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Custom Software Development

Should you develop it yourself or commission an external service provider?

If you have already made the decision that only a custom software solution makes sense for your production, the question still remains: do you develop this solution in-house with your own colleagues or do you bring an external service provider on board? Both approaches have **specific advantages and disadvantages** that you should weigh up carefully in order to make the best possible decision.

The choice of the right path depends on various factors, such as

- the available resources
- the expertise required
- the budget
- the long-term goals of your company.

In the following, we offer you an overview of the most important criteria that should be considered when deciding between internal software development and hiring external service providers. And we will show you how to make an informed decision.

GENERAL FACTORS

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As a first step, let's take a look at the general factors that can influence the decision between internal and external implementation. Both options have advantages and disadvantages. The decisive factors are your individual requirements and long-term goals.

Criterion	Internal development	External service providers
Costs & cost controll	☺ Better control over running costs and investments ☺ internal transparency / control ☹ high initial costs 😐 ongoing personnel costs	☺ contract on project costs ☺ billing according to actual expenditure ☹ possibly less transparency / control
Control & flexibility	☺ full control over the development process and end product ☺ flexibility for changes even during development	😐 good control possible with agile processes ☹ additional costs / delays possible when changes appear
Know how & expertise	☺ development and maintenance of internal expertise 😐 recruitment of specialists (dev, data analysts, project managers) ☹ shortage of skilled workers	☺ access to specialized, ready-to-use personnel & best practices ☺ staff available on call
Time required	☹ recruitment of new and / or specialization of specialists ☹ longer development time	☺ faster availability of resources ☺ shorter development time
Quality & innovation	☺ more freedom for iterative trial and error 😐 quality management processes need to be established	☺ access to advanced technologies and methods ☺ experience increases the likelihood of high quality
Risk management	☹ loss of knowledge due to staff absence and employee turnover 😐 internal responsibility for project management / risk minimization	☺ risk lies with the service provider ☺ contracts can include guarantees, service level agreements (SLAs) and liabilities

GENERAL FACTORS

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Criterion	Internal development	External service providers
Scalability	☹ difficult to scale quickly to larger projects and dependent on personnel/resources	☺ scaling according to project requirements using additional resources from the service provider
Security aspects	😐 cybersecurity processes need to be established ☺ full control over security protocols and protection of sensitive data in the company	☺ experience from cybersecurity experts available 😐 security must be contractually regulated ☹ potentially higher security risks with external access to sensitive production data
Maintenance & support	😐 internal processes need to be established 😐 internal responsibility for maintenance, updates and support	☺ maintenance and support possible as part of the contract ☹ external dependencies can delay support requests
Confidentiality & IP	☺ control over intellectual property and confidential information	😐 protection of intellectual property must be contractually regulated

IMPLEMENTATION FACTORS

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In addition, your company's priorities and requirements, such as budget, time frame and strategic goals, should be taken into account in the final decision. This results in very specific differences in implementation between development within your company and development by an external partner.

Criterion	Internal development	External service providers
Requirements analysis & planning	☹ initial costs and time spent on workshops and meetings with production teams ☹ resources required for specification of key figures / requirements	☺ more efficient use of time by experienced consultants who are familiar with similar projects ☹ costs for recording requirements by the service provider
Infrastructure & tools	😐 creation of the technical requirements, e.g. purchase and installation of servers, databases, specialized development environments if necessary	☺ consulting option for sustainable solution architectures ☺ know-how for optimum technical conditions
Design & prototyping	☹ complex creation and revision of several prototypes, taking user feedback into account	☺ use of best practices and templates by the service provider ☺ faster prototyping thanks to existing experience and templates
Development & implementation	☹ risk of isolates solutions ☺ possibly easier implementation in a familiar environment	☺ experience with similar projects leads to faster implementation ☺ standardized processes
Trainings	☹ expenses for internal/external training workshops 😐 creation of manuals	☺ more efficient training through standardized methods / materials

SET PRIORITIES & DETERMINE WEIGHTING

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But how do you make a decision that is right for your company? A strategy is the “decision-making framework” that takes various criteria into account and systematically evaluates them.

1. Requirements analysis & objectives

Define the specific goals and requirements of the software. **Clarify the scope** of the project and the desired functions of the software.

2. Define criteria

Define the criteria relevant to your decision. These could be

- Costs and time frame
- Control and flexibility
- Know-how and expertise
- Quality and innovation
- Risk management
- Skalability
- Security aspects
- Maintenance/Support
- Confidentiality and IP

3. Weighting evaluation criteria

Weight the criteria based on their importance for your company. **Use a scale from 1 to 5 or 1 to 10.**

4. Valuing options

Evaluate each option (internal development vs. external service providers) according to each criterion. **Also use a scale of 1 to 5 or 1 to 10.**

5. Apply points system

Multiply the score by the corresponding weight of each criterion.

SET PRIORITIES & DETERMINE WEIGHTING

6. Calculate totals

Add the products from step 5 to the respective totals.

7. Qualitative assessment

In addition to the quantitative assessment, you should also consider qualitative factors such as corporate strategy, cultural fit and long-term goals.

8. Cost-benefit analysis

Conduct a detailed cost-benefit analysis to assess the financial implications of each option.

9. Risk analysis

Identify and assess the risks of each option. Take into account potential project failures, dependencies and security concerns.

10. Make & document decisions

Make an informed decision based on the collected data and evaluations. Document the decision-making process to ensure transparency and traceability.

EXAMPLE OF A DECISION FRAMEWORK

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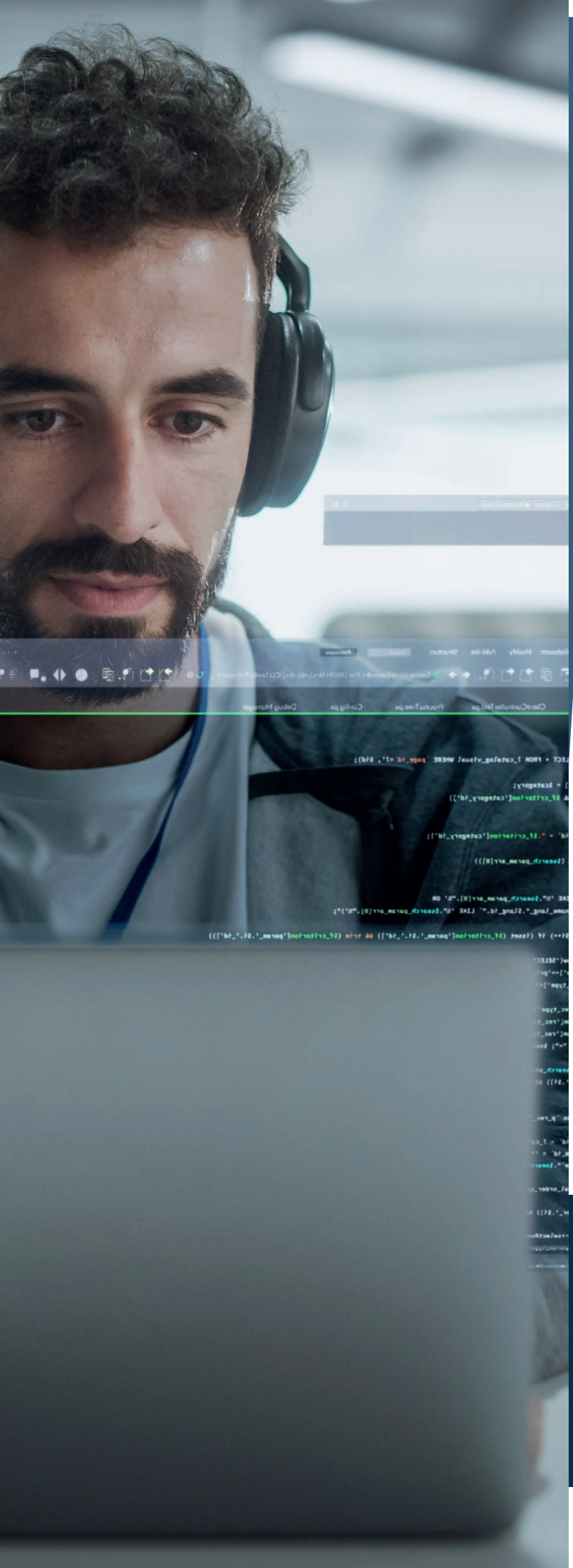
In the following example, we assume a scale of 1 to 10 for the weighting. For the The higher the value, the more relevant the criterion is.

riterion	Weight	Internal development		External service provider	
		Rating	Total	Rating	Total
Costs	10	3	30	4	40
Time frame	8	2	16	5	40
Control & flexibility	7	5	35	3	21
Know-how & expertise	9	4	36	5	45
Quality & innovation	8	3	24	5	40
Risk management	6	3	18	4	24
Scalability	7	2	14	5	35
Security aspects	9	5	45	4	36
Maintenance & support	7	4	28	4	28
Cost control	8	5	40	3	24
Confidentiality & IP	10	5	50	3	30
Total amount			**336**		**363**

In this example, the “External service providers” option achieves a higher total and would be the preferred choice. Of course, the scores and weightings will vary depending on the specific project and company priorities and should be adjusted accordingly.



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Conclusion

As you have seen, the decision whether to develop software internally or have it created by external service providers is complex and depends on the specific requirements and priorities of your company.

A structured decision-making process taking into account all relevant criteria and a detailed analysis of the pros and cons of both options can help you make the best possible decision.

You should consider both quantitative and qualitative factors in order to find a sound and sustainable solution. The choice has a significant impact on costs, control, quality and long-term efficiency.

Do you have any questions about “custom software development”? Drop us a line, we will be happy to help you.

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