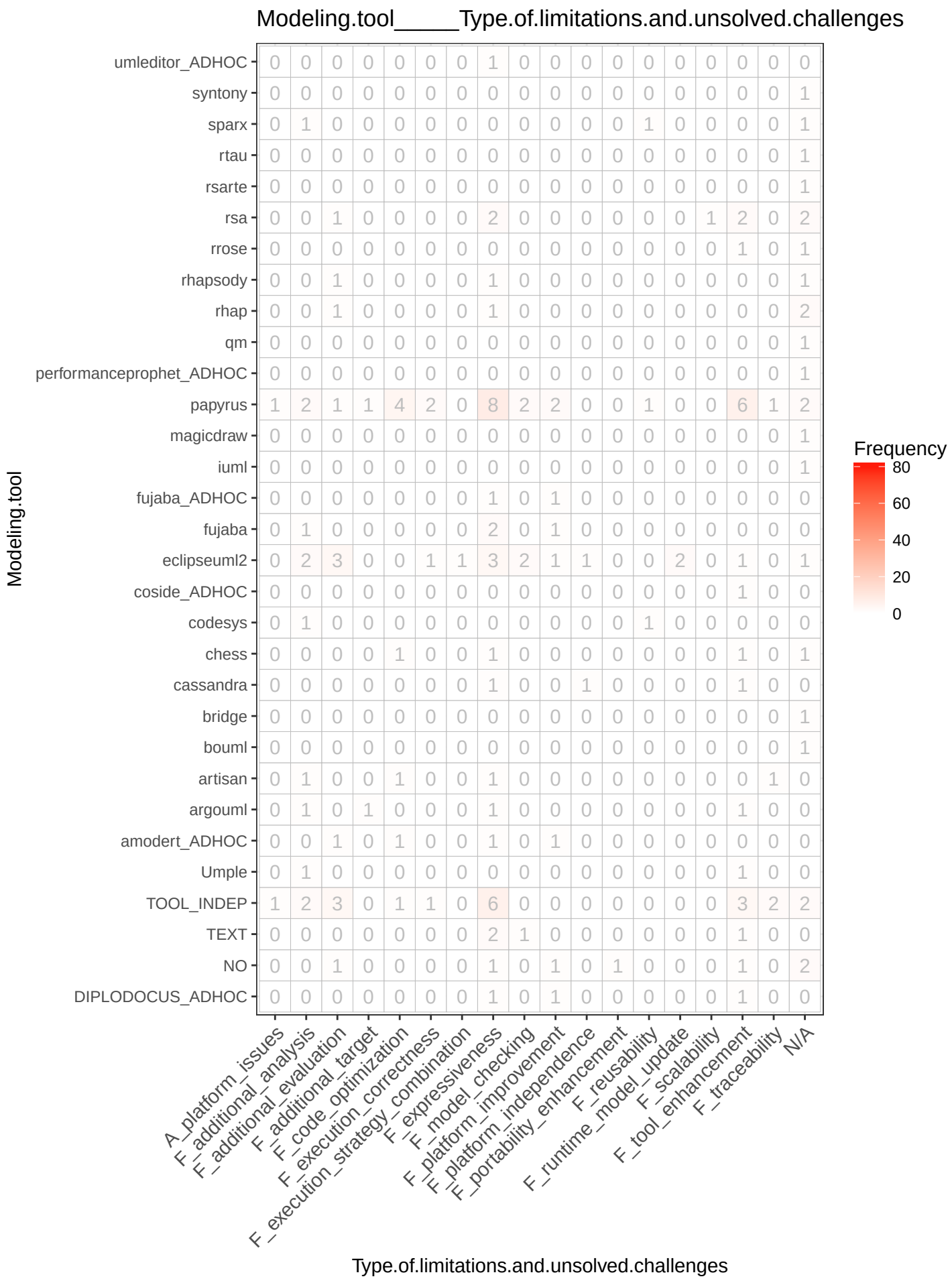

Modeling.tool_____Traceability.links.support
umleditor_ADHOC 0 1 0
syntony 0 1 0
sparx 0 0 2
rtau 0 0 1
rsarte 0 0 1
rsa 1 2 2
rrose 0 1 1
rhapsody 0 2 0
rhap 0 2 1
qm 0 0 1
performanceprophet_ADHOC 0 1 0
papyrus 4 12 3
magicdraw 0 1 0
iuml 0 0 1
fujaba_ADHOC 0 1 0
fujaba 0 1 1
eclipseuml2 5 5 0
coside_ADHOC 0 1 0
codesys 0 1 0
chess 0 0 2
cassandra 0 1 0
bridge 0 1 0
bouml 0 1 0
artisan 0 3 0
argouml 0 2 0
amodert_ADHOC 0 1 0
Umple 0 0 1
TOOL_INDEP 2 11 1
TEXT 1 1 0
NO 0 5 0
DIPLODOCUS_ADHOC 0 1 0
Modeling.tool
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

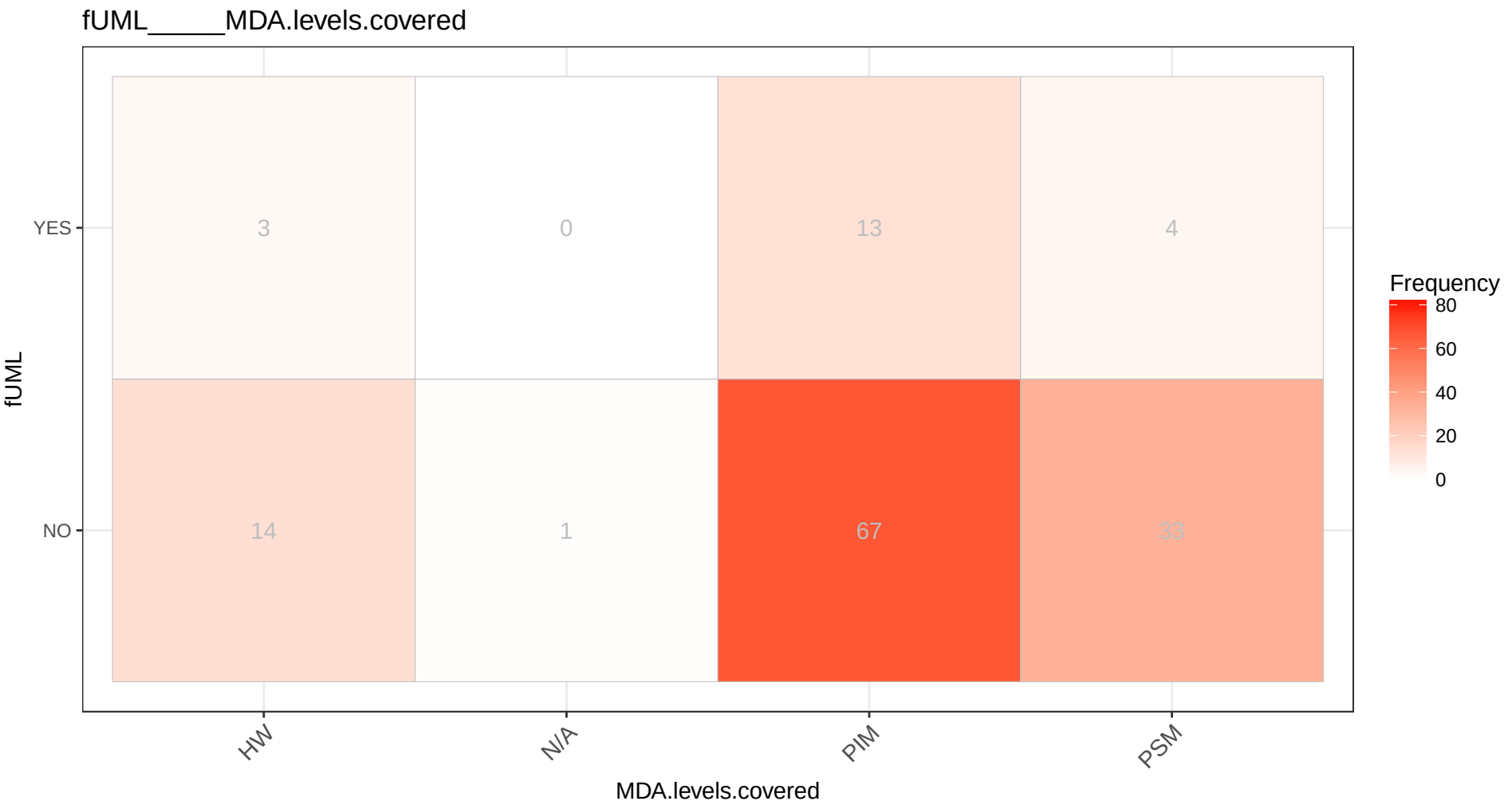

Modeling.tool_____Interpretation.engine
Modeling.tool
umleditor_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
syntony 0 0 1 0 0 0 0 0 0 0 0 0
sparx 0 0 2 0 0 0 0 0 0 0 0 0
rtau 0 0 1 0 0 0 0 0 0 0 0 0
rsarte 0 0 1 0 0 0 0 0 0 0 0 0
rsa 0 0 4 0 0 0 0 0 0 0 0 1
rrose 0 0 2 0 0 0 0 0 0 0 0 0
rhapsody 0 0 2 0 0 0 0 0 0 0 0 0
rhap 0 0 3 0 0 0 0 0 0 0 0 0
qm 0 0 1 0 0 0 0 0 0 0 0 0
performanceprophet_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
papyrus 1 0 15 0 0 1 0 0 0 2 0 0
magicdraw 0 0 1 0 0 0 0 0 0 0 0 0
iuml 0 0 0 0 0 0 1 0 0 0 0 0
fujaba_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
fujaba 0 0 2 0 0 0 0 0 0 0 0 0
eclipseuml2 1 0 5 0 0 2 0 1 1 0 0 0
coside_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
codesys 0 0 1 0 0 0 0 0 0 0 0 0
chess 0 0 2 0 0 0 0 0 0 0 0 0
cassandra 0 0 1 0 0 0 0 0 0 0 0 0
bridge 0 1 0 0 0 0 0 0 0 0 0 0
bouml 0 0 1 0 0 0 0 0 0 0 0 0
artisan 0 0 3 0 0 0 0 0 0 0 0 0
argouml 0 0 2 0 0 0 0 0 0 0 0 0
amodert_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
Umple 0 0 1 0 0 0 0 0 0 0 0 0
TOOL_INDEP 0 0 12 0 1 0 0 0 0 0 1 0
TEXT 0 0 1 1 0 0 0 0 0 0 0 0
NO 0 0 5 0 0 0 0 0 0 0 0 0
DIPLODOCUS_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

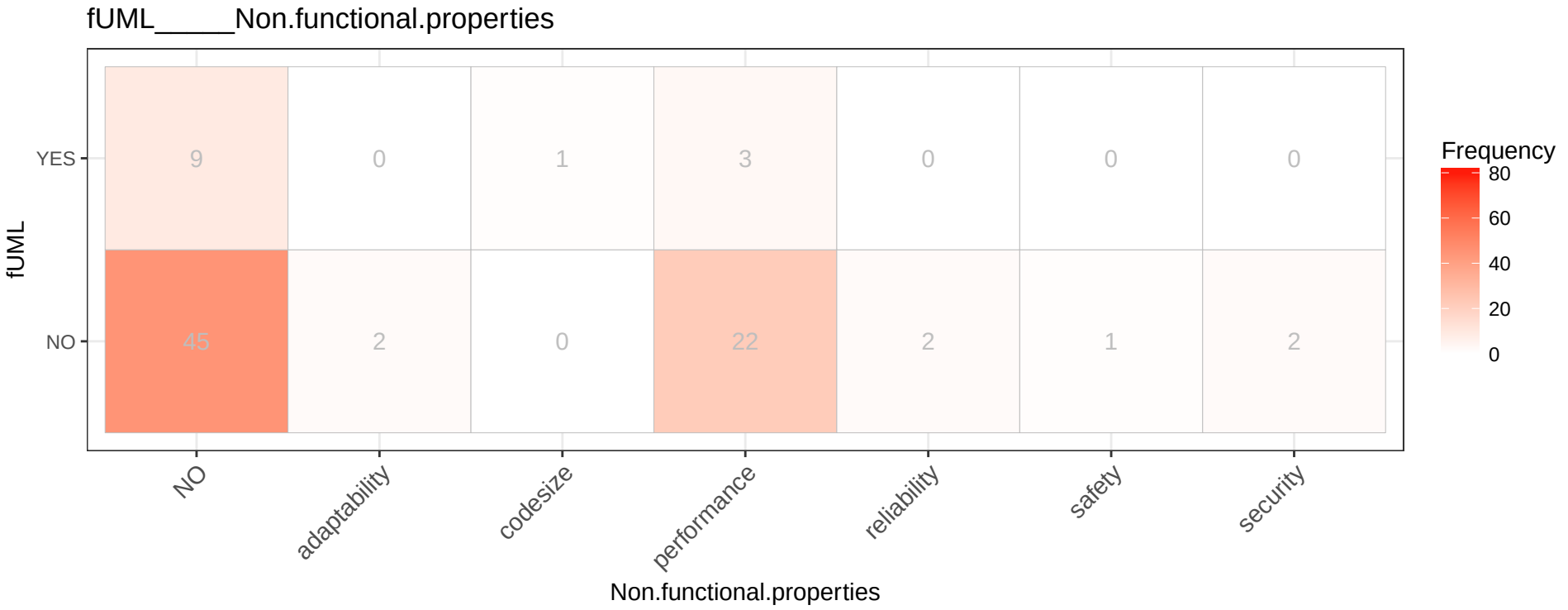

Modeling.tool_____Target.platforms
umleditor_ADHOC 1 0 0 0
syntony 1 0 0 0
sparx 2 0 0 0
rtau 1 0 0 0
rsarte 1 0 0 0
rsa 5 0 0 0
rrose 2 0 0 0
rhapsody 2 0 0 0
rhap 3 0 0 0
qm 1 0 0 0
performanceprophet_ADHOC 1 0 0 0
papyrus 18 0 1 0
magicdraw 1 0 0 0
iuml 1 0 0 0
fujaba_ADHOC 1 0 0 0
fujaba 2 0 0 0
eclipseuml2 10 0 0 0
coside_ADHOC 1 0 0 0
codesys 1 0 0 0
chess 2 0 0 0
cassandra 1 0 0 0
bridge 1 0 0 0
bouml 1 0 0 0
artisan 3 0 0 0
argouml 2 0 0 0
amodert_ADHOC 1 0 0 0
Umple 1 0 0 0
TOOL_INDEP 14 0 0 0
TEXT 2 0 0 0
NO 3 1 0 1
DIPLODOCUS_ADHOC 1 0 0 0
Modeling.tool
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

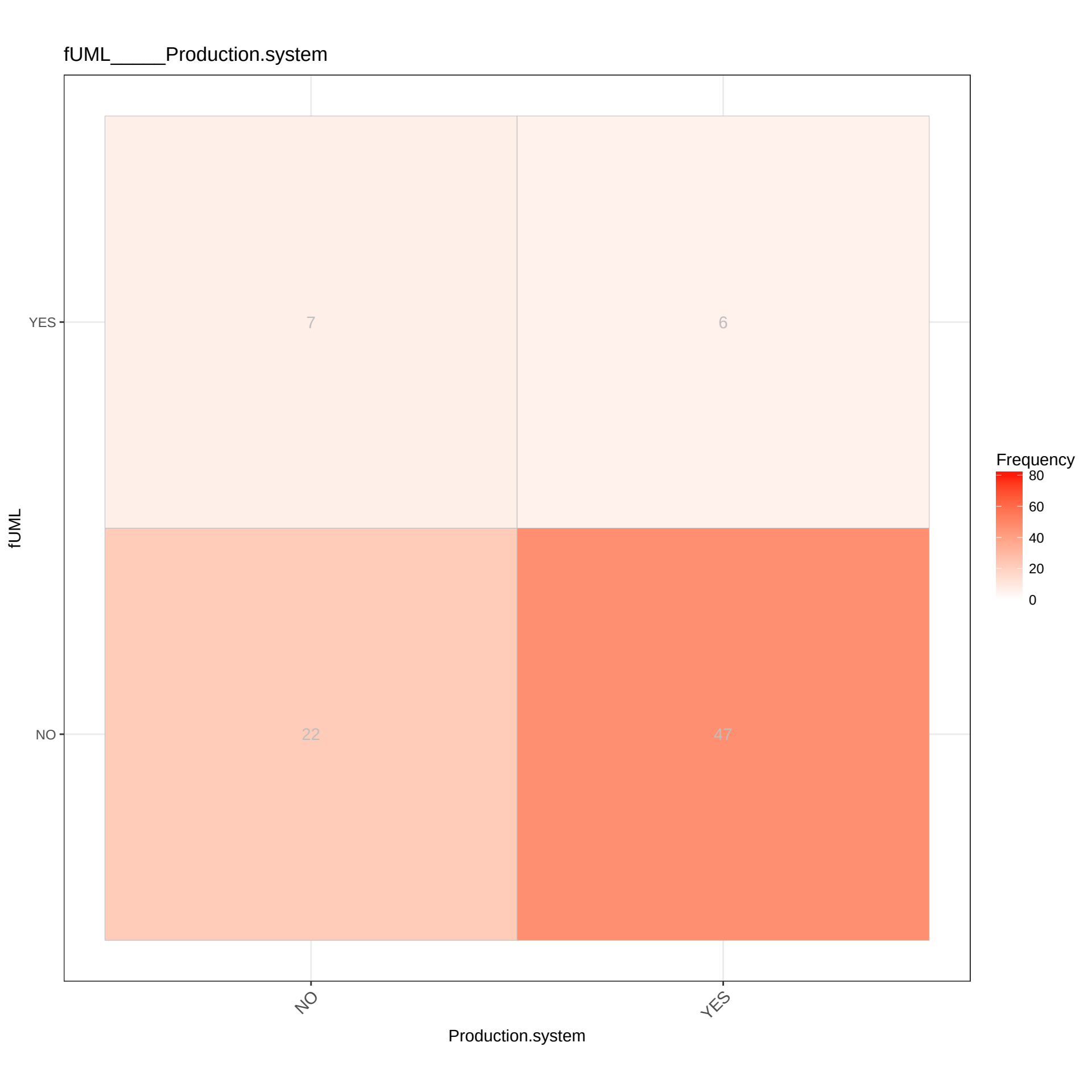

Modeling.tool_____Type.of.evidence.by.category
umleditor_ADHOC 0 0 1 0 0 0 1 0
syntony 0 0 0 0 0 1 0 0
sparx 0 0 1 0 1 1 0 1
rtau 0 0 0 0 0 1 0 0
rsarte 0 0 0 0 0 1 0 0
rsa 0 0 3 0 0 2 2 0
rrose 0 0 1 0 1 1 0 0
rhapsody 0 0 2 0 0 0 0 0
rhap 0 0 2 0 0 1 0 0
qm 0 0 0 0 0 1 0 0
performanceprophet_ADHOC 0 0 1 0 0 0 0 0
papyrus 0 2 11 2 1 4 2 1
magicdraw 0 0 0 0 0 1 0 0
iuml 0 0 0 0 0 1 0 0
fujaba_ADHOC 0 0 1 0 0 0 0 0
fujaba 0 0 1 0 0 1 0 0
eclipseuml2 0 0 10 0 3 0 2 0
coside_ADHOC 0 0 1 0 1 0 0 0
codesys 1 0 0 0 0 0 0 0
chess 0 0 0 1 0 1 0 0
cassandra 0 0 1 0 1 0 0 1
bridge 0 0 0 0 0 1 0 0
bouml 0 0 0 0 0 1 0 0
artisan 0 0 2 0 1 1 0 1
argouml 0 1 1 0 0 0 0 0
amodert_ADHOC 0 1 0 0 0 0 0 0
Umple 0 0 1 0 0 0 0 0
TOOL_INDEP 2 0 11 0 1 1 4 0
TEXT 0 0 2 0 0 0 0 0
NO 0 0 5 0 0 0 1 0
DIPLODOCUS_ADHOC 0 0 1 0 0 0 0 0
Modeling.tool
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

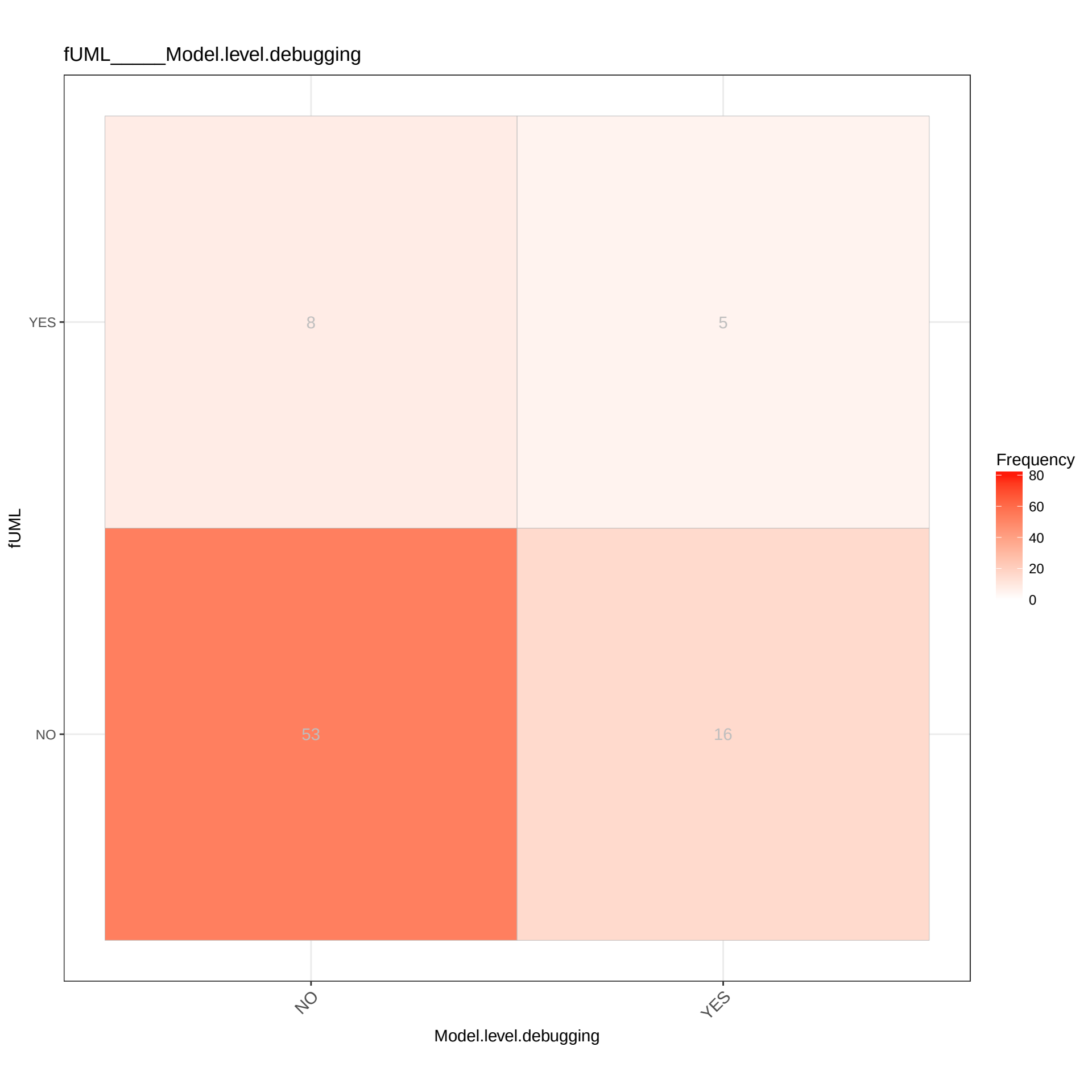

Modeling.tool_____Type.of.evaluation.systems
umleditor_ADHOC 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
syntony 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
sparx 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0
rtau 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
rsarte 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
rsa 2 0 1 0 0 0 0 0 0 0 1 0 0 1 0
rrose 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0
rhapsody 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0
rhap 1 0 0 0 0 0 0 0 0 2 0 0 0 0 0
qm 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
performanceprophet_ADHOC 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
papyrus 5 0 2 0 4 0 1 1 0 1 1 3 2 3 0
magicdraw 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
iuml 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
fujaba_ADHOC 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
fujaba 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0
eclipseuml2 0 1 1 1 1 2 0 0 0 1 1 1 0 1 1
coside_ADHOC 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
codesys 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
chess 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0
cassandra 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
bridge 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
bouml 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
artisan 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0
argouml 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1
amodert_ADHOC 0 0 0 1 1 0 0 0 0 0 0 1 0 0 0
Umple 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
TOOL_INDEP 1 2 0 0 0 2 1 1 0 1 1 3 3 2 0
TEXT 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0
NO 0 0 0 2 1 0 0 0 1 1 0 0 0 0 0
DIPLODOCUS_ADHOC 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
Modeling.tool
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

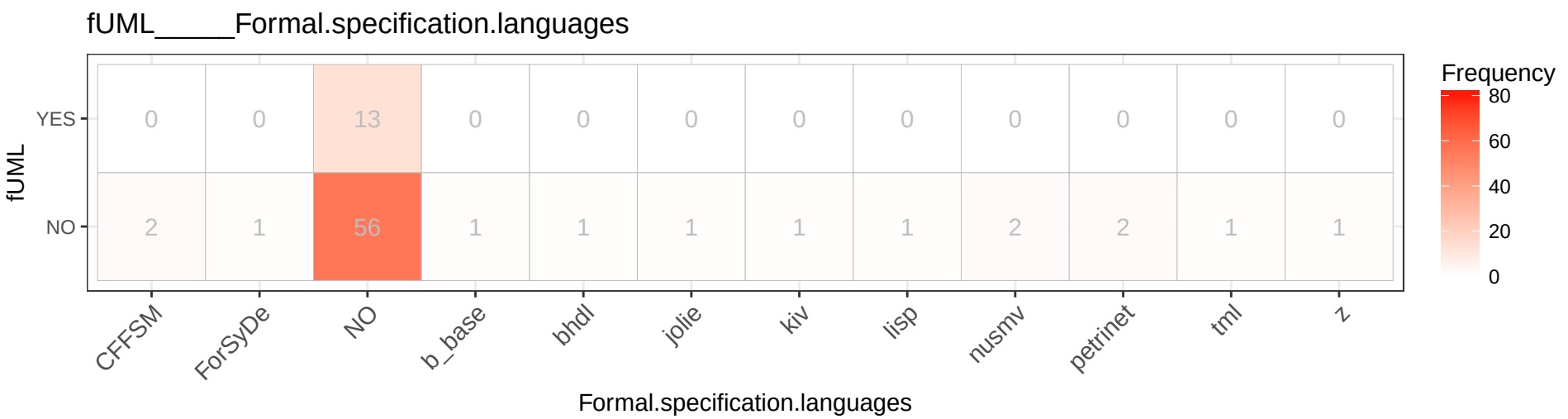

Modeling.tool_____Type.of.limitations.and.unsolved.challenges
umleditor_ADHOC 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
syntony 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
sparx 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1
rtau 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
rsarte 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
rsa 0 0 1 0 0 0 0 2 0 0 0 0 0 0 1 2 0 2
rrose 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
rhapsody 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1
rhap 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 2
qm 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
performanceprophet_ADHOC 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
papyrus 1 2 1 1 4 2 0 8 2 2 0 0 1 0 0 6 1 2
magicdraw 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
iuml 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
fujaba_ADHOC 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0
fujaba 0 1 0 0 0 0 0 2 0 1 0 0 0 0 0 0 0 0
eclipseuml2 0 2 3 0 0 1 1 3 2 1 1 0 0 2 0 1 0 1
coside_ADHOC 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
codesys 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
chess 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 1 0 1
cassandra 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 1 0 0
bridge 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
bouml 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
artisan 0 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0 1 0
argouml 0 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0
amodert_ADHOC 0 0 1 0 1 0 0 1 0 1 0 0 0 0 0 0 0 0 0
Umple 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
TOOL_INDEP 1 2 3 0 1 1 0 6 0 0 0 0 0 0 0 0 3 2 2
TEXT 0 0 0 0 0 0 0 2 1 0 0 0 0 0 0 0 1 0 0
NO 0 0 1 0 0 0 0 1 0 1 0 1 0 0 0 1 0 2
DIPLODOCUS_ADHOC 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 1 0 0
Modeling.tool
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

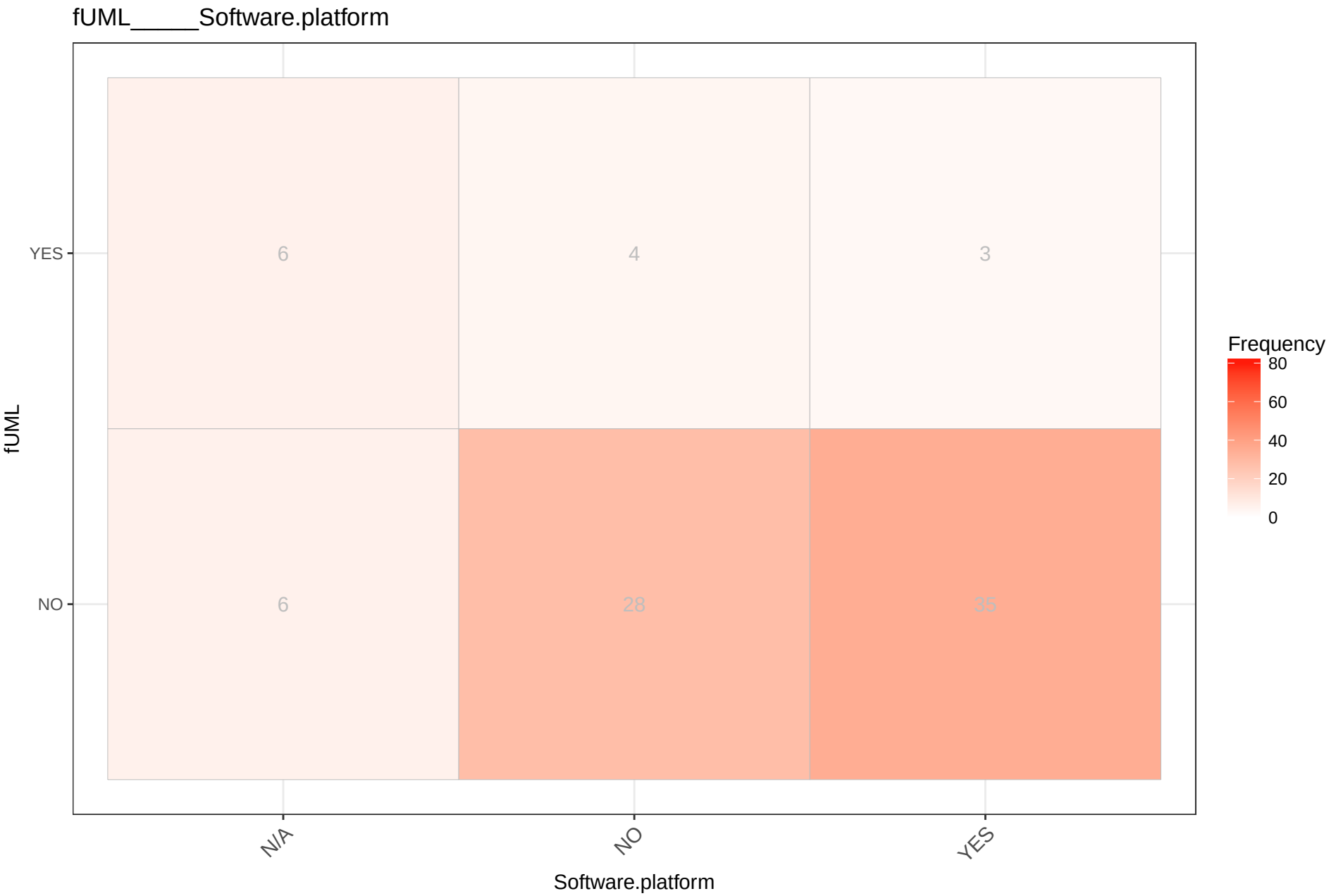

fUML_____MDA.levels.covered
YES
NO
fUML
3
0
13
4
14
1
67
33
HW
N/A
PIM
PSM
MDA.levels.covered
Frequency
80
60
40
20
0

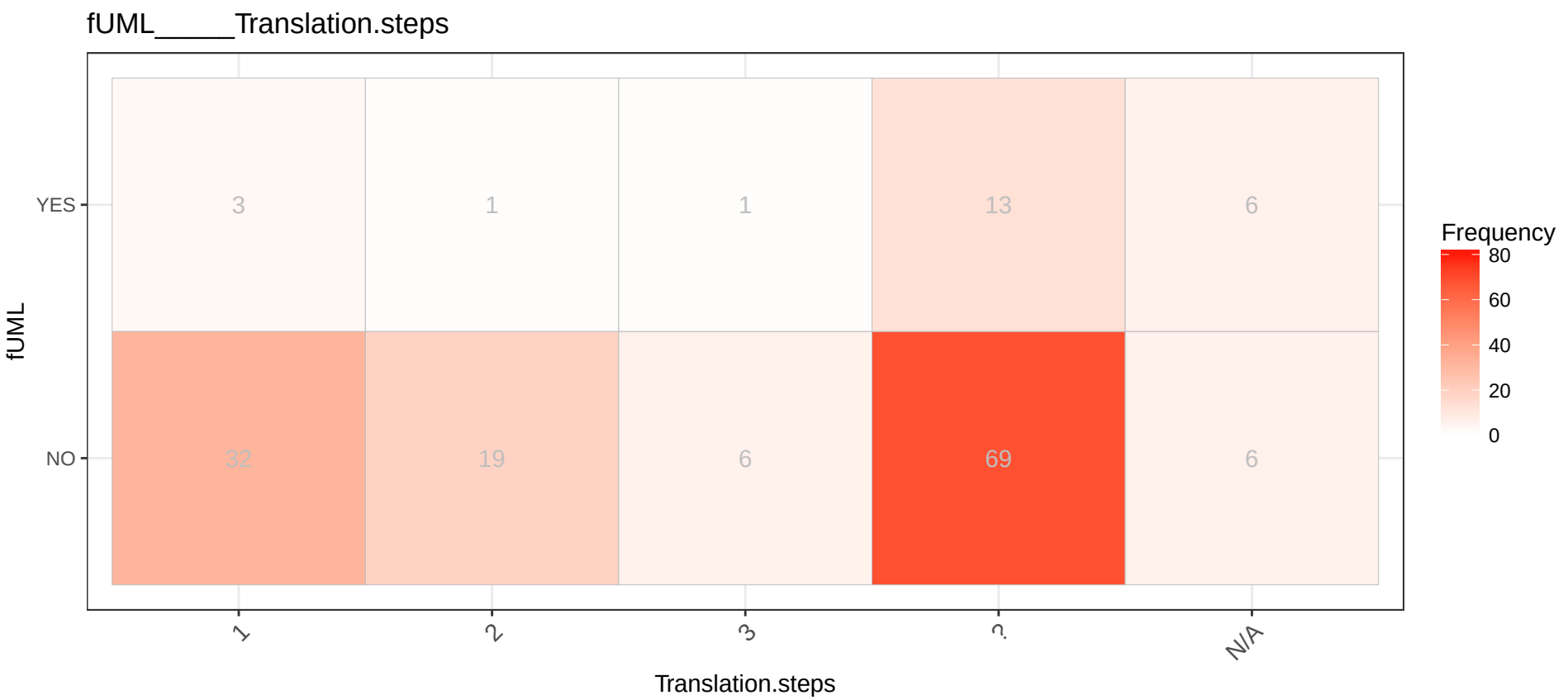

fUML_____Non.functional.properties
fUML
YES
NO
9
0
1
3
0
0
0
45
2
0
22
2
1
2
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

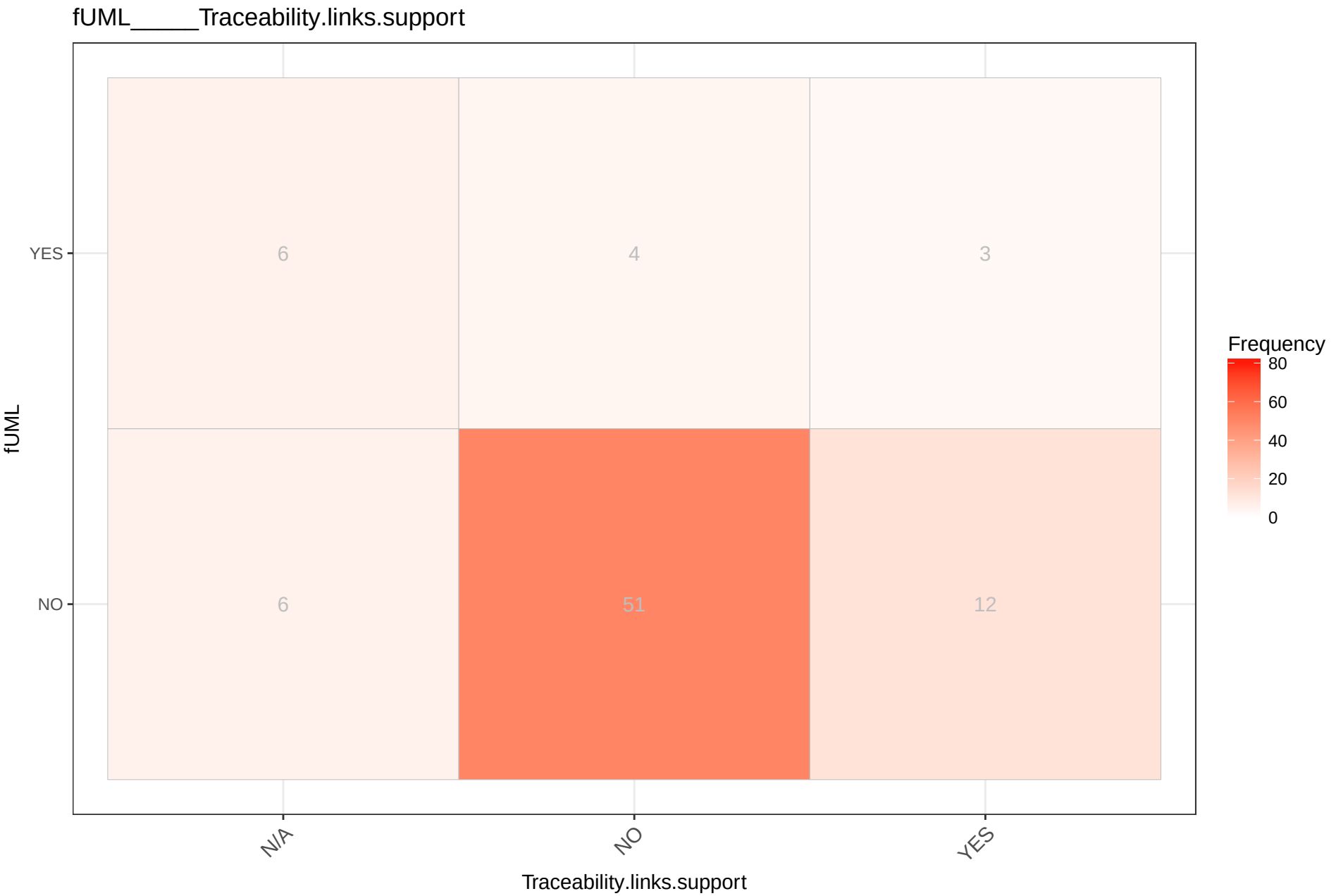

fUML_____Production.system
YES
NO
7
6
22
47
fUML
NO
YES
Production.system
Frequency
80
60
40
20
0

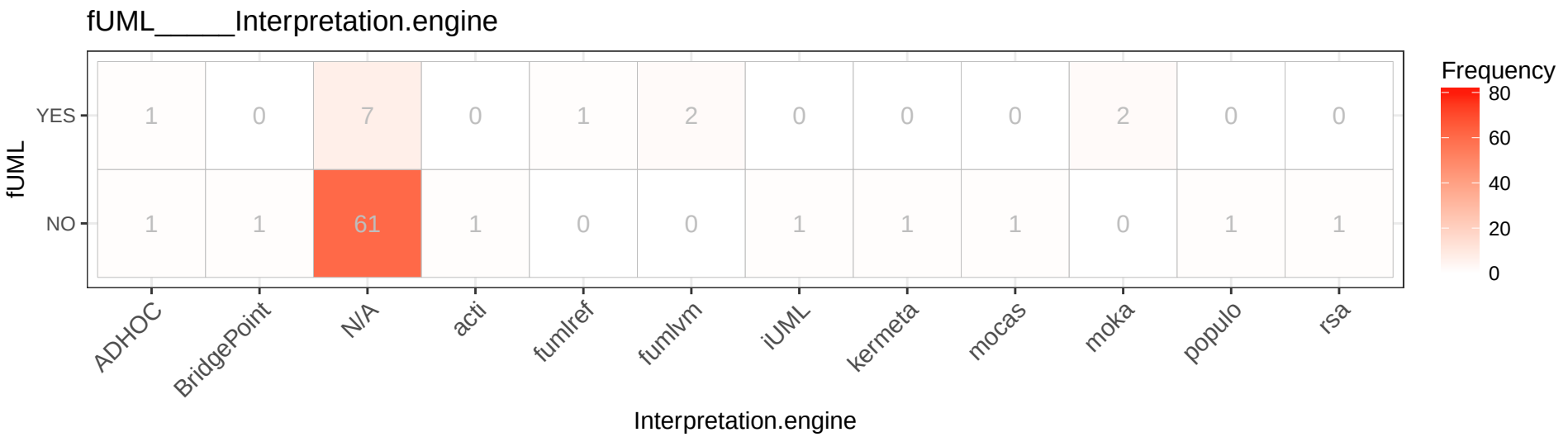

fUML_____Model.level.debugging
YES
NO
8
5
53
16
fUML
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

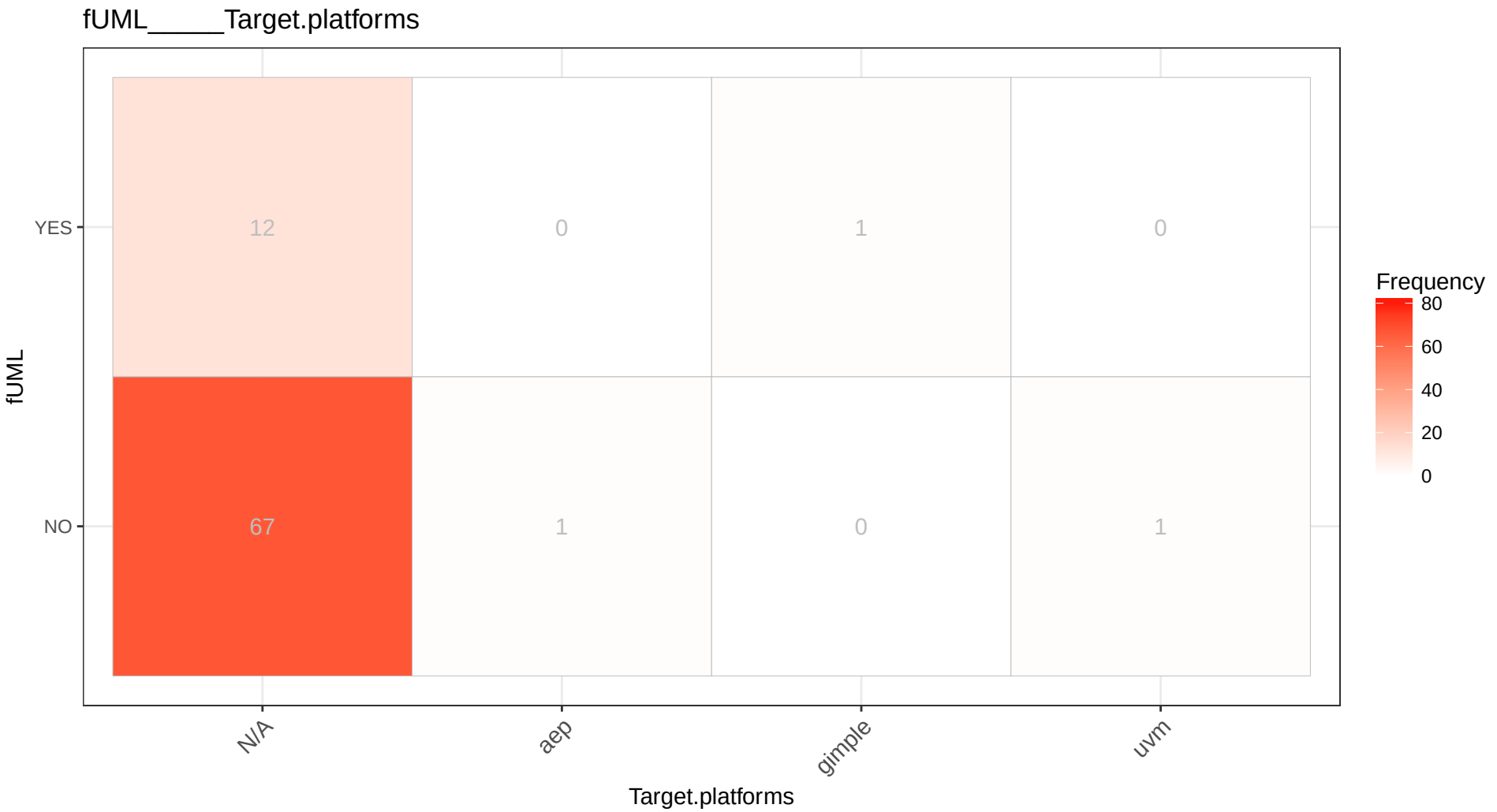

fUML_____Formal.specification.languages
fUML
YES
NO
0 0 13 0 0 0 0 0 0 0 0 0
2 1 56 1 1 1 1 1 2 2 1 1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

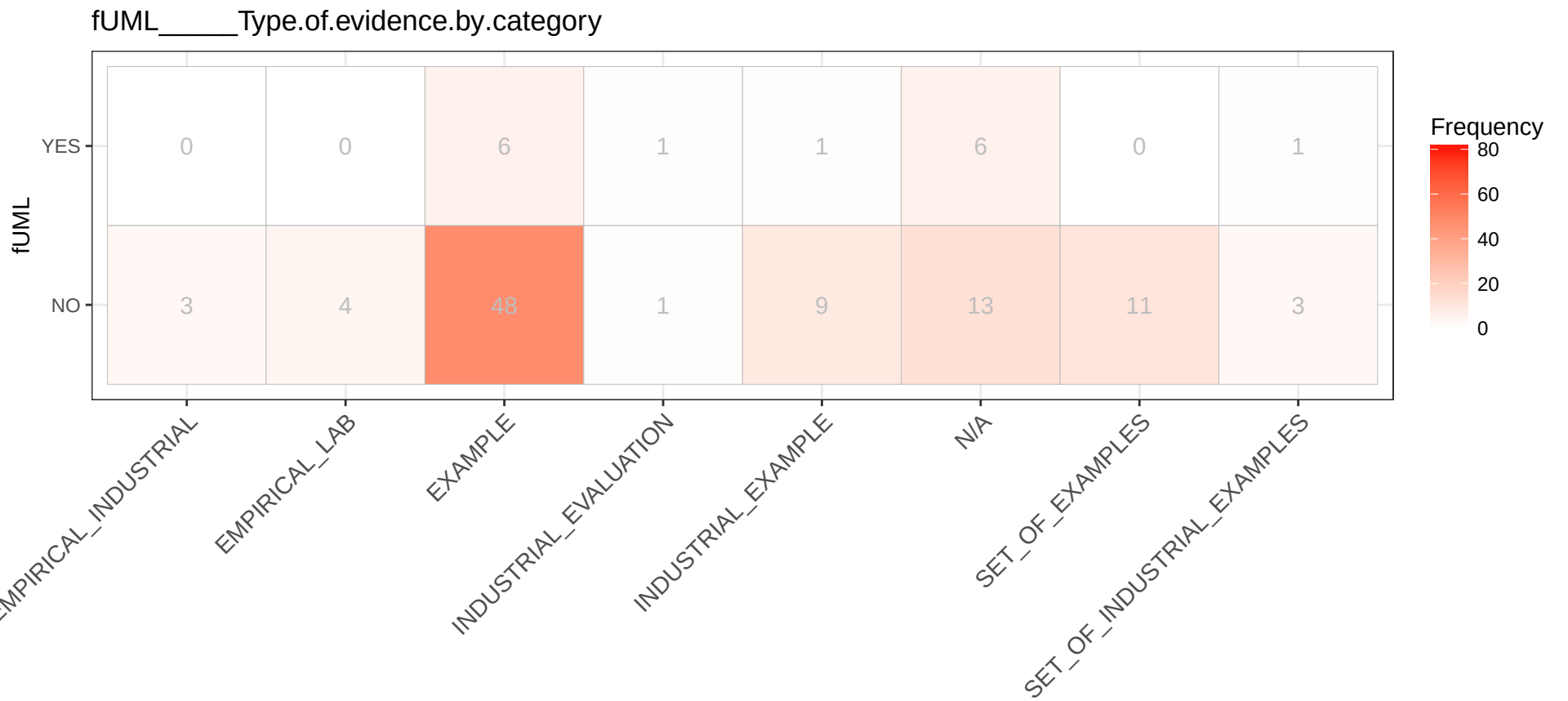

fUML_____Software.platform
YES
NO
6
4
3
6
28
35
fUML
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

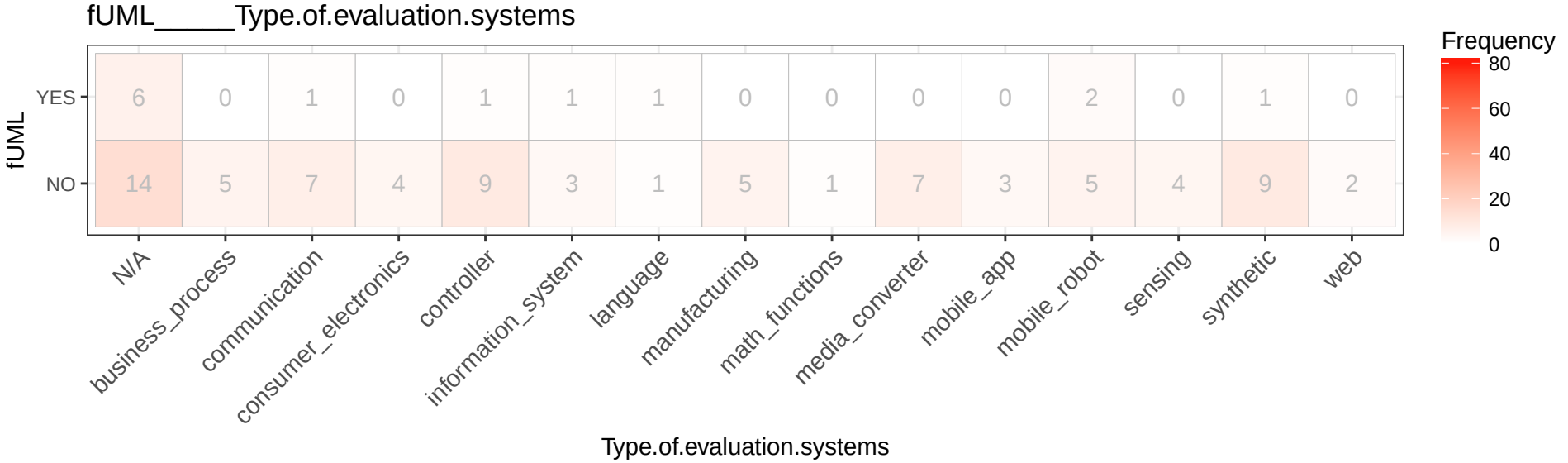

fUML_____Translation.steps
YES
NO
fUML
3
1
1
13
6
32
19
6
69
6
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

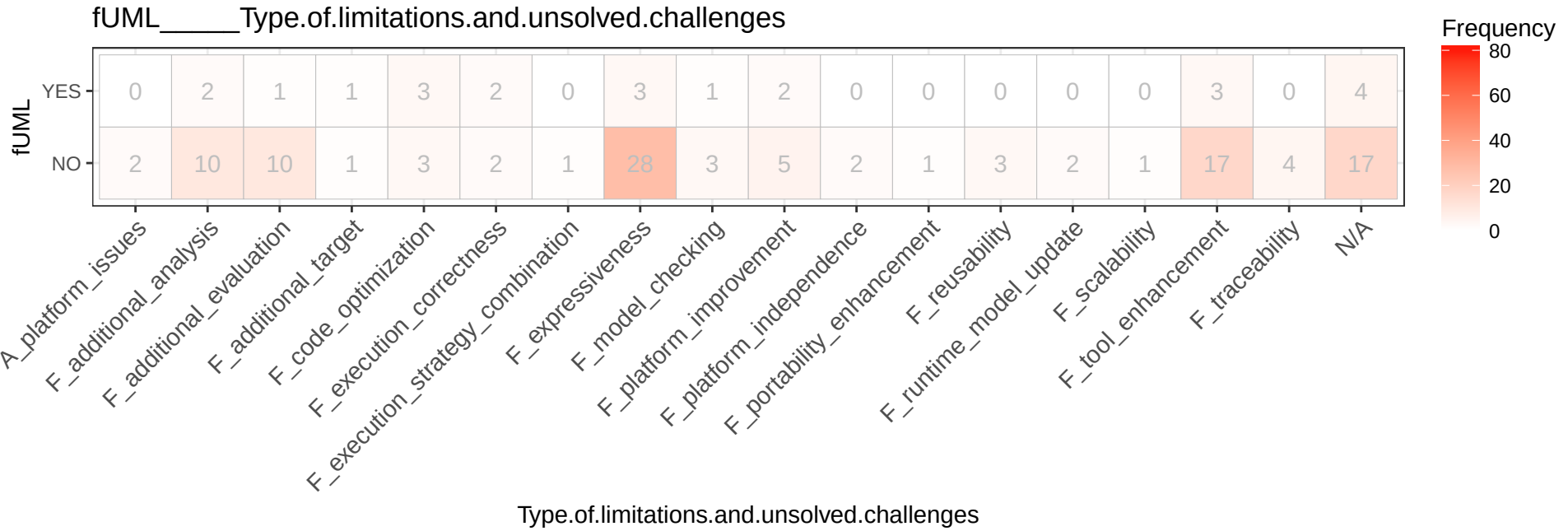

fUML_____Traceability.links.support
YES
NO
6
4
3
6
51
12
fUML
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

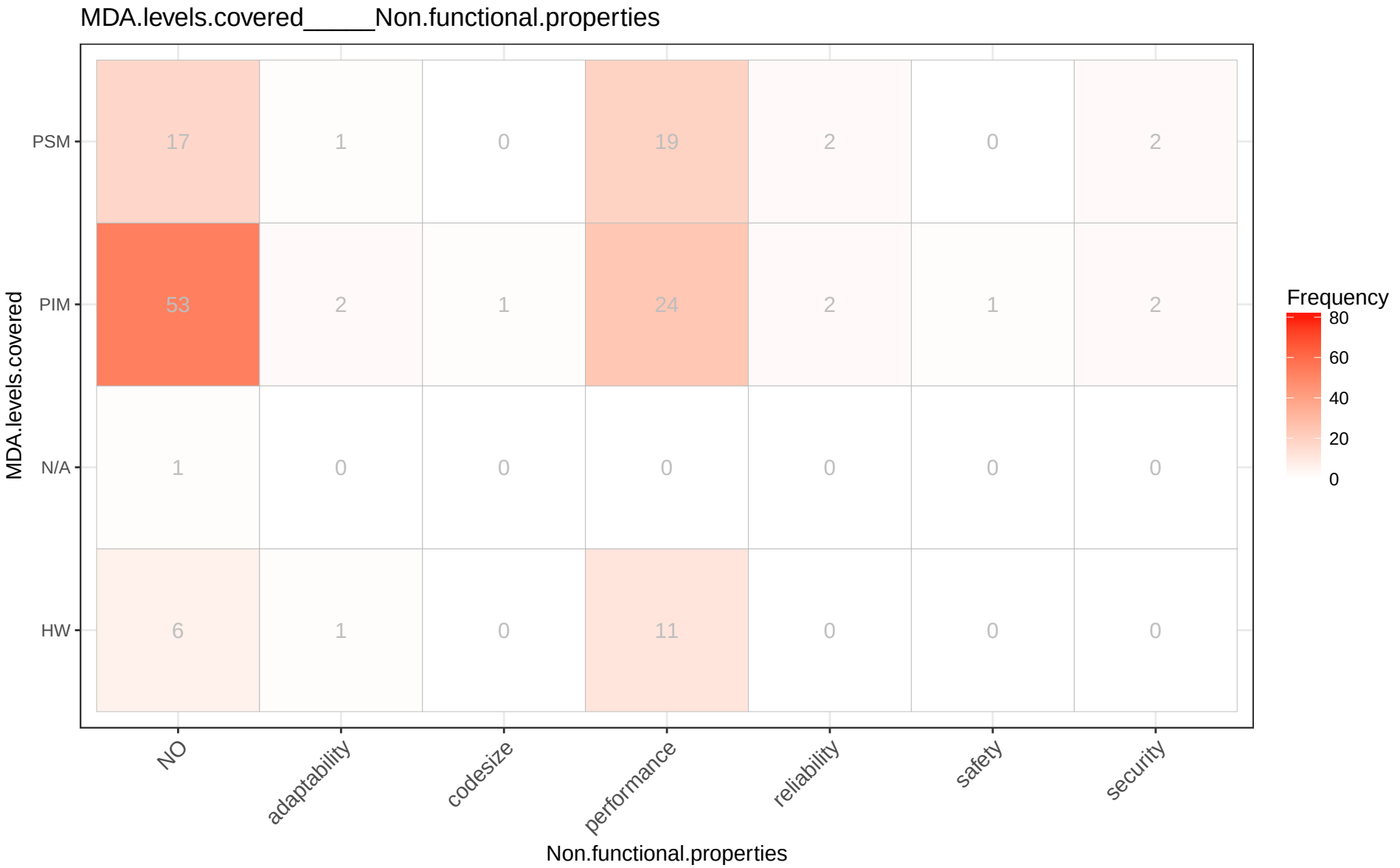

fUML_____Interpretation.engine
fUML
YES
NO
1
0
7
0
1
2
0
0
0
2
0
0
1
1
61
1
0
0
1
1
1
0
1
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

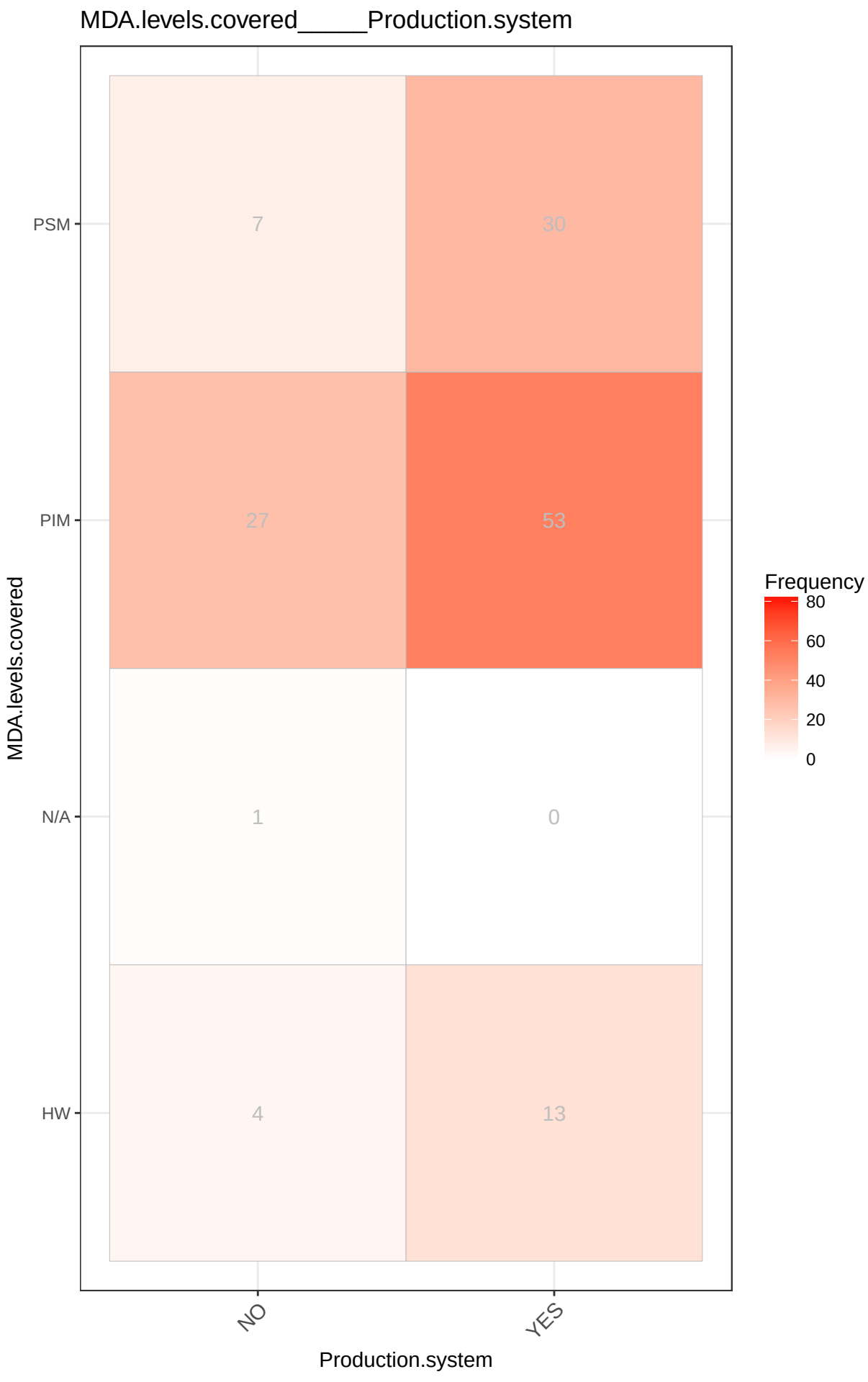

fUML_____Target.platforms
YES
NO
fUML
12
0
1
0
67
1
0
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

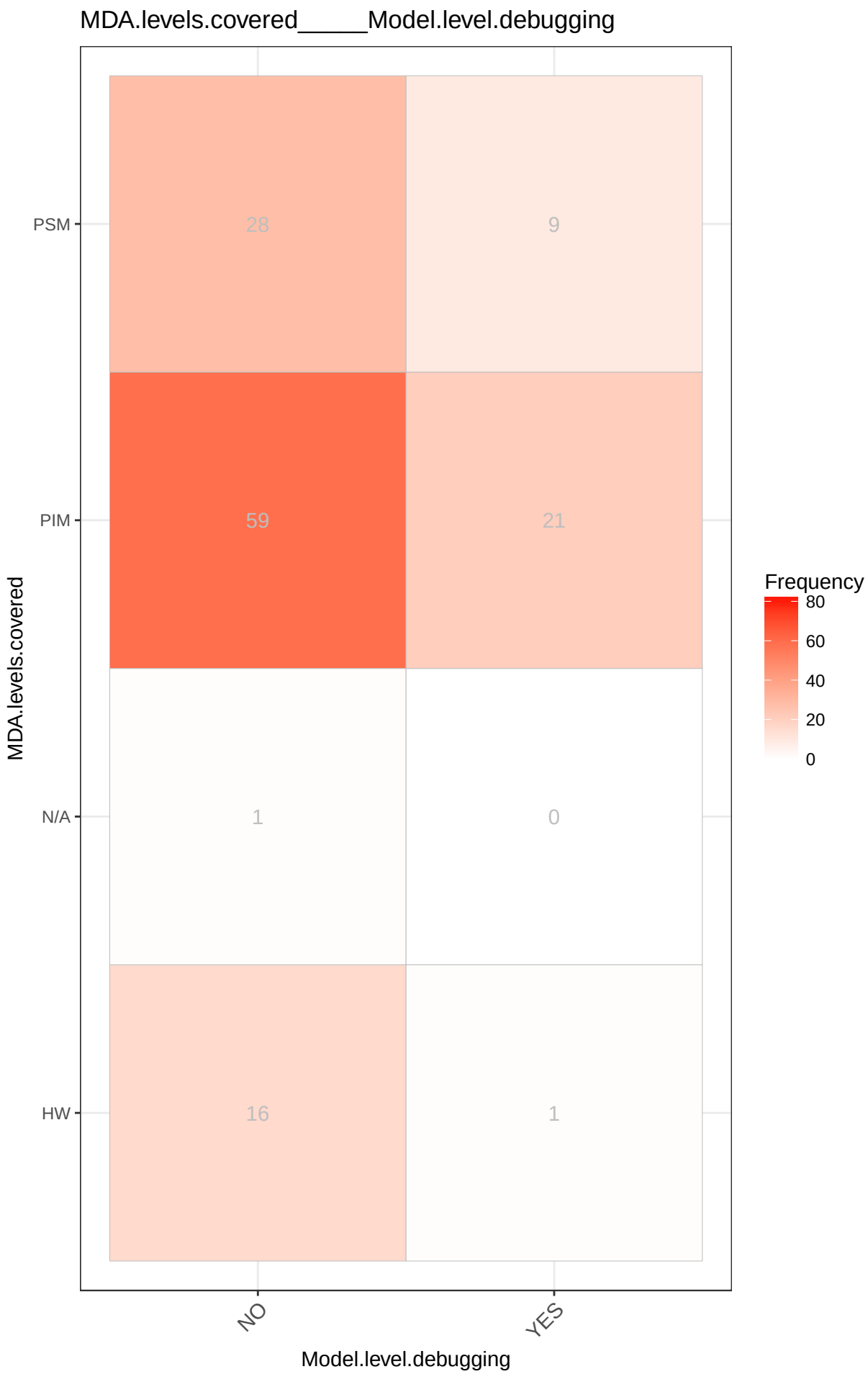

fUML_____Type.of.evidence.by.category
fUML
YES
NO
0
0
6
1
1
6
0
1
3
4
48
1
9
13
11
3
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

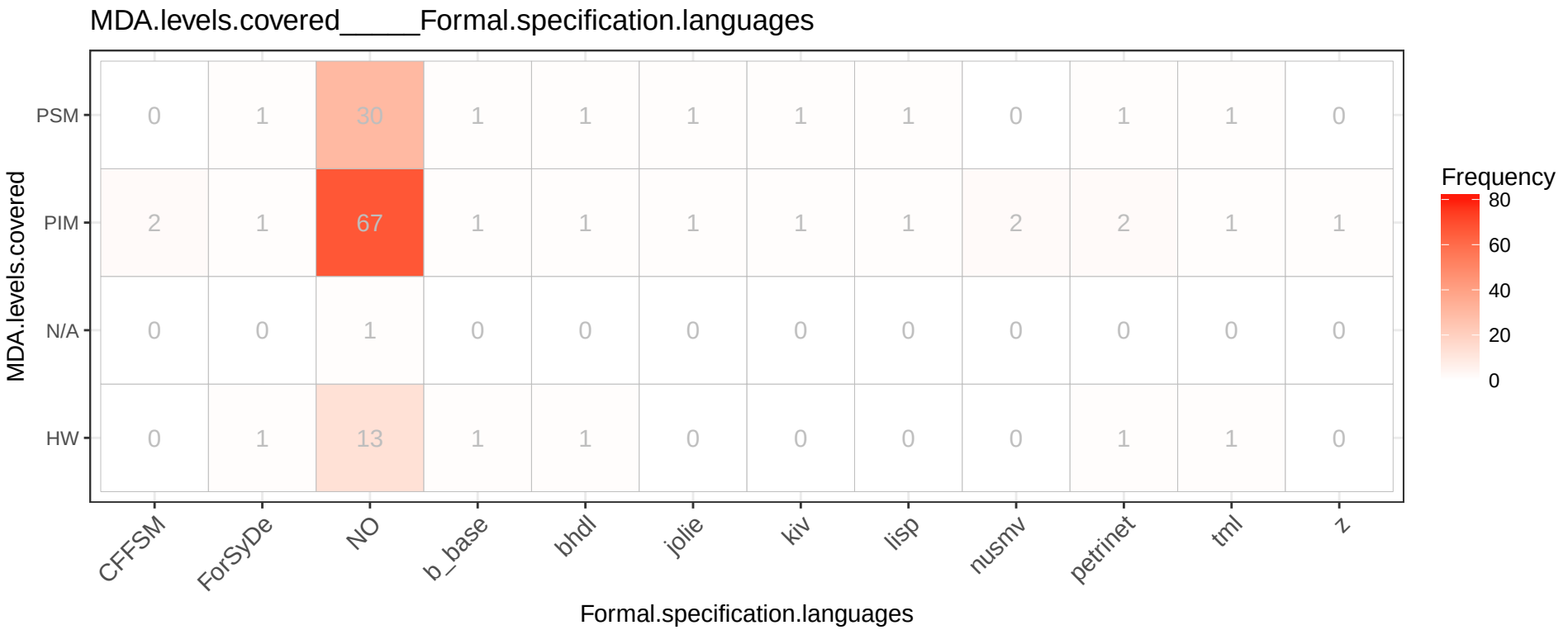

fUML_____Type.of.evaluation.systems
fUML
YES
NO
6 0 1 0 1 1 1 0 0 0 0 2 0 1 0
14 5 7 4 9 3 1 5 1 7 3 5 4 9 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

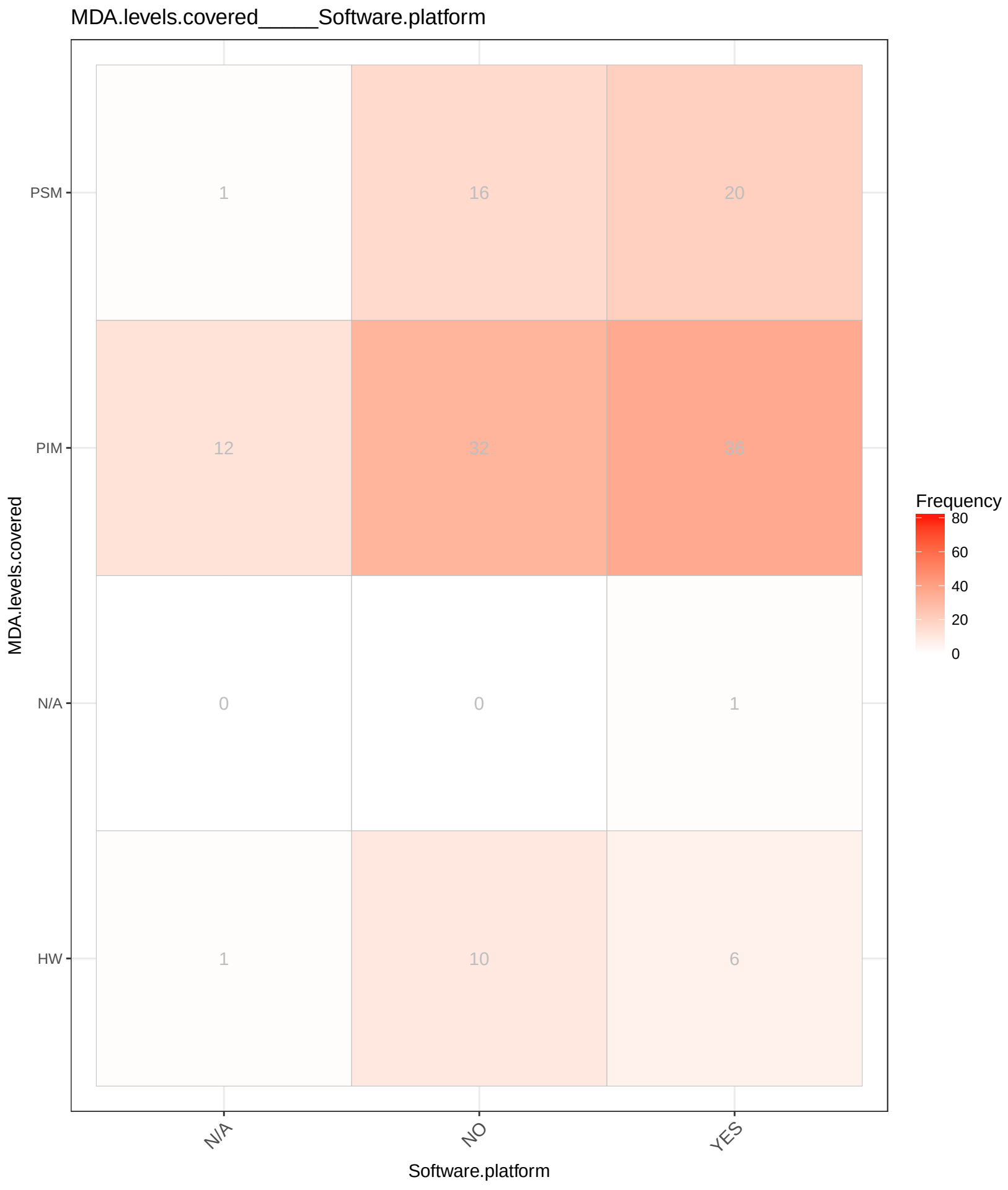

fUML_____Type.of.limitations.and.unsolved.challenges
fUML
YES
NO
0 2 1 1 3 2 0 3 1 2 0 0 0 0 0 3 0 4
2 10 10 1 3 2 1 28 3 5 2 1 3 2 1 17 4 17
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Frequency
80
60
40
20
0
Type.of.limitations.and.unsolved.challenges

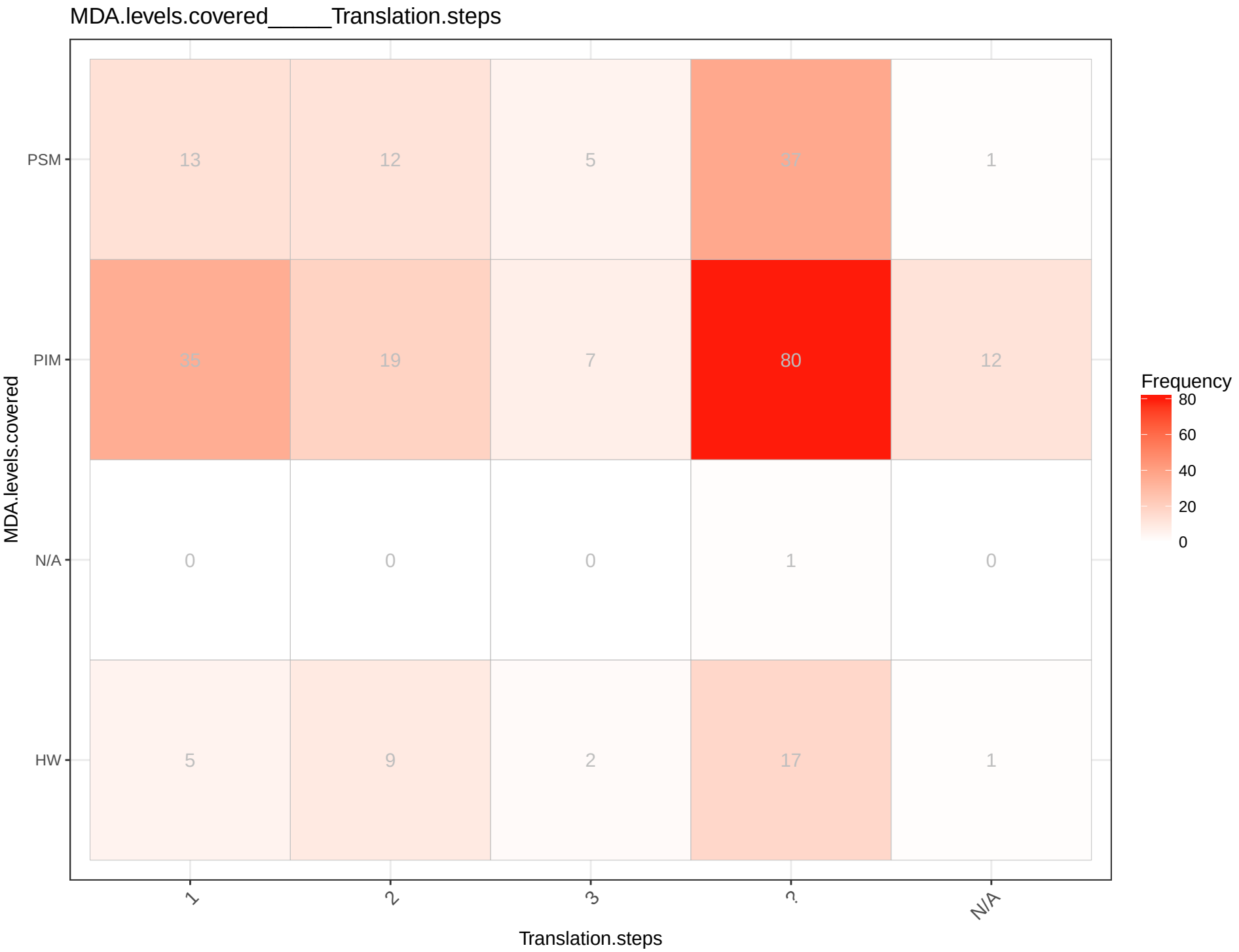

MDA.levels.covered_____Non.functional.properties
MDA.levels.covered
PSM
PIM
N/A
HW
17
1
0
19
2
0
2
53
2
1
24
2
1
2
1
0
0
0
0
0
0
6
1
0
11
0
0
0
NO
adaptability
codesize
performance
reliability
safety
security
Non.functional.properties
Frequency
80
60
40
20
0

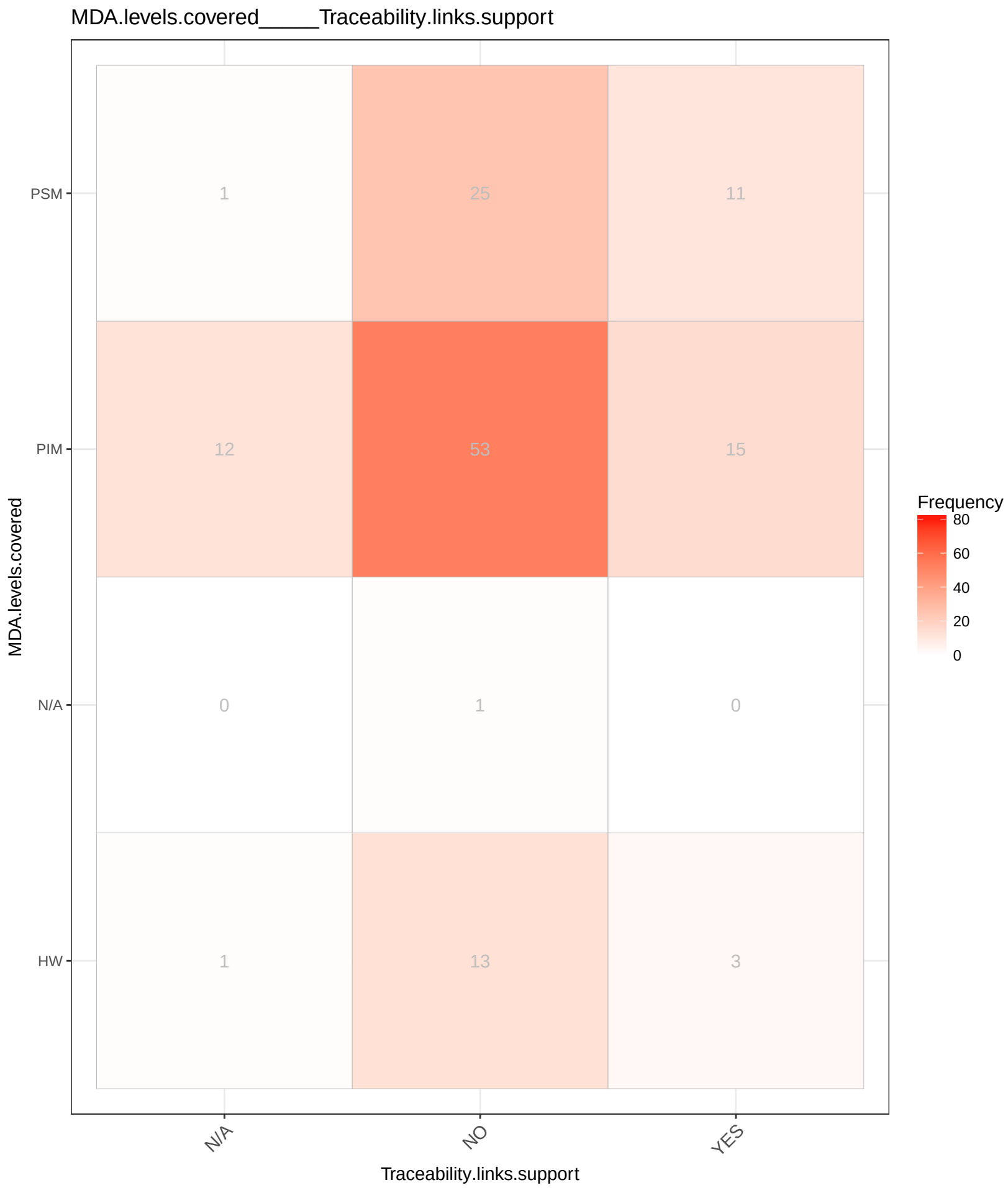

MDA.levels.covered_____Production.system
PSM
PIM
N/A
HW
7
30
27
53
1
0
4
13
MDA.levels.covered
NO
YES
Production.system
Frequency
80
60
40
20
0

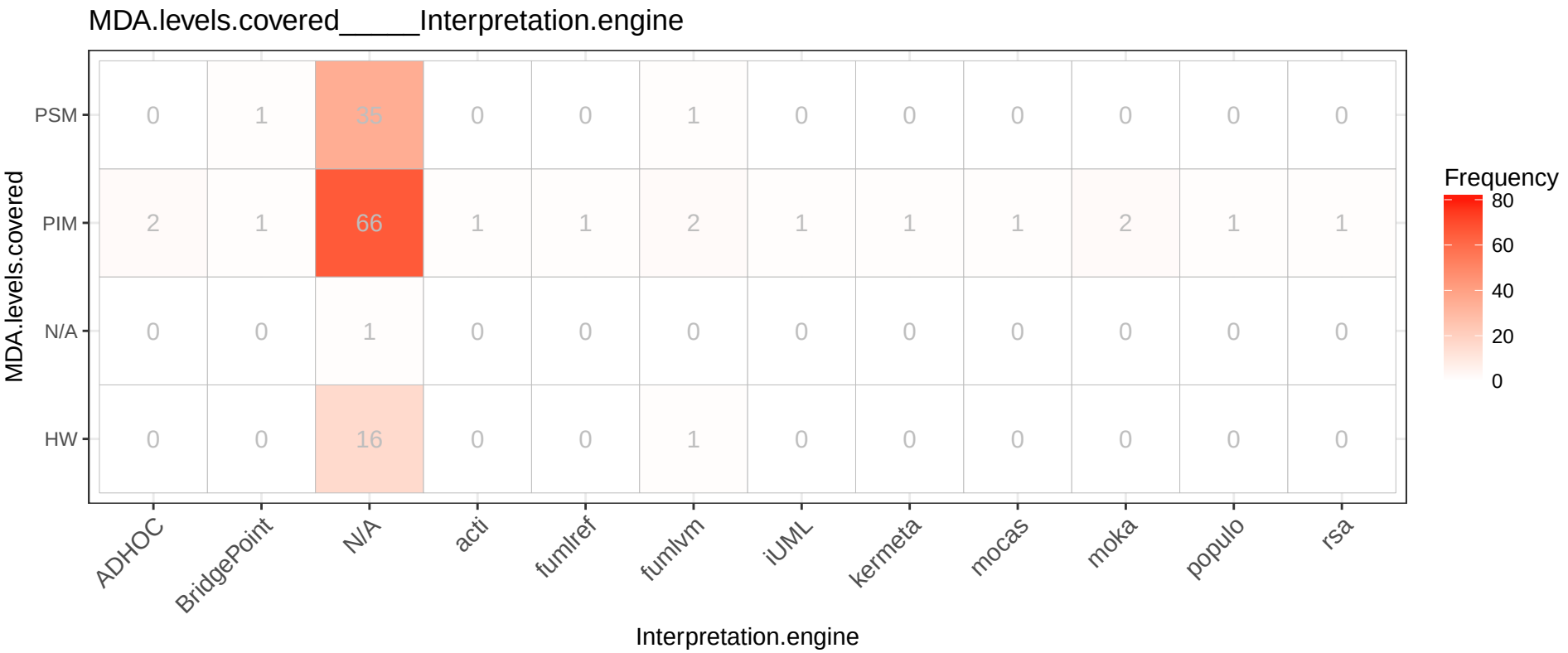

MDA.levels.covered_____Model.level.debugging
PSM
PIM
N/A
HW
28
9
59
21
1
0
16
1
MDA.levels.covered
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

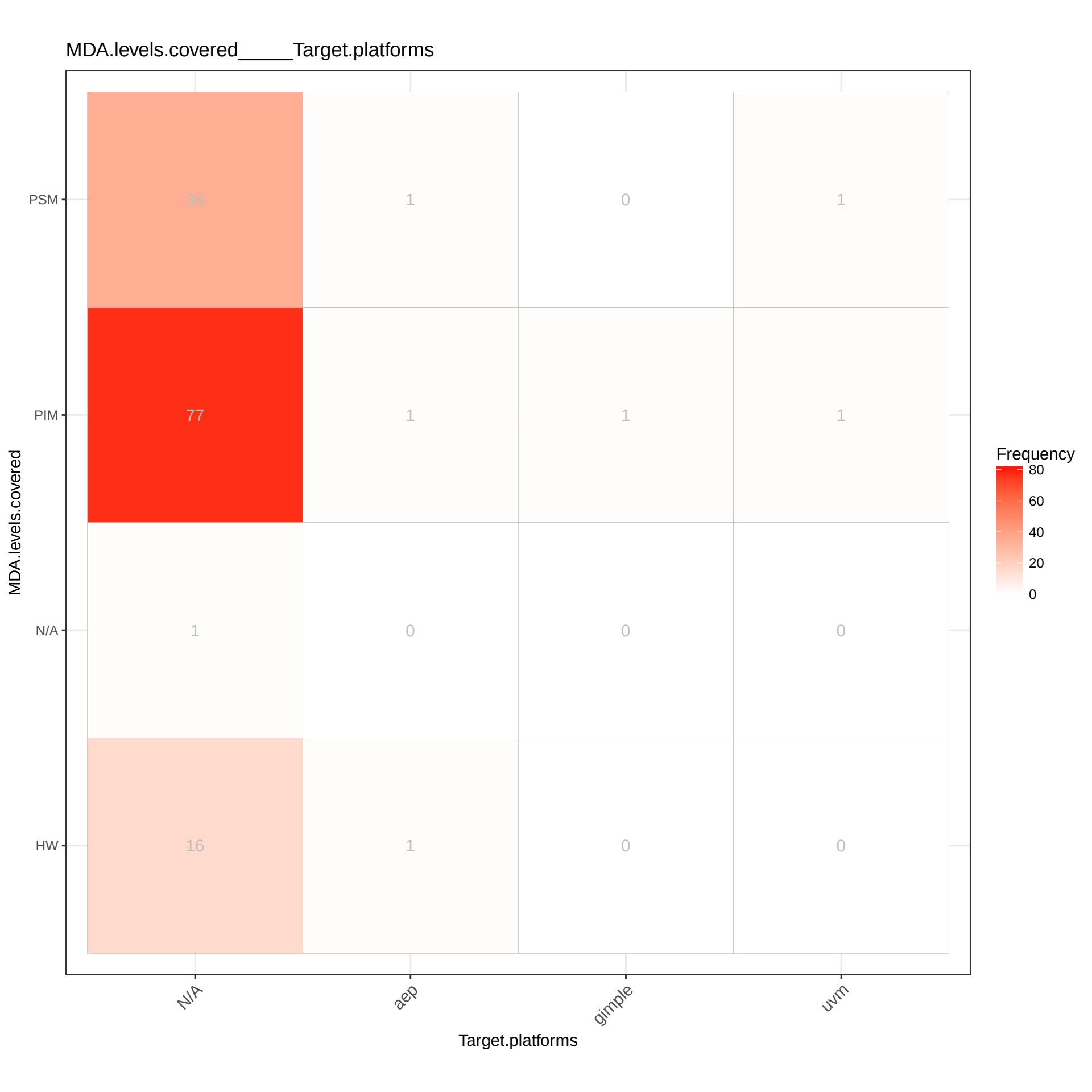

MDA.levels.covered_____Formal.specification.languages
MDA.levels.covered
PSM
PIM
N/A
HW
0 1 30 1 1 1 1 1 0 1 1 0
2 1 67 1 1 1 1 1 2 2 1 1
0 0 1 0 0 0 0 0 0 0 0 0
0 1 13 1 1 0 0 0 0 1 1 0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

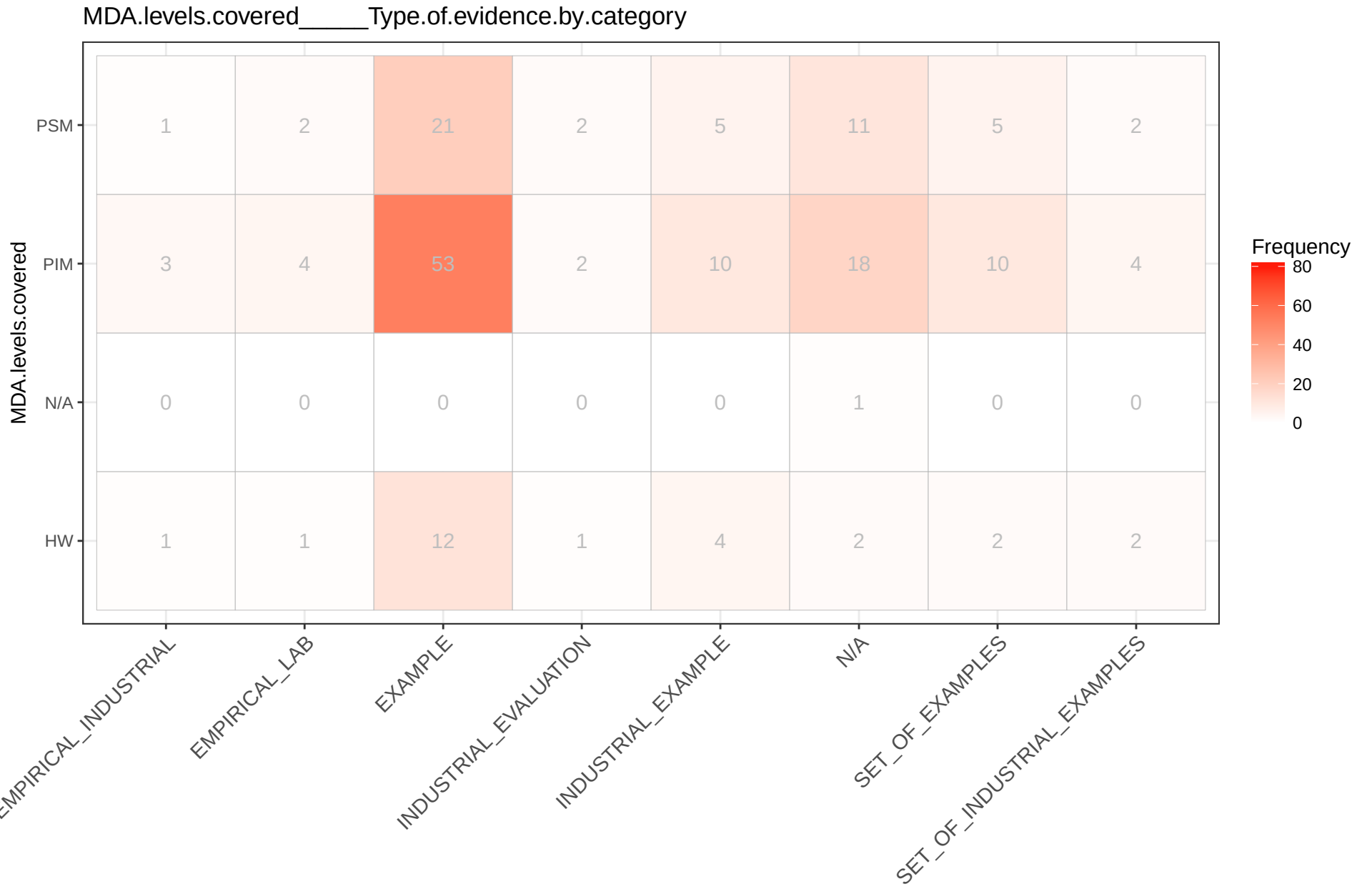

MDA.levels.covered_____Software.platform
PSM
PIM
N/A
HW
1
16
20
12
32
36
0
0
1
1
10
6
MDA.levels.covered
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

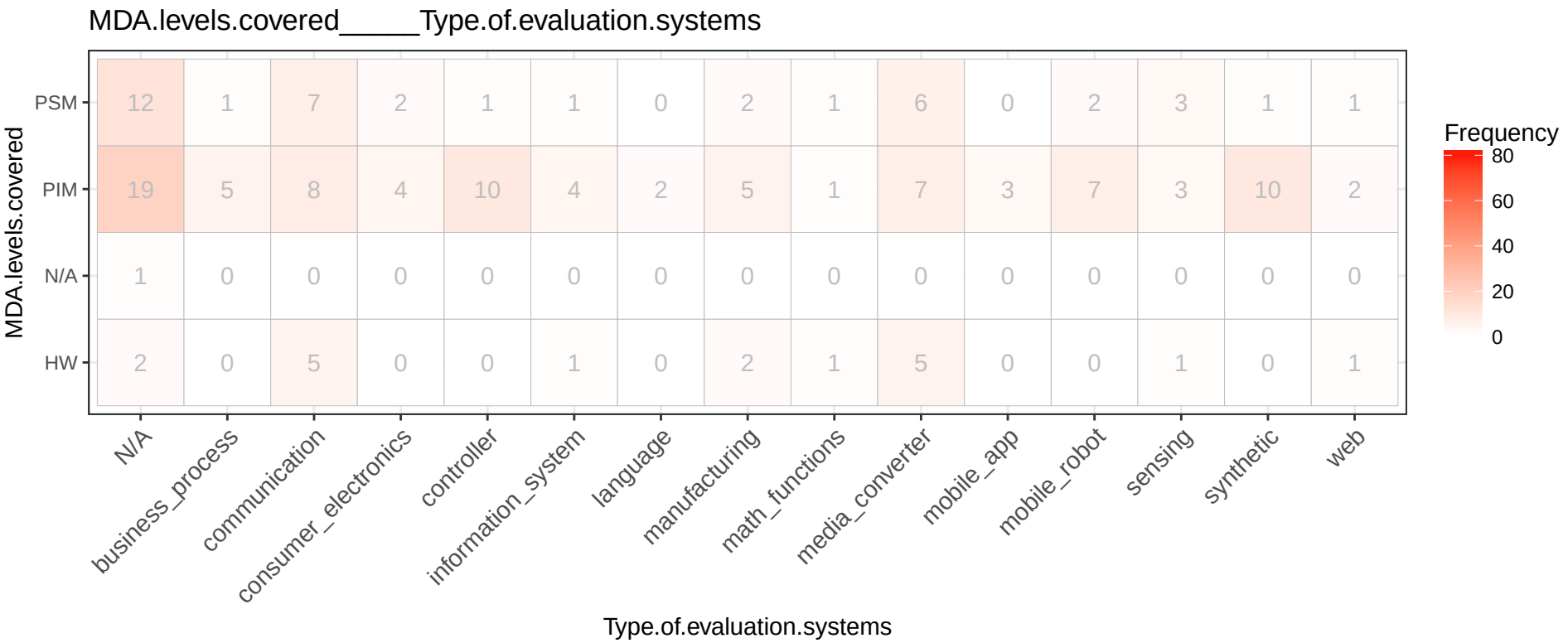

MDA.levels.covered_____Translation.steps
PSM
PIM
N/A
HW
13
12
5
37
1
35
19
7
80
12
0
0
0
1
0
5
9
2
17
1
1
2
3
?
N/A
Translation.steps
MDA.levels.covered
Frequency
80
60
40
20
0

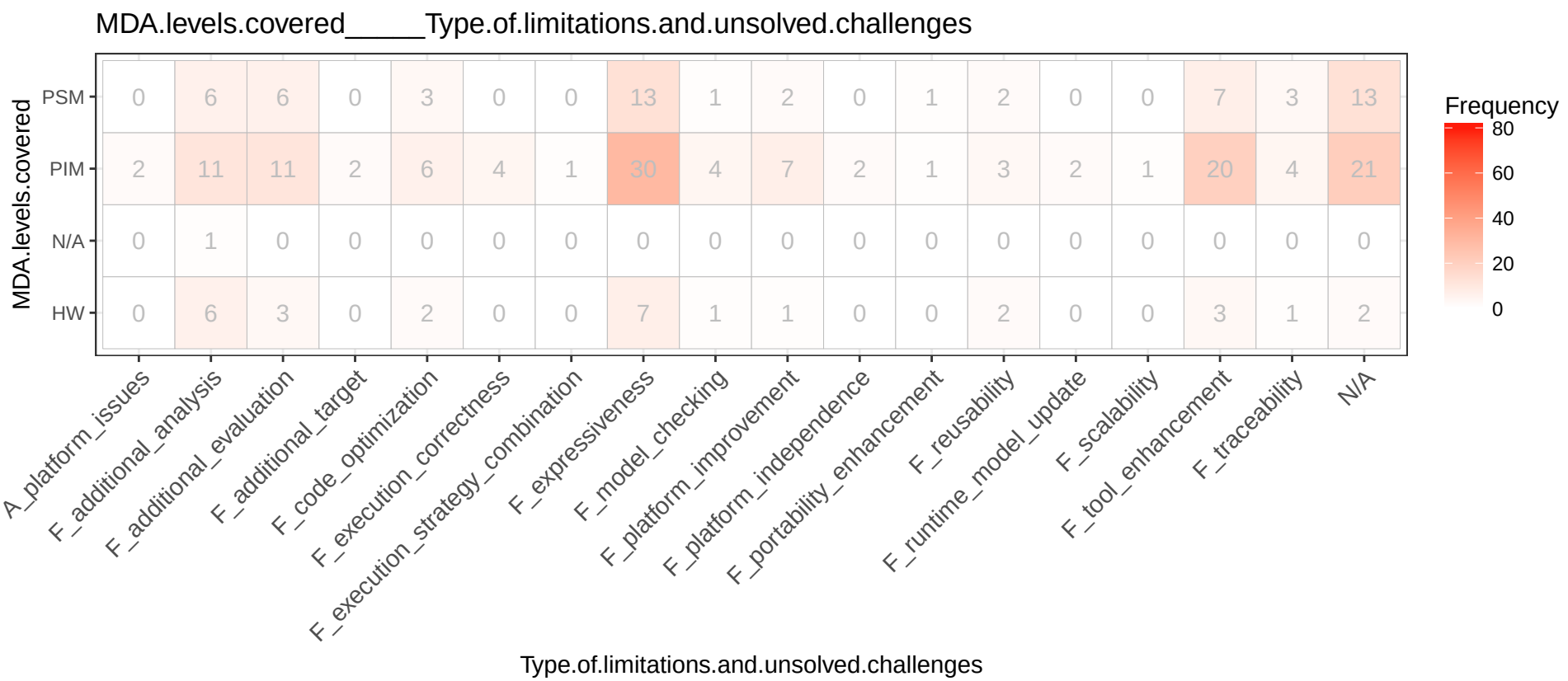

MDA.levels.covered_____Traceability.links.support
PSM
PIM
N/A
HW
1
25
11
12
53
15
0
1
0
1
13
3
MDA.levels.covered
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

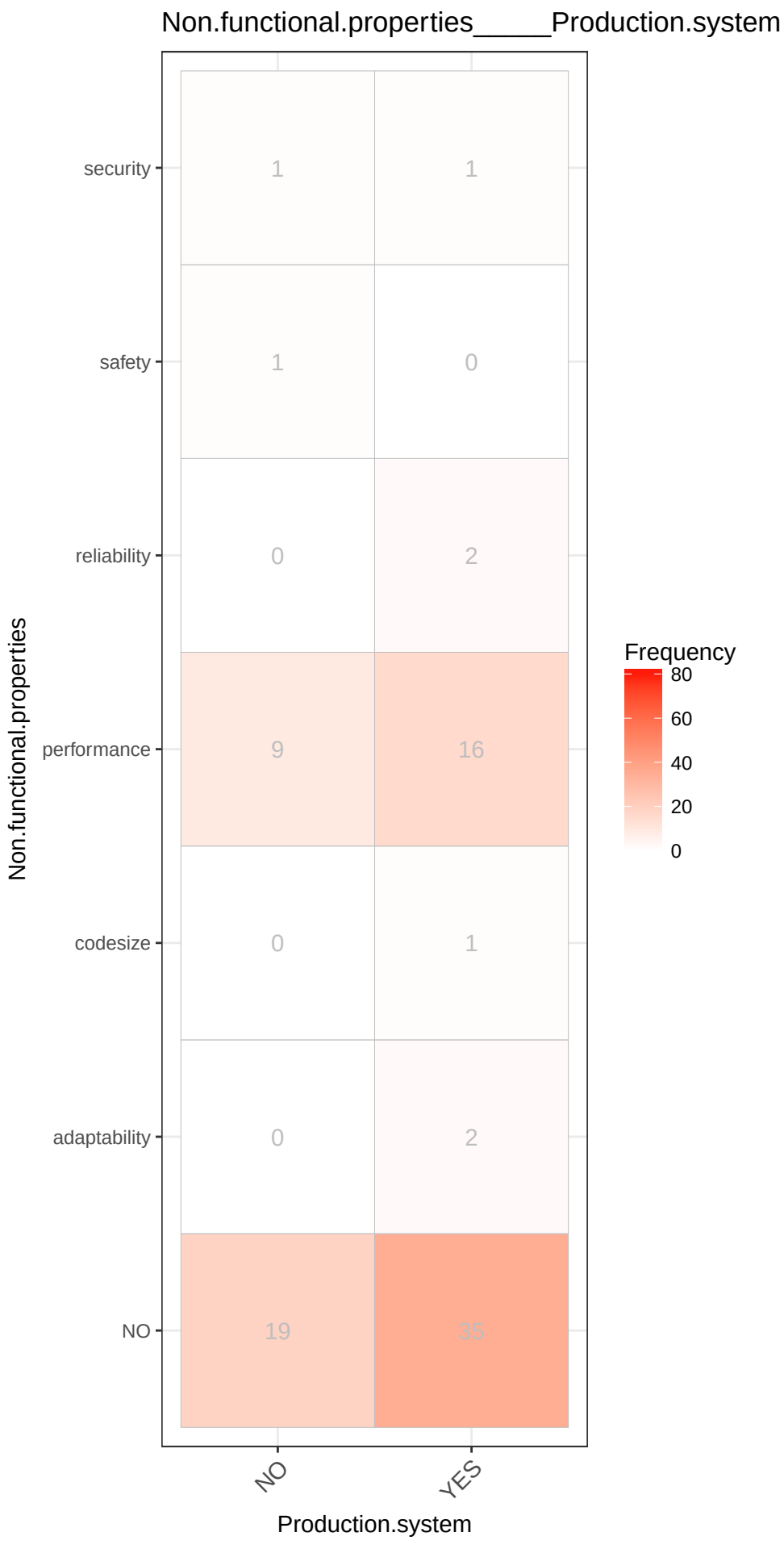

MDA.levels.covered_____Interpretation.engine
MDA.levels.covered
PSM
PIM
N/A
HW
0 1 35 0 0 1 0 0 0 0 0 0
2 1 66 1 1 2 1 1 1 2 1 1
0 0 1 0 0 0 0 0 0 0 0 0
0 0 16 0 0 1 0 0 0 0 0 0
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

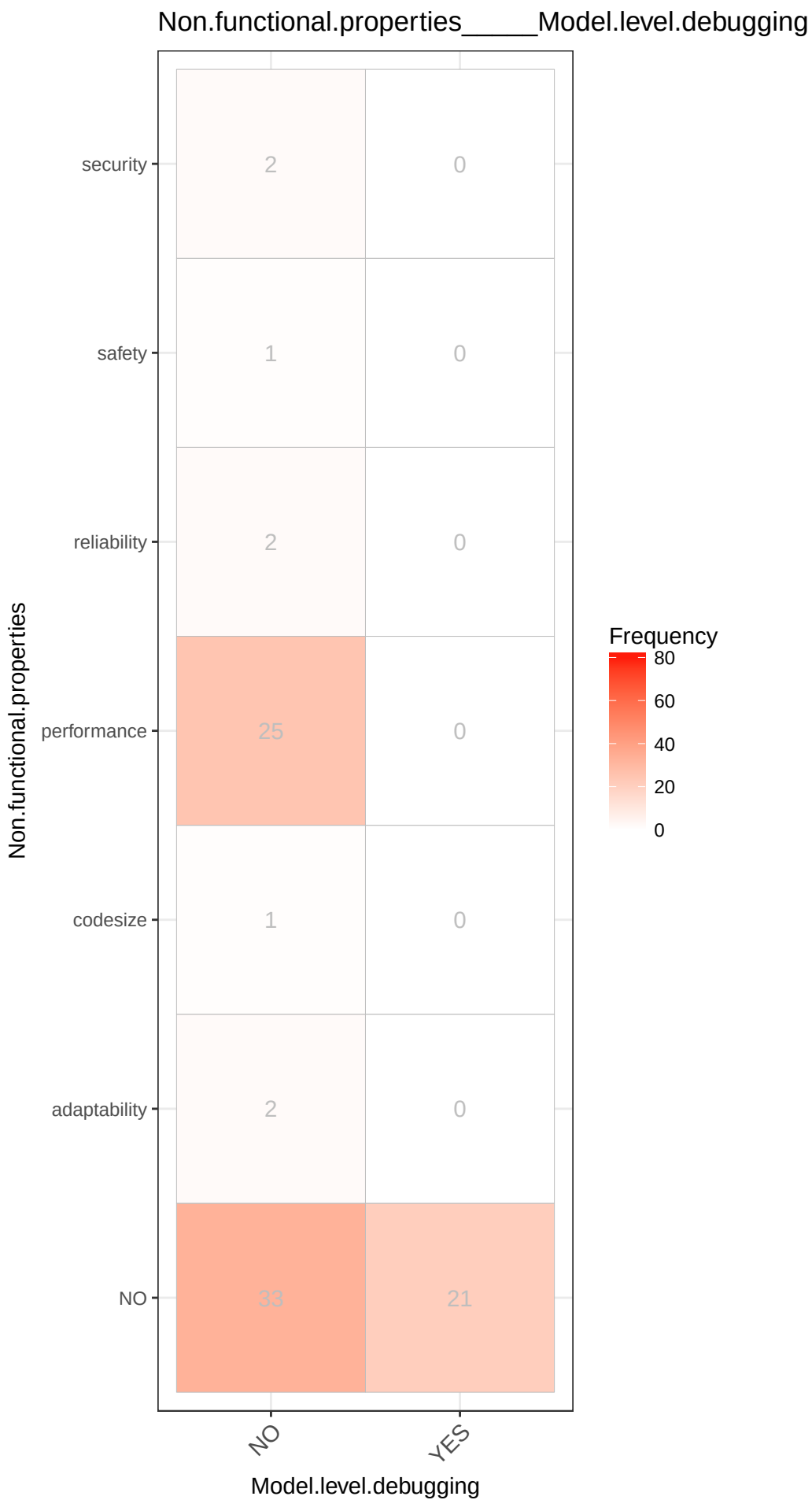

MDA.levels.covered_____Target.platforms
PSM
PIM
N/A
HW
35
1
0
1
77
1
1
1
1
0
0
0
16
1
0
0
MDA.levels.covered
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

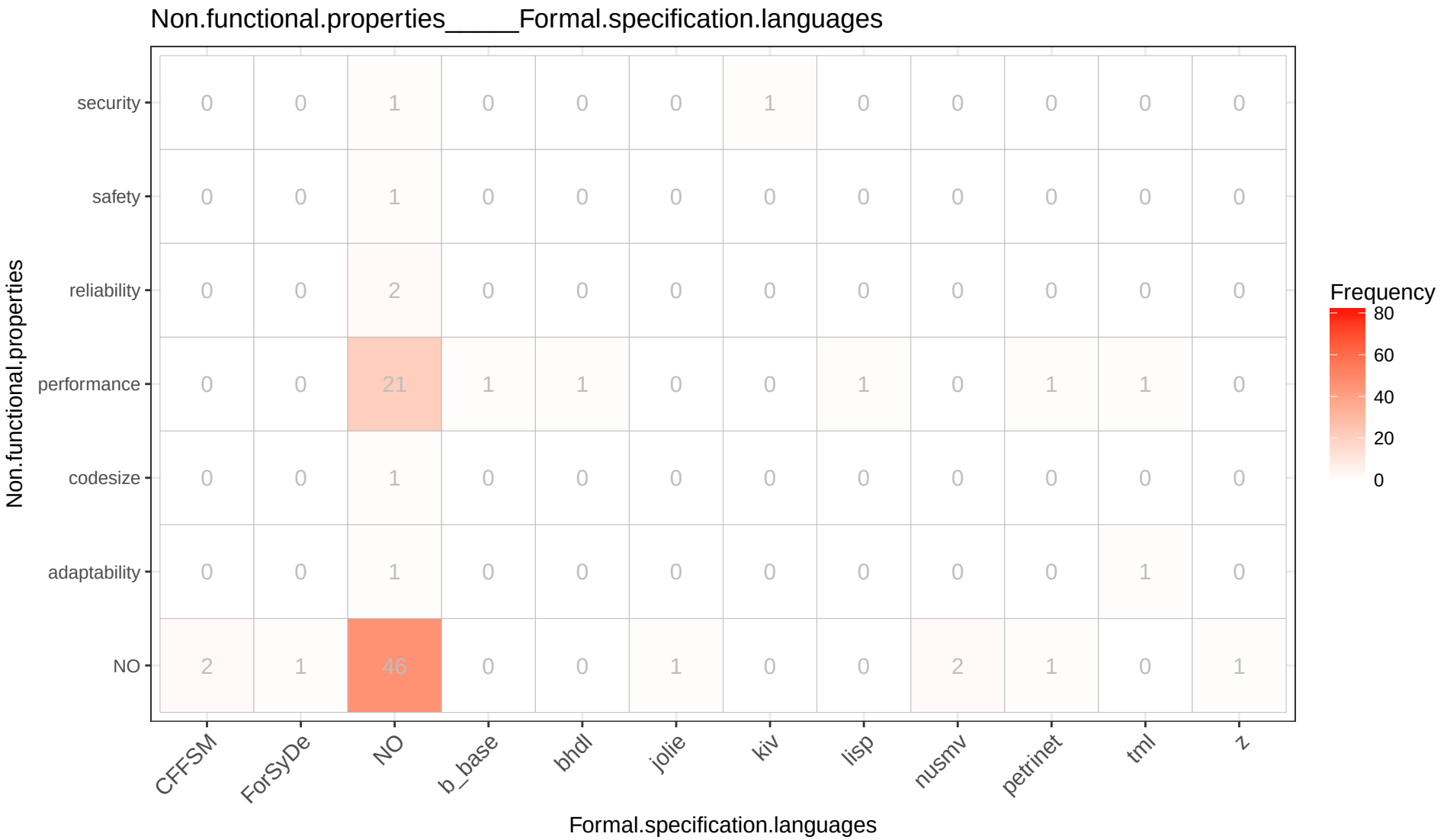

MDA.levels.covered_____Type.of.evidence.by.category
MDA.levels.covered
PSM
PIM
N/A
HW
1 2 21 2 5 11 5 2
3 4 53 2 10 18 10 4
0 0 0 0 0 1 0 0
1 1 12 1 4 2 2 2
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

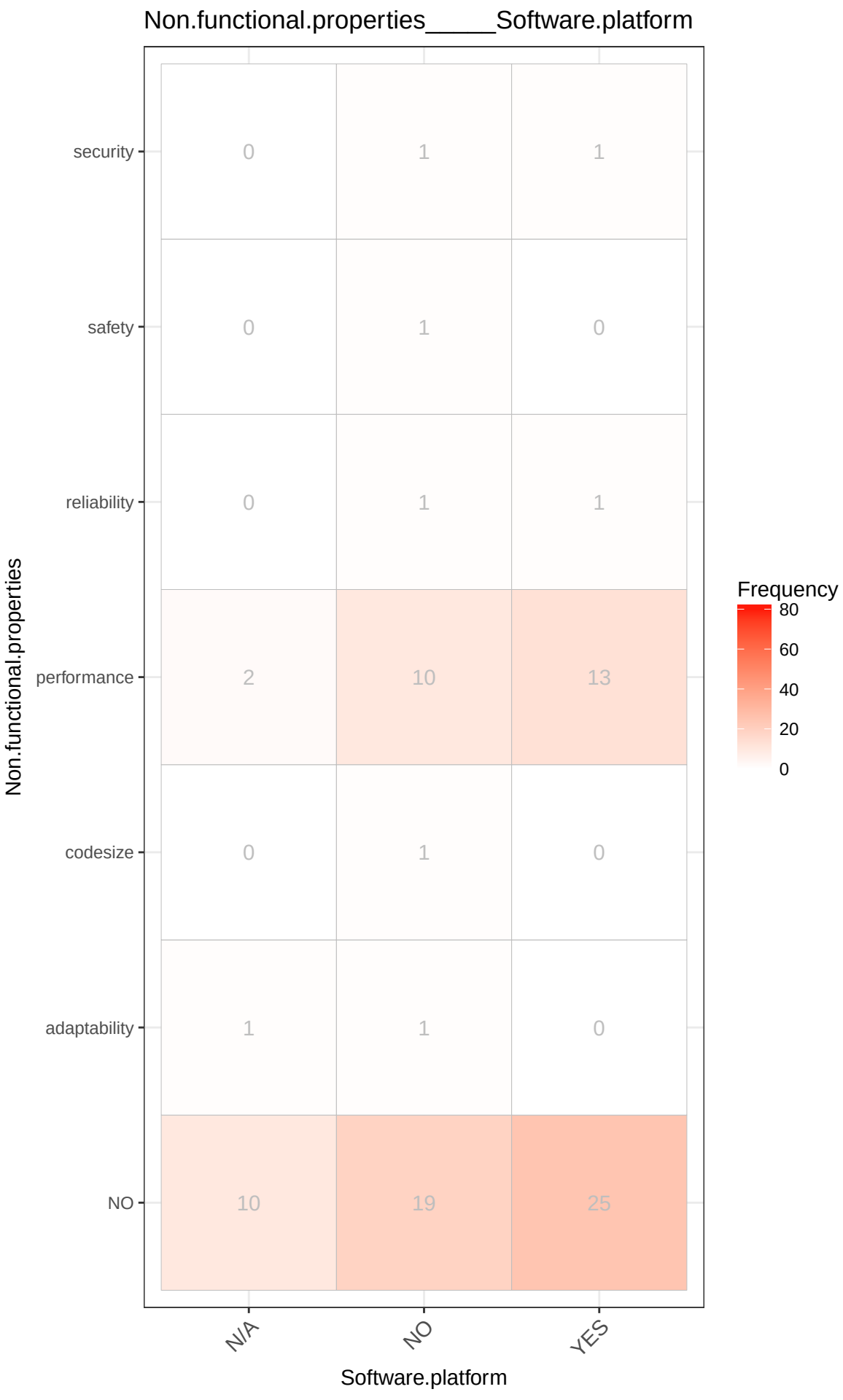

MDA.levels.covered_____Type.of.evaluation.systems
MDA.levels.covered
PSM
PIM
N/A
HW
12 1 7 2 1 1 0 2 1 6 0 2 3 1 1
19 5 8 4 10 4 2 5 1 7 3 7 3 10 2
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2 0 5 0 0 1 0 2 1 5 0 0 1 0 1
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

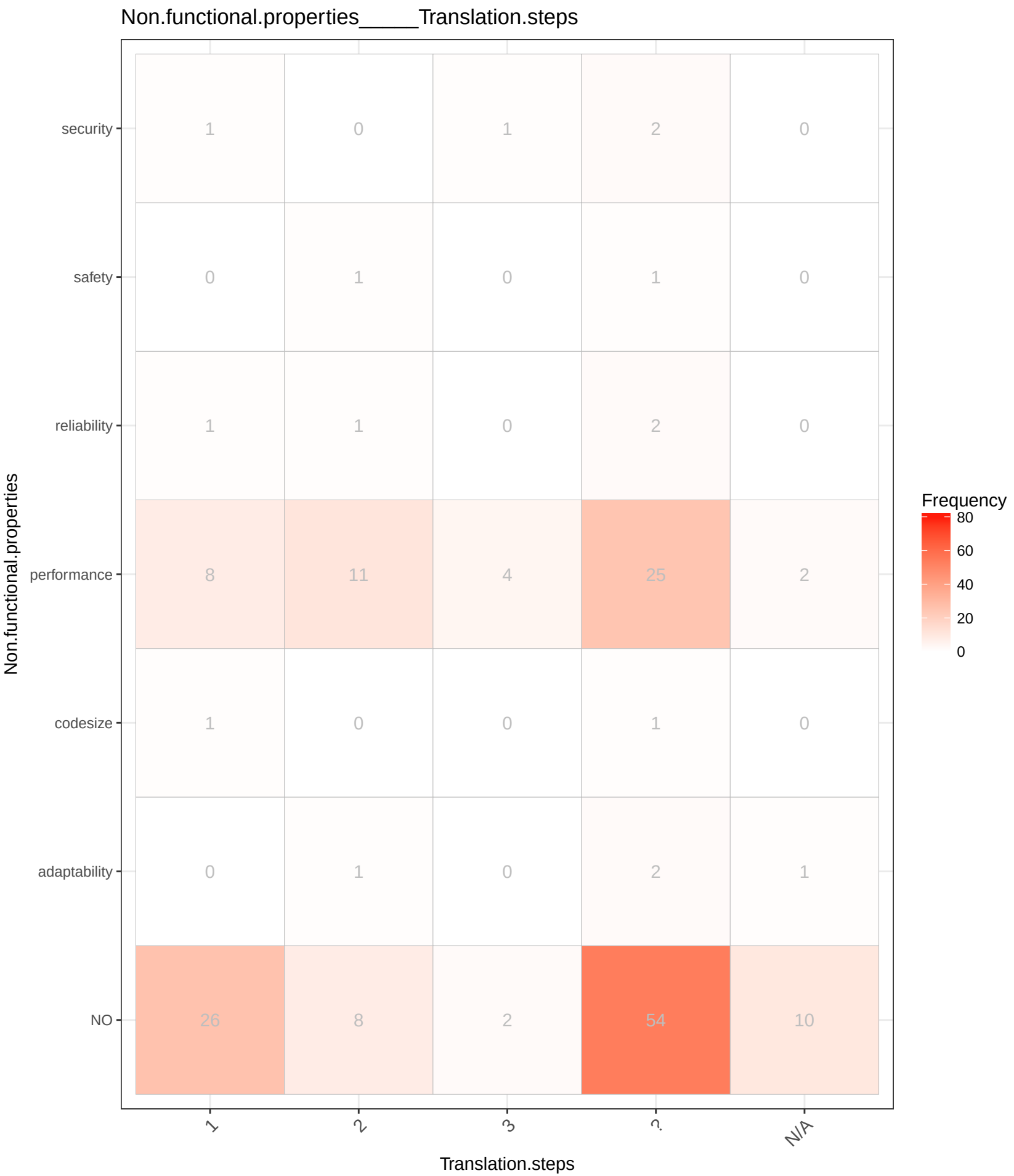

MDA.levels.covered_____Type.of.limitations.and.unsolved.challenges
MDA.levels.covered
PSM
PIM
N/A
HW
0 6 6 0 3 0 0 13 1 2 0 1 2 0 0 7 3 13
2 11 11 2 6 4 1 30 4 7 2 1 3 2 1 20 4 21
0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 6 3 0 2 0 0 7 1 1 0 0 2 0 0 3 1 2
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

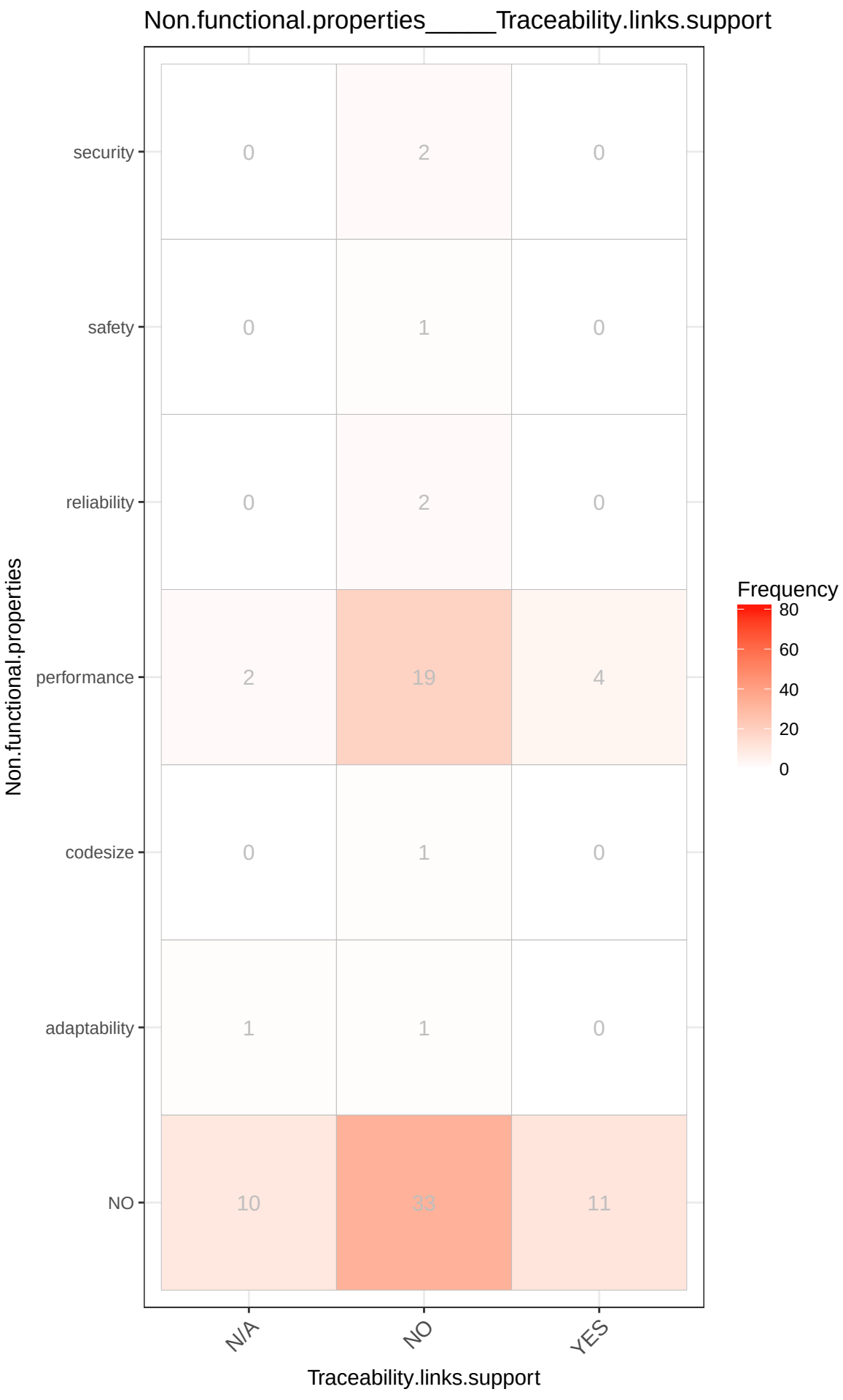

Non.functional.properties_____Production.system
security
safety
reliability
performance
codesize
adaptability
NO
1
1
1
0
0
2
9
16
0
1
0
2
19
35
Non.functional.properties
NO
YES
Production.system
Frequency
80
60
40
20
0

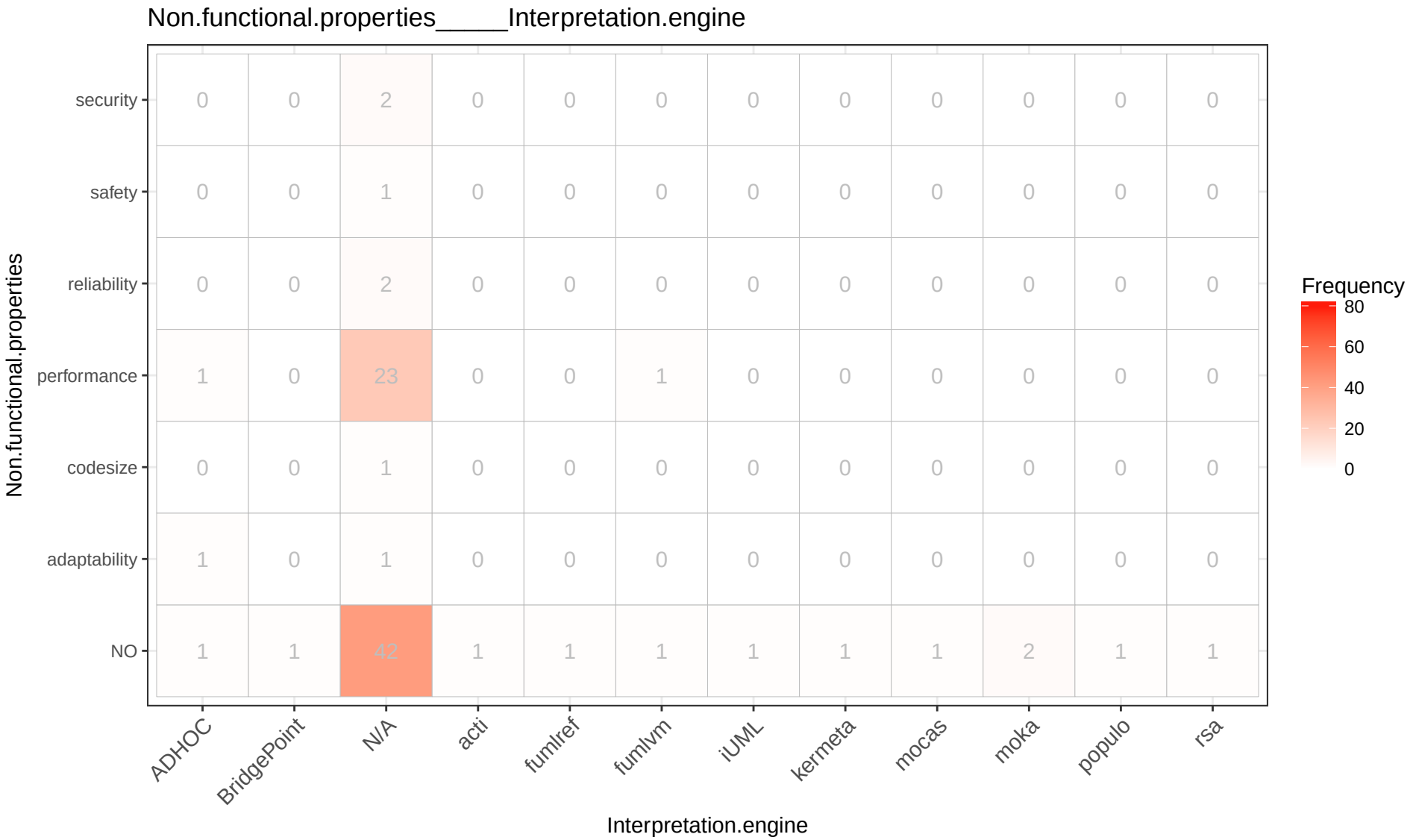

Non.functional.properties_____Model.level.debugging
security
safety
reliability
performance
codesize
adaptability
NO
2
0
1
0
2
0
25
0
1
0
2
0
33
21
NO
YES
Model.level.debugging
Non.functional.properties
Frequency
80
60
40
20
0

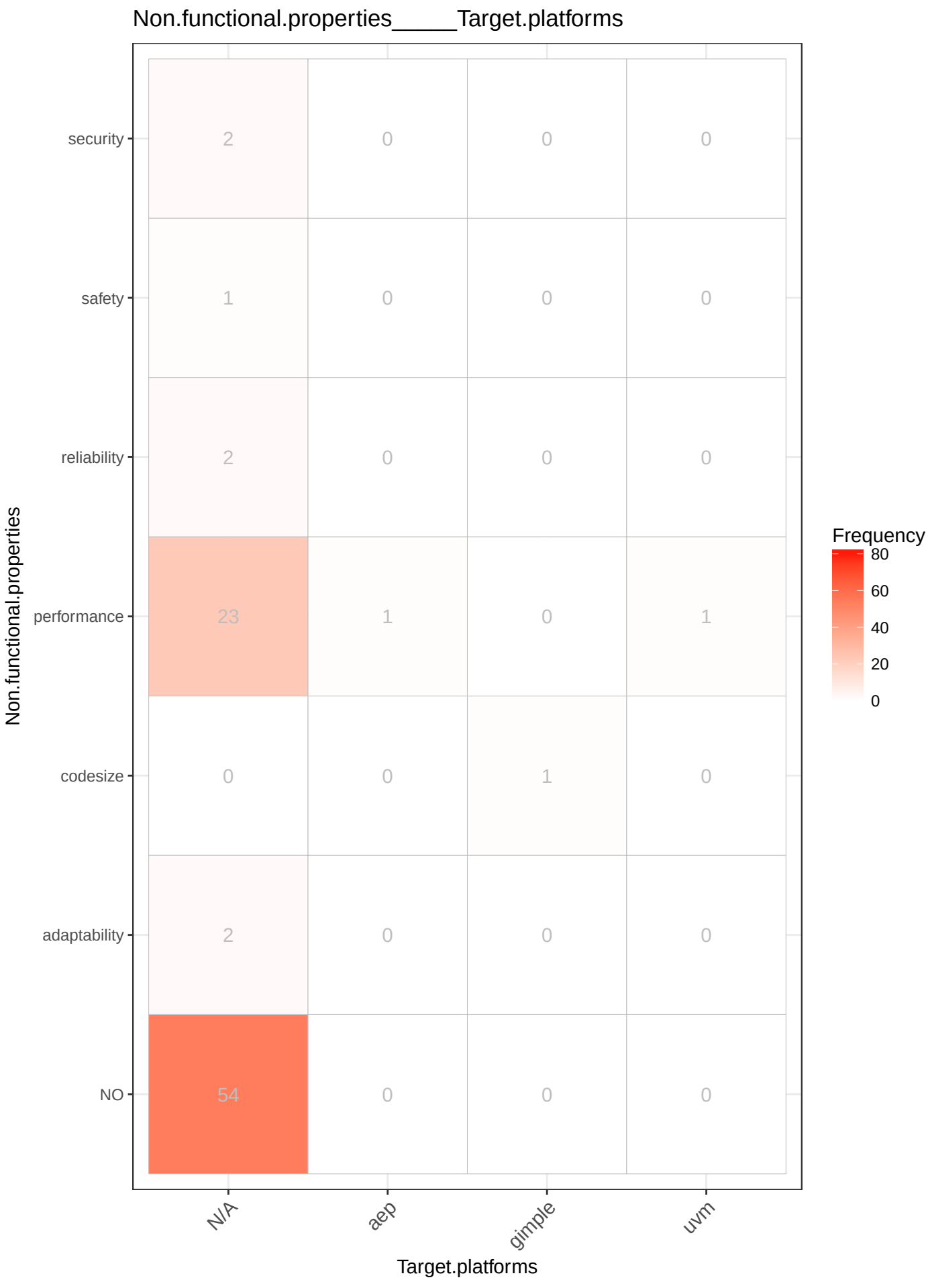

Non.functional.properties_____Formal.specification.languages
Non.functional.properties
security
safety
reliability
performance
codesize
adaptability
NO
0 0 1 0 0 0 1 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 2 0 0 0 0 0 0 0 0 0
0 0 21 1 1 0 0 1 0 1 1 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 1 0
2 1 46 0 0 1 0 0 2 1 0 1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

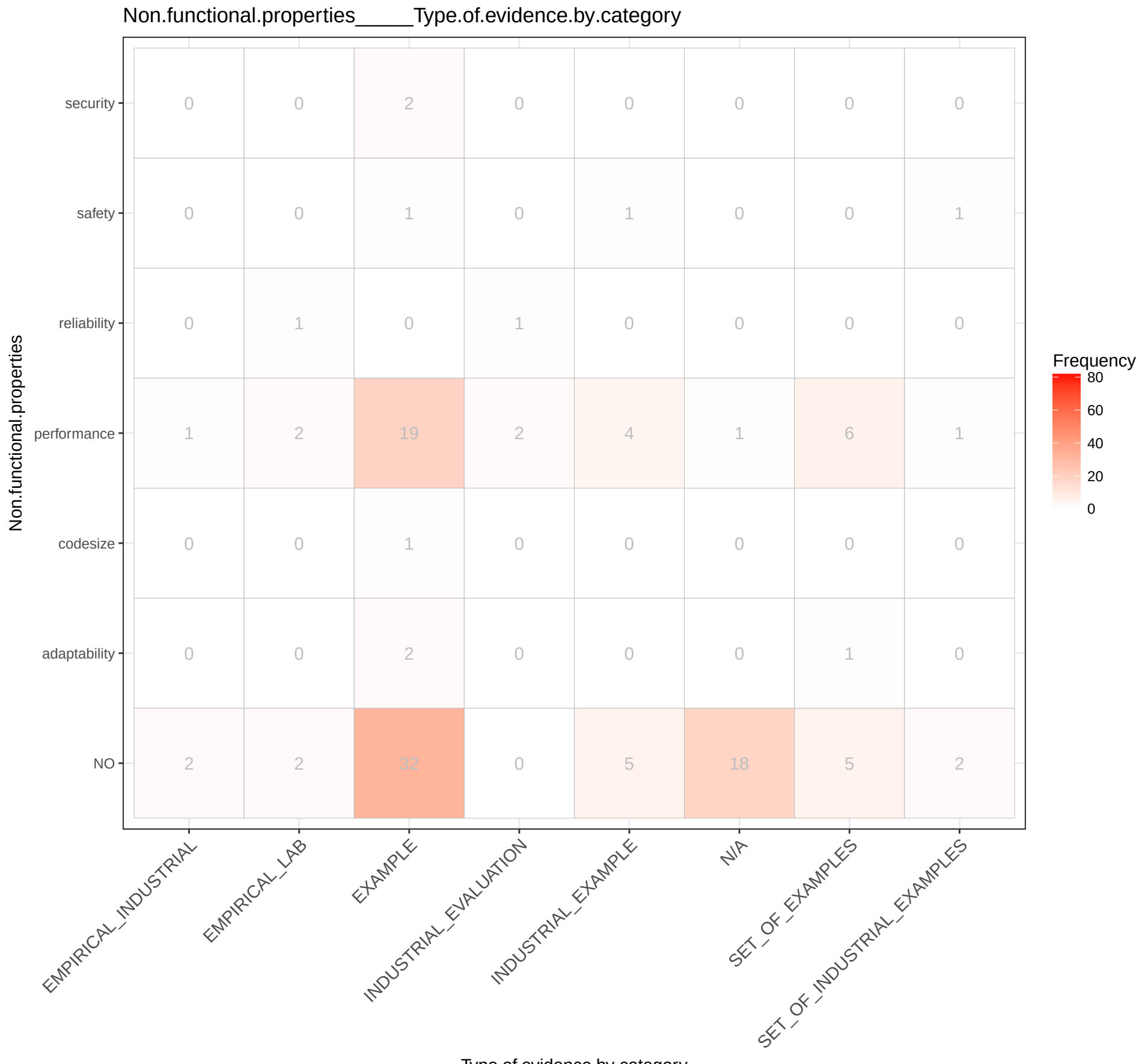

Non.functional.properties_____Software.platform
security
safety
reliability
performance
codesize
adaptability
NO
Non.functional.properties
0
1
1
0
1
0
0
1
1
2
10
13
0
1
0
1
1
0
10
19
25
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

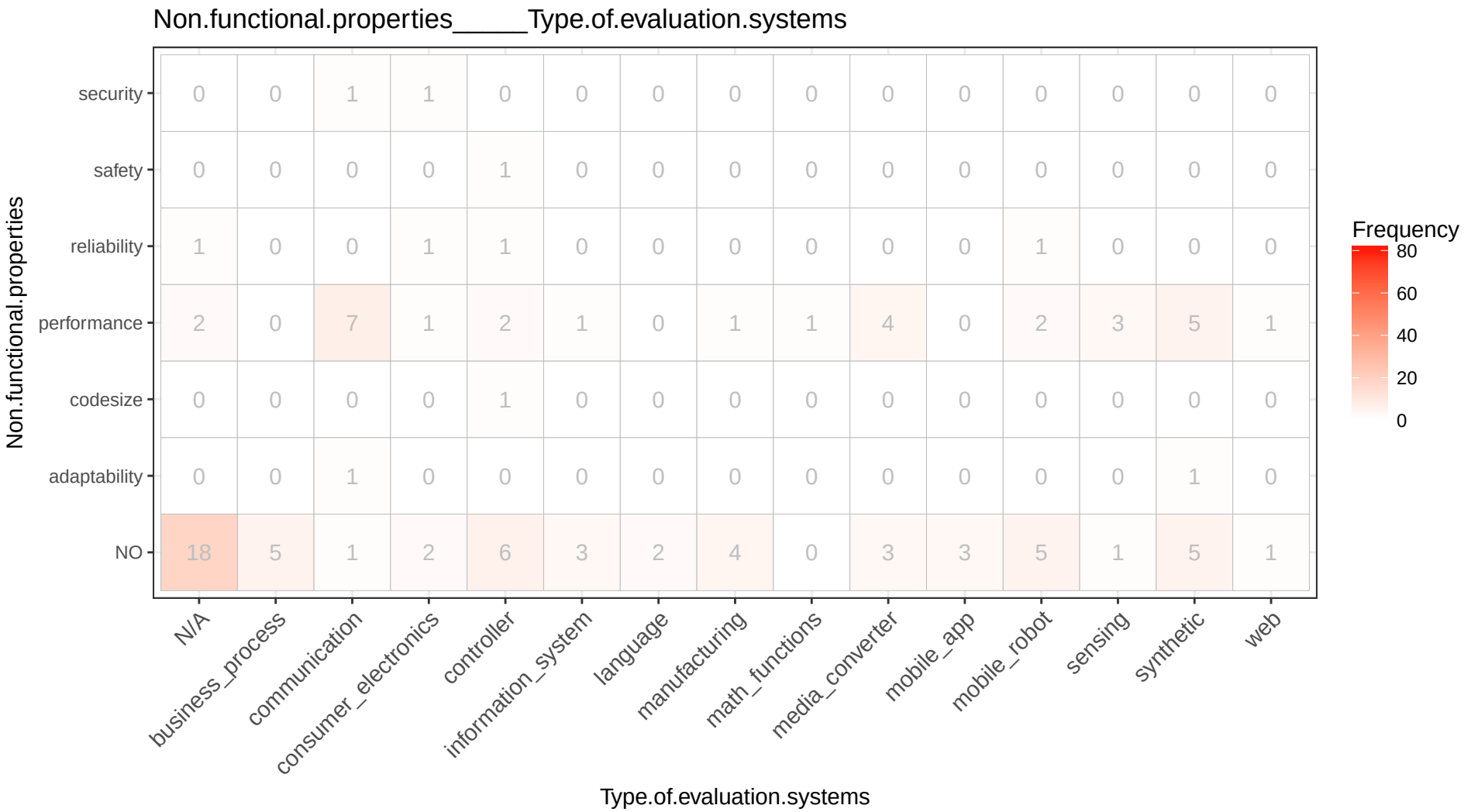

Non.functional.properties_____Translation.steps
security
safety
reliability
performance
codesize
adaptability
NO
Non.functional.properties
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0
1 0 1 2 0
0 1 0 1 0
1 1 0 2 0
8 11 4 25 2
1 0 0 1 0
0 1 0 2 1
26 8 2 54 10

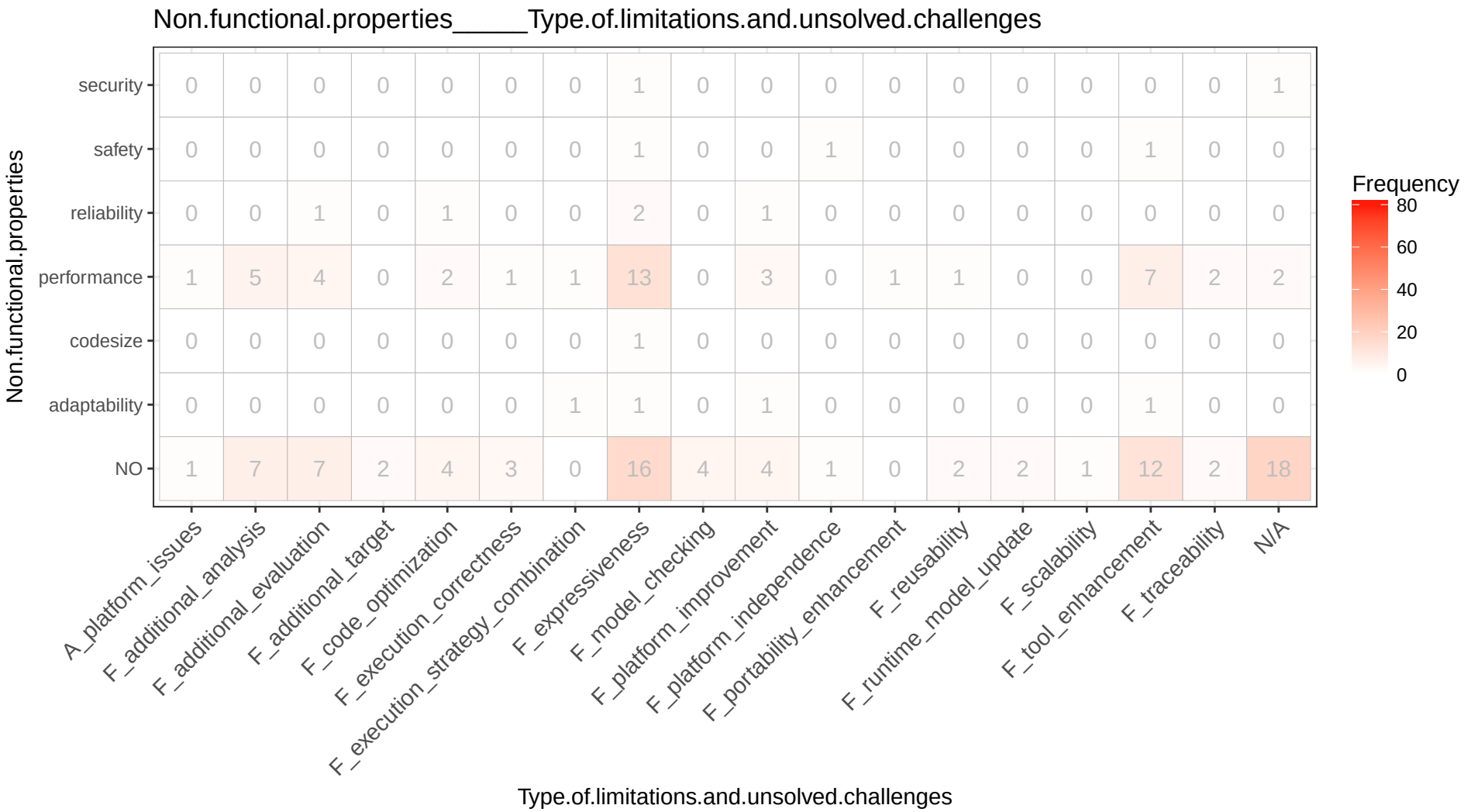

Non.functional.properties_____Traceability.links.support
security
safety
reliability
performance
codesize
adaptability
NO
Non.functional.properties
0
2
0
0
1
0
0
2
0
2
19
4
0
1
0
1
1
0
10
33
11
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

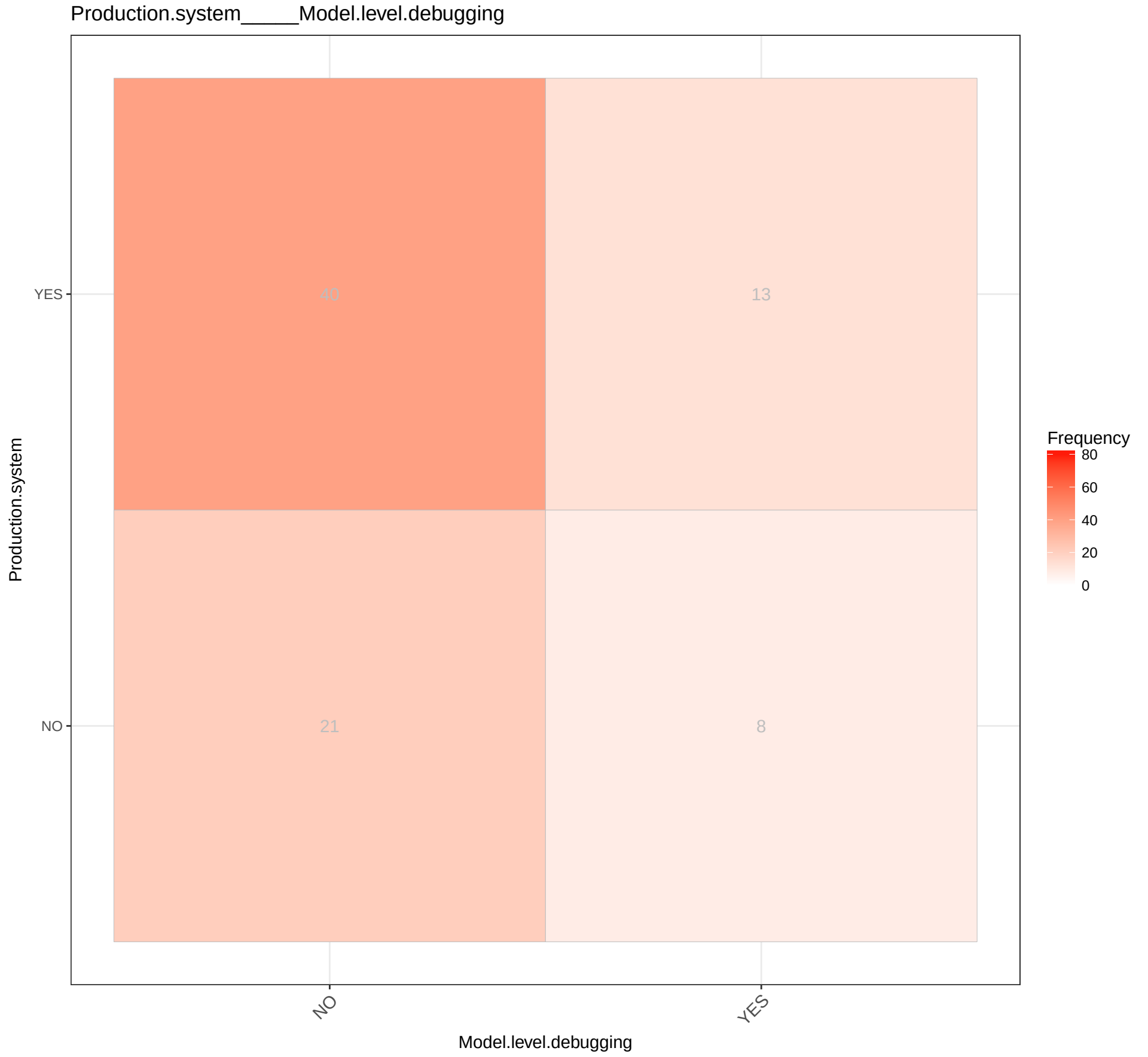

Non.functional.properties_____Interpretation.engine
Non.functional.properties
security
safety
reliability
performance
codesize
adaptability
NO
0 0 2 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
0 0 2 0 0 0 0 0 0 0 0 0
1 0 23 0 0 1 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0
1 0 1 0 0 0 0 0 0 0 0 0
1 1 42 1 1 1 1 1 1 2 1 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
papyrus
rsa
Interpretation.engine
Frequency
80
60
40
20
0

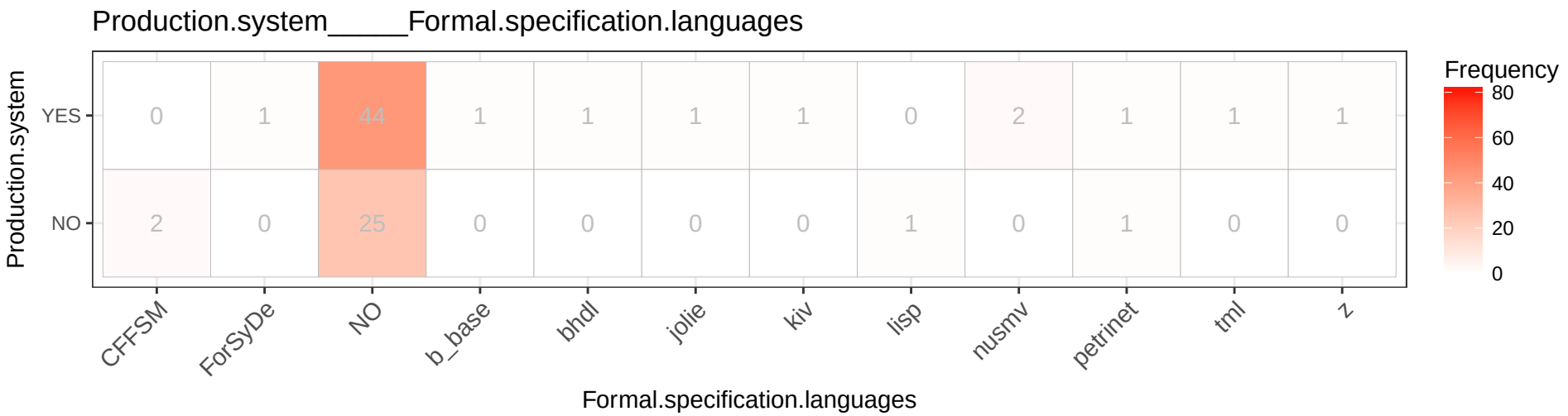

Non.functional.properties_____Target.platforms
Non.functional.properties
security
safety
reliability
performance
codesize
adaptability
NO
2
0
0
0
1
0
0
0
2
0
0
0
23
1
0
1
0
0
1
0
2
0
0
0
54
0
0
0
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

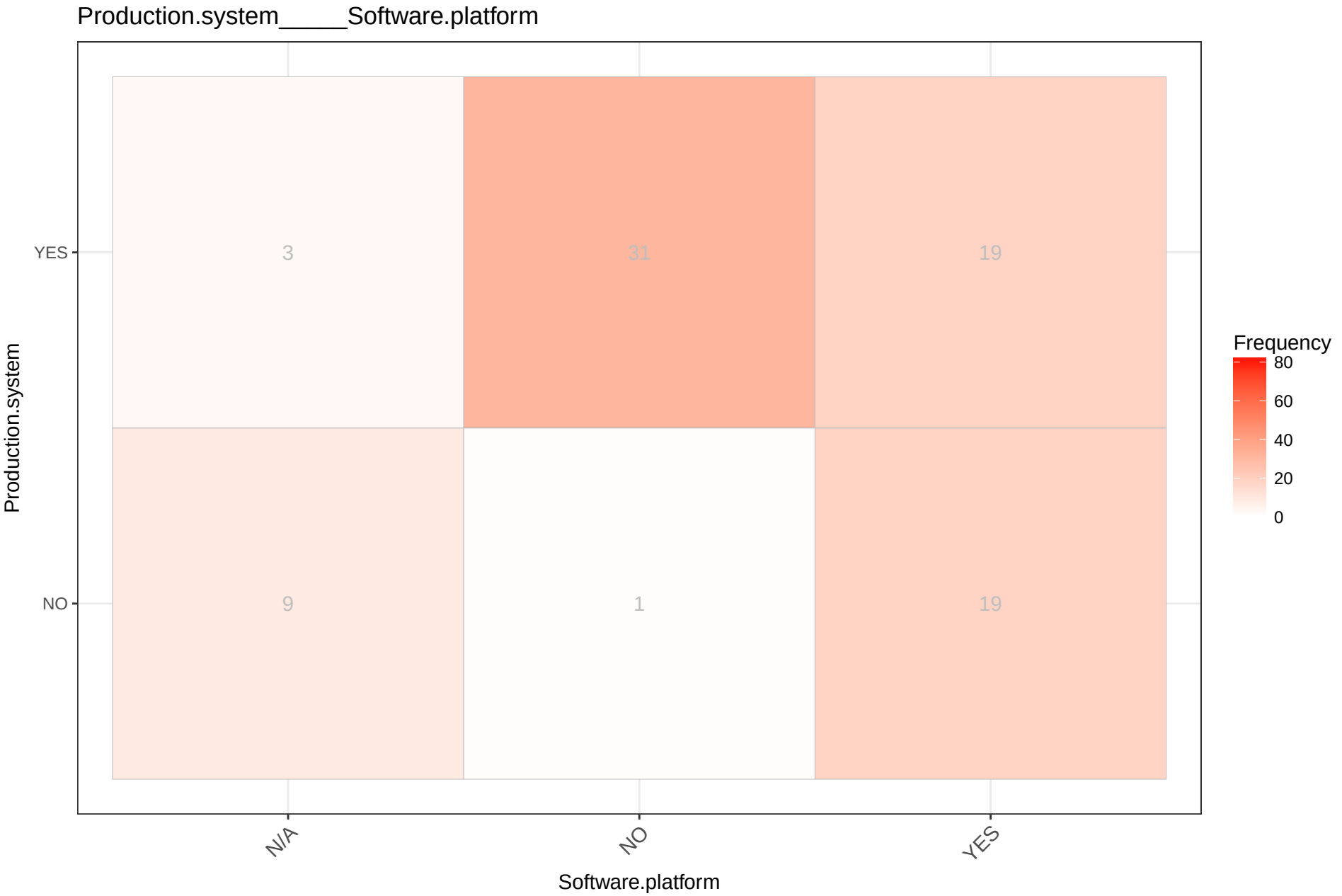

Non.functional.properties_____Type.of.evidence.by.category
Non.functional.properties
security
safety
reliability
performance
codesize
adaptability
NO
0 0 2 0 0 0 0 0
0 0 1 0 1 0 0 1
0 1 0 1 0 0 0 0
1 2 19 2 4 1 6 1
0 0 1 0 0 0 0 0
0 0 2 0 0 0 1 0
2 2 32 0 5 18 5 2
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

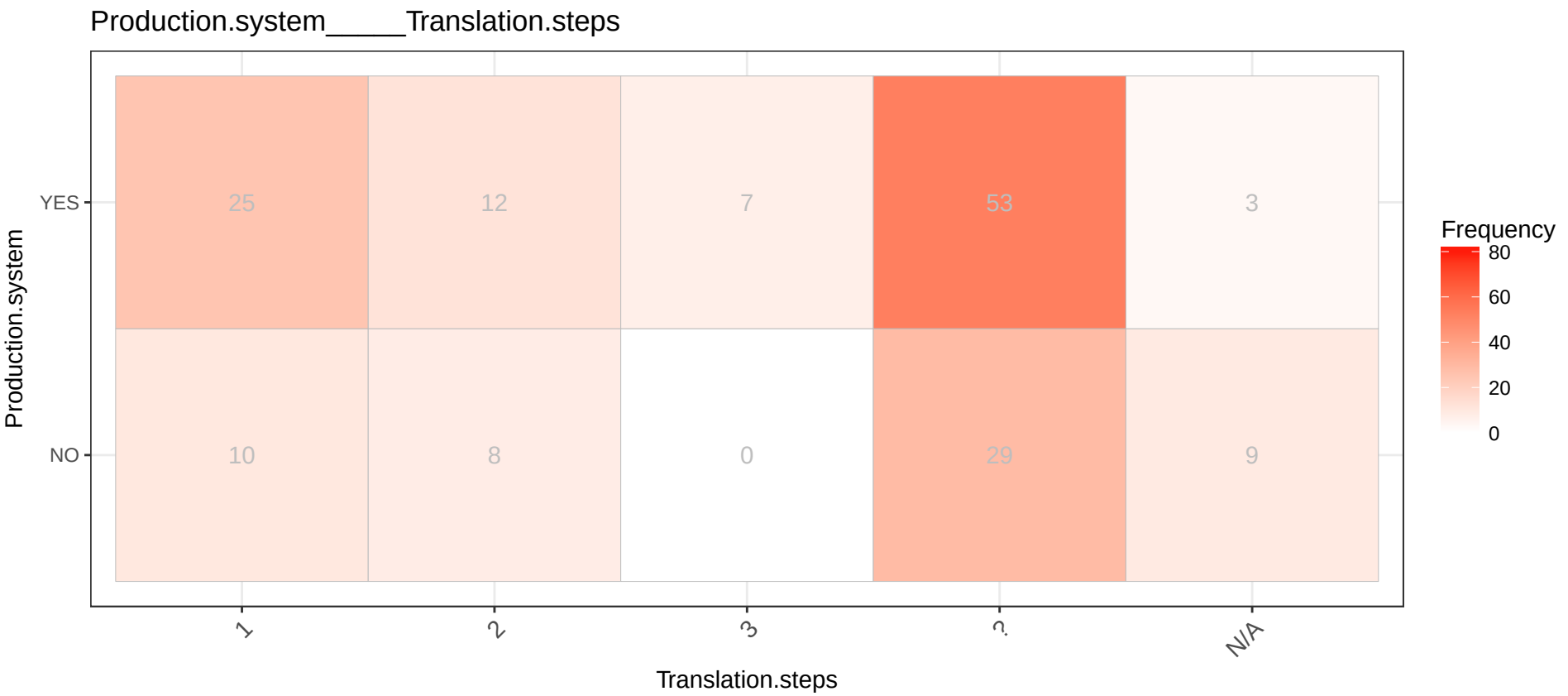

Non.functional.properties_____Type.of.evaluation.systems
Non.functional.properties
security
safety
reliability
performance
codesize
adaptability
NO
0 0 1 1 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
1 0 0 1 1 0 0 0 0 0 0 1 0 0 0
2 0 7 1 2 1 0 1 1 4 0 2 3 5 1
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 1 0
18 5 1 2 6 3 2 4 0 3 3 5 1 5 1
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

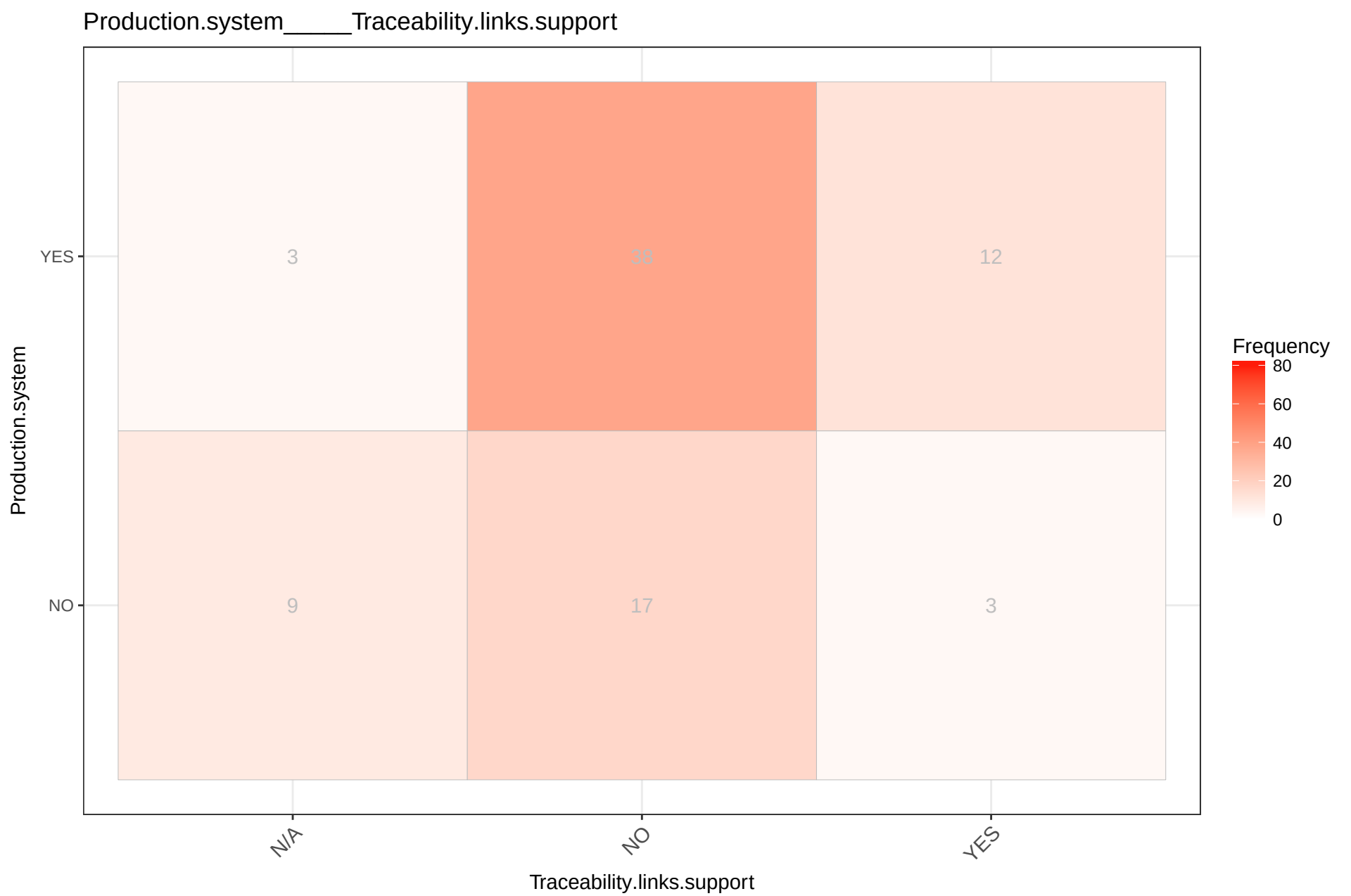

Non.functional.properties_____Type.of.limitations.and.unsolved.challenges
Non.functional.properties
security 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1
safety 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 1 0 0
reliability 0 0 1 0 1 0 0 2 0 1 0 0 0 0 0 0 0 0
performance 1 5 4 0 2 1 1 13 0 3 0 1 1 0 0 7 2 2
codesize 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
adaptability 0 0 0 0 0 0 1 1 0 1 0 0 0 0 0 1 0 0
NO 1 7 7 2 4 3 0 16 4 4 1 0 2 2 1 12 2 18
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

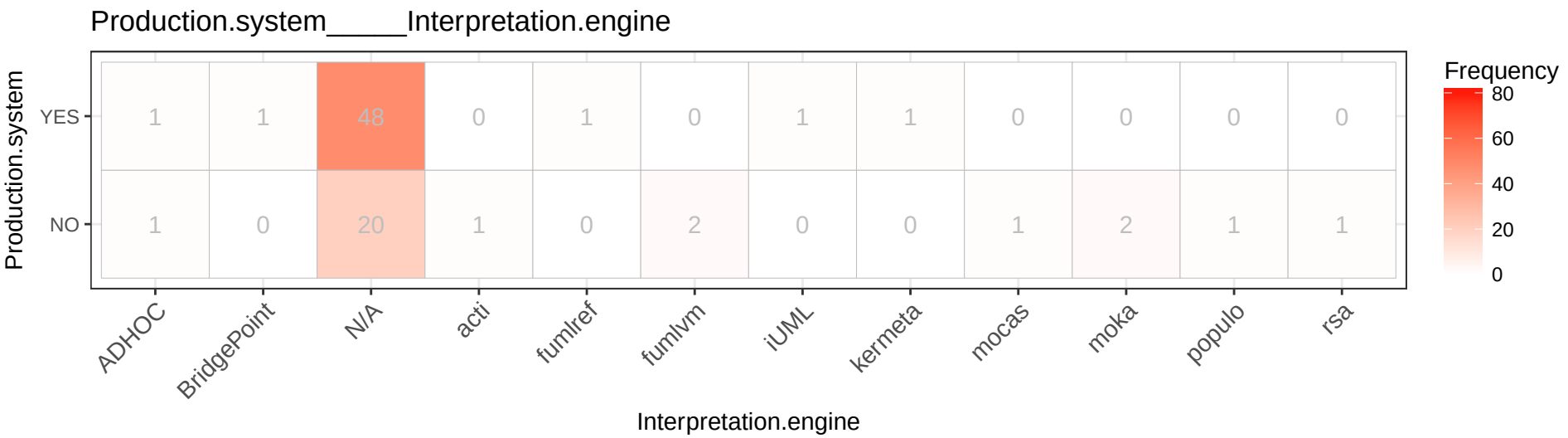

Production.system_____Model.level.debugging
YES
NO
40
13
21
8
Production.system
NO
YES
Model.level.debugging
Frequency
80
60
40
20
0

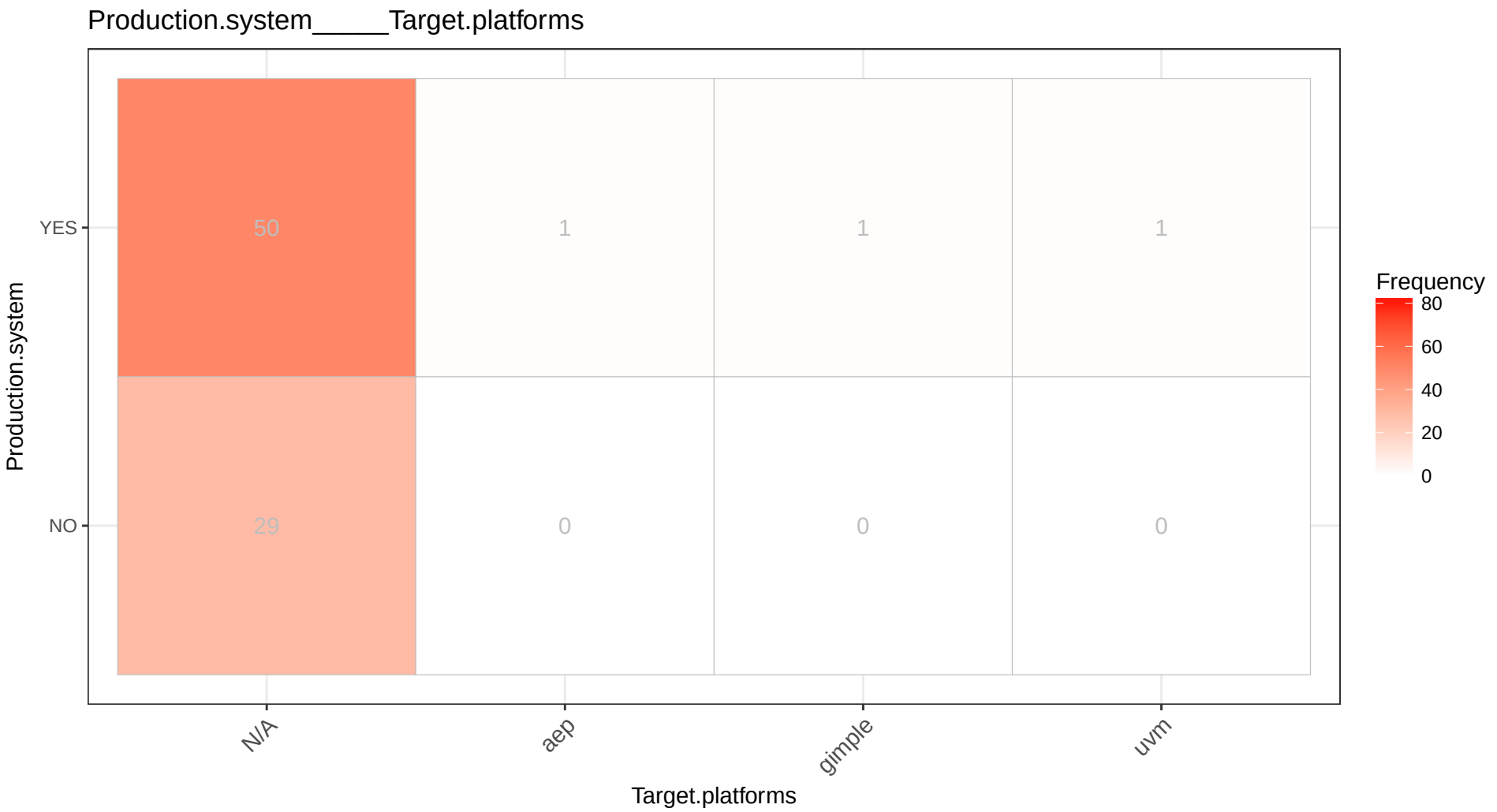

Production.system_____Formal.specification.languages
Production.system
YES
NO
0 1 44 1 1 1 1 0 2 1 1 1
2 0 25 0 0 0 0 1 0 1 0 0
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

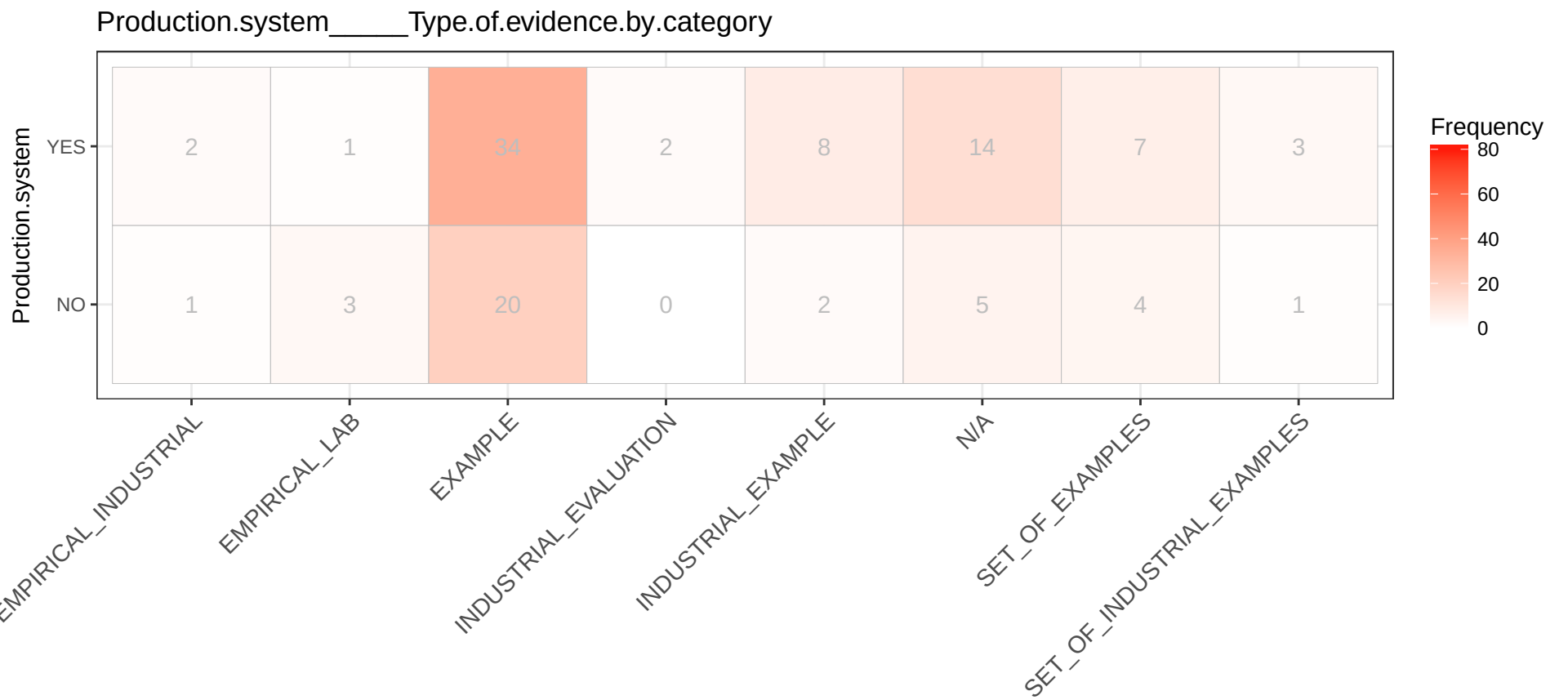

Production.system_____Software.platform
YES
NO
3
31
19
9
1
19
Production.system
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

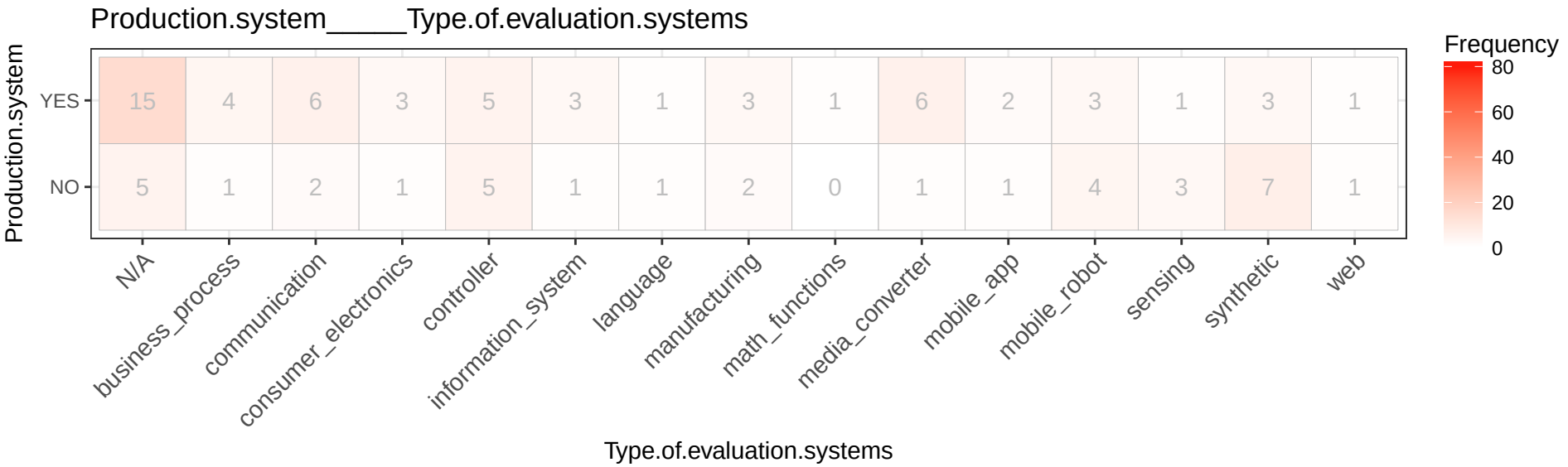

Production.system_____Translation.steps
YES
NO
25
12
7
53
3
10
8
0
29
9
1
2
3
?
N/A
Translation.steps
Production.system
Frequency
80
60
40
20
0

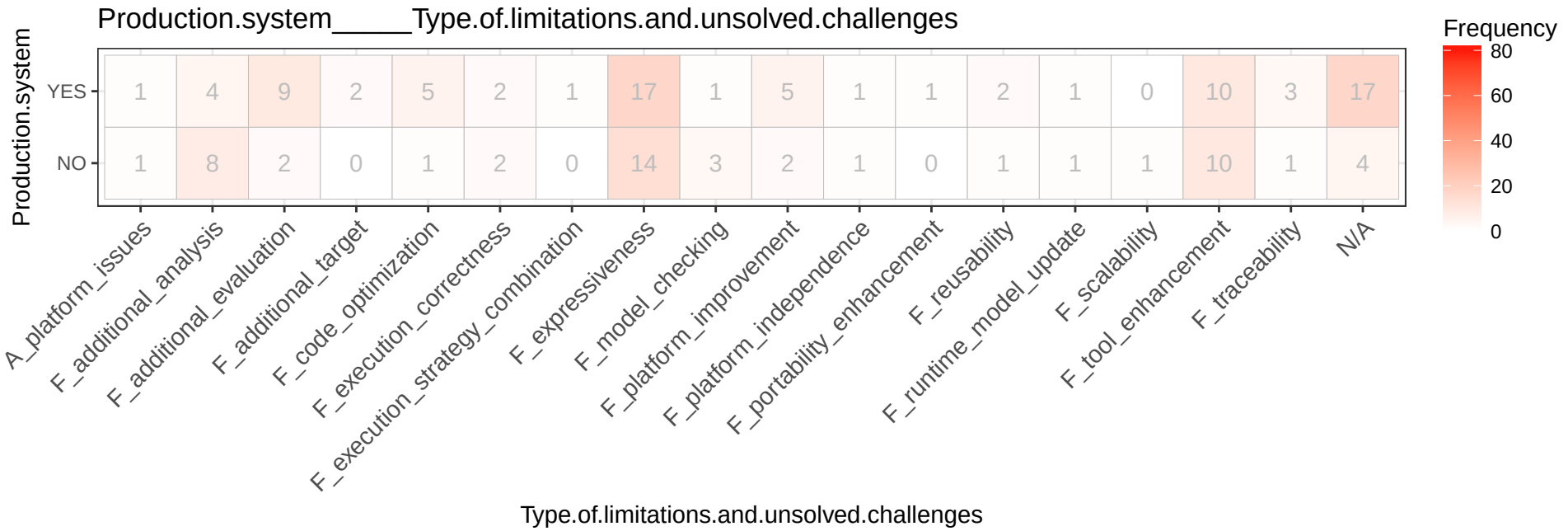

Production.system_____Traceability.links.support
YES
NO
3
38
12
9
17
3
Production.system
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

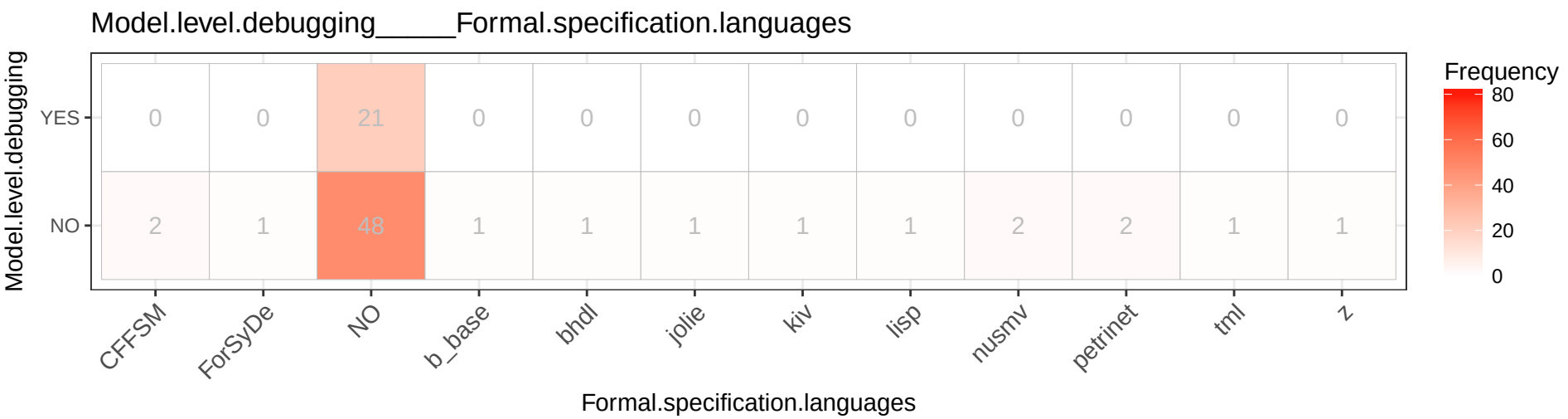

Production.system_____Interpretation.engine
Production.system
YES
NO
1
1
48
0
1
0
1
1
0
0
0
0
1
0
20
1
0
2
0
0
1
2
1
1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

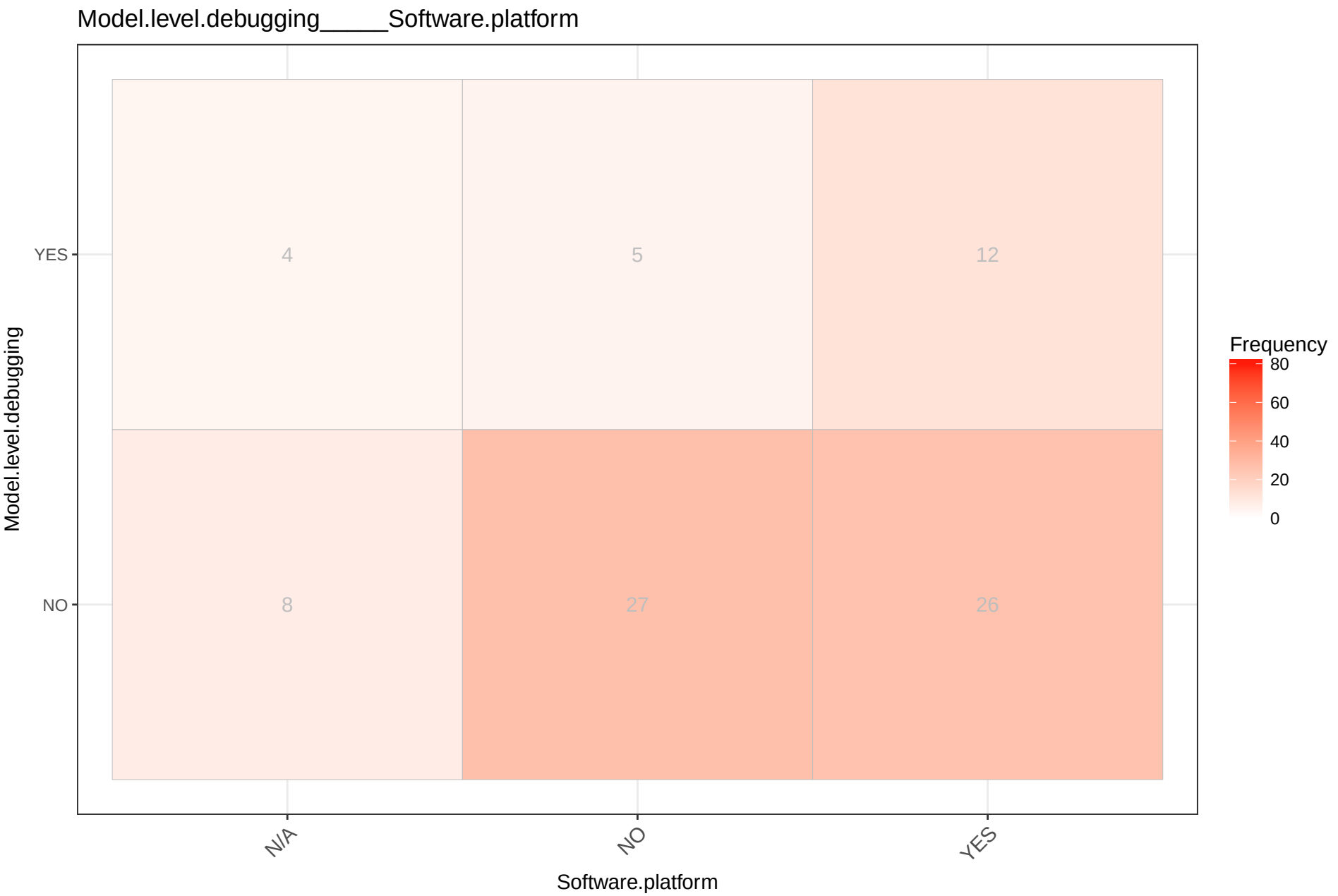

Production.system_____Target.platforms
YES
NO
50
1
1
1
29
0
0
0
N/A
aep
gimple
uvm
Target.platforms
Production.system
Frequency
80
60
40
20
0

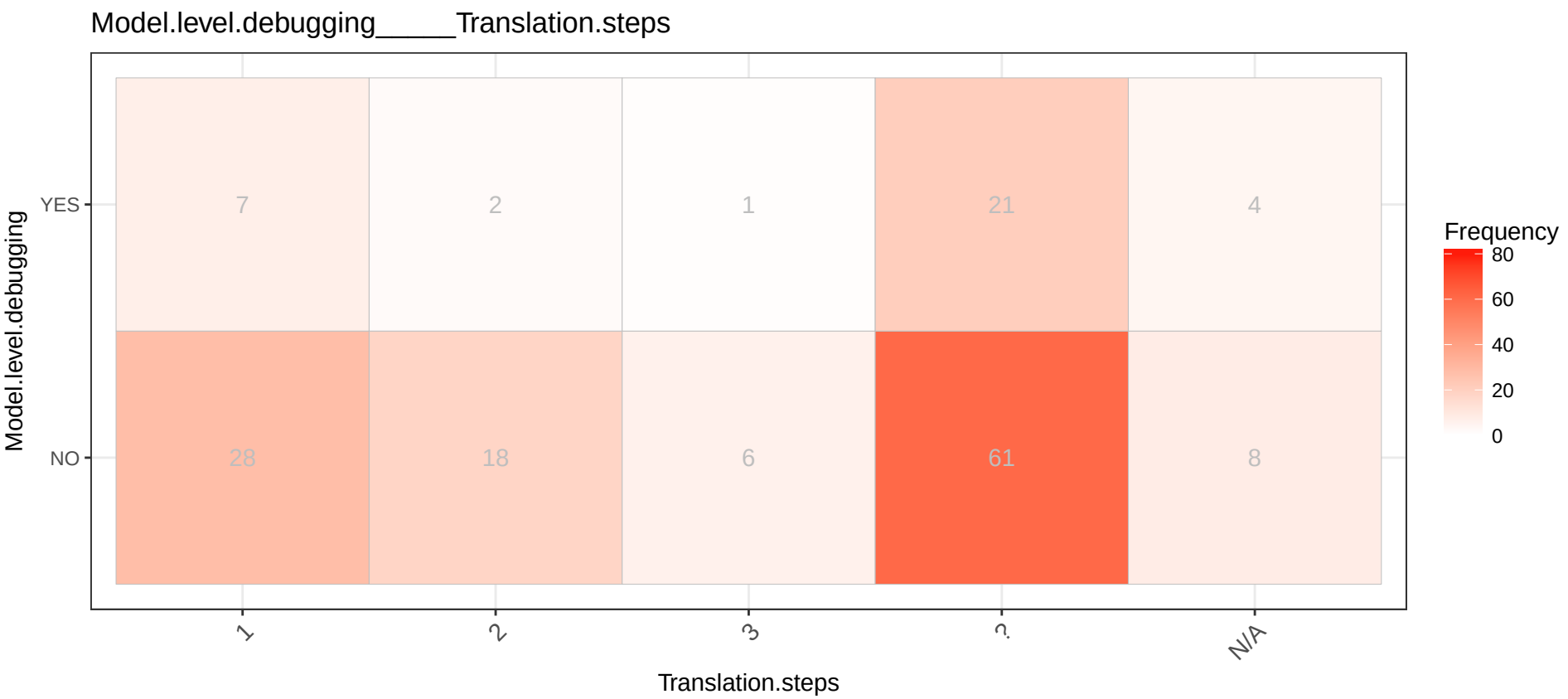

Production.system_____Type.of.evidence.by.category
Production.system
YES
NO
2
1
34
2
8
14
7
3
1
3
20
0
2
5
4
1
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

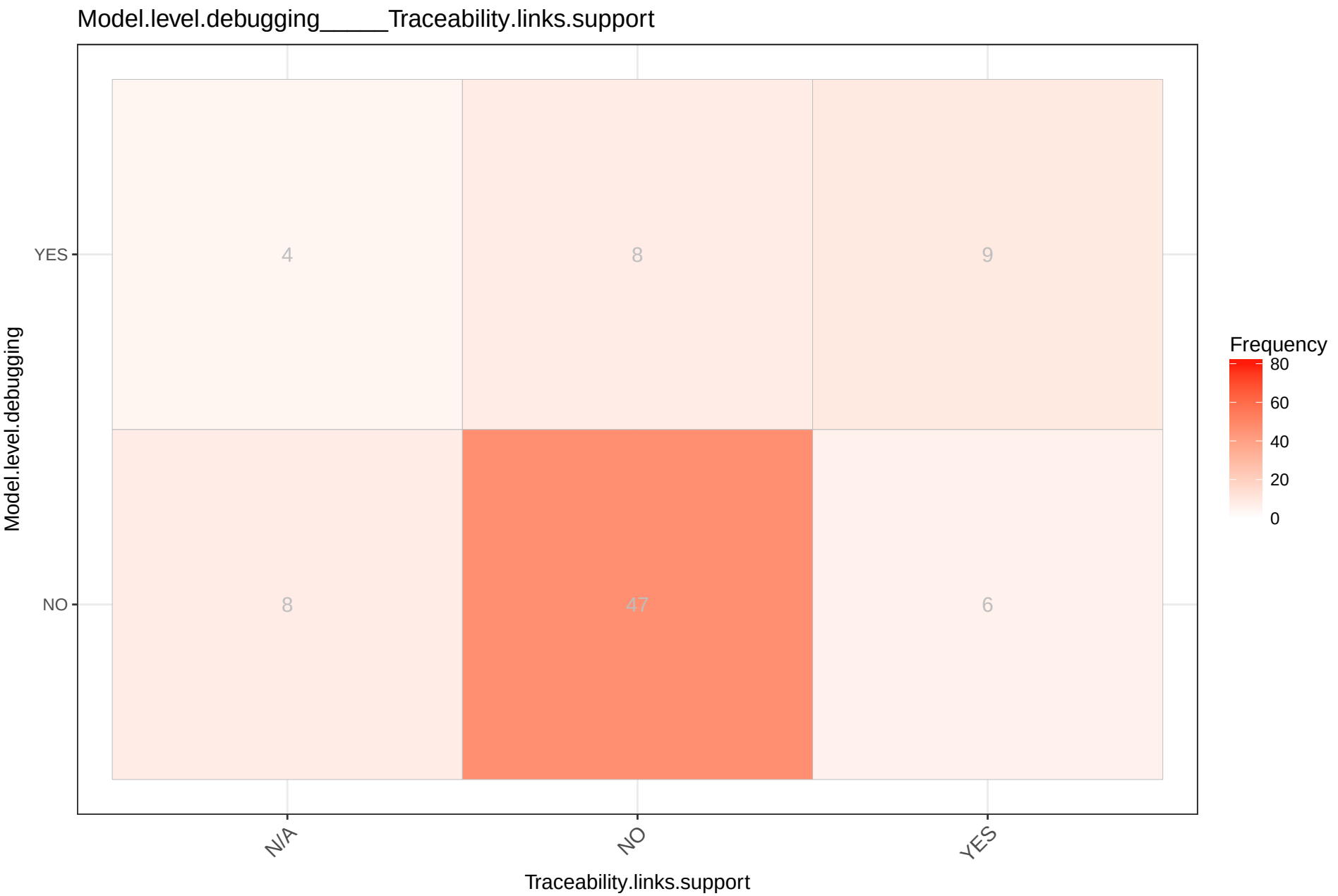

Production.system_____Type.of.evaluation.systems
Production.system
YES
NO
15 4 6 3 5 3 1 3 1 6 2 3 1 3 1
5 1 2 1 5 1 1 2 0 1 1 4 3 7 1
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

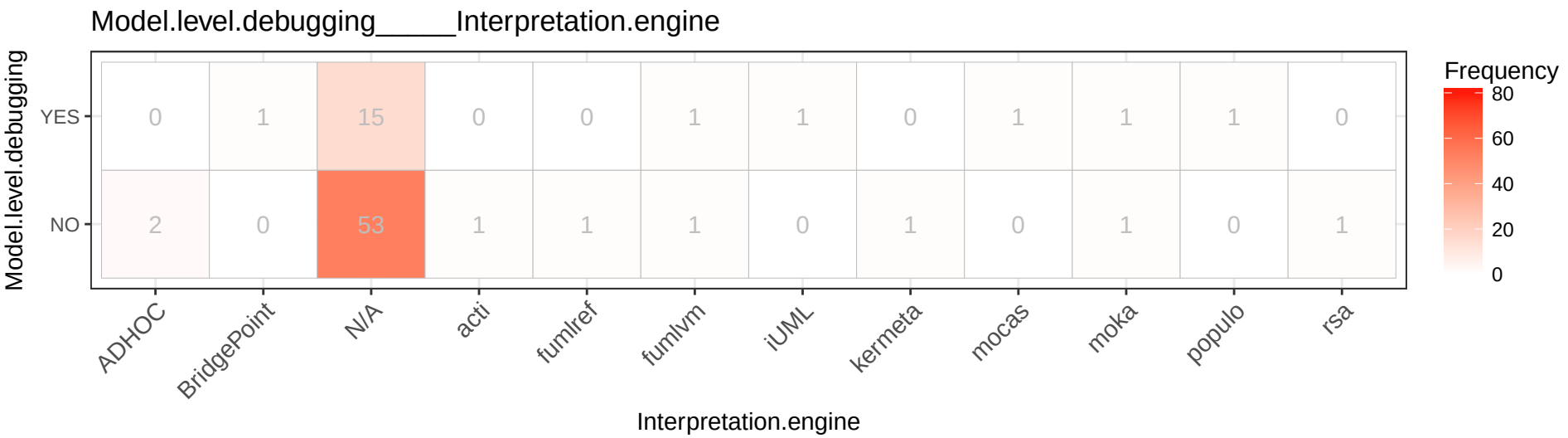

Production.system_____Type.of.limitations.and.unsolved.challenges
Production.system
YES
NO
1 4 9 2 5 2 1 17 1 5 1 1 2 1 0 10 3 17
1 8 2 0 1 2 0 14 3 2 1 0 1 1 1 10 1 4
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

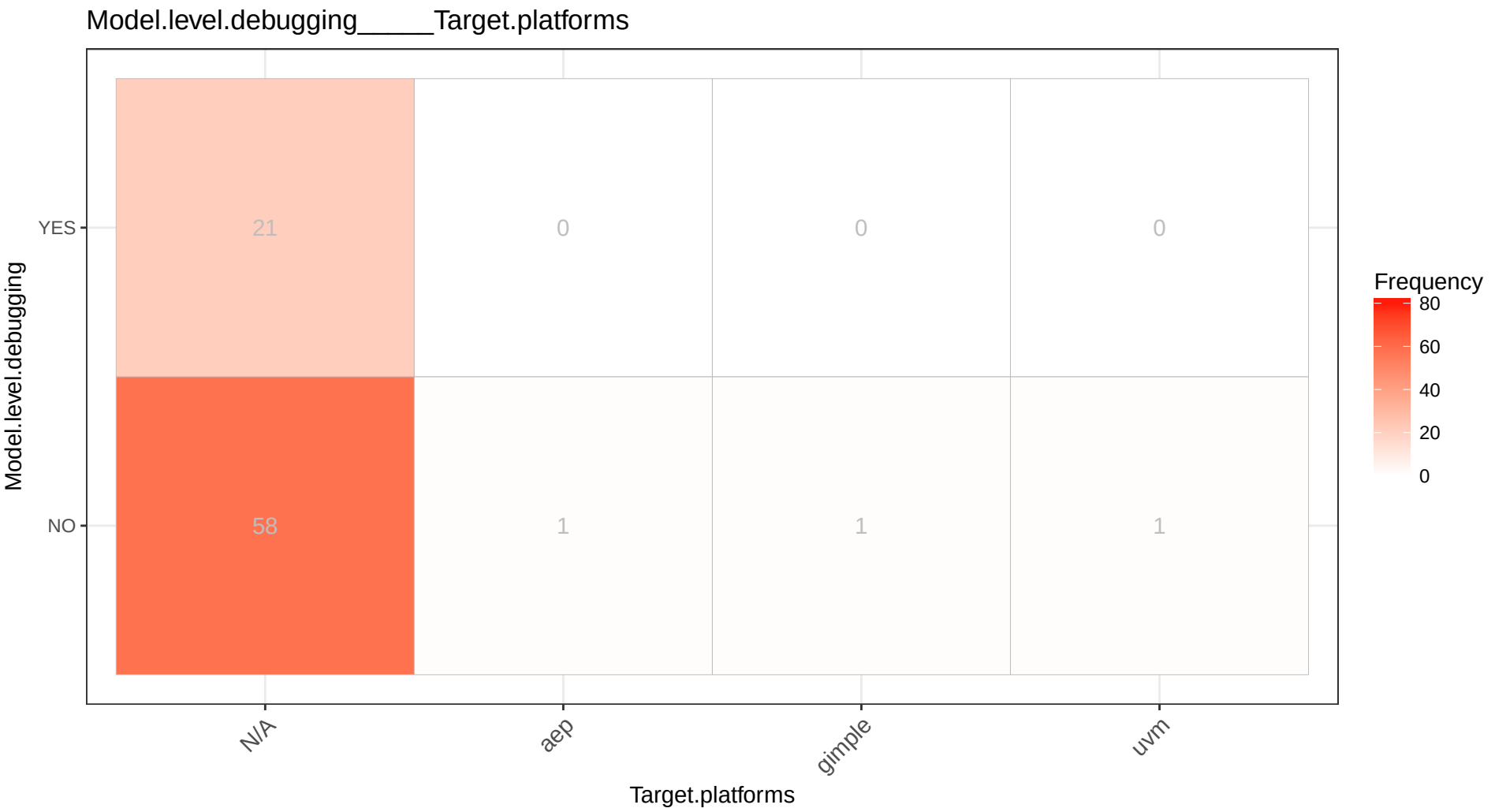

Model.level.debugging_____Formal.specification.languages
Model.level.debugging
YES
NO
0 0 21 0 0 0 0 0 0 0 0 0
2 1 48 1 1 1 1 1 2 2 1 1
CFFSM
ForSyDe
NO
b_base
bhdl
jolie
kiv
lisp
nusmv
petrinet
tml
z
Formal.specification.languages
Frequency
80
60
40
20
0

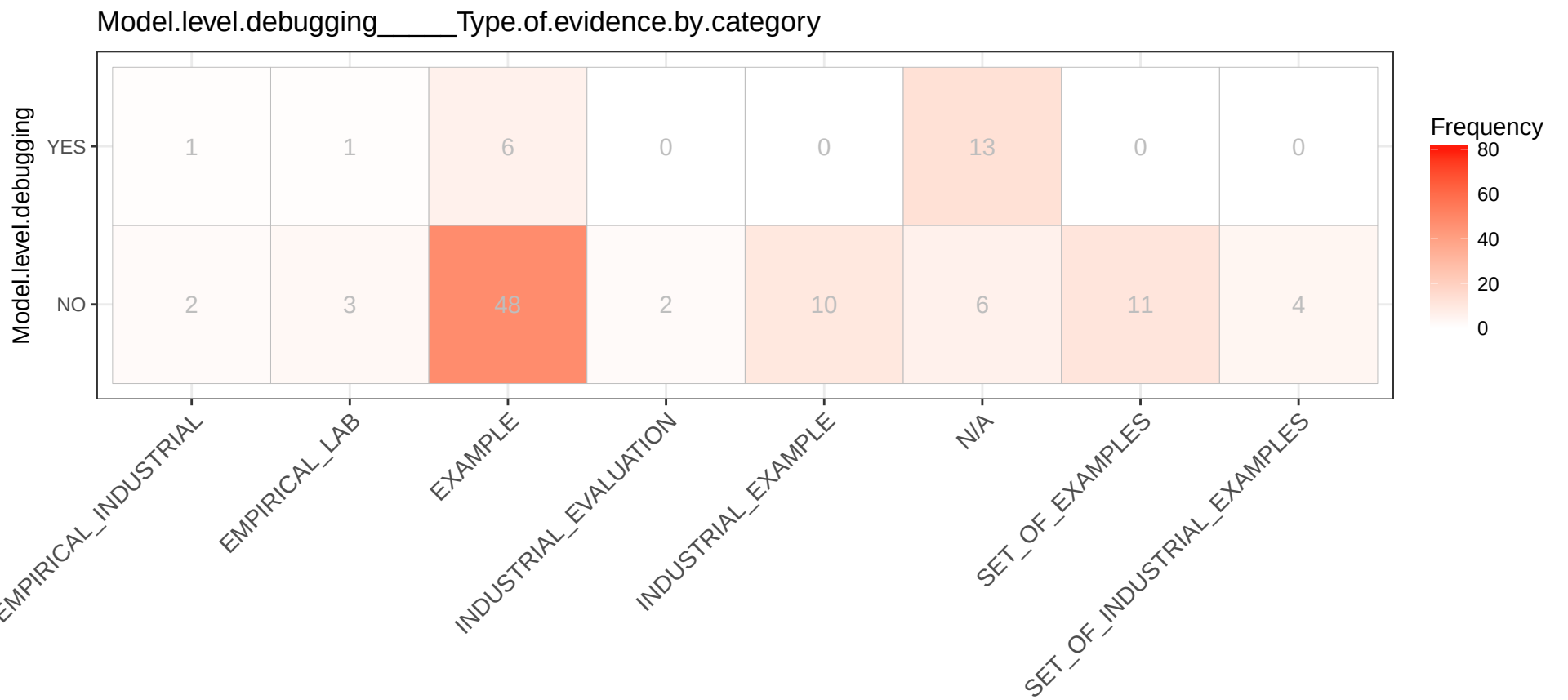

Model.level.debugging_____Software.platform
YES
NO
4
5
12
8
27
26
Model.level.debugging
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

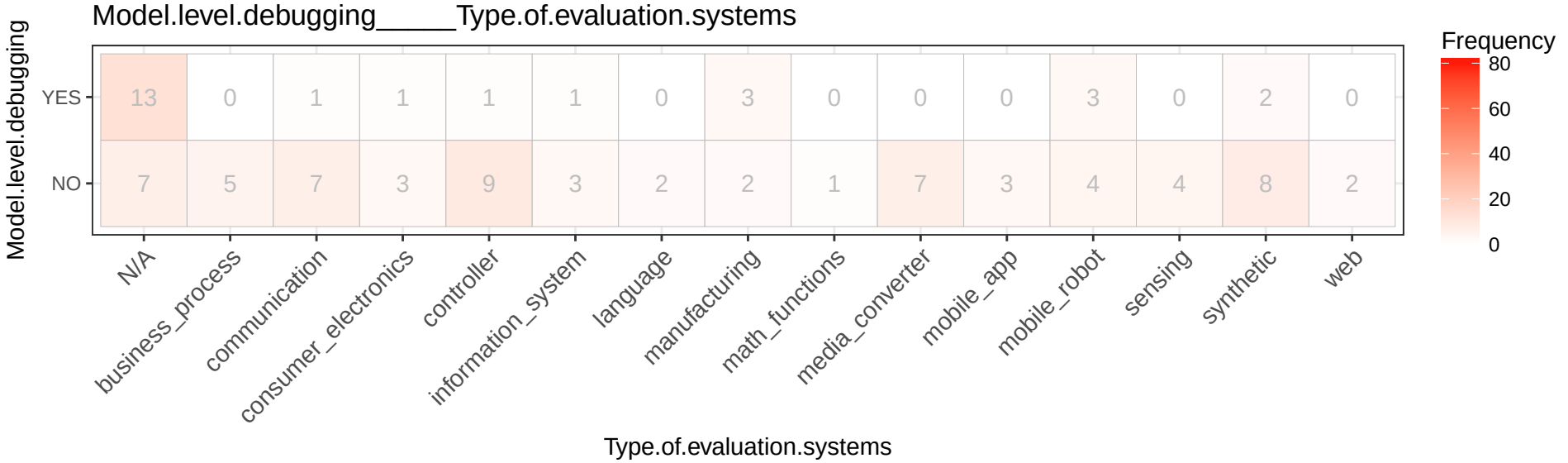

Model.level.debugging_____Translation.steps
Model.level.debugging
YES
NO
7
2
1
21
4
28
18
6
61
8
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

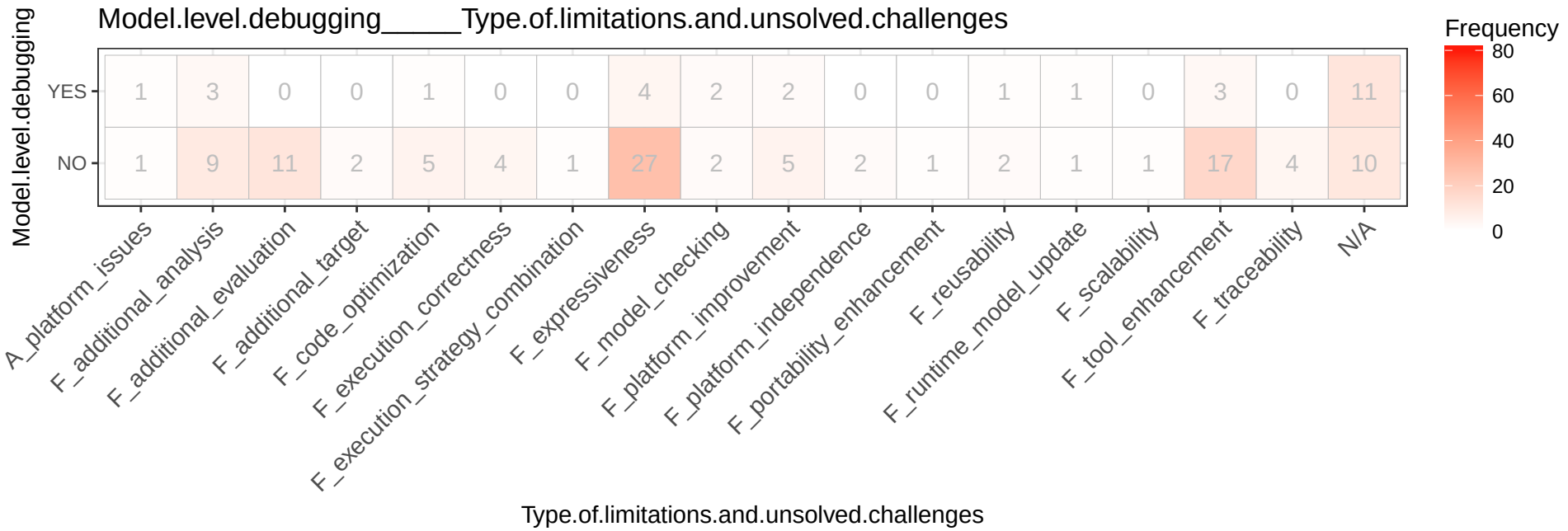

Model.level.debugging_____Traceability.links.support
YES
NO
4
8
9
8
47
6
Model.level.debugging
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

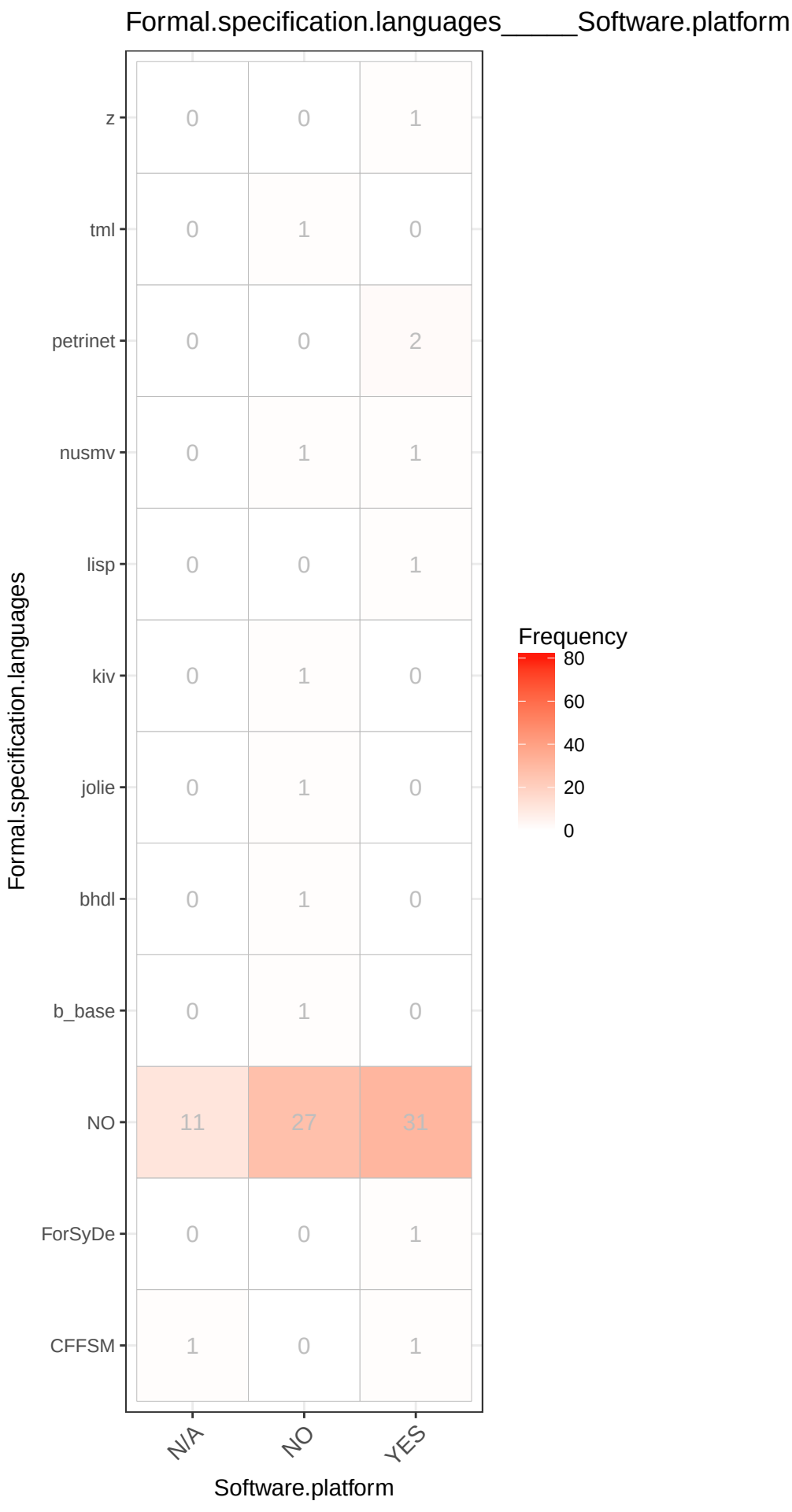

Model.level.debugging_____Interpretation.engine
Model.level.debugging
YES
NO
0 1 15 0 0 1 1 0 1 1 1 0
2 0 53 1 1 1 0 1 0 1 0 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

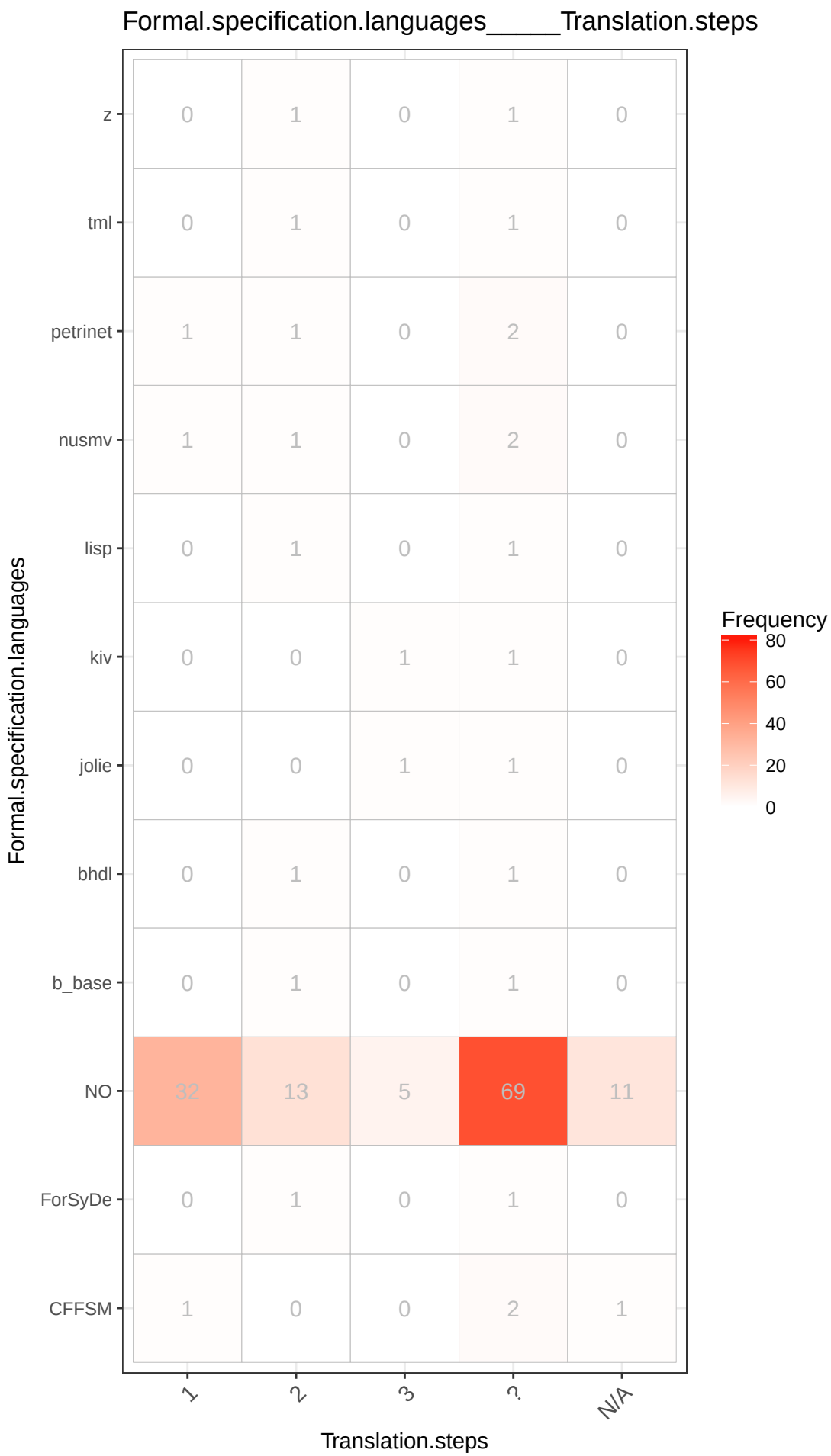

Model.level.debugging_____Target.platforms
Model.level.debugging
YES
NO
21
0
0
0
58
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

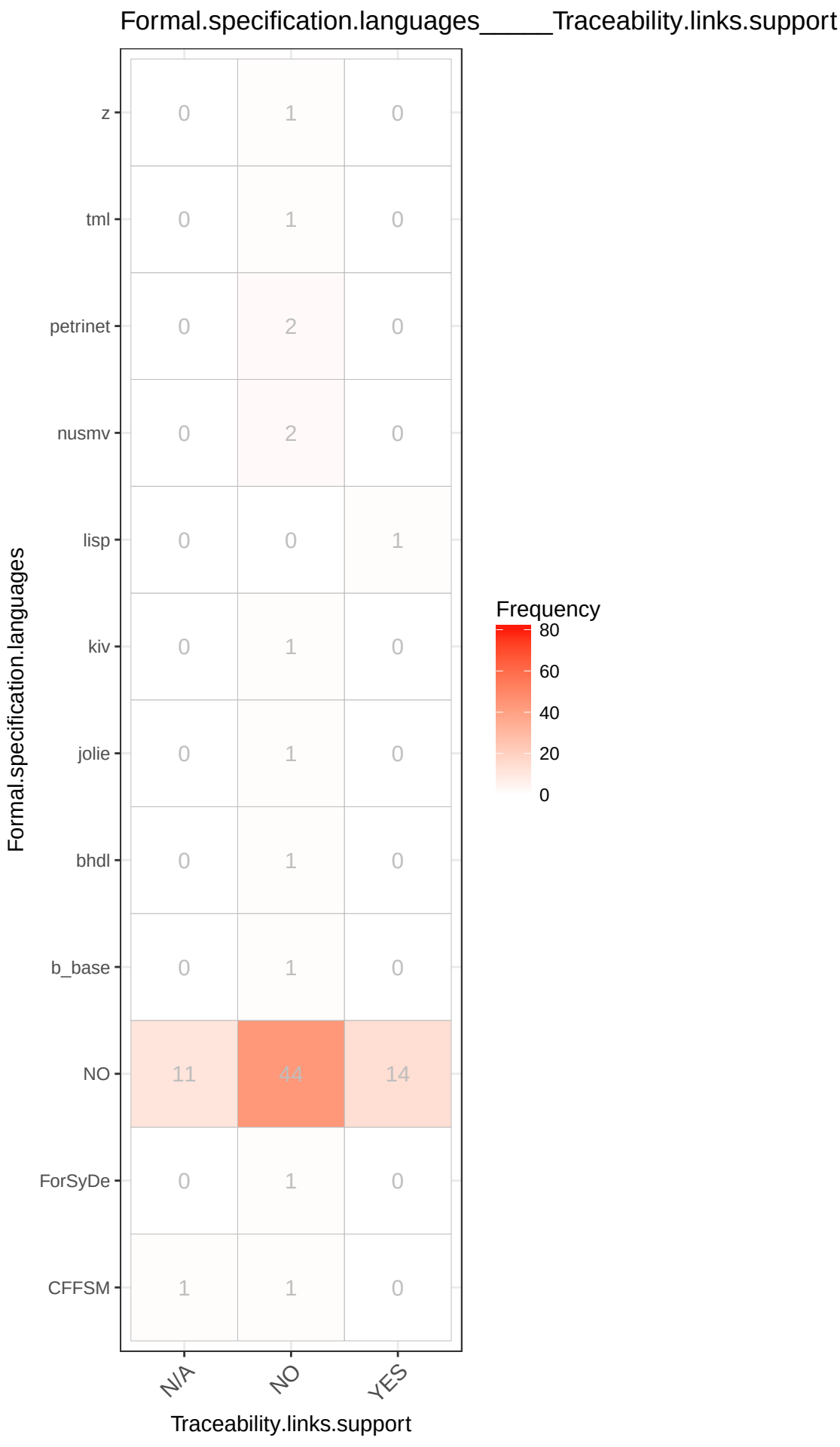

Model.level.debugging_____Type.of.evidence.by.category
Model.level.debugging
YES
NO
1
1
6
0
0
13
0
0
2
3
48
2
10
6
11
4
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

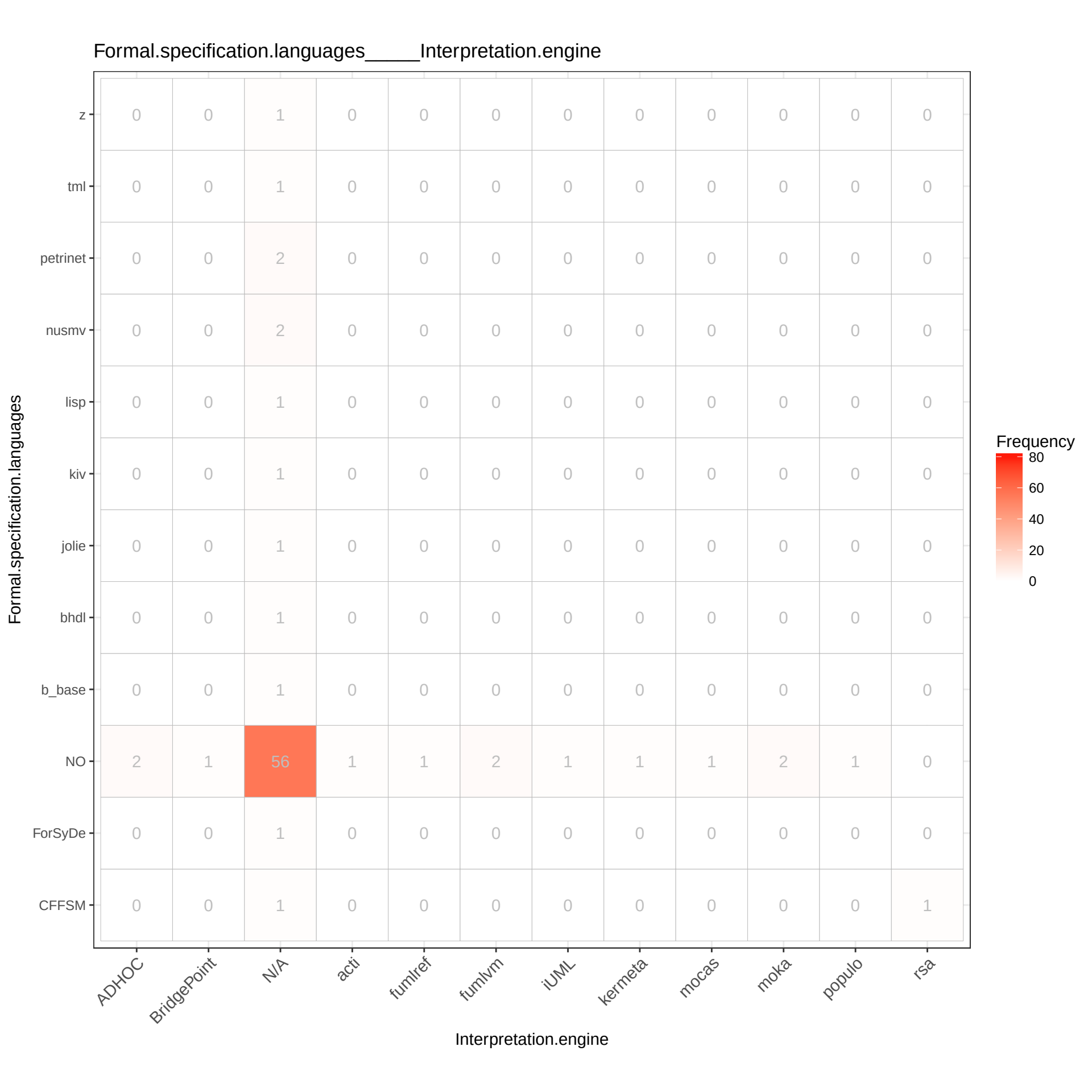

Model.level.debugging_____Type.of.evaluation.systems
Model.level.debugging
YES
NO
13 0 1 1 1 1 0 3 0 0 0 3 0 2 0
7 5 7 3 9 3 2 2 1 7 3 4 4 8 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

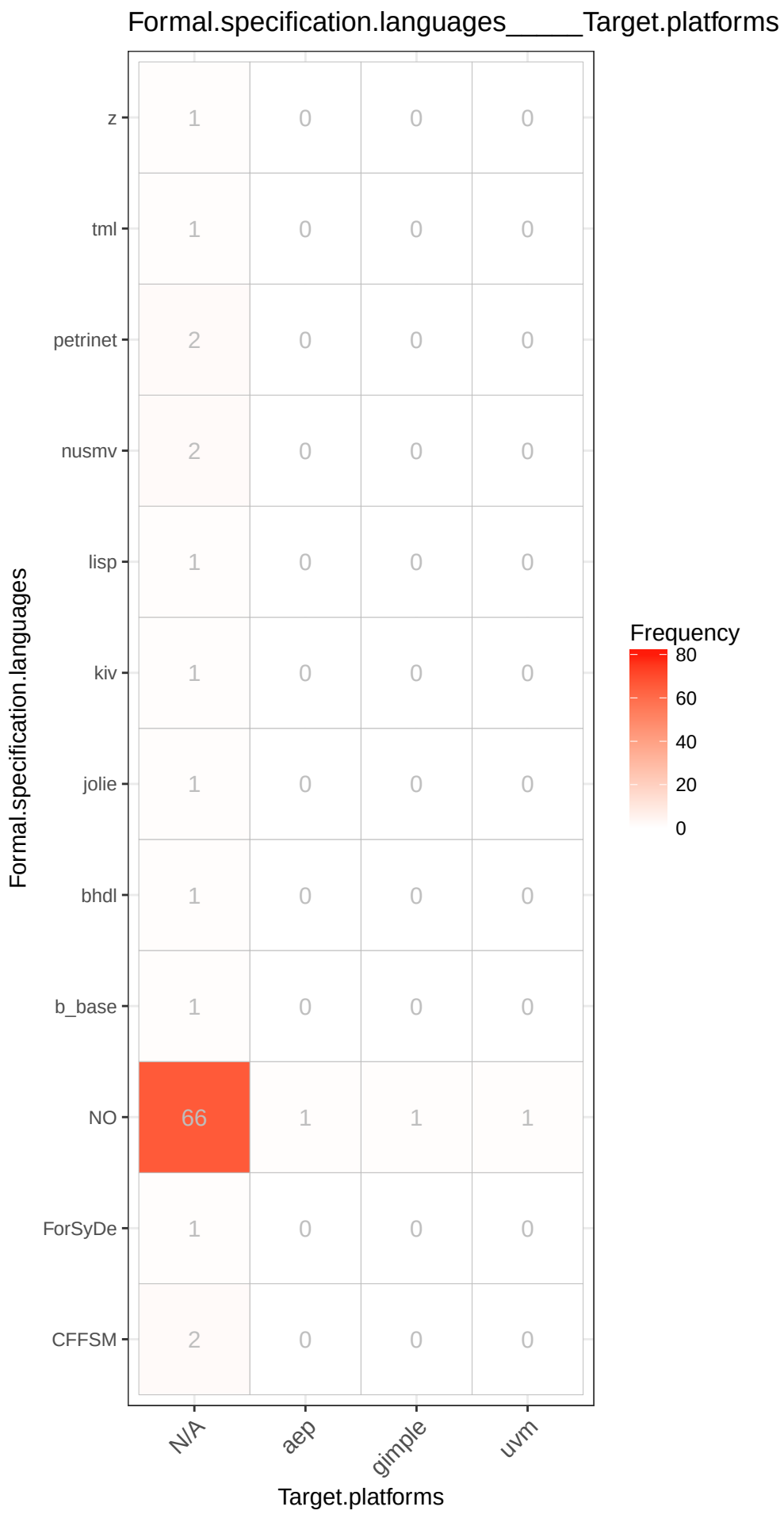

Model.level.debugging_____Type.of.limitations.and.unsolved.challenges
Model.level.debugging
YES
NO
1 3 0 0 1 0 0 4 2 2 0 0 1 1 0 3 0 11
1 9 11 2 5 4 1 27 2 5 2 1 2 1 1 17 4 10
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

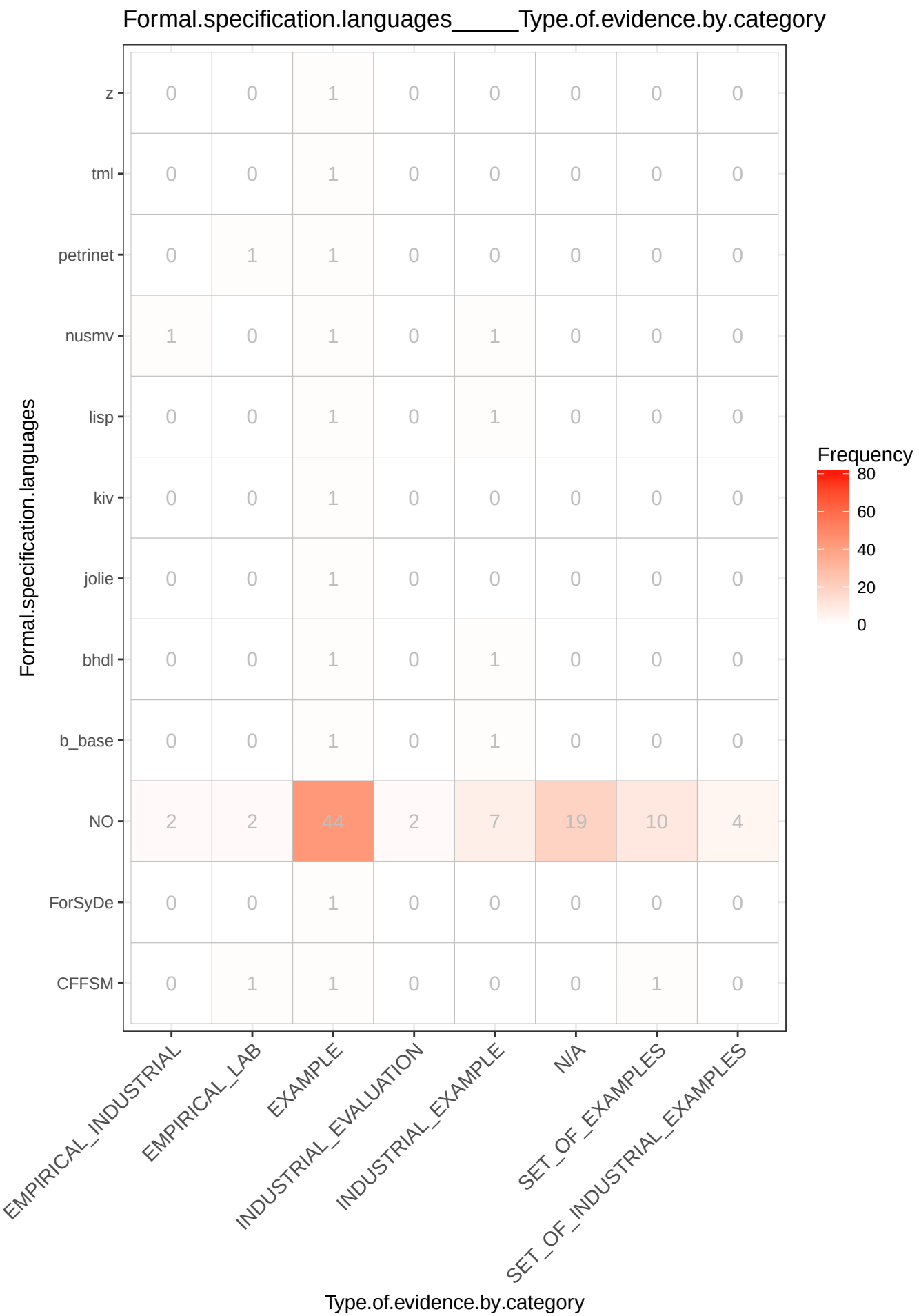

Formal.specification.languages_____Software.platform
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
0 0 1
0 1 0
0 0 2
0 1 1
0 0 1
0 1 0
0 1 0
0 1 0
0 1 0
11 27 31
0 0 1
1 0 1
N/A
NO
YES
Software.platform
Frequency
80
60
40
20
0

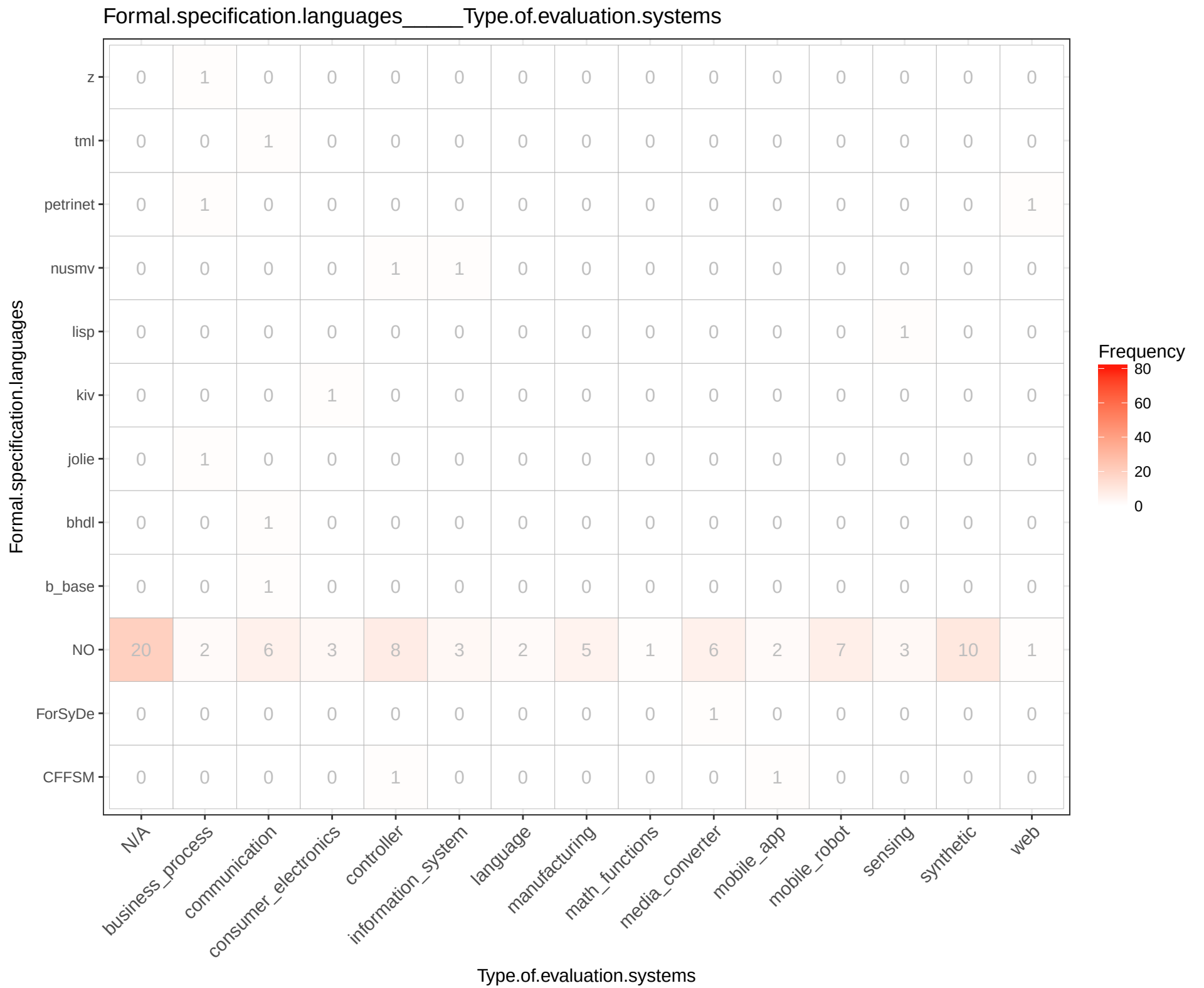

Formal.specification.languages_____Translation.steps
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
0 1 0 1 0
0 1 0 1 0
1 1 0 2 0
1 1 0 2 0
0 1 0 1 0
0 0 1 1 0
0 0 1 1 0
0 1 0 1 0
0 1 0 1 0
32 13 5 69 11
0 1 0 1 0
1 0 0 2 1
1
2
3
?
N/A
Translation.steps
Frequency
80
60
40
20
0

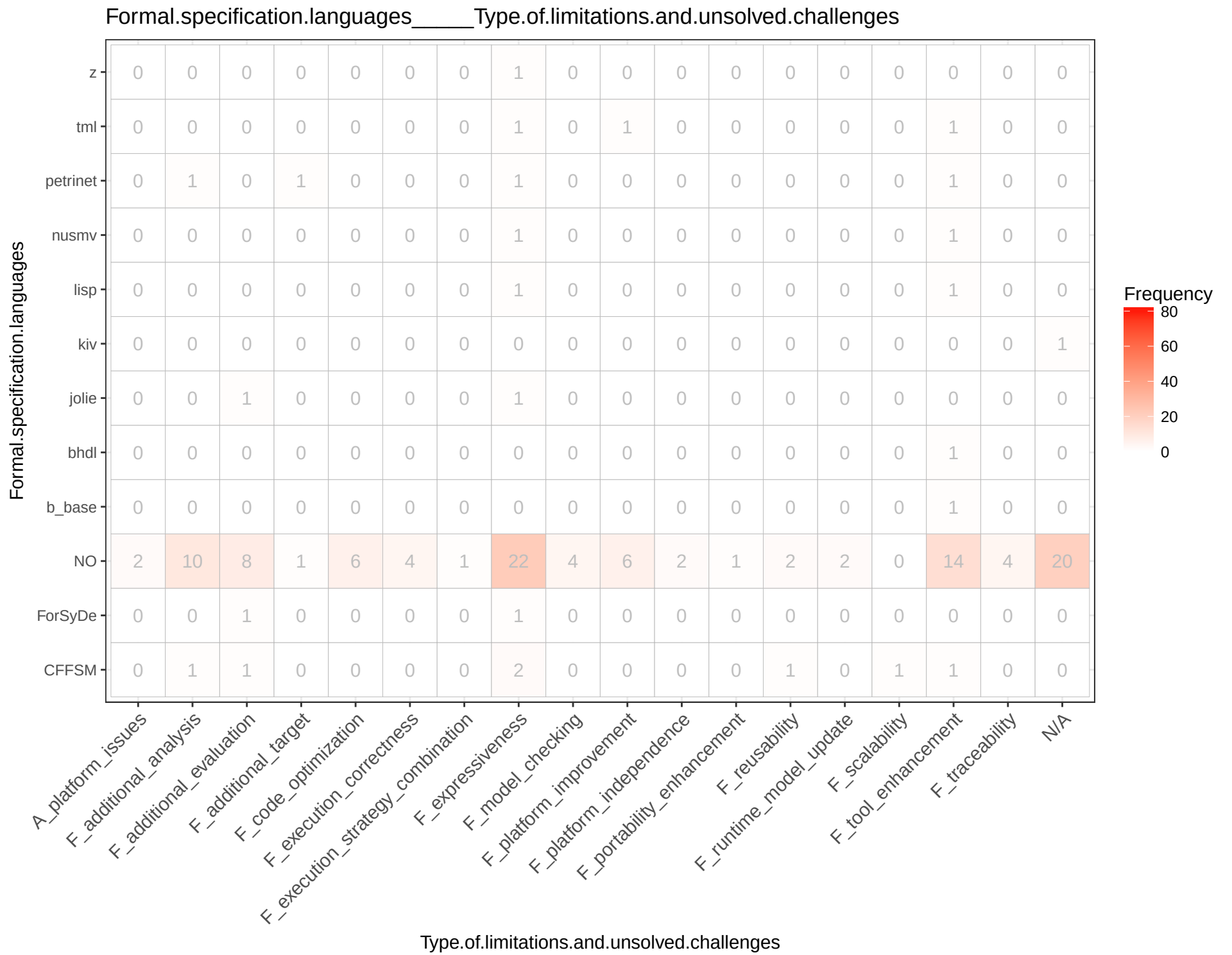

Formal.specification.languages_____Traceability.links.support
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
0 1 0
0 1 0
0 2 0
0 2 0
0 0 1
0 1 0
0 1 0
0 1 0
0 1 0
11 44 14
0 1 0
1 1 0
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

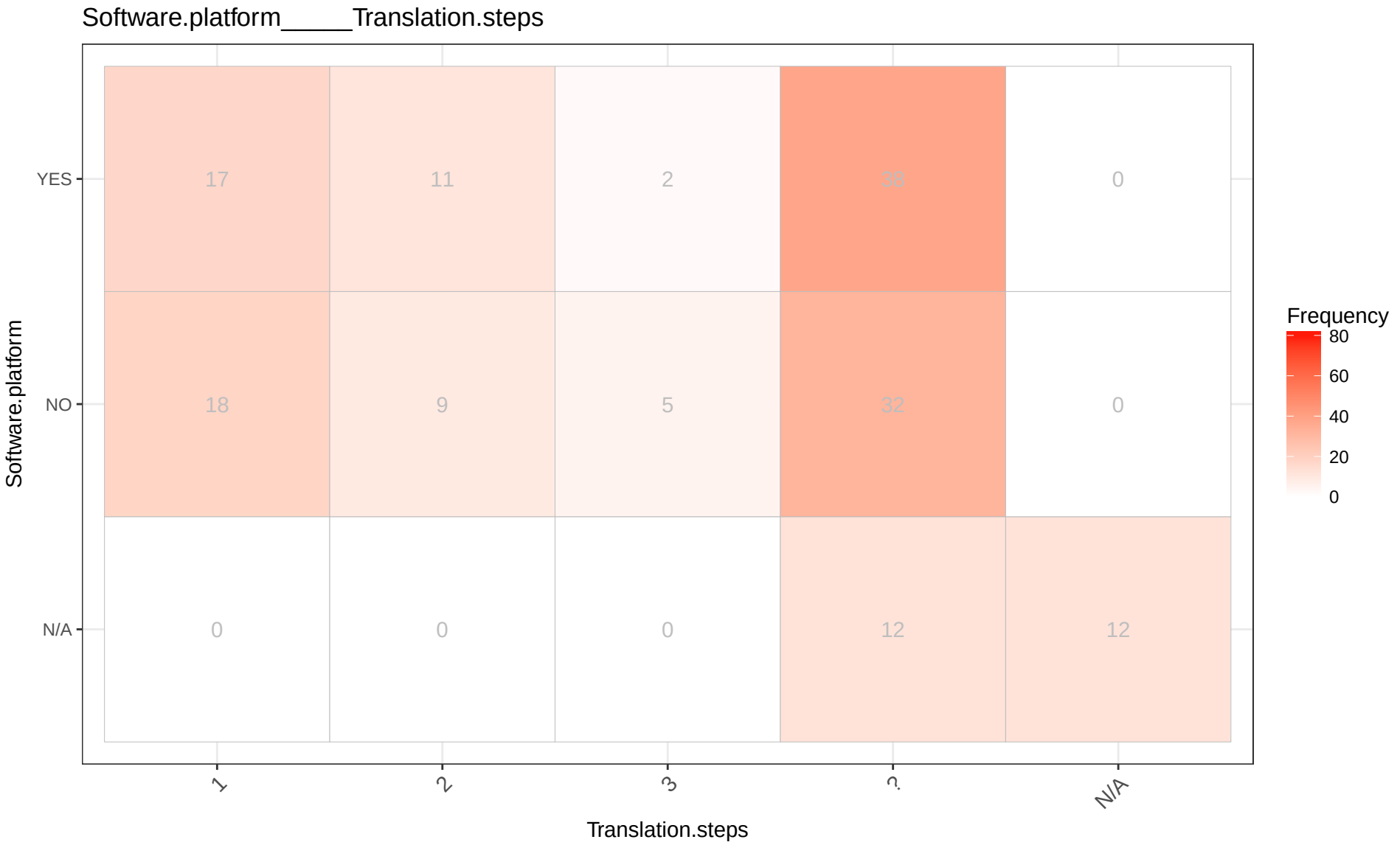

Formal.specification.languages_____Interpretation.engine
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
papyrus
rsa
Interpretation.engine
Frequency
80
60
40
20
0

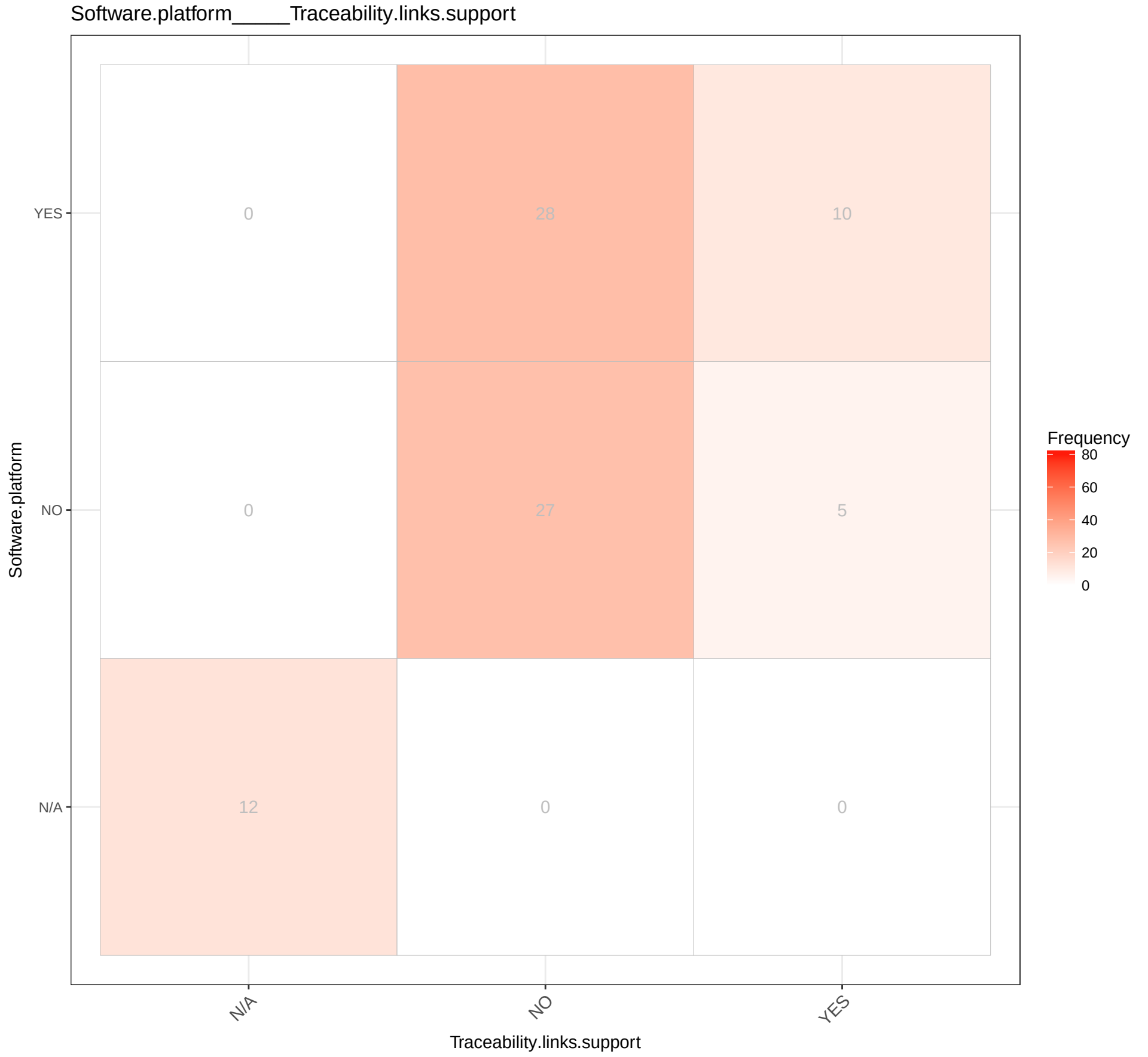

Formal.specification.languages_____Target.platforms
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
1 0 0 0
1 0 0 0
2 0 0 0
2 0 0 0
1 0 0 0
1 0 0 0
1 0 0 0
1 0 0 0
1 0 0 0
66 1 1 1
1 0 0 0
2 0 0 0
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

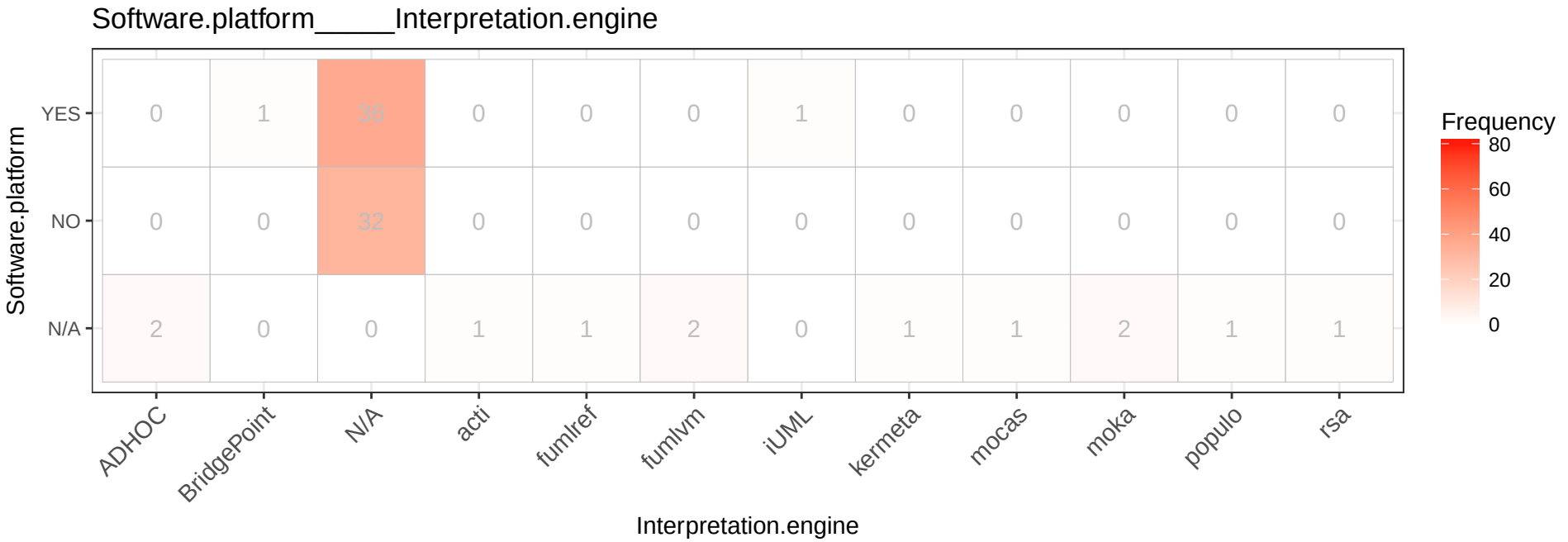

Formal.specification.languages_____Type.of.evidence.by.category
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
0 0 1 0 0 0 0 0
0 0 1 0 0 0 0 0
0 1 1 0 0 0 0 0
1 0 1 0 1 0 0 0
0 0 1 0 1 0 0 0
0 0 1 0 0 0 0 0
0 0 1 0 0 0 0 0
0 0 1 0 1 0 0 0
0 0 1 0 1 0 0 0
2 2 44 2 7 19 10 4
0 0 1 0 0 0 0 0
0 1 1 0 0 0 1 0
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

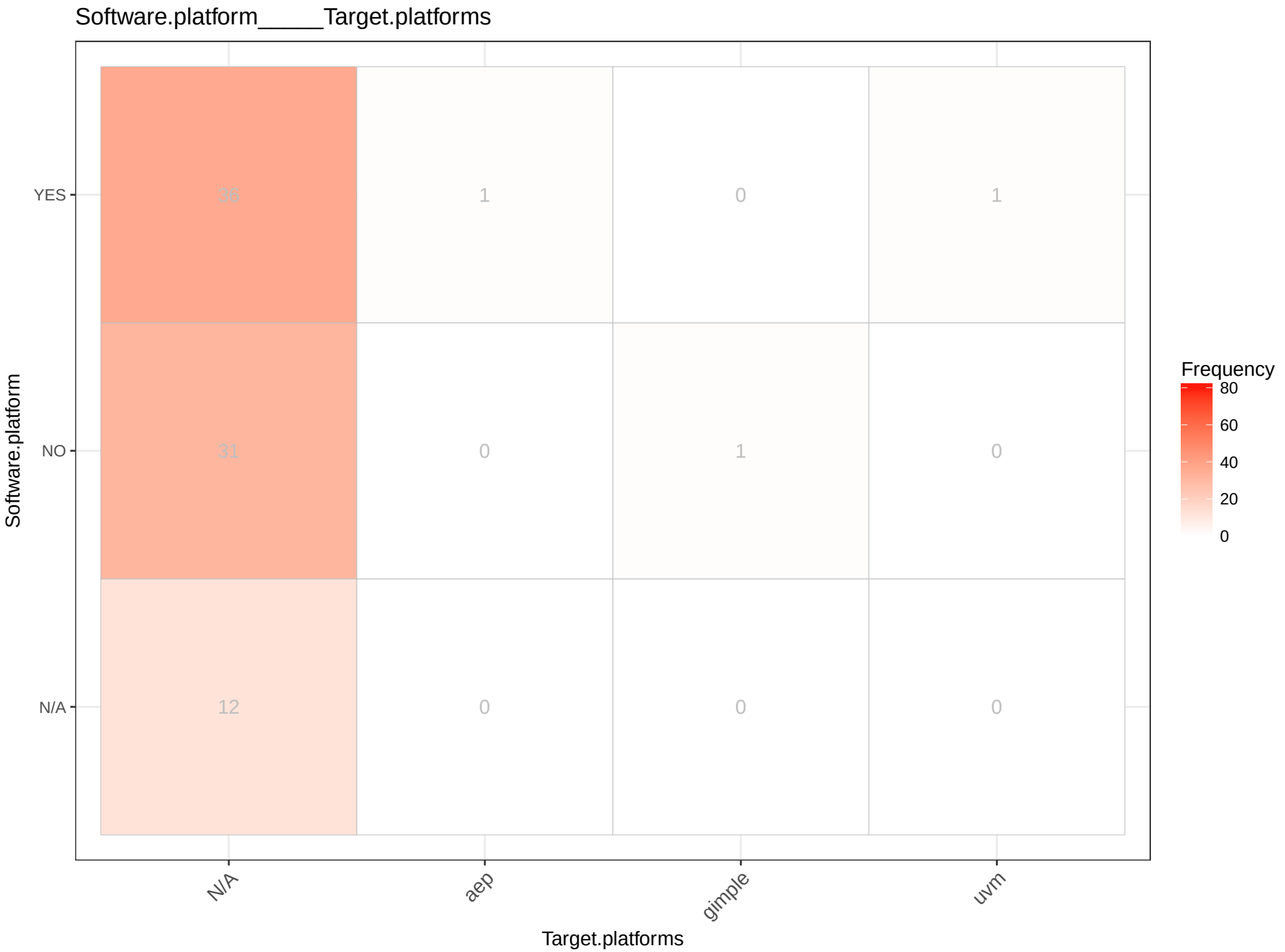

Formal.specification.languages_____Type.of.evaluation.systems
Formal.specification.languages
z
tml
petrinet
nusmv
lisp
kiv
jolie
bhdl
b_base
NO
ForSyDe
CFFSM
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

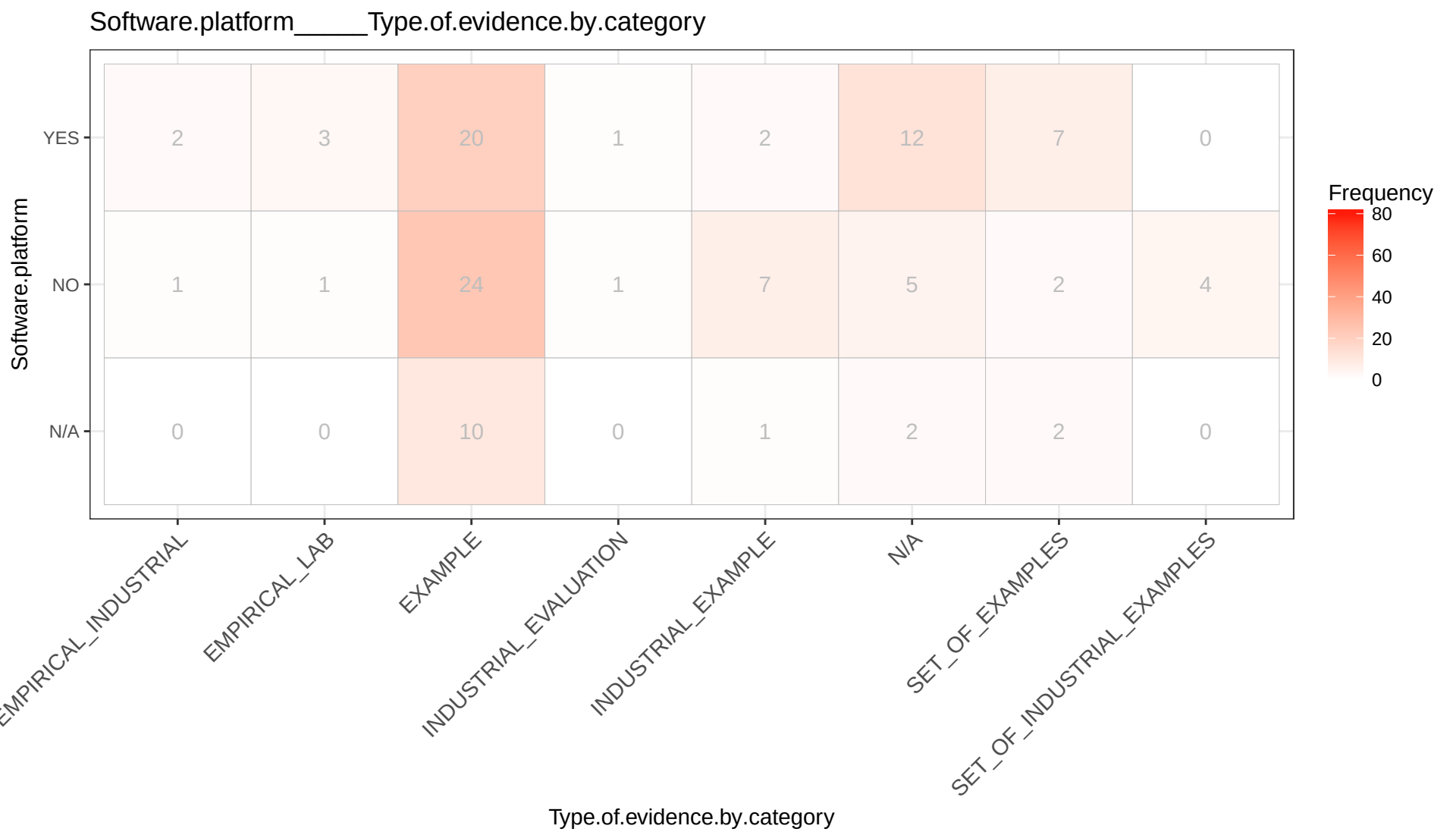

Formal.specification.languages_____Type.of.limitations.and.unsolved.challenges
Formal.specification.languages
z 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
tml 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 1 0 0
petrinet 0 1 0 1 0 0 0 1 0 0 0 0 0 0 0 1 0 0
nusmv 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0
lisp 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0
kiv 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
jolie 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
bhdl 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
b_base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
NO 2 10 8 1 6 4 1 22 4 6 2 1 2 2 0 14 4 20
ForSyDe 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
CFFSM 0 1 1 0 0 0 0 2 0 0 0 0 1 0 1 1 0 0
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

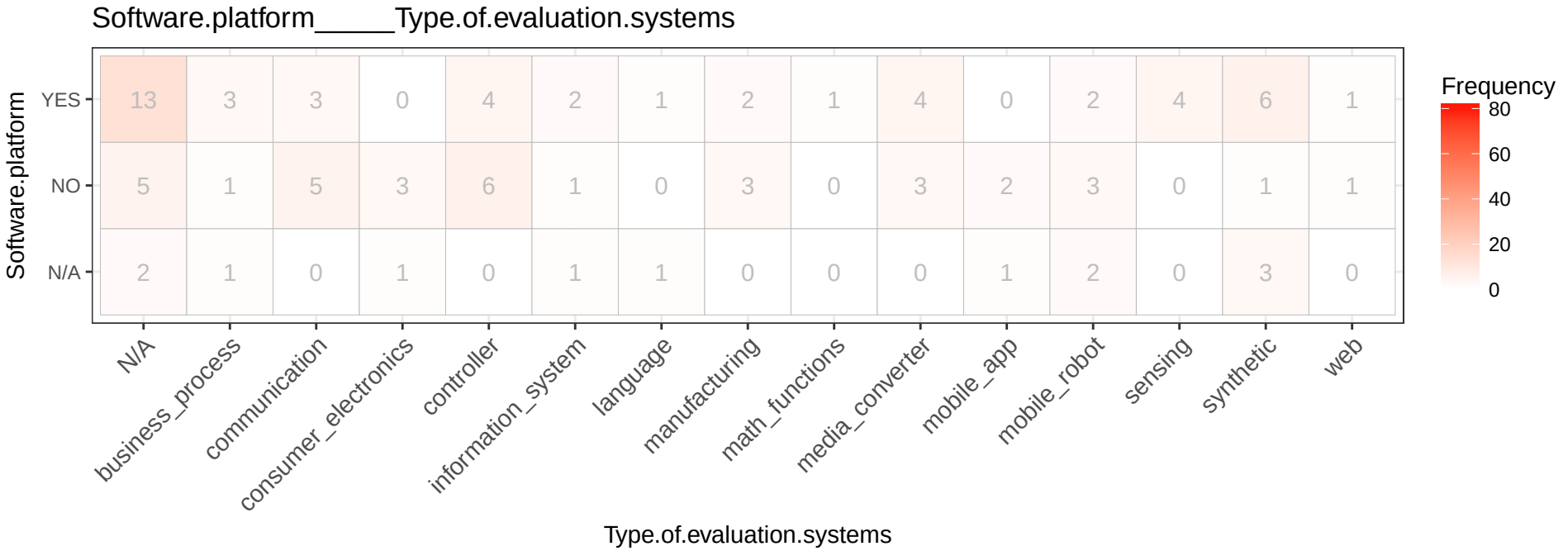

Software.platform_____Translation.steps
YES
NO
N/A
17
11
2
38
0
18
9
5
32
0
0
0
0
12
12
1
2
3
?
N/A
Translation.steps
Software.platform
Frequency
80
60
40
20
0

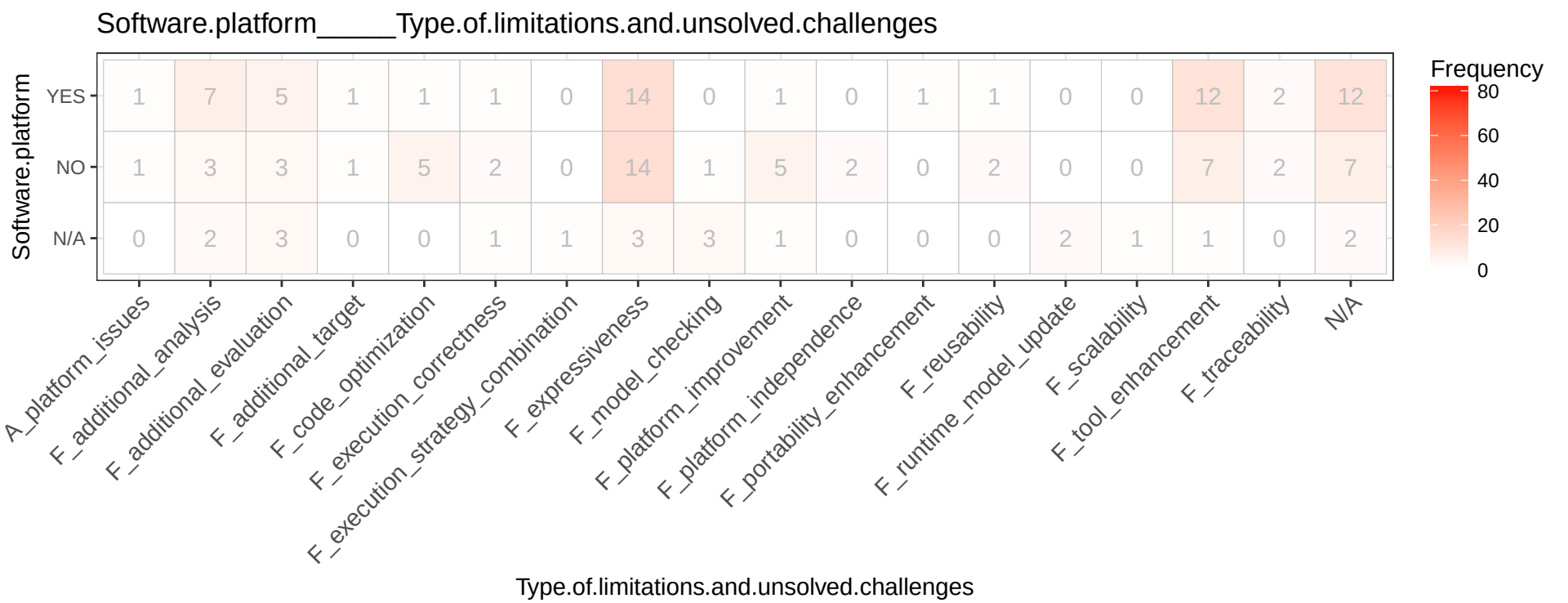

Software.platform_____Traceability.links.support
YES
NO
N/A
0
28
10
0
27
5
12
0
0
Software.platform
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

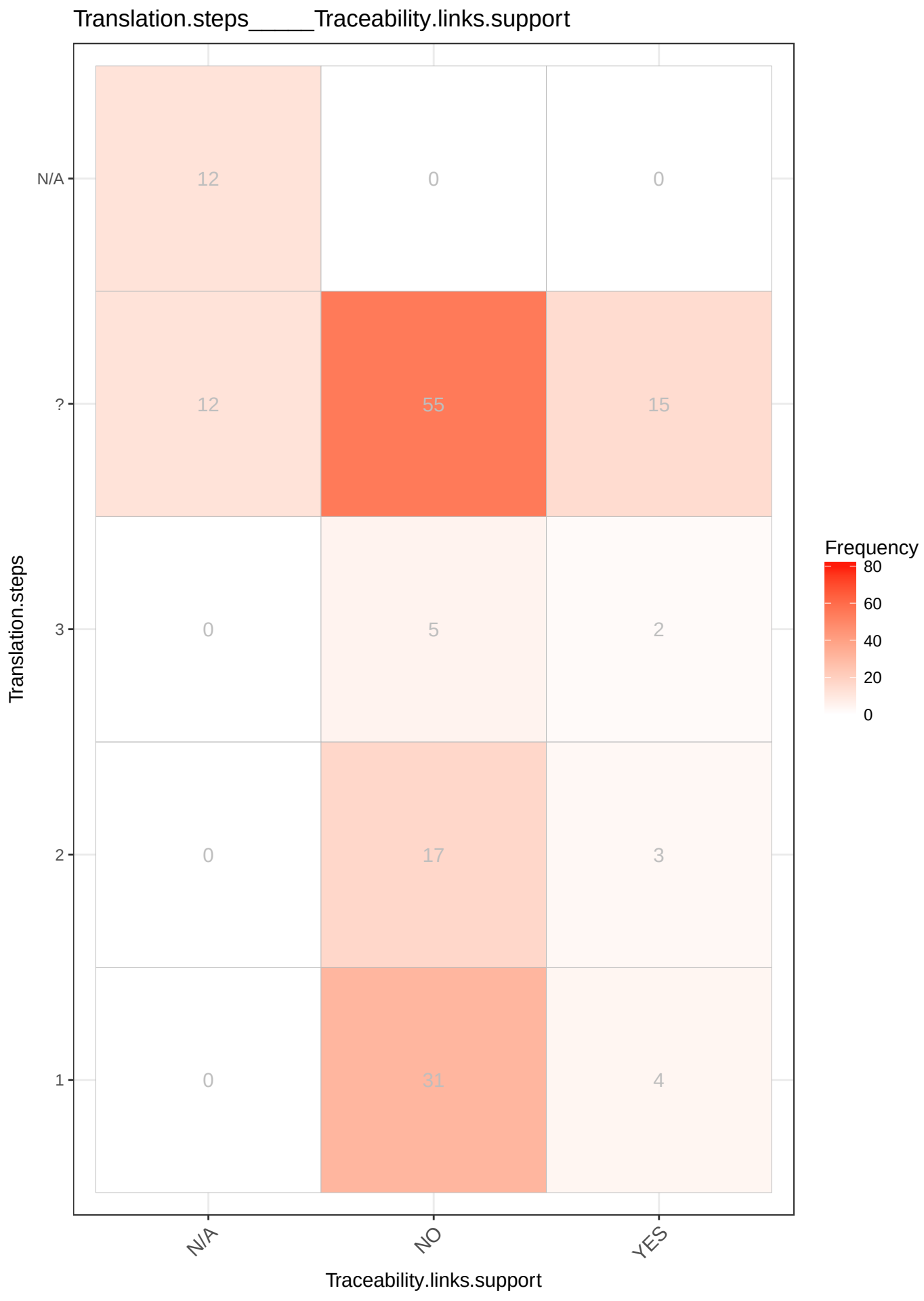

Software.platform_____Interpretation.engine
Software.platform
YES
NO
N/A
0 1 36 0 0 0 1 0 0 0 0 0
0 0 32 0 0 0 0 0 0 0 0 0
2 0 0 1 1 2 0 1 1 2 1 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

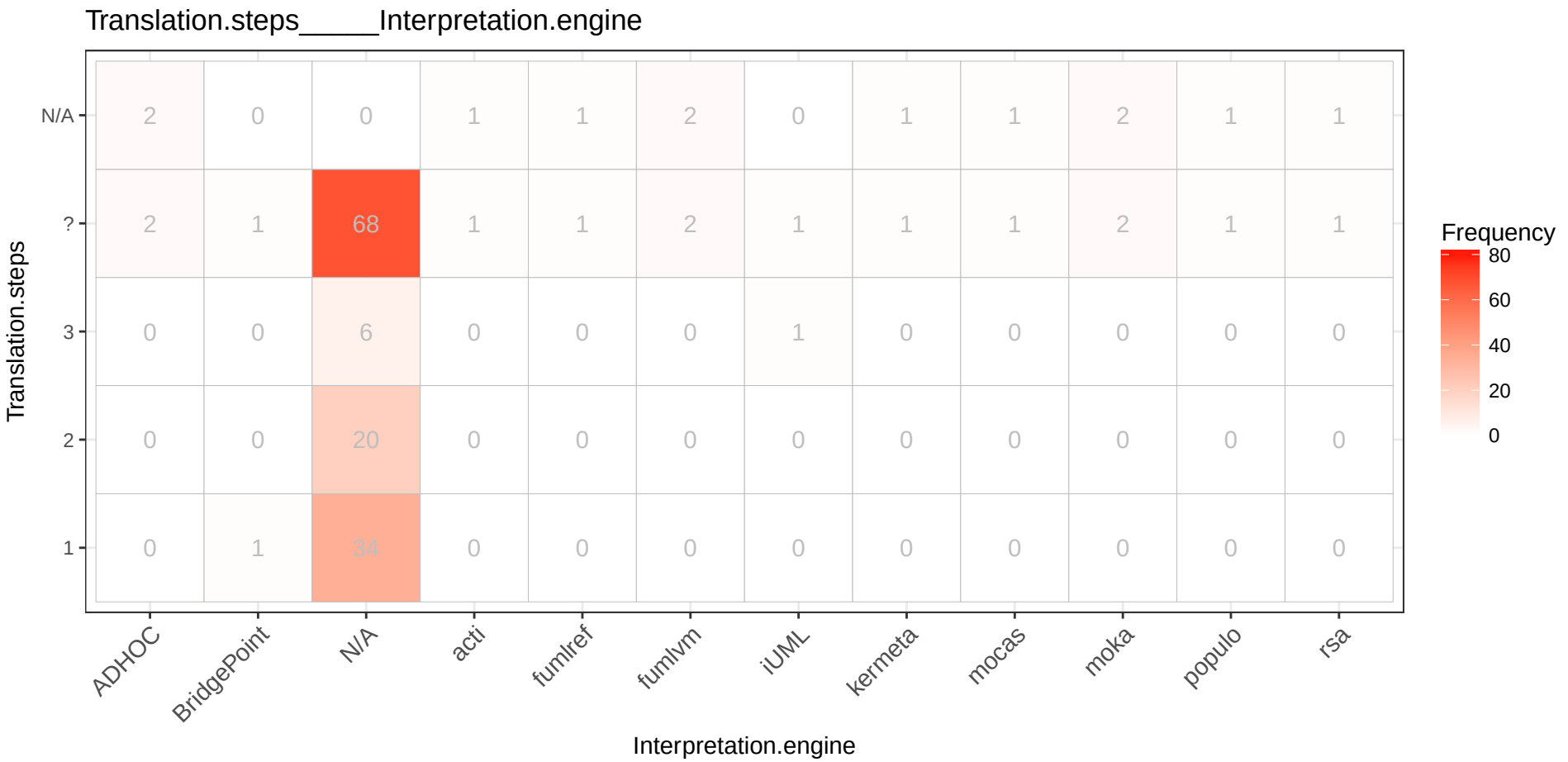

Software.platform_____Target.platforms
YES
NO
N/A
36
1
0
1
31
0
1
0
12
0
0
0
Software.platform
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

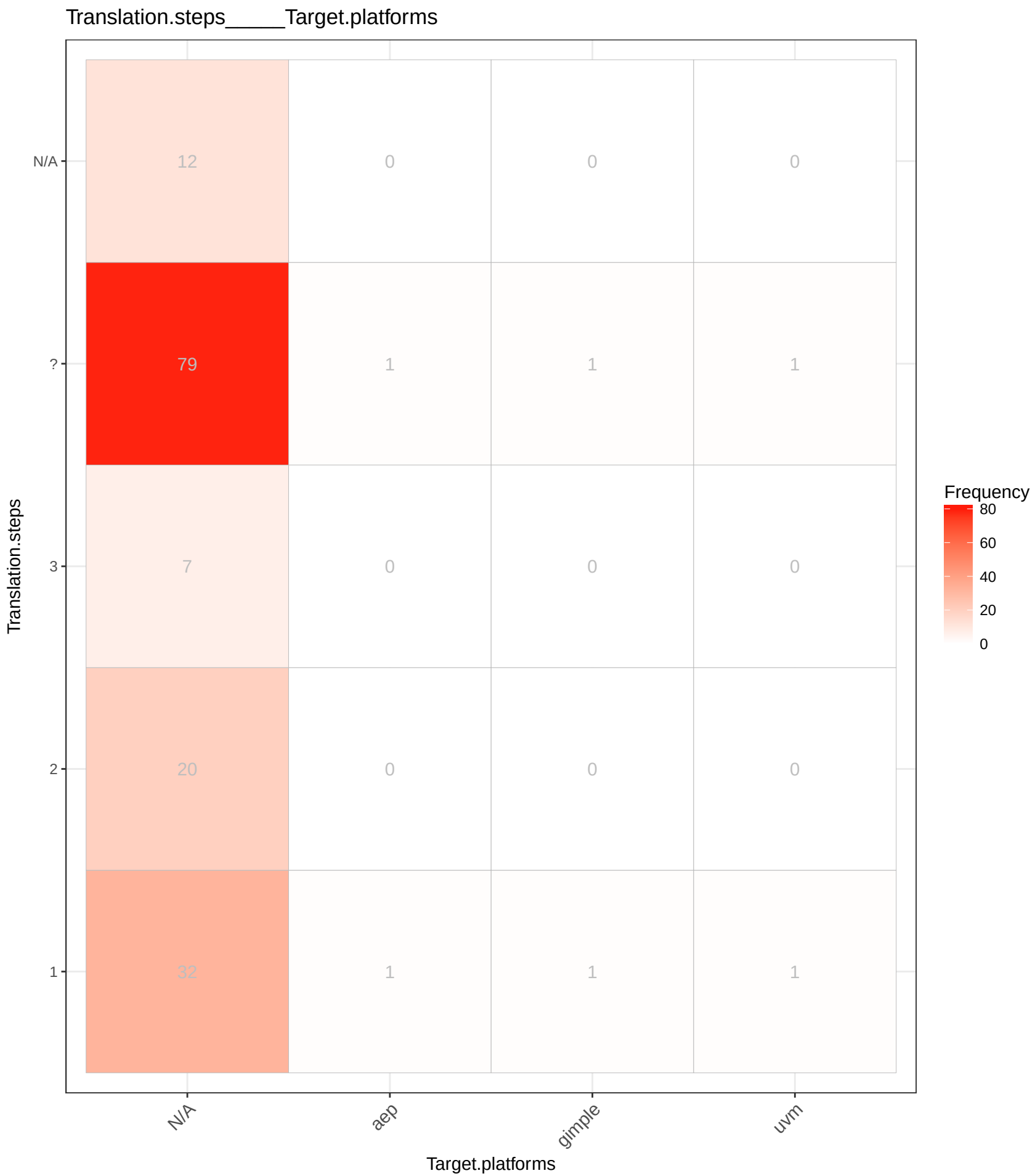

Software.platform_____Type.of.evidence.by.category
Software.platform
YES
NO
N/A
2
3
20
1
2
12
7
0
1
1
24
1
7
5
2
4
0
0
10
0
1
2
2
0
Frequency
80
60
40
20
0
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category

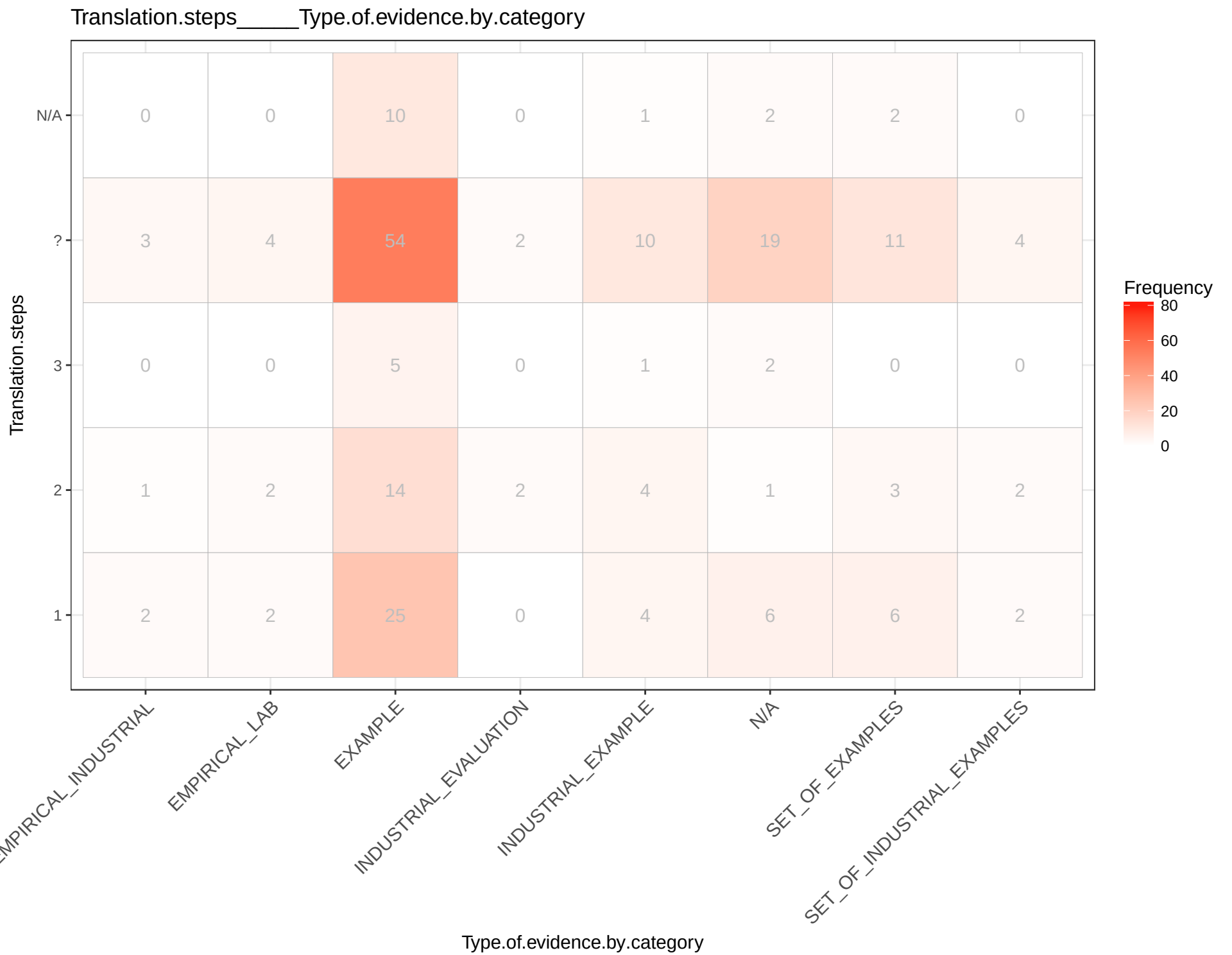

Software.platform_____Type.of.evaluation.systems
Software.platform
YES
NO
N/A
13 3 3 0 4 2 1 2 1 4 0 2 4 6 1
5 1 5 3 6 1 0 3 0 3 2 3 0 1 1
2 1 0 1 0 1 1 0 0 0 1 2 0 3 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

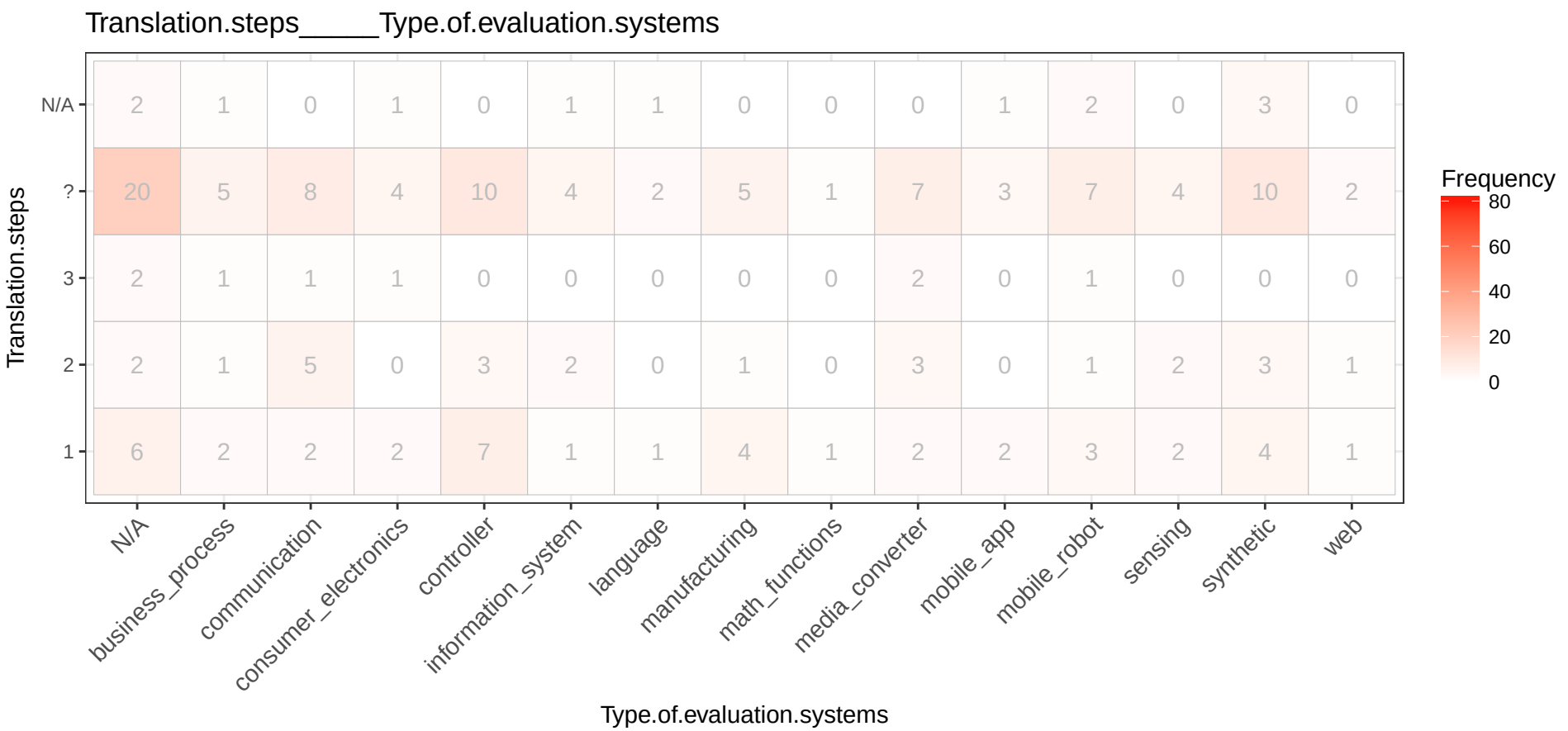

Software.platform_____Type.of.limitations.and.unsolved.challenges
Software.platform
YES
NO
N/A
1 7 5 1 1 1 0 14 0 1 0 1 1 0 0 12 2 12
1 3 3 1 5 2 0 14 1 5 2 0 2 0 0 7 2 7
0 2 3 0 0 1 1 3 3 1 0 0 0 2 1 1 0 2
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

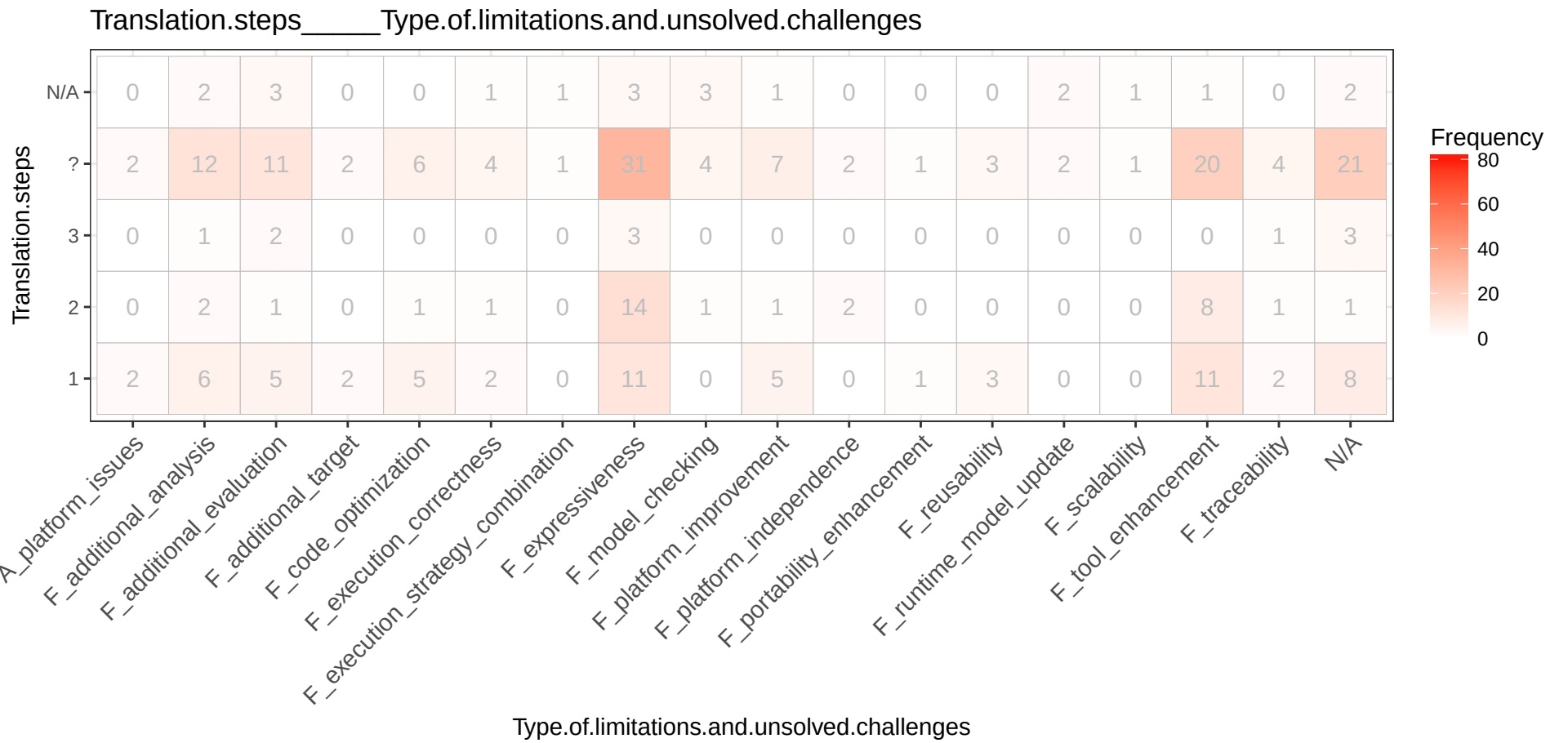

Translation.steps_____Traceability.links.support
N/A
?
3
2
1
Translation.steps
12
0
0
12
55
15
0
5
2
0
17
3
0
31
4
N/A
NO
YES
Traceability.links.support
Frequency
80
60
40
20
0

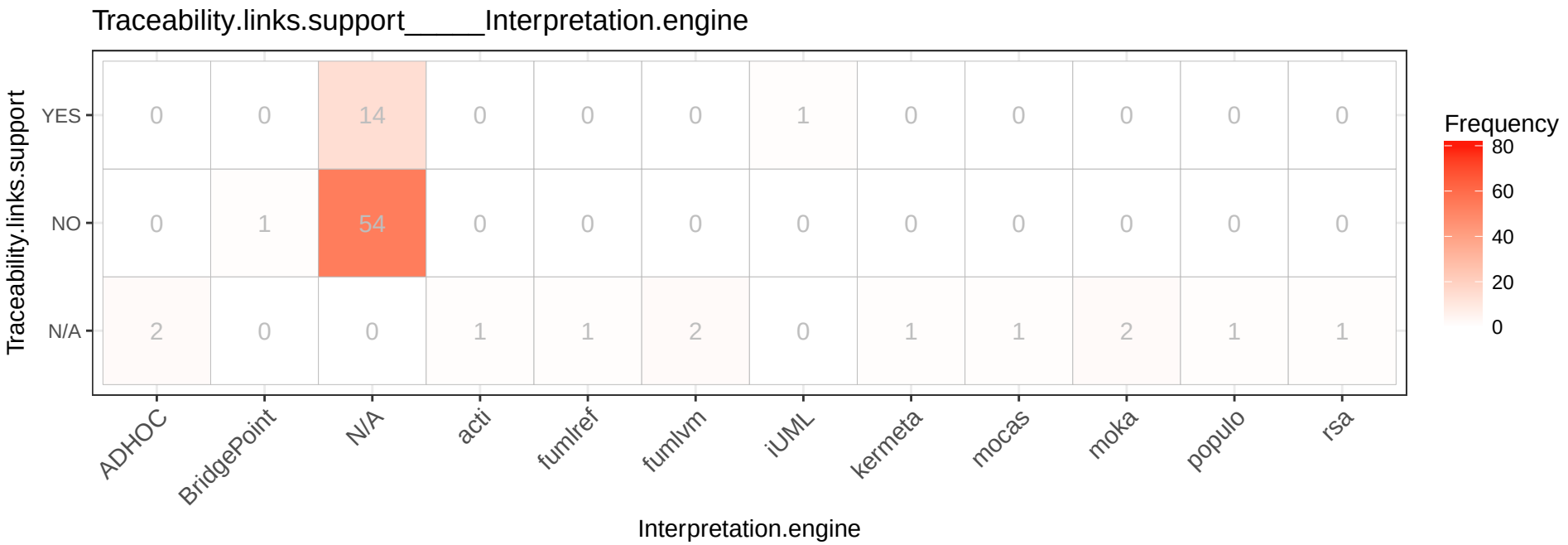

Translation.steps_____Interpretation.engine
Translation.steps
N/A
?
3
2
1
2 0 0 1 1 2 0 1 1 2 1 1
2 1 68 1 1 2 1 1 1 2 1 1
0 0 6 0 0 0 1 0 0 0 0 0
0 0 20 0 0 0 0 0 0 0 0 0
0 1 34 0 0 0 0 0 0 0 0 0
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

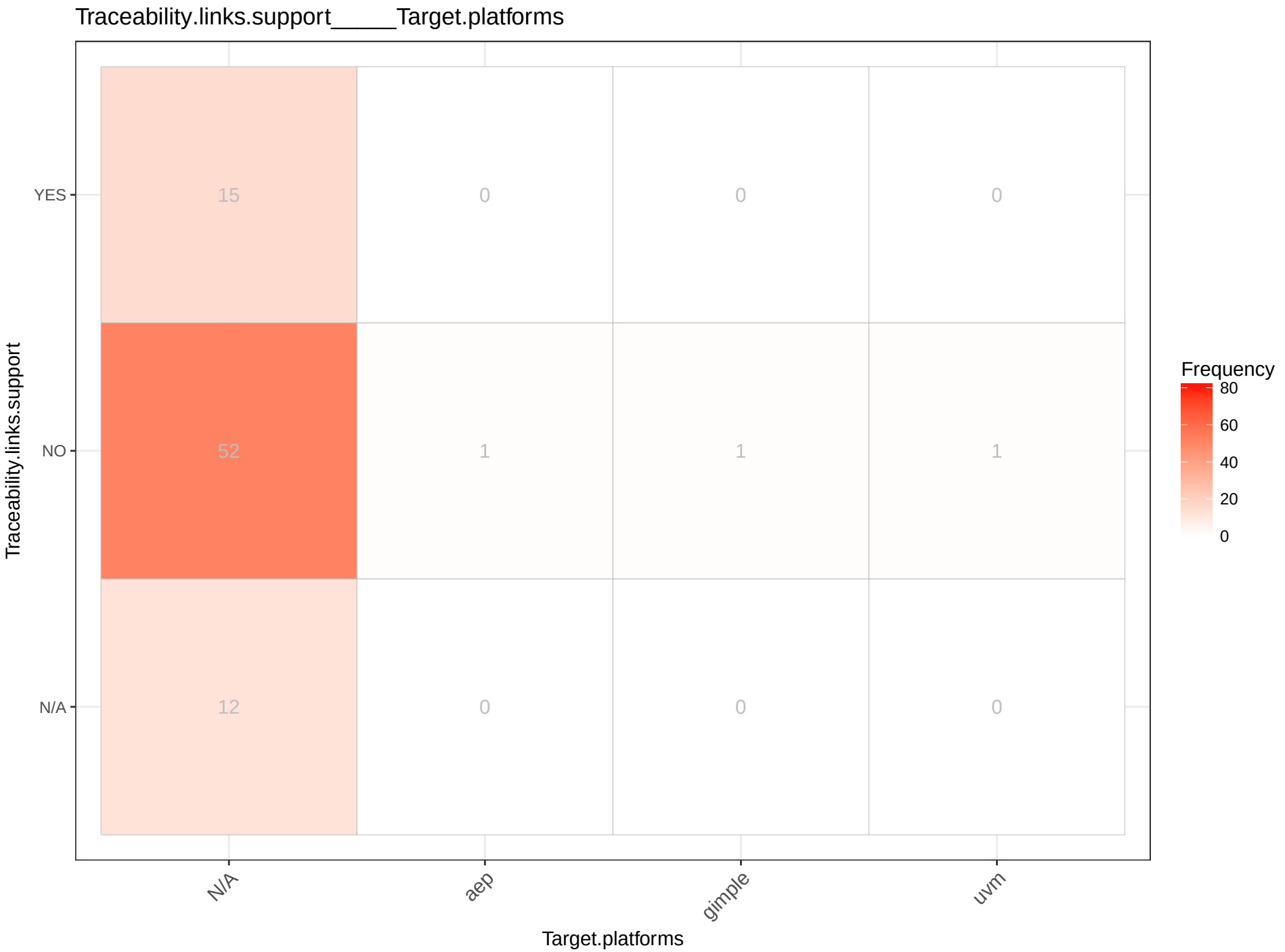

Translation.steps_____Target.platforms
N/A
?
3
2
1
Translation.steps
12
0
0
0
79
1
1
1
7
0
0
0
20
0
0
0
32
1
1
1
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

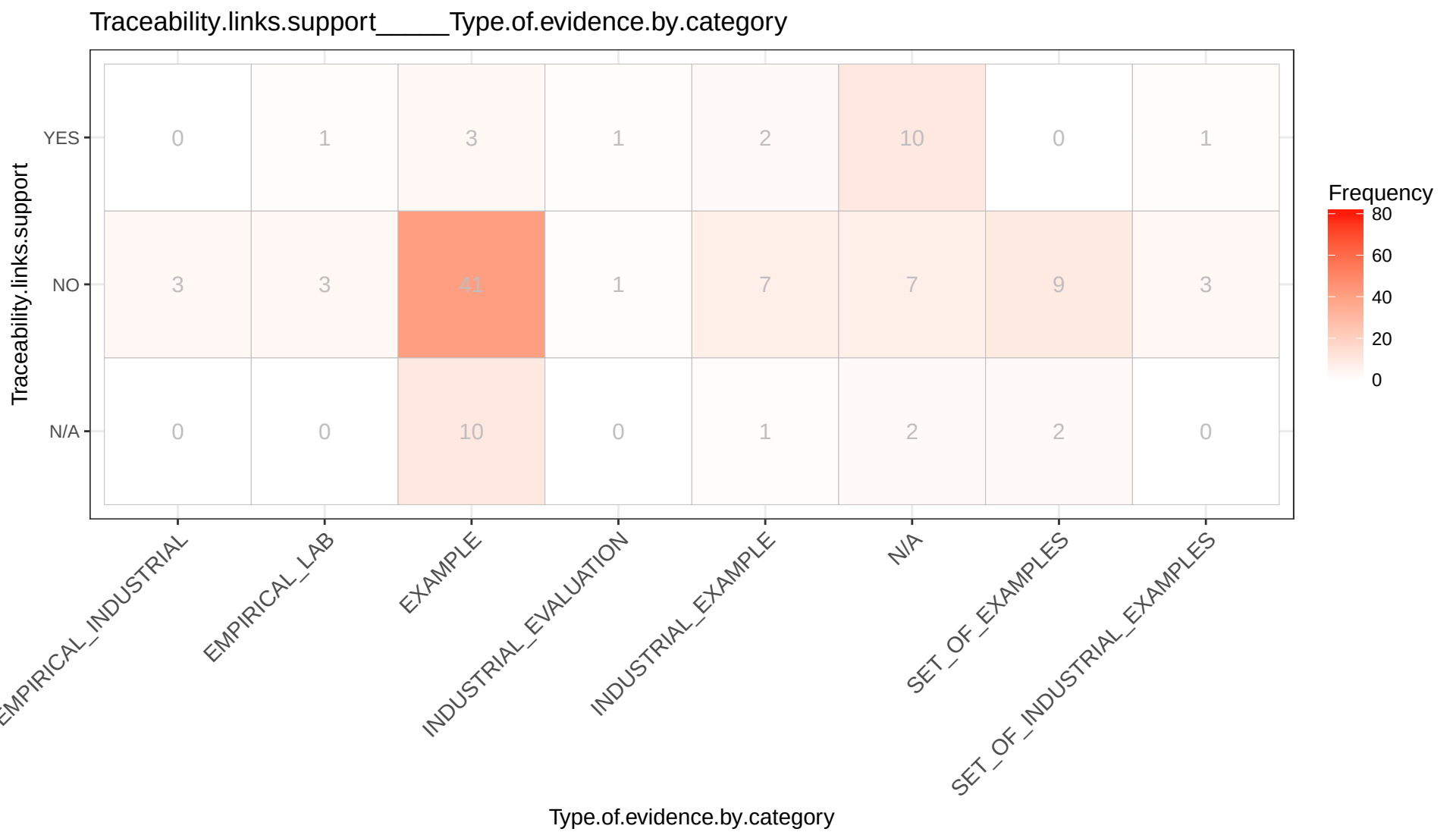

Translation.steps_____Type.of.evidence.by.category
Translation.steps
N/A
?
3
2
1
0 0 10 0 1 2 2 0
3 4 54 2 10 19 11 4
0 0 5 0 1 2 0 0
1 2 14 2 4 1 3 2
2 2 25 0 4 6 6 2
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

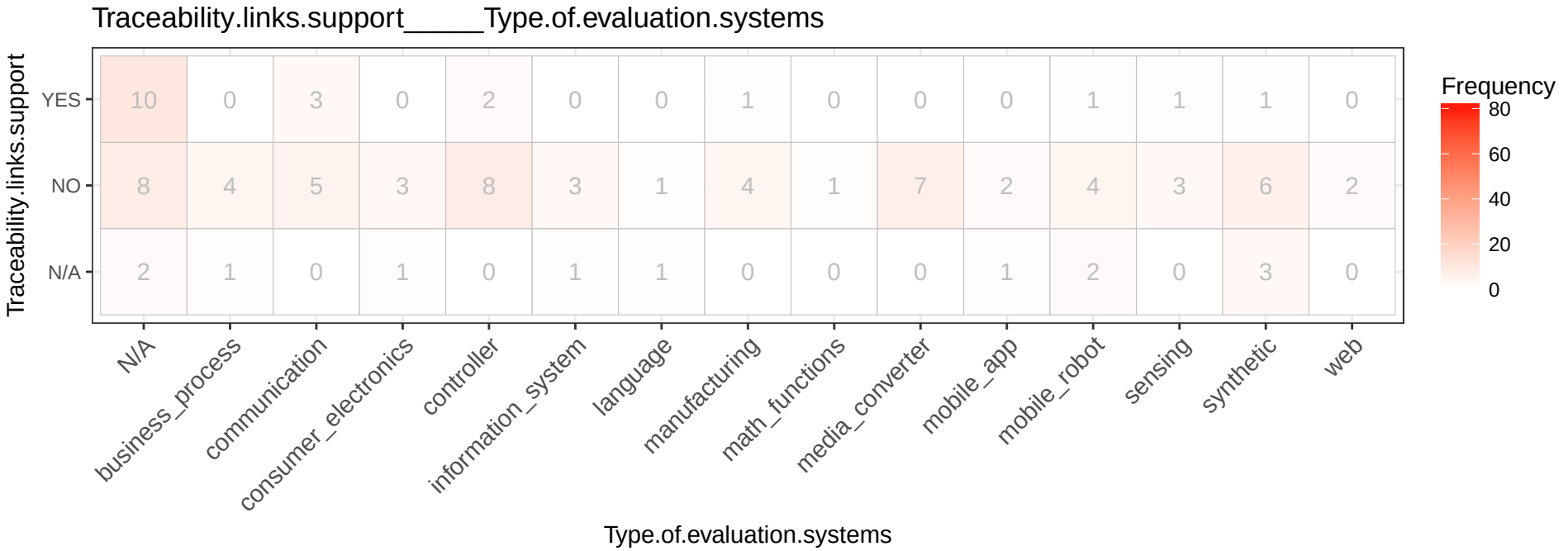

Translation.steps_____Type.of.evaluation.systems
Translation.steps
N/A
?
3
2
1
2 1 0 1 0 1 1 0 0 0 1 2 0 3 0
20 5 8 4 10 4 2 5 1 7 3 7 4 10 2
2 1 1 1 0 0 0 0 0 2 0 1 0 0 0
2 1 5 0 3 2 0 1 0 3 0 1 2 3 1
6 2 2 2 7 1 1 4 1 2 2 3 2 4 1
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

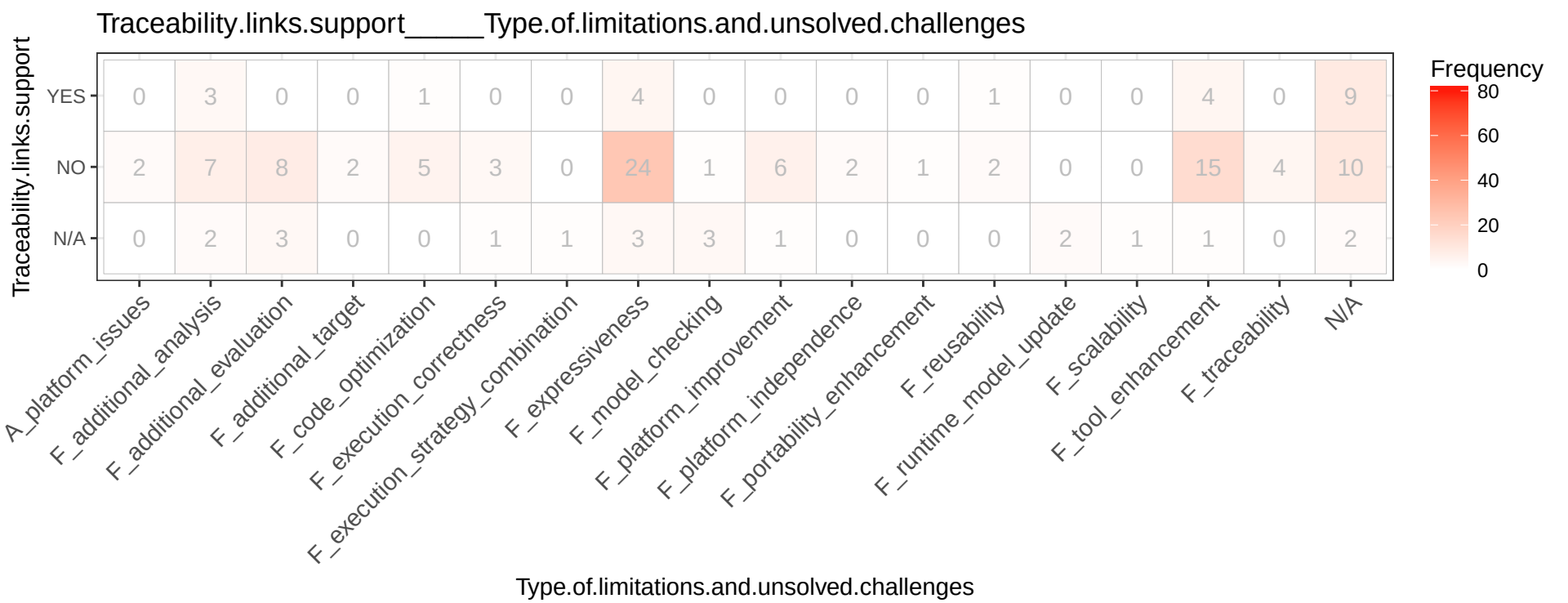

Translation.steps_____Type.of.limitations.and.unsolved.challenges
Translation.steps
N/A
?
3
2
1
0 2 3 0 0 1 1 3 3 1 0 0 0 2 1 1 0 2
2 12 11 2 6 4 1 31 4 7 2 1 3 2 1 20 4 21
0 1 2 0 0 0 0 3 0 0 0 0 0 0 0 0 1 3
0 2 1 0 1 1 0 14 1 1 2 0 0 0 0 8 1 1
2 6 5 2 5 2 0 11 0 5 0 1 3 0 0 11 2 8
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

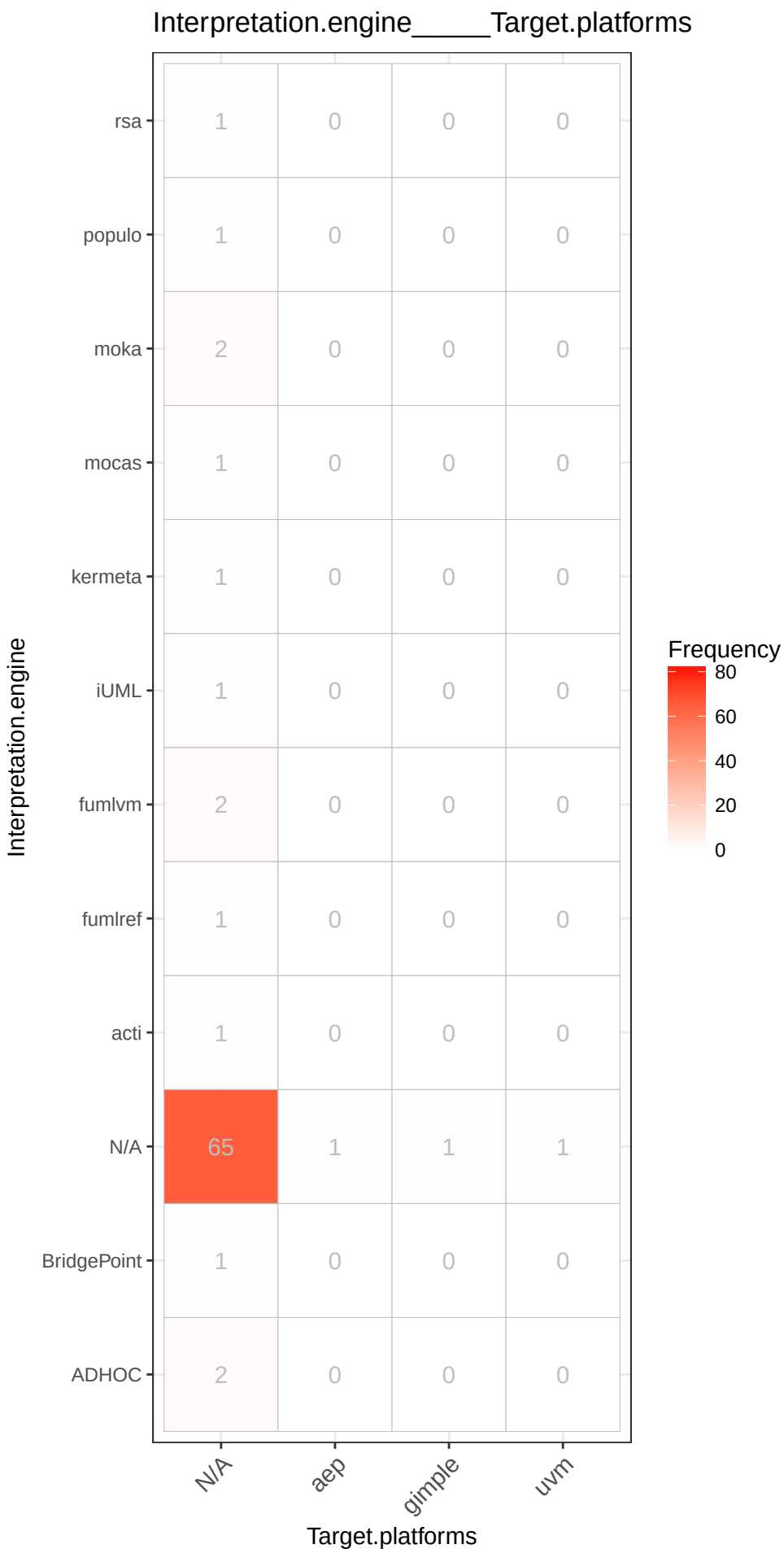

Traceability.links.support_____Interpretation.engine
Traceability.links.support
YES
NO
N/A
0 0 14 0 0 0 1 0 0 0 0 0
0 1 54 0 0 0 0 0 0 0 0 0
2 0 0 1 1 2 0 1 1 2 1 1
ADHOC
BridgePoint
N/A
acti
fumlref
fumlvm
iUML
kermeta
mocas
moka
populo
rsa
Interpretation.engine
Frequency
80
60
40
20
0

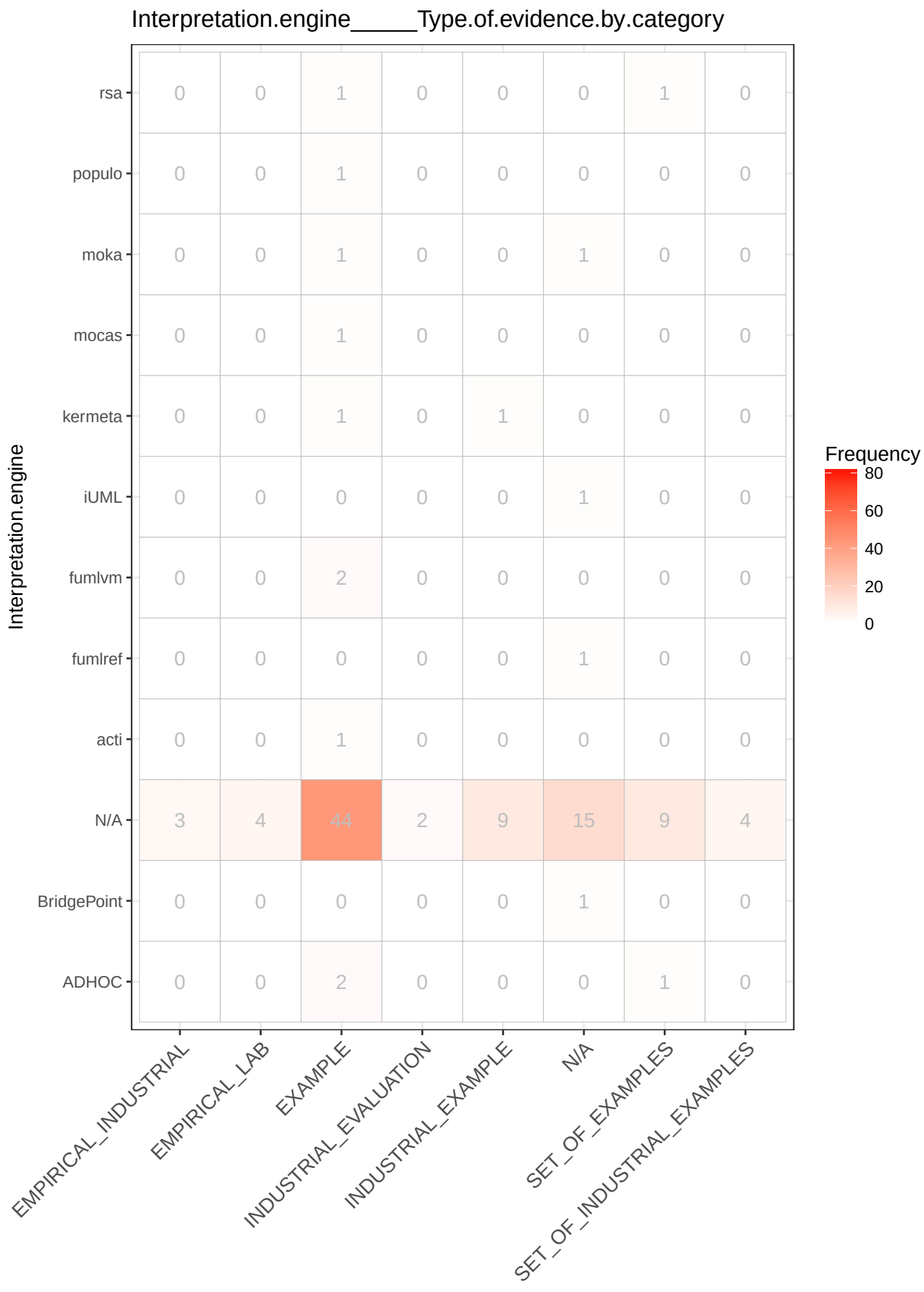

Traceability.links.support_____Target.platforms
YES
NO
N/A
15
0
0
0
52
1
1
1
12
0
0
0
Traceability.links.support
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

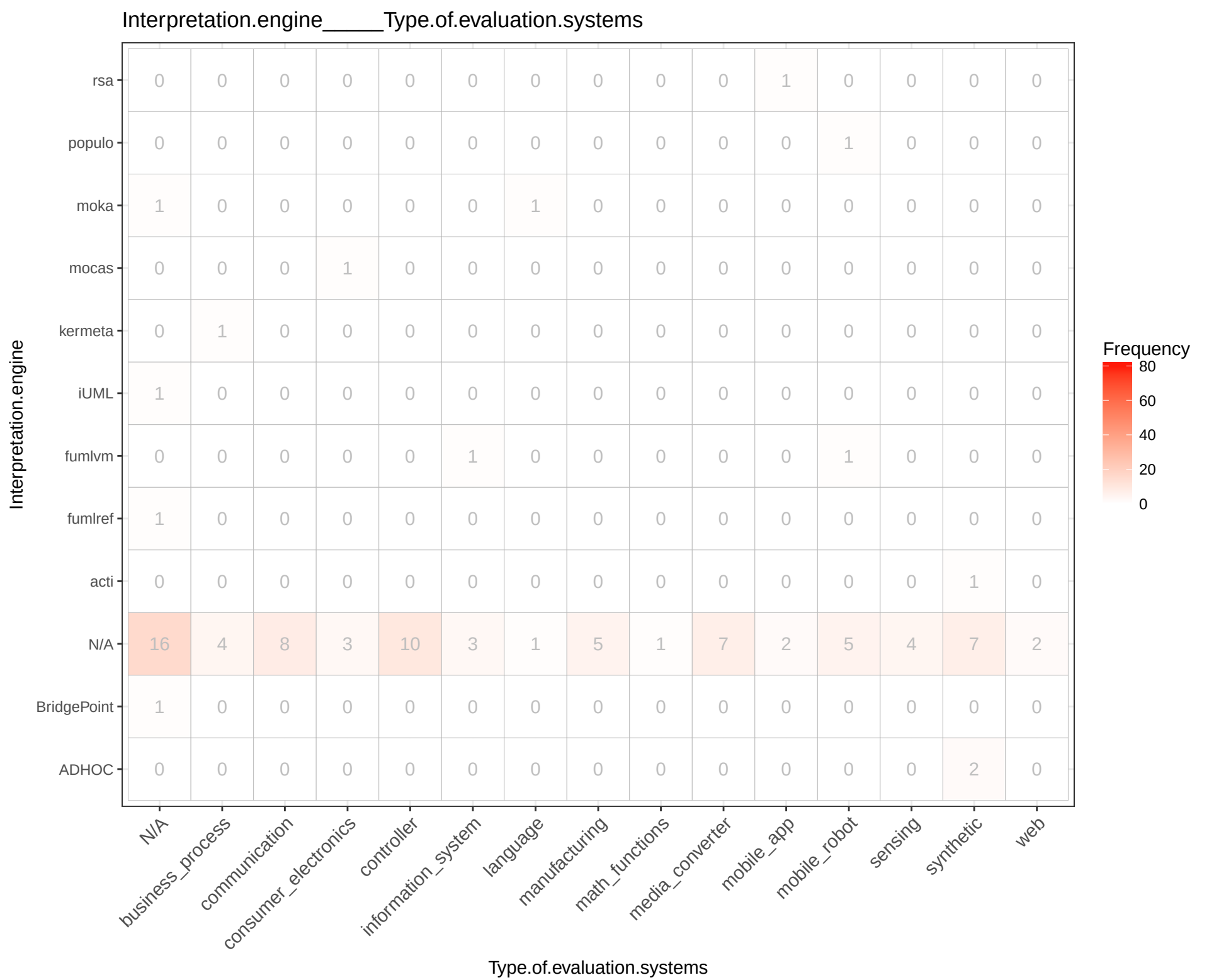

Traceability.links.support_____Type.of.evidence.by.category
Traceability.links.support
YES
NO
N/A
0
1
3
1
2
10
0
1
3
3
41
1
7
7
9
3
0
0
10
0
1
2
2
0
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

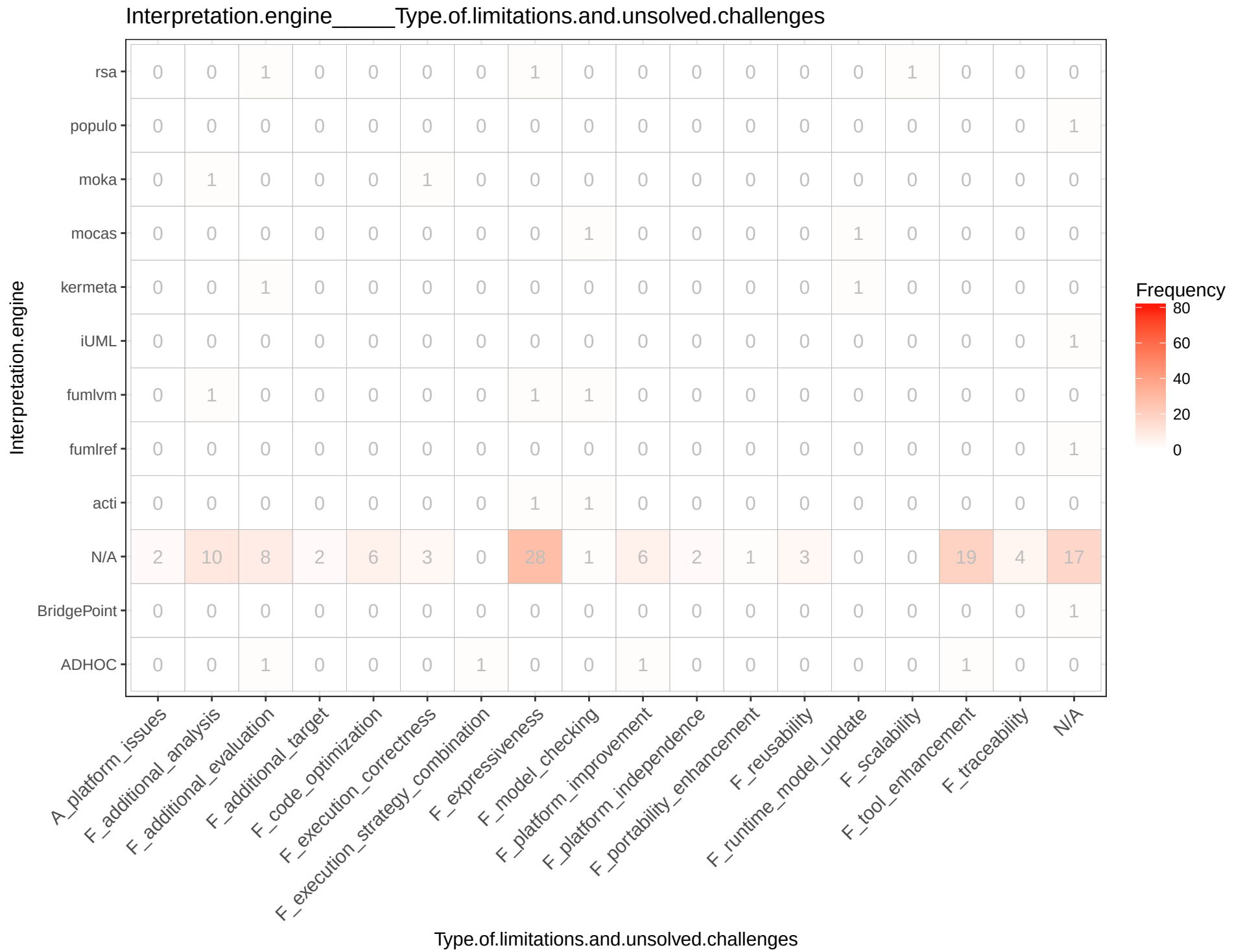

Traceability.links.support_____Type.of.evaluation.systems
Traceability.links.support
YES
NO
N/A
10 0 3 0 2 0 0 1 0 0 0 1 1 1 0
8 4 5 3 8 3 1 4 1 7 2 4 3 6 2
2 1 0 1 0 1 1 0 0 0 1 2 0 3 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

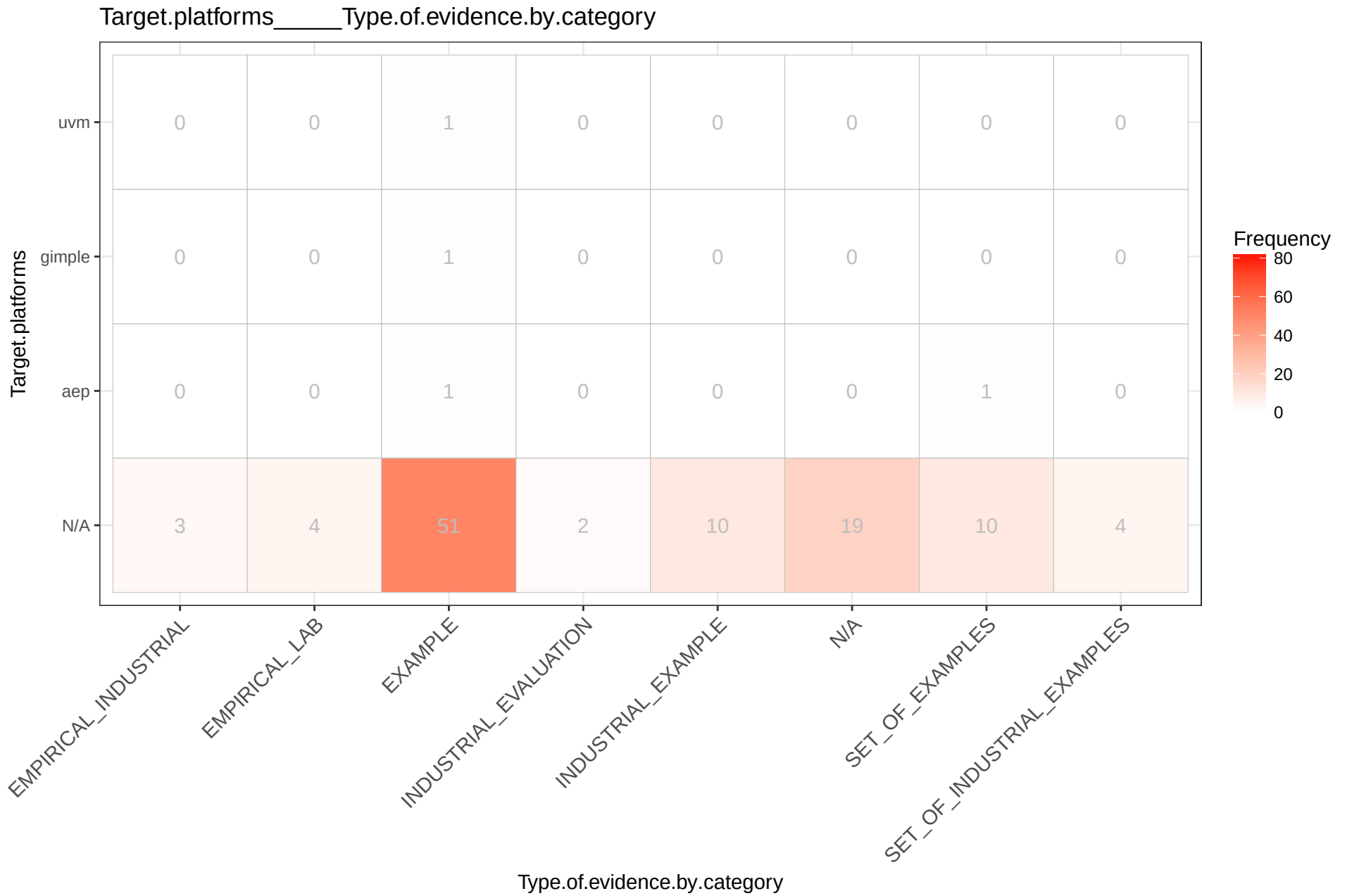

Traceability.links.support_____Type.of.limitations.and.unsolved.challenges
Traceability.links.support
YES
NO
N/A
0 3 0 0 1 0 0 4 0 0 0 0 1 0 0 4 0 9
2 7 8 2 5 3 0 24 1 6 2 1 2 0 0 15 4 10
0 2 3 0 0 1 1 3 3 1 0 0 0 2 1 1 0 2
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

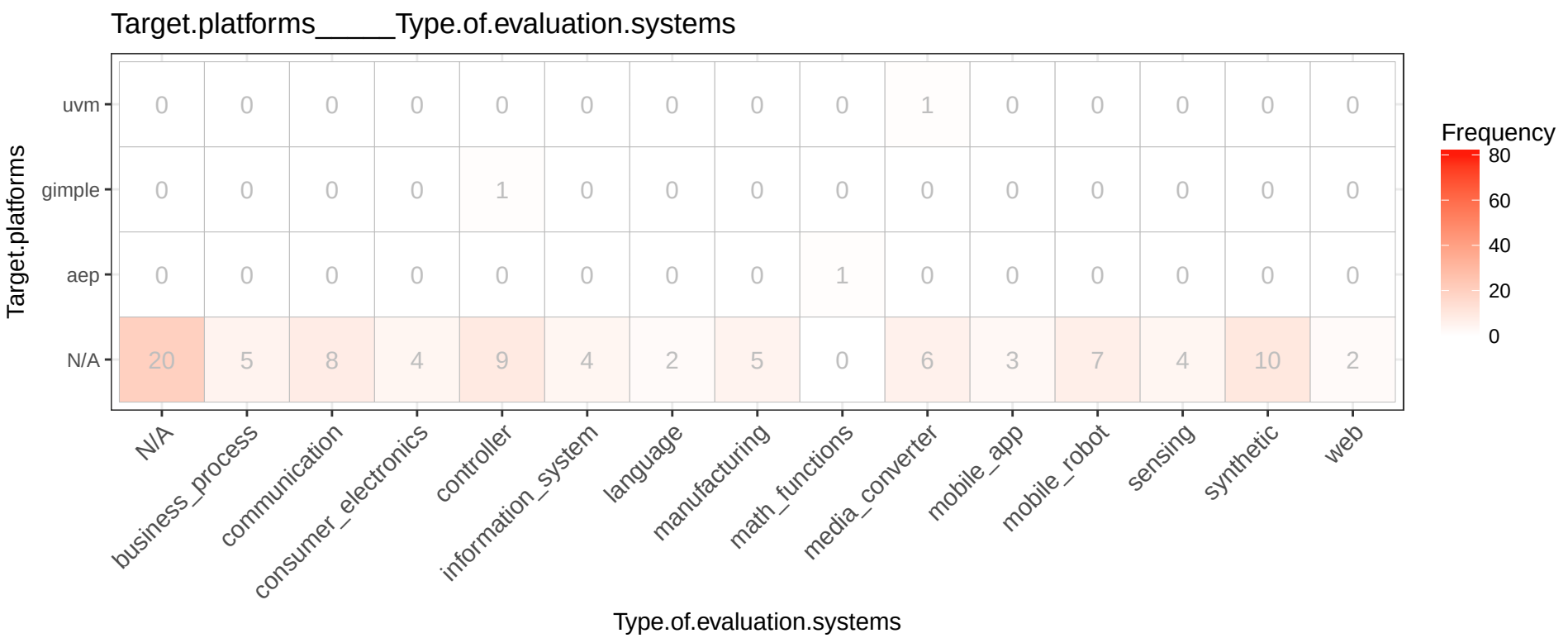

Interpretation.engine_____Target.platforms
Interpretation.engine
rsa
populo
moka
mocas
kermeta
iUML
fumlvm
fumlref
acti
N/A
BridgePoint
ADHOC
1 0 0 0
1 0 0 0
2 0 0 0
1 0 0 0
1 0 0 0
1 0 0 0
2 0 0 0
1 0 0 0
1 0 0 0
65 1 1 1
1 0 0 0
2 0 0 0
N/A
aep
gimple
uvm
Target.platforms
Frequency
80
60
40
20
0

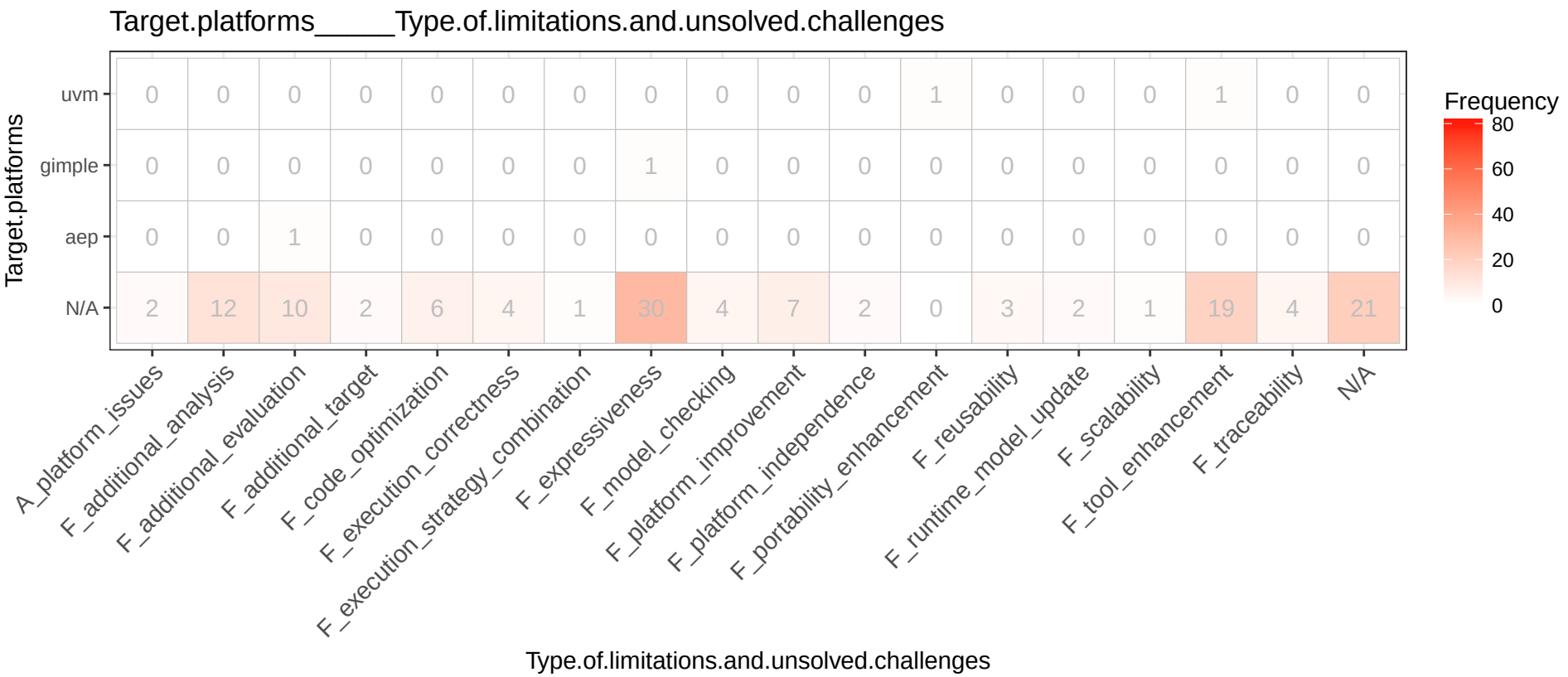

Interpretation.engine_____Type.of.evidence.by.category
Interpretation.engine
rsa
populo
moka
mocas
kermeta
iUML
fumlvm
fumlref
acti
N/A
BridgePoint
ADHOC
0 0 1 0 0 0 1 0
0 0 1 0 0 0 0 0
0 0 1 0 0 1 0 0
0 0 1 0 0 0 0 0
0 0 1 0 1 0 0 0
0 0 0 0 0 1 0 0
0 0 2 0 0 0 0 0
0 0 0 0 0 1 0 0
0 0 1 0 0 0 0 0
3 4 44 2 9 15 9 4
0 0 0 0 0 1 0 0
0 0 2 0 0 0 1 0
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0

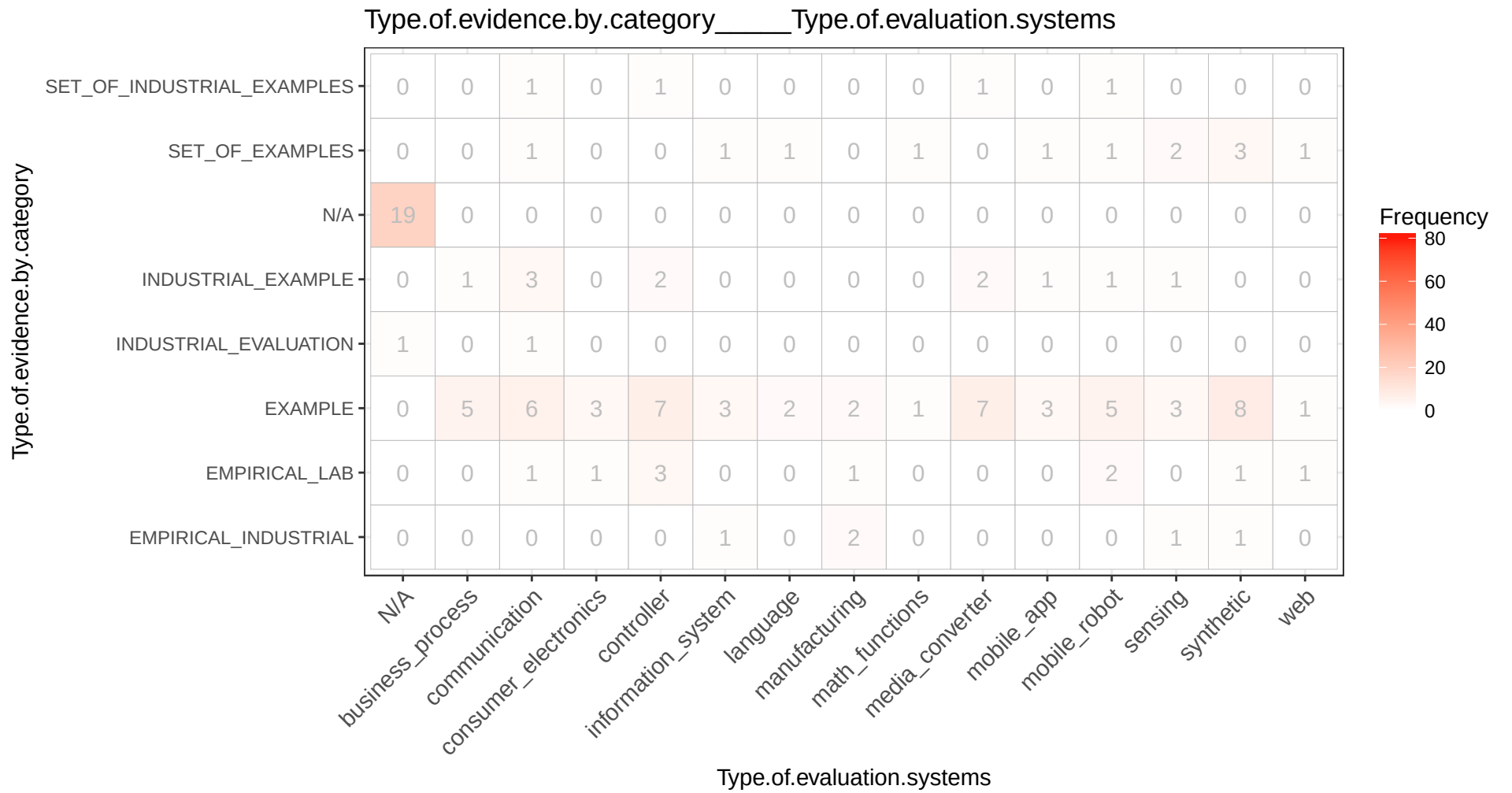

Interpretation.engine_____Type.of.evaluation.systems
Interpretation.engine
rsa
populo
moka
mocas
kermeta
iUML
fumlvm
fumlref
acti
N/A
BridgePoint
ADHOC
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0

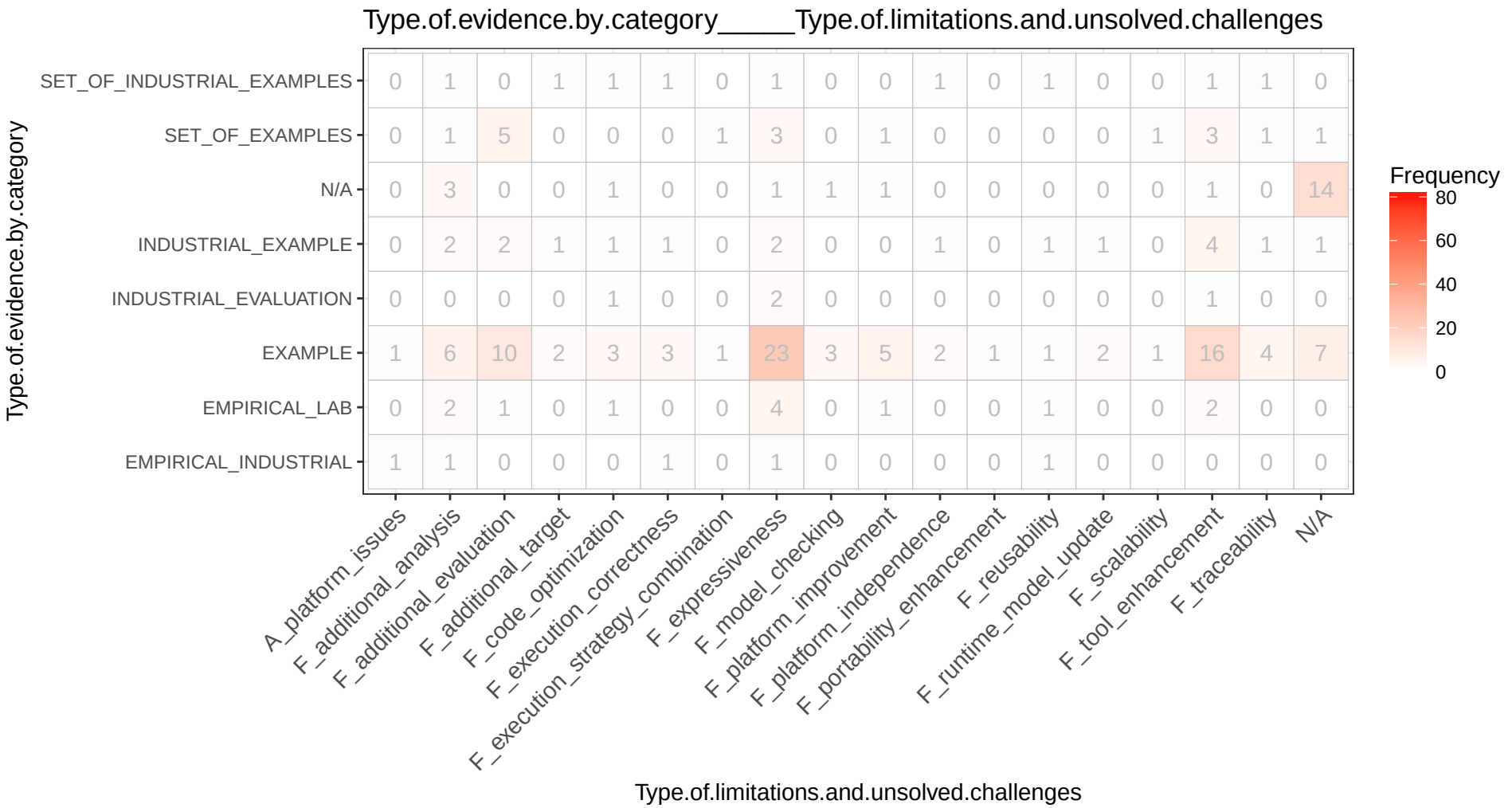

Interpretation.engine_____Type.of.limitations.and.unsolved.challenges
Interpretation.engine
rsa 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0
populo 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
moka 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
mocas 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0
kermeta 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
iUML 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
fumlvm 0 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0
fumlref 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
acti 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0
N/A 2 10 8 2 6 3 0 28 1 6 2 1 3 0 0 19 4 17
BridgePoint 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
ADHOC 0 0 1 0 0 0 1 0 0 1 0 0 0 0 0 1 0 0
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0

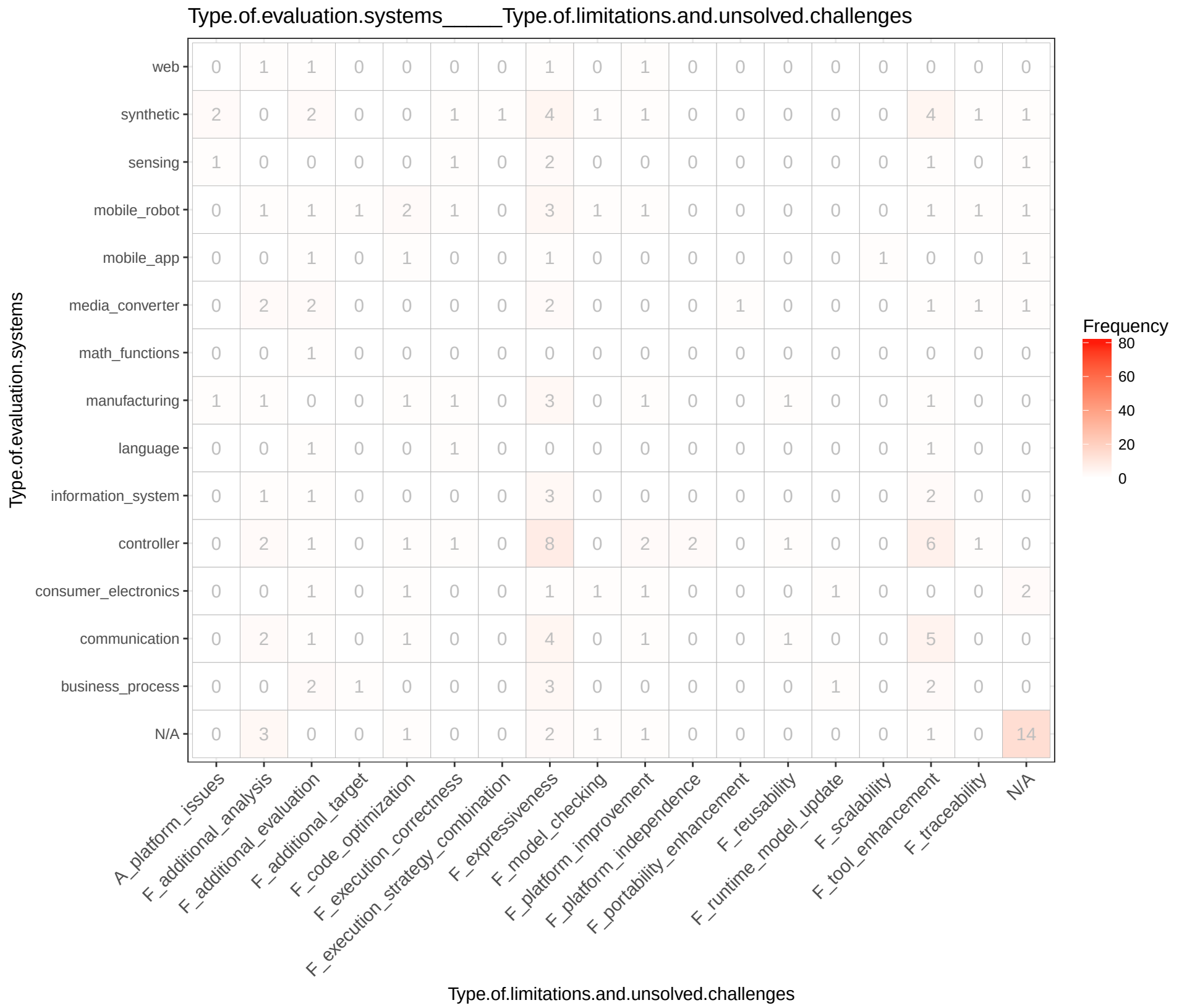

Target.platforms_____Type.of.evidence.by.category
Target.platforms
uvm
gimple
aep
N/A
0 0 1 0 0 0 0 0
0 0 1 0 0 0 0 0
0 0 1 0 0 0 1 0
3 4 51 2 10 19 10 4
EMPIRICAL_INDUSTRIAL
EMPIRICAL_LAB
EXAMPLE
INDUSTRIAL_EVALUATION
INDUSTRIAL_EXAMPLE
N/A
SET_OF_EXAMPLES
SET_OF_INDUSTRIAL_EXAMPLES
Type.of.evidence.by.category
Frequency
80
60
40
20
0


Target.platforms_____Type.of.evaluation.systems
Target.platforms
uvm
gimple
aep
N/A
0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
20 5 8 4 9 4 2 5 0 6 3 7 4 10 2
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0


Target.platforms_____Type.of.limitations.and.unsolved.challenges
Target.platforms
uvm
gimple
aep
N/A
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0
0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2 12 10 2 6 4 1 30 4 7 2 0 3 2 1 19 4 21
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0


Type.of.evidence.by.category_____Type.of.evaluation.systems
SET_OF_INDUSTRIAL_EXAMPLES
SET_OF_EXAMPLES
N/A
INDUSTRIAL_EXAMPLE
INDUSTRIAL_EVALUATION
EXAMPLE
EMPIRICAL_LAB
EMPIRICAL_INDUSTRIAL
Type.of.evidence.by.category
0 0 1 0 1 0 0 0 0 1 0 1 0 0 0
0 0 1 0 0 1 1 0 1 0 1 1 2 3 1
19 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 3 0 2 0 0 0 0 2 1 1 1 0 0
1 0 1 0 0 0 0 0 0 0 0 0 0 0 0
0 5 6 3 7 3 2 2 1 7 3 5 3 8 1
0 0 1 1 3 0 0 1 0 0 0 2 0 1 1
0 0 0 0 0 1 0 2 0 0 0 0 1 1 0
N/A
business_process
communication
consumer_electronics
controller
information_system
language
manufacturing
math_functions
media_converter
mobile_app
mobile_robot
sensing
synthetic
web
Type.of.evaluation.systems
Frequency
80
60
40
20
0


Type.of.evidence.by.category_____Type.of.limitations.and.unsolved.challenges
Type.of.evidence.by.category
SET_OF_INDUSTRIAL_EXAMPLES 0 1 0 1 1 1 0 1 0 0 1 0 1 0 0 1 1 0
SET_OF_EXAMPLES 0 1 5 0 0 0 1 3 0 1 0 0 0 0 1 3 1 1
N/A 0 3 0 0 1 0 0 1 1 1 0 0 0 0 0 1 0 14
INDUSTRIAL_EXAMPLE 0 2 2 1 1 1 0 2 0 0 1 0 1 1 0 4 1 1
INDUSTRIAL_EVALUATION 0 0 0 0 1 0 0 2 0 0 0 0 0 0 0 1 0 0
EXAMPLE 1 6 10 2 3 3 1 23 3 5 2 1 1 2 1 16 4 7
EMPIRICAL_LAB 0 2 1 0 1 0 0 4 0 1 0 0 1 0 0 2 0 0
EMPIRICAL_INDUSTRIAL 1 1 0 0 0 1 0 1 0 0 0 0 1 0 0 0 0 0
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0


Type.of.evaluation.systems_____Type.of.limitations.and.unsolved.challenges
Type.of.evaluation.systems
web 0 1 1 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0
synthetic 2 0 2 0 0 1 1 4 1 1 0 0 0 0 0 4 1 1
sensing 1 0 0 0 0 1 0 2 0 0 0 0 0 0 0 1 0 1
mobile_robot 0 1 1 1 2 1 0 3 1 1 0 0 0 0 0 1 1 1
mobile_app 0 0 1 0 1 0 0 1 0 0 0 0 0 0 1 0 0 1
media_converter 0 2 2 0 0 0 0 2 0 0 0 1 0 0 0 1 1 1
math_functions 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
manufacturing 1 1 0 0 1 1 0 3 0 1 0 0 1 0 0 1 0 0
language 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0
information_system 0 1 1 0 0 0 0 3 0 0 0 0 0 0 0 2 0 0
controller 0 2 1 0 1 1 0 8 0 2 2 0 1 0 0 6 1 0
consumer_electronics 0 0 1 0 1 0 0 1 1 1 0 0 0 1 0 0 0 2
communication 0 2 1 0 1 0 0 4 0 1 0 0 1 0 0 5 0 0
business_process 0 0 2 1 0 0 0 3 0 0 0 0 0 1 0 2 0 0
N/A 0 3 0 0 1 0 0 2 1 1 0 0 0 0 0 1 0 14
A_platform_issues
F_additional_analysis
F_additional_evaluation
F_additional_target
F_code_optimization
F_execution_correctness
F_execution_strategy_combination
F_expressiveness
F_model_checking
F_platform_improvement
F_platform_independence
F_portability_enhancement
F_reusability
F_runtime_model_update
F_scalability
F_tool_enhancement
F_traceability
N/A
Type.of.limitations.and.unsolved.challenges
Frequency
80
60
40
20
0