

December 2020

9th Multi-project management Study

General report (Excerpt)

Summary	MPM Study	Context	Triple A	Basics	Comp. findings	Appendix

Content



A **summary of the results** in the **dashboard** as well as the explanation of Triple-A Portfolio Management can be found in this chapter.



The **basics of project portfolio management** and related findings can be found in this chapter.



This chapter explains the **study design** and presents general statistics about the study participants and their portfolios.



The study's complementary findings on project managers, sustainability, crisis, and project portfolio management are presented here.



The **context factors** of the project portfolio are presented. This also includes the description of the dynamic **VUCA world**.



The results on the focus topic of the study, Triple-A Portfolio Management (**Agile, Ambidextrous, Adaptive**), are presented in this chapter.



Exemplary excerpt from the **individual final report** for study participants



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Summary

Editor's note

For more than 15 years, the MPM research group has been evaluating success factors and best practices in multi-project management.

In the current 9th edition of the MPM Study 2020, we have once again examined established and new success factors in multi-project management. The results show that traditional success factors continue to be highly relevant and are being supplemented by new success factors in an increasingly turbulent environment.

This final report provides a comprehensive overview of the findings on the success factors examined in the current study. The focus of the findings is on Triple-A portfolio management, consisting of the dimensions Agile, Adaptive and Ambidextrous.

Su	nmary	MPM Study	Context	Triple A	Basics	Comp. findings	Appendix
	This is the v	veb preview of th	e general final r	eport. Please use the full report.	e the <u>contact forr</u>	<u>n on our website</u>	to request
	As a study participant, you will receive a detailed individual evaluation of your multi-project management with a comparison to top and low performers in addition to the general final report. Please find all information on the study and the contact form for registration at <u>www.multiprojectmanagement.org</u> or send us your questions by e-mail to <u>info@multiprojectmanagement.org</u> .						•
	MPM PROJECT-PORTFOLIO Benchmarking STUDY						4



The Multi-project Management Performance Index is the key performance measure for the benchmark and is composed of the dimensions MPM quality, project portfolio success and business success.

Multi-project management Performance Index

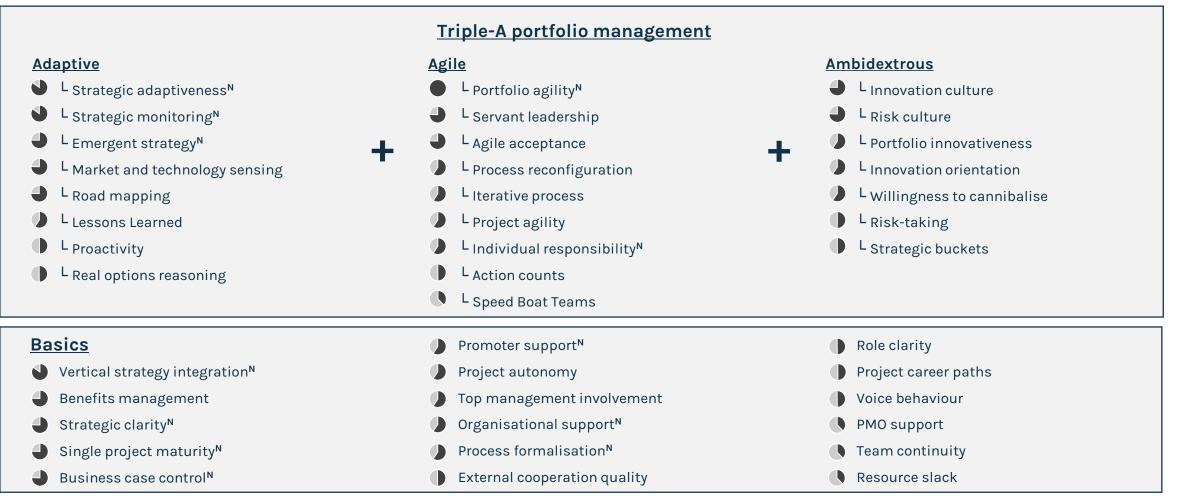
+	Project Portfolio Success	+	<u>Business Success</u>
	^L Strategic fit		^L \emptyset Economic success of project results
	^L Use of synergies		L Economic success of the business unit
	^L Portfolio balance		L Future orientation
	L Ø Project success		^L Customer satisfaction
			L Speed
	+	L Strategic fit L Use of synergies L Portfolio balance	L Strategic fit L Use of synergies L Portfolio balance

Explanation for MPI:

- The MPI is composed of MPM quality, project portfolio success, and business success.
- It is the measure of success that defines the benchmark between top and low performers.
- The MPI is the stepwise aggregation of the lowest (e.g., strategic fit) and second-level dimensions (e.g., project portfolio success).
- The individual components of the MPI are evaluated by both decision makers and coordinators (each answering 54 questions on a scale from 1 to 7).



Triple-A portfolio management is composed of the dimensions Agile, Ambidextrous and Adaptive, and has a strong relationship to MPI.





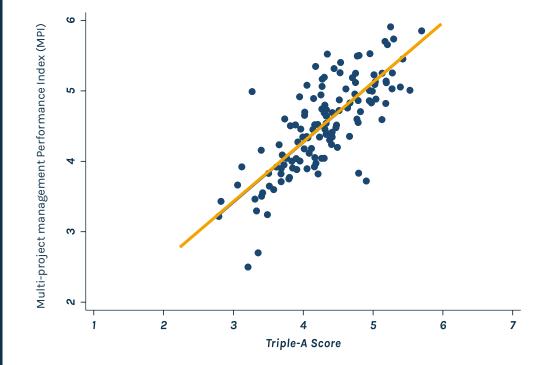
Correlation >0

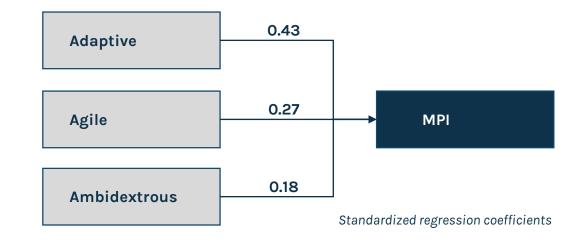
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Triple-A portfolio management as a whole, and each individual dimension, have a strong relationship with MPI.

Relationship between Triple-A and MPI

The effect of the three dimensions of Triple-A portfolio mgmnt.





- There is a strong relationship between the MPI as a central measure of success and the combined Triple-A score
- Moreover, each dimension of the Triple-A MPM is positively significantly related to the MPI



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MPM Study

Multi-project management – MPM

We define multi-project management as the holistic management of a project portfolio through the coordinated interaction of

- strategies,
- structures and processes,
- organisational actors and
- cultures

to achieve performance targets of relevant stakeholders.

This chapter explains the study design and outcome measures, and presents general statistics on the study participants and their portfolios.

For more than ten years, the MPM Study has been providing valuable insights into the effects of MPM using a scientific study design.

General information about the study design

- The 9th MPM Study 2020 is led by the Chair of Technology and Innovation Management of Professor Dr. Alexander Kock at the Technical University Darmstadt, Germany. Professor Dr. Dr. Hans Georg Gemünden (Technical University Berlin, Germany), Dr. Patrick Lehner (ZHAW Zurich, Switzerland), and Professor Dr. Catherine Killen (UTS, Australia) were also involved in the conception and implementation.
- The unit of analysis is the project portfolio, which is defined as a collection of projects that share common resources. A prerequisite for participation in the study is a project portfolio of an average of 20 projects.
- The MPM Study is characterized by its **scientifically-based study design**. This includes in particular a careful selection of participants, scientifically validated questionnaire scales and a **multi-informant design**. Accordingly, the following informants must provide their assessment per portfolio:
 - A decision maker (higher managers who make decisions on project selection, postponement or cancellation, e.g. executive management, division management, department management) to assess the strategic decisions and success
 - A coordinator (middle managers who coordinate the project portfolio, e.g. portfolio management, PMO management) to assess the procedures, methods and processes
 - Optionally, at least three **project managers** (experienced managers in operational project business) report on their perception of MPM and a specific completed project (their answers are aggregated for each portfolio)
- Data collection was carried out online via personalized access to a survey platform. For this purpose, individual access links were sent to the participants after checking their registration. Thanks to the personalized access, the responses of the informants could be subsequently assigned to the relevant project portfolio.



Context

Appendix

A total of 658 people divided into three types of informants submitted complete questionnaires. Consolidated, this results in 119 project portfolios for evaluation.

Descriptive information about the study

- Survey period June November 2020
- Questionnaires submitted
 - **131** Decision maker questionnaires (EN): They assess success and selected success factors.
 - **138** Coordinator questionnaires (KO): They assess success and all success factors.
 - **389** Project manager questionnaires (PL): Their answers aggregated over the portfolio are included in the evaluation of many (especially cultural) success factors, but not in the success rating (average 4.4 project managers per portfolio).
- 119 evaluated portfolios of companies from Germany, Austria and Switzerland

Information about the participating companies

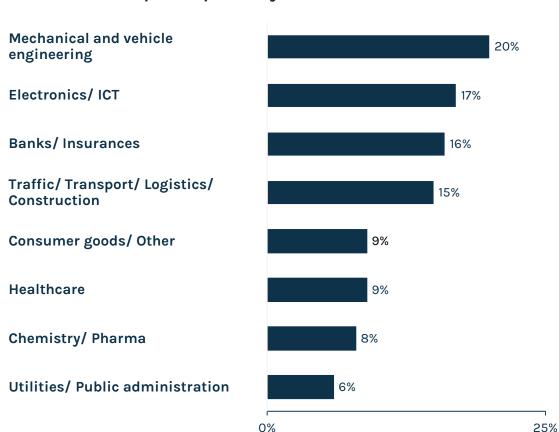
Median* across all companies:

Basics

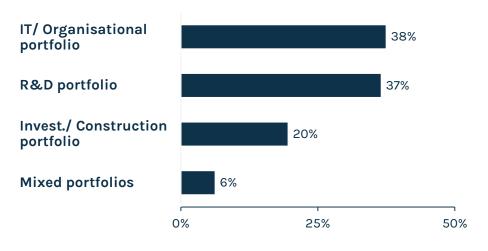
- 2,000 employees per company
- 735 million euros in sales in 2019
- **25% 50%** of the employees are involved in projects
- <25% of the project employees are external employees
- Only **half of the participants** have at least some projects in their portfolio that are based on orders or specifications from external customers.
- The share of projects carried out in cooperation with **other companies** is 10% or lower for half of the participants (average 25%).
- Only 25% of the participants have a share of at least 5% in projects in cooperation with **start-ups**.



The largest share of participants belongs to the mechanical and automotive engineering sector. The study includes different types of project portfolios.



Distribution of participants by sector



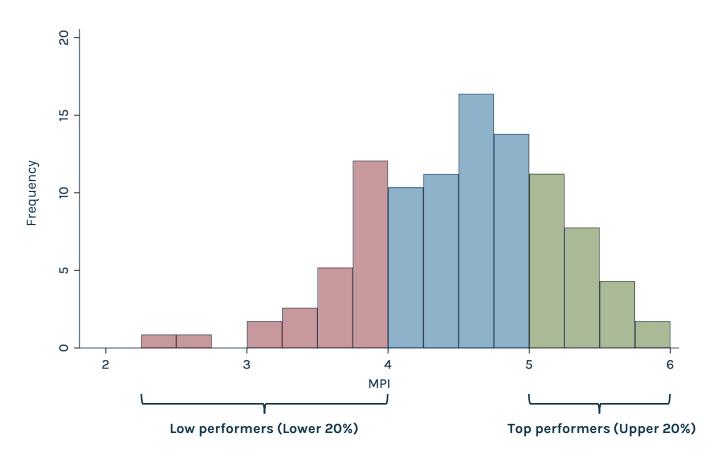
Distribution of participants by portfolio focus*

* Portfolio focus means that more than 40% of the portfolio budget is allocated to the corresponding project category (IT/organisational projects; research & development projects; other investment projects/construction projects). Portfolios that cannot be clearly assigned to a focus in this way are mixed portfolios.

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Based on the Multi-project management Performance Index (MPI), participants are divided into top and low performers.

Distribution of the MPI over all participants



- The **bottom 20%** of participants by MPI are low performers. Low performers have an MPI between 2.5 and 3.921. The average MPI of low performers is 3.58.
- The **top 20%** by MPI are top performers. A top performer is someone who has an MPI between 5.14 and 5.91. The average MPI of top performers is 5.42.
- The **rest (60%)** are mid performers. Mid performers have an MPI between 3.923 and 5.13. The average MPI of mid performers is 4.57.



How do we determine the importance of success factors and what defines a necessary factor?

Success factors and their importance

- After calculating the MPI for each participant, participants are assigned to top performer, mid performer, and low performer groups based on the MPI.
- Subsequently, we calculate the relationship between potential influence factors (processes, structures, culture or strategy dimensions) and the MPI: The stronger the relationship of a factor with the MPI, the stronger its relevance as a success factor. This can be measured in two comparable ways
 by the correlation or the difference between top and low performers.
- The strength of the relationship can be indicated by the **correlation**. Its magnitude lies between 0 and 1, where 0 describes no correlation and 1 a perfect positive correlation.
- Alternatively, the **difference in the expression of a factor between top and low performers** also shows the importance of this factor. The higher the difference of a factor between top and low performers, the more important this factor is for achieving a high MPI.

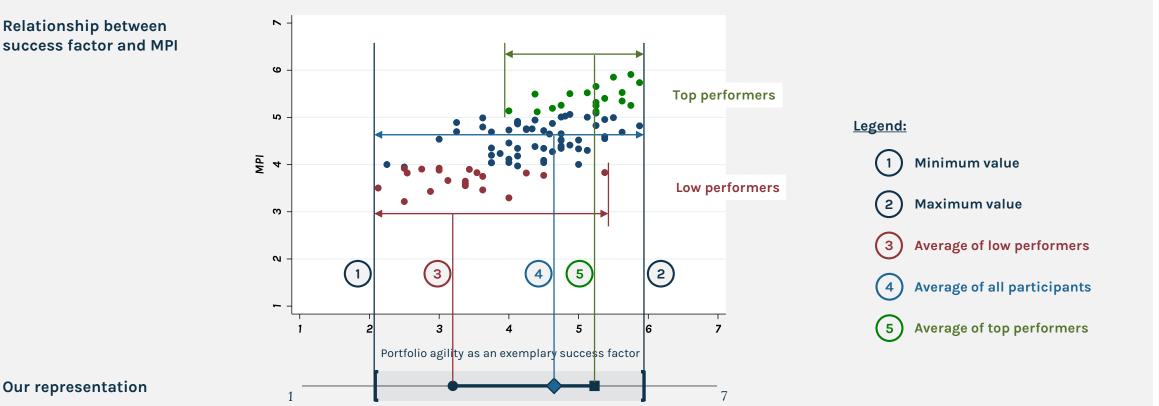
Necessary factors

- We refer to a factor as necessary if a high expression of the factor is necessary but not necessarily sufficient for a high MPI.
- If the necessity of a factor is high, this means that there are very few or no participants who simultaneously have a low expression in this factor and a high MPI. If the necessity of a factor is low, this means that there are participants with both high and low MPIs, regardless of the factor's expression.
- The necessity of a factor thus describes the preliminary stage to correlation. While a high correlation means that a high expression of a factor is also associated with a high MPI, a high necessity means that a high MPI cannot be achieved without a high expression in this factor. A high expression in this factor is thus a prerequisite for a high MPI, but does not necessarily lead to it.



Success factors influence performance (MPI). The greater the spread between the mean values of the top and low performers, the more important the respective success factor is for performance.

Success factors and their importance





Summary MPM S	Study Context	Triple A	Basics	Comp. findings	Appendix



The context of the project portfolio

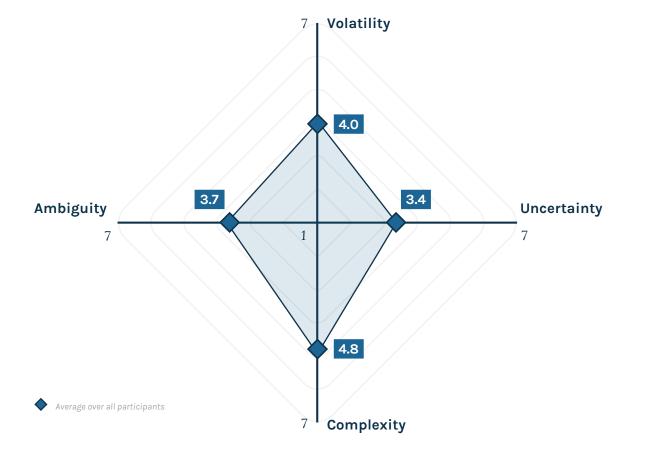
Internal and external influence factors affect the relationships and mechanisms of the success factors in multi-project management. In this chapter, we show the relationships between the MPI and Tri<u>ple-A Score with</u>

- VUCA,
- competitive intensity, and
- portfolio complexity.



On average, the VUCA dimension complexity is more pronounced than the dimensions uncertainty, volatility and ambiguity.

The average distribution of VUCA dimensions



High VUCA means:

Volatility: Relatively unstable change; information is available and the situation is understandable, but change is frequent and sometimes unpredictable.

Uncertainty: Lack of knowledge about whether an event will have meaningful impact; cause and effect are understood, but it is unknown whether an event will cause significant change.

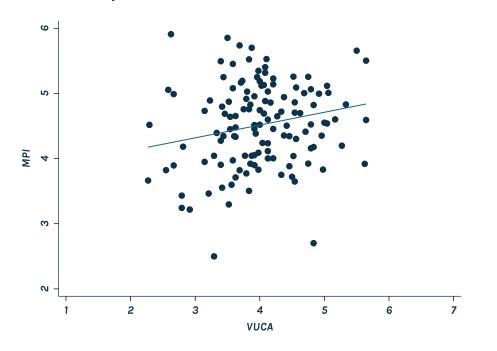
Complexity: Many interconnected parts form an elaborate net of information and procedures; often multiform and nested, but not necessarily involving change.

Ambiguity: Lack of knowledge about the "ground rules of the game"; cause and effect are not understood, and there is no precedent for making predictions about what to expect.



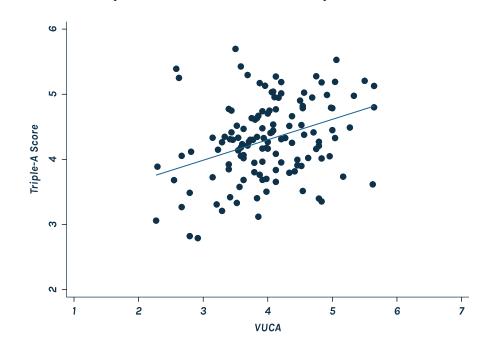
The expression of the MPI is independent of the VUCA score of the environment, but in higher VUCA environments portfolios exhibit a higher Triple-A score.

Relationship between VUCA and MPI



- There is only a small positive relationship between VUCA and the MPI
- Thus, companies in high VUCA environments tend to show slightly higher success

Relationship between VUCA and Triple-A PPM



- There is a positive relationship between VUCA and Triple-A
- So, most companies respond to a VUCA environment with more agility, adaptivity, and ambidexterity





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Triple-A project portfolio management

In a more turbulent environment, it becomes increasingly important for companies to react flexibly to external and internal changes in the short term while at the same time being diversified in their position in the long term. We summarize these capabilities in the definition of Triple-A PPM:

- Agility,
- Adaptiveness, and
- Ambidexterity.

Accordingly, companies should maintain and develop agile, adaptive, and ambidextrous capabilities. In this chapter, we provide an overview of Triple-A's three dimensions, their underlying components, and their importance for MPI.

Adaptive MPM means strategic adaptiveness, the use of new emergent strategic paths, and thinking in terms of options. (1/2)

Components

Strategic adaptiveness

Definition

Strategic adaptiveness reflects a company's ability to continuously respond to unforeseen changes and adapt to unexpected consequences of foreseeable changes.

Strategic monitoring critically examines the portfolio strategy by regularly reviewing its feasibility and premises.

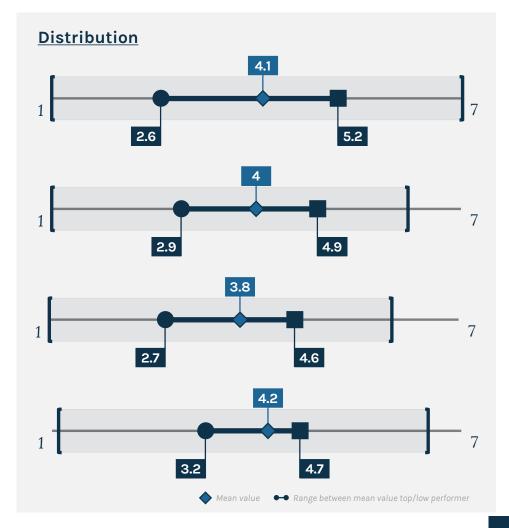
Strategic monitoring

Emergent strategy

Emergent strategies arise bottom-up and are not consciously planned. Nevertheless, portfolio management can support the recognition of emergent impulses.

Market and technology sensing

Market and technology sensing refer to the exploration of markets with regard to customer needs and technological trends, as well as the evaluation of possible reactions from suppliers and competitors.





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The basics as the foundation of MPM

In addition to the new success factors of Triple-A MPM, established success factors continue to be of high importance for MPI. The success factors referred to as "Basics" ensure clear structures, roles and processes in the project portfolio.

In this chapter, we present the classic success factors and show their importance for the MPI.



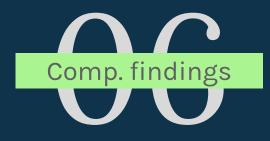
	Summary	MPM Study	Context	Triple A	Basics	Comp. findings	Appendix
	Basics						
	Success factor	Definitio	<u>n</u>		Distribution		
	Vertical integration		egration refers to linking the structuring and management		1	3.6	5.4
β	Benefits managemen	T	anagement describes the sys nal capabilities.	tematic development of	1	3.8	7
nchmarking Stud	Strategic clarity	formulated	arity means that organizatio strategy and that is commun rganization.	-	1	4.5	5.6 6.3
yect-Portfolio Bei	Single project maturi	ity managemei	ect maturity includes standa nt processes and capabilities and decision-making.	·	1	4.3	5.7
						🔶 Mean value 🛛 🕶 Range between n	mean value top/low performer

MPM PROJECT-PORTFOLIO BENCHMARKING STUDY

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The complementary findings of the MPM Study



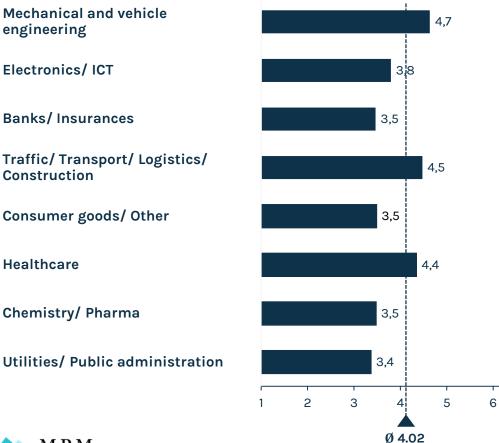




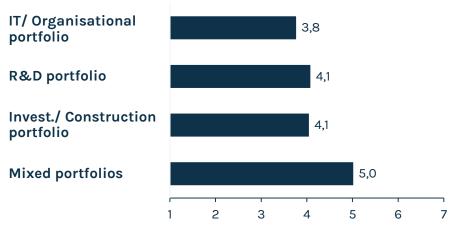
Portfolios in the engineering, automotive, transportation and healthcare sectors have been hit severly by the Covid 19 crisis.

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Impact of the crisis by sector



Crisis impact by portfolio focus





Basics

On average, companies are rather reluctant to make adjustments to their MPM in response to the effects of the crisis.

Heat map on the relationship between crisis effects and reactions

All projects except mandatory projects were stopped

Only the most important projects are continued

Individual projects were stopped Budget cuts

No initiation of new projects

Changing the selection criteria

No changes

4	2 %	4 %	11 %
Adaptions of the MPM	12 %	13 %	15 %
Adapt	17 %	19 %	10 %

How severely are you affected by the crisis?

For the following items, please rate how severly your organization has been affected by the crisis: communication (external or internal), order decline, supplier problems, payment backlog, operations and production

- The darker the coloring of an area, the more portfolios are assigned to it. The diagonal elements of the heat map correspond to a balanced crisis response.
- On average, companies tend to react rather cautiously and adjust their MPM only slightly, even if they are severely affected by the crisis.



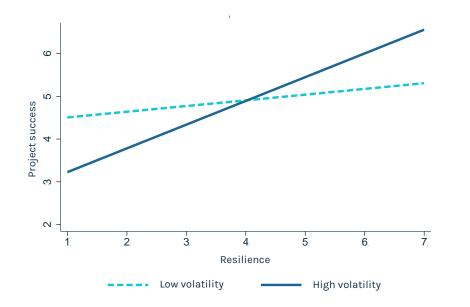
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The complementary findings of the MPM Study



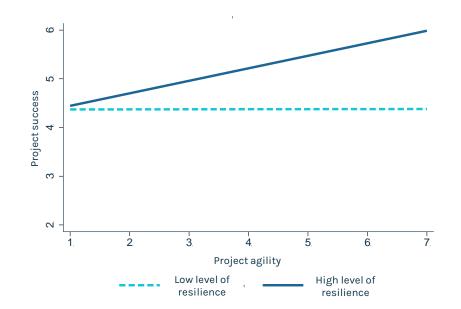
Resilience is important for project success, especially in high volatility. Agility has no effect without resilience in the project team.

Effect of resilience on project success for different levels of external volatility



- In general, there is a positive relationship between resilience and project success. As the environment becomes more volatile, the positive effect of resilience increases even further.
- Resilience refers to the psychological resistance of the project team a ٠ characteristic that is particularly important in a volatile environment. Companies in volatile environments should therefore pay particular attention to promoting the resilience of their project teams.





- The relationship between project agility and project success depends on the resilience of the project team. If resilience is low, there is no positive relationship between agility and success.
- A sufficiently high level of resilience is thus a basic prerequisite for achieving higher project success with high agility.



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Exemplary excerpt from the individual final report for study participants

Study participants receive a comprehensive individual evaluation of their multi-project management with a comparison to top and low performers. The individual evaluation covers both the dimensions of success and the success factors from the areas of strategy, structure & roles, culture, processes, and Triple-A. As a participants, you can derive concrete individual implications from your benchmarking for the successful development of your multi-project management.



The Multi-project Management Performance Index is composed of the dimensions MPM quality, project portfolio success, and business success.



*The MPI is the stepwise aggregation of the lowest and second-level dimensions. The lowest level dimensions are each based on 3-5 individual questions rated by both decision maker and coordinator on a scale of 1 to 7. Top performers (MPI of 5.12 or higher) have an average MPI of 5.4. Low performers (MPI less than 3.92) have an average MPI of 3.6.



mid performern

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Success factors are levers that influence MPM performance. Factors that have a high influence but are weak in your portfolio are the most relevant for you.





Correlation >0 >01 >02 >03 >04 >05 >06 >0

Your individual performance

Factors with a high success correlation that are still low in your portfolio should be addressed with high priority.

Deriving recommended actions from the MPM Cockpit

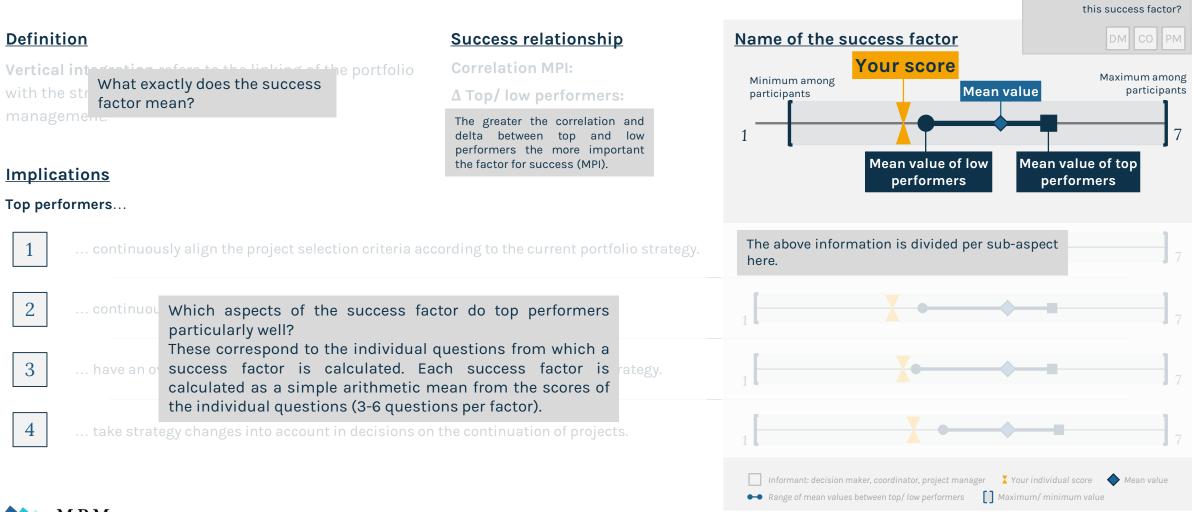
Importance of the success factor

Urgently build competence	Strongly preserve competence
You have a <u>low score</u> in these <u>important</u>	You have a <u>high score</u> in these <u>import</u>
success factors. You should urgently	success factors. You should strongly
build up competence in this area.	preserve the competencies in this are
Build competence in the long term You have a <u>low score</u> in these <u>less</u> <u>important</u> success factors. You should build up the competencies in this area in the long term.	Preserve competence You have a <u>high score</u> in these <u>less</u> <u>important</u> success factors. You should preserve the competencies in this are

- In the dashboard on the previous slide, we indicate your individual score for each success factor (traffic light).
- The Harvey Balls indicate the importance of each success factor. The fuller the Harvey Ball, the stronger is the correlation between the success factor and the MPI.
- Based on the **combination of your individual scores** and a **factor's correlation to success**, you can **derive your individual implications**.
- Factors that currently have a low score in your portfolio but have a high correlation to success should be urgently addressed and built up.
- In the long term, you should also address the factors that have a low score but also a lower correlation to success.
- Factors with a high score should be preserved.



How to read the detailed findings for each success factor: based on the difference between top and low performers, you can determine the importance of the factor.





Which informant estimated

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Success factors are levers that influence MPM performance. Factors that have a high influence but are weak in your portfolio are the most relevant for you.



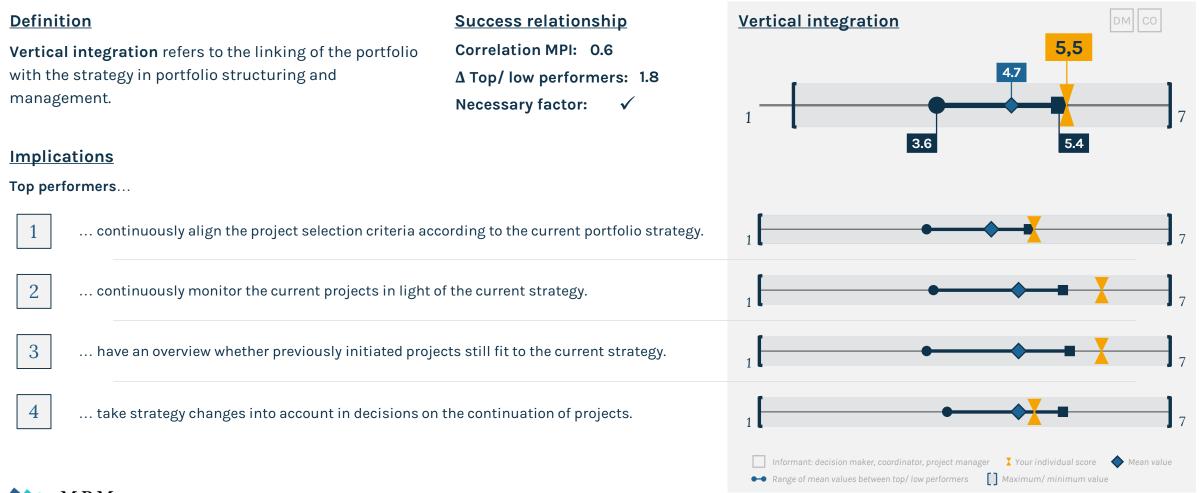


Correlation >0

>01 >02

^N Necessary factor

Top performers continuously adapt decisions on the selection and continuation of their projects to the current strategy of the company.





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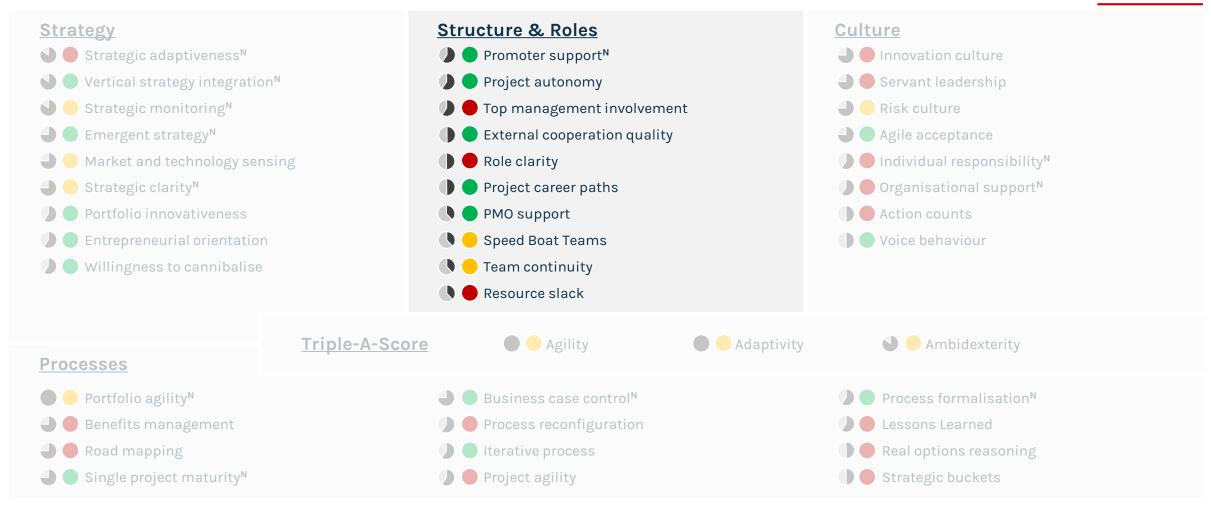
Top performers have an understandable, clearly communicated and understood strategy as the basis for portfolio prioritisation.





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Success factors are levers that influence MPM performance. Factors that have a high influence but are weak in your portfolio are the most relevant for you.

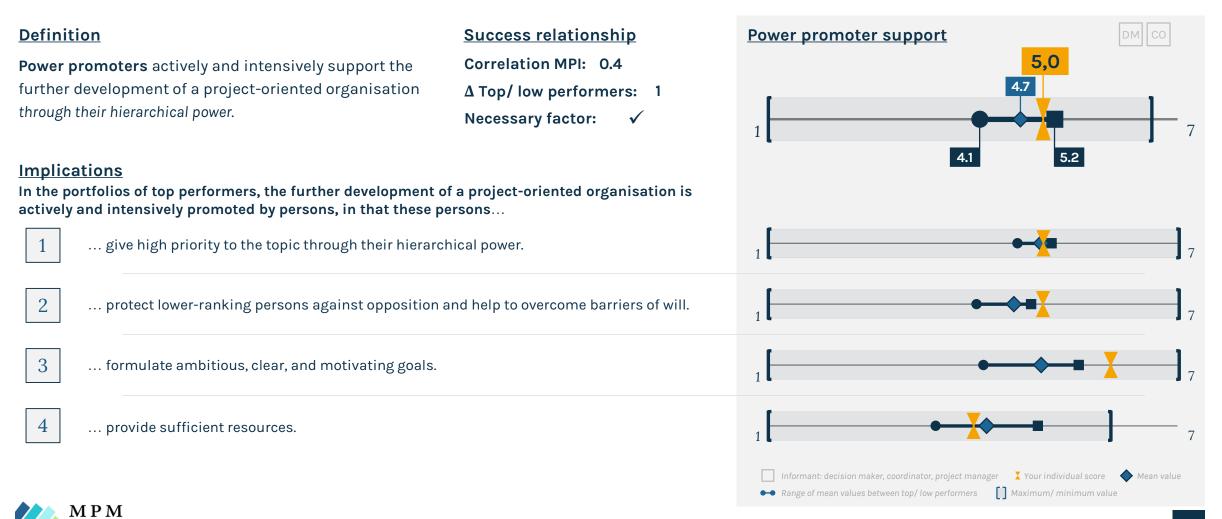




Correlation >0

>01 >02

In the portfolios of top performers, individuals actively support the further development of the project-oriented organisation through their hierarchical power.



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Top performers create a clear and uniform understanding of the internal distribution of roles in the project portfolio.

Example

Definition Role clarity refers to the uniform understanding of tasks and responsibilities of the individual actors in the project portfolio management process.	<u>Success relationship</u> Correlation MPI: 0.3 Δ Top/ low performers: 0.9	Role clarity 3,0	4.5 4.2 5.1
Implications			
Among top performers,			
1 the tasks of people involved in project portfolio differentiated.	the tasks of people involved in project portfolio management are clearly and formally differentiated.		
2 every task within project portfolio management is person responsible for that task.	every task within project portfolio management is carried out exclusively by the specific person responsible for that task.		
3 the role of line management within project portfolio	management is clearly defined.	1	
			, project manager 🛛 Your individual score 🔶 Mean value v performers 🚺 Maximum/ minimum value



Starting in 2021: Individual evaluation of your project portfolio management

Benefit now from our extensive MPM benchmarking experience. In addition to the regular surveys as part of the multi-project management studies, we also offer individual evaluations of your project portfolio management. This offers you the following advantages:

- Individual organisation: For the individual evaluation, we follow your schedule. Depending on the degree of individualisation, a survey is possible even after a short lead time.
- Individual design: In an individual evaluation of your MPM, you determine the focus and scope of the survey. We offer you a fully personalised data collection based on the questionnaires of past MPM studies. This also allows you, for example, to evaluate only certain MPM focus areas.
- Individual comparison: You want to compare several internal portfolios with each other and with the MPM Benchmark? With the individual evaluation, we design and create your personalised report. This provides you with comprehensive insights into your internal MPM performance. Of course, you can also flexibly define the scope and type of survey.
- **Continuous comparison:** Compare your performance over time at individual intervals and record MPM performance before and after comprehensive change processes.

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Dr. Patrick Lehner In ZHAW School of Management and Law Head of Organisational Design & Processes

About the MPM Study

For more than fifteen years, the research group Multiproject Management (MPM), initiated by Professors Hans Georg Gemünden and Alexander Kock, has been evaluating best practices and success factors in project portfolio management through benchmarking studies. You can find all information on the current and past studies at www.multiprojectmanagement.org

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