

COMPACT  
INFO

**BENEFITS** of the  
tool-supported use  
of decision tables with **LF-ET**

## 1 Introduction

LF-ET - the decision table tool (<https://www.lohrfink.de/en/solutions/lf-et/>) offers all potential benefits described herein and enables easy, yet powerful, and consistent use of decision tables in any IT projects.

## 2 Benefits for creating user specifications

### ***Increased productivity***

**Numerous functions** support the user in developing, completing and reviewing technical contexts. As a result, the content reaches a high level of maturity and completeness at a very early stage.

One of these functions is **e.g. automatic addition of missing rules**.

### ***Increased quality and security***

Significant errors are already excluded in user specification through comprehensive automatic checks.

Redundant, contradictory or incomplete content is presented in an unambiguous fashion and can be resolved quickly and safely, also automatically in part.

### ***Easier and more precise communication***

Thanks to standardized and extremely compact presentation of technical relations in the form of tables, references to details can be made quickly and clearly during communication.

Logical relations are presented clearly in individual rules with no need for them to be retrieved laboriously from text documents, flow charts or graphics. As a result, the scope for interpretation is considerably reduced and many sources of misunderstanding are eliminated.

It is possible to recognize and understand technical relations much faster compared to other forms of presentation.

### ***Easier involvement of business experts***

LF-ET makes it easier to involve business management experts in project work.

In most cases, they cannot produce the business specifications themselves due to time limitations.

However, thanks to the positive effects of “easier and more precise communication” provided by decision tables, these experts can play a selective role in reviewing, evaluating and providing information.

LF-ET is also ideal for working out logical content together during interviews, recording it systematically and presenting it.

### ***Better assessability of each individual business process***

The scope and complexity of each individual business process can be derived directly from table size: the number of conditions, actions and rules is clearly visible.

As a result, it is easier to estimate expected expenditure on follow-up stages, e.g. implementation, testing and acceptance.

### ***Higher future-proof qualities***

Technical descriptions primarily reflect real-world contexts and should therefore not be tied to specific technical implementations.

Technical implementation can be freely selected with LF-ET and can, if necessary, be changed or expanded at any time without retroactive effect.

The same technical description can thus be used simultaneously for different systems and platforms. For more information see section “Benefits for implementation”.

### **3 Benefits for implementation**

#### ***Significant increase in productivity***

The programming effort is reduced to the necessary minimum thanks to LF-ET. One logical expression for each condition and the corresponding statements for each action must only be defined once in the desired programming language.

Programming is actually done once only: as long as there is no change in the technical meaning of conditions and actions, deposited statements can be used for any number of program generations.

Complex, difficult and error-prone development of control structures, such as IF-ELSE nesting, case or decide statements, is completely omitted. The final program structure is completely recomputed and regenerated at each generation.

#### ***Increased quality and security***

Pure forward-engineering: the program code is generated entirely from the technical description and must not be reworked manually.

The generated program code corresponds nearly exactly to the technical description. Since its quality must always be ensured (i.e. guaranteed consistency and freedom of redundancies and contradictions), the same applies to logical quality of the program code.

Purely technical quality of the generated program code is ensured again and again at each generation:

- Computing the best possible program structure ("optimized tree")
- Smallest possible program volume
- Highest processing speed

#### ***High flexibility and future-proof qualities***

Any platforms and languages are possible.

LF-ET enables you to select several target platforms or programming languages for one business process to be implemented.

One function that is used in a Java project can e.g. also be used in a C# project or an ABAP project, if necessary.

## 4 Benefits for test and acceptance

### ***Easy and reliable derivation of test cases***

Directly from the technical specification.

Since each program branch corresponds to precisely one technical rule, the minimum-number of test cases (i.e. at 100% test coverage rate) is taken directly from the table: the rule count! That means that at least one test case must be created for each rule.

Detailed creation of each individual test case is greatly supported through the use of tables:

- Necessary condition constellations can be read precisely from the table
- just like the expected system responses or results

Good support during test case generation enables a test coverage rate of significantly more than 100% to be achieved.

### ***Secure evaluation of test results and the quality of tests***

LF-ET also supports test performance. Executed tests can be evaluated securely and efficiently through statistical analyses of executed rules:

- Business processes involved in the test
- Test coverage levels
- Distribution of test cases across the set of rules

Irrespective of whether we speak about individual components or bigger sub-projects, the current status of all tests can be seen and evaluated almost at a touch of a button.

### ***Extraction of test data e.g. from productive databases***

If the manual compilation of matching test data is too difficult or too complex, matching data or data constellations can be filtered out at the rule level specifically from existing databases.

## 5 Benefits for productive operation

### ***Very low error rate***

When using LF-ET, it is always noticeable how high the quality is thanks to this type of software creation:

- Significantly **fewer errors** compared to manually created processes
- Exceptionally fast response times in the event of an error: both the detection of the cause and its elimination are much faster than usual, as the work is not carried out in the software itself, but usually only in the business specification!
- Customers and stakeholders are surprised with both effects again and again, particularly when projects in which LF-ET had been used, are launched for the first time or after major changes

### ***Directly executable program code***

Outstanding transparency and control.

LF-ET generates directly executable program code as standard. Runtime components are deliberately omitted: no rule engines or rule servers are required. Irrespective of the fact that these are complex and often expensive, there are several advantages to not using them:

- LF-ET is not needed during productive use of generated components
- Good performance, more economic use of resources
- There are only processes for which also the source code is available, e.g. for reviews or revisions

### ***The system behavior corresponds exactly to the functional system description***

This is guaranteed with LF-ET, as the program code is generated entirely from the business specification and must not be reworked manually:

- All program branches can be traced exactly from a business point of view, because each one has a clear reference to exactly one decision table rule in the business specification
- If, for example, the executed rules are logged during execution, the system behavior can be precisely understood purely on the basis of the business specification
- This is particularly effective in the event of a problem: incorrect system reactions and their causes can be identified incredibly quickly

## 6 Benefits for application in maintenance and care

### ***Higher productivity and greater reliability***

- Changes to the business specification have a „surgical“ nature (in the sense of „razor-sharp“ and „very precise“)
- Undesired side effects are reliably prevented by integrated checks

### ***Frequently no programming is necessary***

- Often “only” rules change, i.e. the relations between conditions and actions are changed
- In conventional programming, this usually results in difficult and error-prone interventions in complex program structures.
- With LF-ET it is simply regenerated
- Provided there is no change in the content of conditions and actions
- As long as there are no new conditions and actions

### ***Consistently best possible program quality in the long term***

- Each time a change is made, the entire program structure is completely recalculated and regenerated

### ***The business specification always remains up-to-date***

- Forward-Engineering forever
- The program code is always generated from the business specification and must not be changed manually afterwards

## 7 LF-ET - the decision table tool

Using decision tables with LF-ET (<https://www.lohrfink.de/en/solutions/lf-et/>) is intuitive and LF-ET, with its Excel-like interface and numerous powerful functions, enables even very complex sets of rules to be securely mastered.

Optional use of generators can guarantee automatically that the delivered software module exactly meets the specifications that it is based upon. Actual programming effort can thus be significantly reduced.

Experience has shown that significant cost savings can be expected, particularly in the case of later maintenance and care, with the risk of errors being significantly reduced at the same time.

If necessary, LF-ET enables you to create a program code in various programming languages from one decision table.

LF-ET is a truly development toolset, ***no additional external software is needed to execute the generated programs.***

## 8 Contact us

We have been supporting numerous authorities and companies from various industries as an IT-consultancy and service provider for many years.

No matter what technical context is given in your environment – the decision table is an essential method that enables business logic to be described, implemented and tested more easily and precisely.

Feel free to contact us with any further questions or queries.

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