

Project, Program and Portfolio Management: the scalability of systemic approach to improve project strategic alignment ¹

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ABSTRACT

In each organization, the alignment of the projects with the strategies is essential in order to deliver the desired value to the diverse stakeholders, and, ultimately, to achieve the project success itself. Since every organization may be assimilated to a portfolio, project strategic alignment requires running successfully not only project management, but also higher-level management perspectives, including program and portfolio management. Therefore, an eventual scalability of project management tools and techniques to program and portfolio domains might greatly extend and strengthen the possibility of their effective and efficient management. This paper shows how the systemic approach may ensure the project scalability, not only in the commonly used top-down WBS-based approach towards subprojects and work packages, but also in the bottom-up approach towards programs and portfolios.

THE PROCESS OF VALUE CREATION IN THE ORGANIZATIONS

We can assume that project management has two primary objectives (Archibald and Archibald, 2016), i.e. all projects have to be aligned with the organization's strategies, and each project has to achieve its objectives and to produce the desired value. These principles perfectly correspond to the fact that projects are primarily operational means to achieve strategic goals via the creation and the delivery of value, so that, accordingly, their importance is mainly perceived by the stakeholders – and, specifically, by the customers and the investors – as strategical.

Indeed, the “instrumental nature” of the projects is already evident in the first statement of PMBOK (Project Management Institute, 1987), which reports that “establishing a project as a means to an end has been around since man's early history”. In the project management standards, this principle has been reaffirmed “projects are a means of achieving organizational goals and objectives. This is often accomplished in the context of a strategic plan that is the primary factor guiding investments in projects” (Project management Institute, 2017), and has been presently confirmed too “projects can be a

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means to achieving strategic objectives” (International Organization for Standardization, 2020).

However, above project instrumental nature is not evidently clear and/or accepted in a substantial number of cases, since for the last ten years the number of projects that did not satisfy the original goals/business intents has been, on average, always higher than 30% (Project Management Institute, 2018 and 2021). It seems that a significant number of project managers, teams and executives are still closely tied to a pure plan-based, project requirements-centered approach, which corresponds to a project management view of an execution/delivery only discipline, while the development and delivery view has greater potential to add value (Stretton, 2022). The pure plan-based approach, in fact, does not take into considerations properly both the stakeholder expectations, and, ultimately, the need of managing complexity and achieving the success: it may be interesting to notice that, coincidentally but perhaps not too much, more than 30% of organizations are still not centered on delivering customer value ... (Project Management Institute, 2021).

Definitively, the alignment of the projects with each organization’s strategy that is involved, and the effective delivery of a business and/or social value in accordance with diverse stakeholder expectations become critical success factors in the organizations.

If we consider the whole process of value creation and delivery – from the definition of the strategies to the achievement of benefits – and we use the approximation that all involved processes have a linear behavior (while in fact they are context-sensitive and may be iterative/adaptive), in the resulting value chain we may distinguish three main phases, which basically correspond to the initial investment life cycle, to the project lifecycle and to the product/service lifecycle (Fig.1).

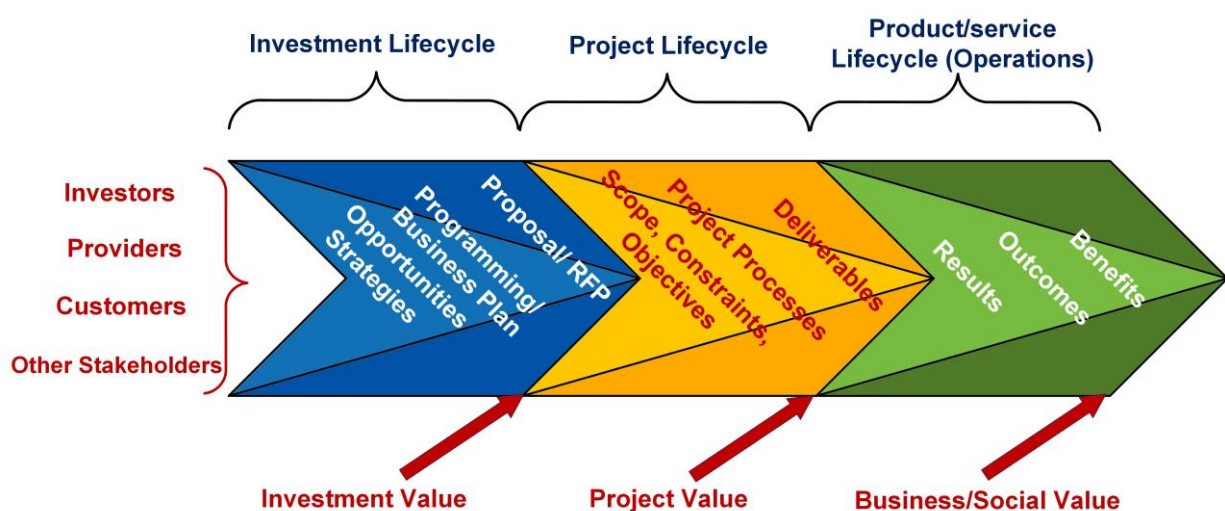


Fig.1 – A Project Value Chain (Source: Caressa and Pirozzi, 2022)

These three phases are usually sequential, although partial overlapping may occur in specific agile/adaptive scenarios. In any case, the processes that are part of each lifecycle may iterate, and therefore a structured approach to track them – as project management is – becomes a priority (Caressa and Pirozzi, 2022). For example:

- in the investment lifecycle, opportunities coming from outside and/or a lack of opportunities may lead to a modification of the existing strategies, as well as the results of a business plan may lead to include new opportunities that were not considered before and/or to exclude opportunities that were included before, etc.;
- in the project lifecycle, the project processes may be implemented iteratively both in the predictive approaches – in the cases of approved modifications and/or corrective actions – and in the agile/adaptive approaches;
- in the product/service lifecycle, the operational processes may be iterated in the cases of approved improvements and/or modifications.

In any case, there are four perspectives that coexist in the value chain, which correspond to the four main stakeholder communities (Pirozzi, 2017 and 2019): the investors, the providers, the customers and the other stakeholders. In general, the diverse perspectives converge in particular spots, as the contract's signature, the deliverables' acceptance and the benefits' evaluation: these spots correspond to the deliveries of the invested value (i.e. the resources), of the project value and of the business/social value, respectively. Definitively, the projects are operational means to achieve strategic goals via the delivery of value.

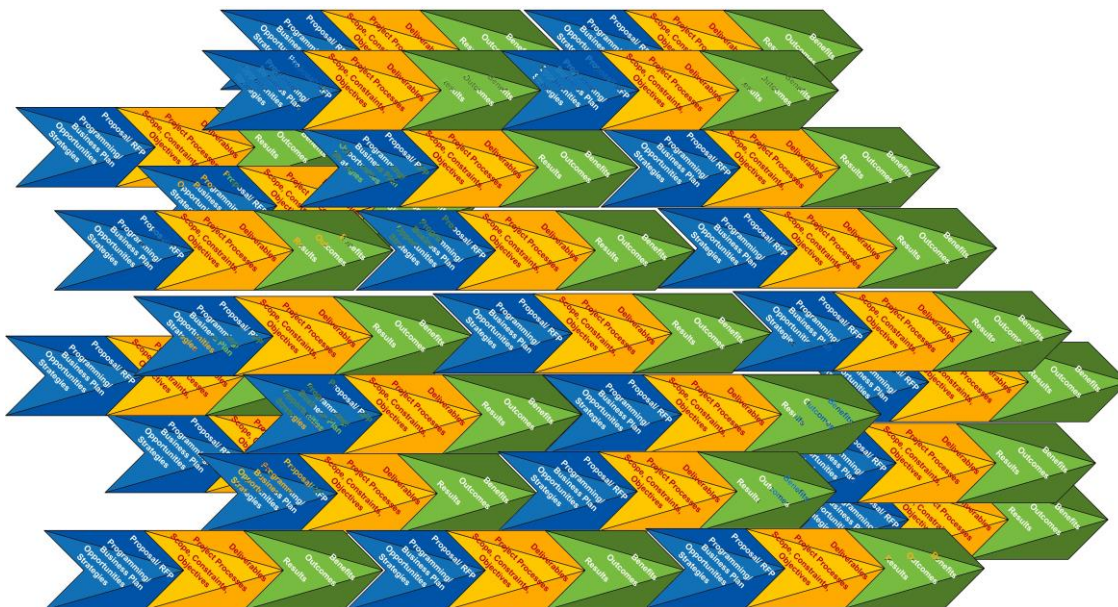


Fig.2 – A Value Chain of an Organization (Elaborated from Caressa and Pirozzi, 2022)

In each organization, it is evident that there is a closed – although often under evaluated – bond between projects and operations (Fig.2): projects need to evolve in operations in order to deliver their business/social value, the projects are at least partially financed by other operations, and in general the operations affect the projects because the organizational structure, the procedures and the organizational culture are usually based on the operations themselves. On other side, no operation can exist if there is not a previous successful project that has enabled its start up. Ultimately, the success of each organization and its capability of value delivering is based on the success of their projects, of their operations and of the relations among projects and operations.

Since projects and operations relate to each other not only in specific value chains, but also because they may be part of the same programs and/or portfolios, the success in each organization requires evidently not only the success of its projects and operations, but also the successful management of their integration in programs and portfolios, which, ultimately, are both in general characterized by high levels of complexity. Therefore, effective project, program and portfolio management is the critical success factor to achieve and/or to improve the project strategic alignment in the organizations.

THE SCALABILITY OF SYSTEMIC APPROACH: FROM WORK PACKAGES TO PORTFOLIOS

All projects, programs and portfolios consist of processes and, therefore, they have similar systemic structures; in addition, the same principle is evidently applicable also to project, program and portfolio management. In fact, a system may be defined as “a regularly interacting or interdependent group of items forming a unified whole (Merriam Webster)”: therefore, if the above items that we consider are activities, each process is a system in all respects. Each process, indeed, can be defined as a combination of activities, the execution of which enables to achieve an objective (output) starting from an initial situation (input) and being in a certain state (context), and its representation is then identical to that of a system (Fig.3).

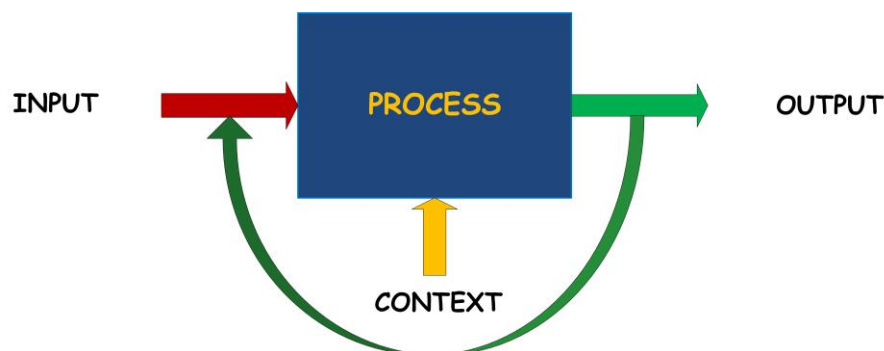


Fig.3 – The Representation of a process

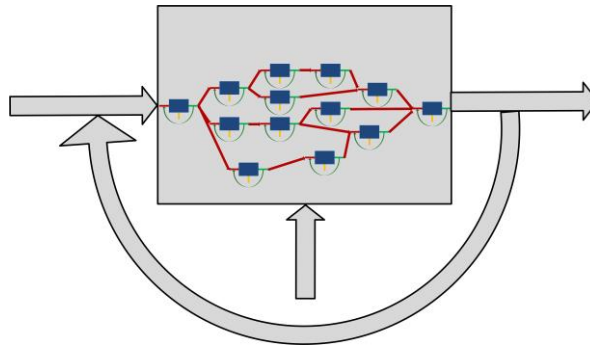
Each project – and indeed each operation and each investment – may then be considered a process, which in turn is made up of component processes. In project management, a process-based approach has several objective advantages (Caressa and Pirozzi, 2022):

- result orientation. Working by objectives has important impacts on both efficacy, because it targets what actually needs to be done, and efficiency, because it prevents from wasting resources to realize unnecessary activities and/or to target false objectives.
- Possibility of breaking down the project in components as the phases, the subprojects and the work packages – each of which is characterized by measurable deliverables and the presence of a sole responsible. This allows facing and solving the project complexity by integrating its lower-complexity components.
- Stakeholder relations based on results. The fact that both projects and their components interact via their inputs and their outputs reflects very positively also on the stakeholder relations, since people are led to share deliverables, while are not encouraged at all to lose time in discussions about the best ways to realize the outputs – and then leave properly that issues to each work packages responsible.
- Drastic reduction of endogenous/self-generated complexity. A synthesis of above points is that a process-based approach is – very usefully! – refractory to the introduction of further unnecessary – and ineffective! – complexity that may be generated by stakeholders without being not strictly pertinent to project domains.
- Efficacy of project management. Since also project management is made up of processes – indeed it may be considered “a network of processes” – the flexibility that derives from the application of the “tailoring” principle allows to manage effectively the project management processes and their relations/interactions, because enables the project management “customization” that is needed to take properly into account the unicity of each project.

Each work package, which generally corresponds to the project breakdown level of detail that is considered the most useful for planning and controlling purposes, may evidently be assimilated to a process/system too. Therefore, in a systemic approach, each project may be represented as “a system of systems”, in which the component work packages are closely related in a schedule network diagram via their inputs/resources and their outputs/deliverables (Fig.4).

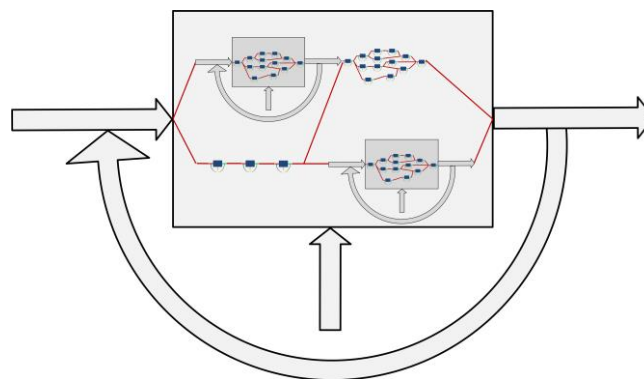
Just like it is convenient to manage a project on the basis of the integrated management of its components – as e.g. phases and work packages – we may consider the projects, in their turn, as components that characterize systems of major dimensions and/or complexity, as programs and portfolios are. Therefore, the systemic approach has also the extraordinary advantage – if it is correctly interpreted and applied – of making

everything that characterizes project management efficacy and efficiency scalable – i.e. adaptable to larger scales and/or greater objectives/goals/needs/expectations – also to program and portfolio management.



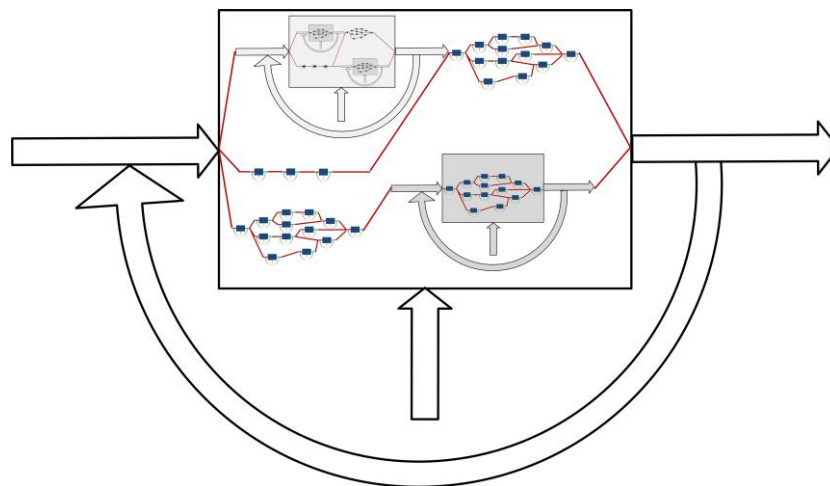
*Fig.4 – The Systemic Representation of a Project and of its Components
(Source: Caressa and Pirozzi, 2022)*

The programs are present in modern project management since its inception. In PMBOK (Project Management Institute, 1987) a program is concisely defined as “an endeavor of considerable scope encompassing a number of projects”, while the present definition of a program (Project Management Institute, 2021) may be synthesized in “related projects, subsidiary programs, and program activities that are managed in a coordinated manner to obtain benefits not available from managing them individually”. In a systemic perspective (Fig. 5), even a program is “a system of systems”; its components are closely related projects and/or operations, and these type of relations are the same of those between the projects and their phases and/or work packages that make them up. Definitely, the programs, although are of course characterized by greater sizes and higher levels of complexity, have a systemic structure that is almost identical to that of the projects. Ultimately, therefore, project management methodologies, techniques, tools and even competences are fully applicable to program management too.



*Fig.5 – The Systemic Representation of a Program and of its Components
(Source: Caressa and Pirozzi, 2022)*

On the other hand, the concept of portfolio appeared in project management standards just in the third Edition of the PMBOK® Guide (Project Management Institute, 2004), that is almost twenty years after the first concepts of project and program. Indeed, while there have been several definitions of portfolio that corresponded to diverse perceptions in terms of the nature and the roles of portfolios, programs and even project management (Stretton, 2021), the definition of portfolio contained in the project management standards remained quite stable up to today, and presently may be synthesized in “projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives”; in it, we perceive a focus on both the achievement of strategic objectives/efficacy and on the improvement of management due to grouping/efficiency. In a systemic perspective (Fig. 6), even a portfolio is “a system of systems”; its components are either closely related programs, projects and/or operations – these type of relations are the same as those between the programs projects and their phases and/or work packages that make them up – or may have also weaker relationships that do not influence their respective inputs and outputs – in this latter case, these type of relations are in any case absolutely analogue as those between the programs projects and their phases and/or work packages that make them up. Definitively, the portfolios, although are of course characterized by greater sizes and higher levels of complexity, have a systemic structure that is almost identical to that of the projects and of the programs. Ultimately, therefore, project management methodologies, techniques, tools and even competences are fully applicable to portfolio management too.



*Fig.6 – The Systemic Representation of a Portfolio and of its Components
(Source: Caressa and Pirozzi, 2022)*

In conclusion, due to the scalability of projects, programs and portfolios, a “management by projects” mindset can be extensively used, and, therefore, the correspondent value-based project management approach turns out to be effective and efficient not only in

program and portfolio management, but also in ensuring the project strategic alignment, which is a critical success factor in all organizations.

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About the Authors



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Massimo Pirozzi, MSc cum laude, Electronic Engineering, University of Rome “La Sapienza”, Principal Consultant, Project Manager, and Educator. He is a Member of the Executive Board and an Accredited Master Teacher, of the Istituto Italiano di Project Management (Italian Institute of Project Management). He is certified as a Professional Project Manager, as an Information Security Management Systems Lead Auditor, and as an International Mediator. He is a Researcher, a Lecturer, and an Author about Stakeholder Management, Relationship Management, and Complex Projects Management, and his papers have been published in U.S.A., in Italy, and also in Russia; in particular, he is the Author of the innovative Book “[*The Stakeholder Perspective: Relationship Management to enhance Project value and Success*](#)”, CRC Press, Taylor & Francis Group, Boca Raton (FL), U.S.A., October 2019. Due to the acknowledgement of his comments on stakeholder-related issues contained in Exposure Draft of The Standard for Project Management - 7th Edition, he has been recognized as one of the *Contributors and Reviewers of The PMBOK® Guide - Seventh Edition*, and he received the *Certificate of Appreciation for Excellence for his volunteer contributions to the Project Management Institute and the project management profession in 2020*.

Massimo Pirozzi has a wide experience in managing large and complex projects, programs, and portfolios in national and international contexts, and in managing business relations with public and private organizations, including multinational companies, small and medium-sized enterprises, research institutes, and non-profit organizations. He worked successfully in several sectors, including Defense, Security, Health, Education, Engineering, Logistics, Cultural Heritage, Transport, Gaming, Services to Citizens, Consulting, and Web. He was also, for many years, a Top Manager in ICT Industry, and an Adjunct Professor in Organizational Psychology. He is registered as an Expert both of the European Commission, and of Italian Public Administrations.

Massimo Pirozzi is an Accomplished Author and an International Editorial Advisor of *PM World Journal*. He received three 2020 PM World Journal Editor’s Choice Awards for his featured paper “[*Project Management for Evidence Based Medicine*](#)” (co-authored with Dr. Lidia Strigari), for his Article “[*Project communications 1.0 and 2.0: from information to interactivity*](#)” and for his report from Italy titled “[*The fight against Coronavirus disease \(COVID-19\) from the perspectives of projects and of project management*](#)”. He received also two 2019 PM World Journal Editor’s Choice Awards for his featured paper “[*Stakeholders, Who Are They?*](#)”, and for his report from Italy titled “[*PM Expo® and PM Maturity Model ISIPM-Prado®*](#)”, and a 2018 PM World Journal Editor’s Choice Award for his featured paper “[*The Stakeholder Management Perspective to Increase the Success Rate of Complex Projects*](#)”. Massimo can be contacted at max.pirozzi@gmail.com.



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Marco Caressa has intervened in various training events, webinars (PMI, Project Management Institute; ISIPM, Istituto Italiano di Project Management) and as keynote speaker at conferences, including the last two editions of PMExpo, the largest Italian event on Project Management, organized and promoted by ISIPM (Istituto Italiano di Project Management).

Marco Caressa has collaborated as a professor of Project Management for several Italian universities, including:

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- Course of planning and management of European funds (University of Rome Tor Vergata)
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