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## MICRO-ECONOMICAL ASPECTS OF PUBLIC PROJECTS: IMPACT FACTORS FOR PROJECT EFFICIENCY AND SUSTAINABILITY<sup>1</sup>

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### Abstract

Project management approach in the public administration becoming gradually applied tool for implementation of different public programs and activities. Latvia has several methodological documentations to evaluate the possible benefits from infrastructure but still there is need for improvements as the only clear defined methodology is for transport sectors and those which have been provided by the European commission, but not always have been practically used in local municipalities' project evaluations.

Public projects, and planning for such projects, generally have the following characteristics:

- Such projects are inherently risky due to long planning horizons and complex interfaces.
- Technology is often not standard.
- Decision making and planning are often multi-actor processes with conflicting interests.
- Often the project scope or ambition level will change significantly over time.
- Statistical evidence shows that such unplanned events are often unaccounted for, leaving budget contingencies sorely inadequate.
- As a consequence, misinformation about costs, benefits, and risks is the norm.
- The result is cost overruns and/or benefit shortfalls with a majority of projects.

Paper examines public project management applications in the context of the underlying structure that adverse dynamics and their application to specific areas for micro-economical level of project management, synthesizes the policy messages, and provides directions for future research. Public sector project management in Latvia become popular in recent years as there is different type of public funding sources available.

The paper examined the application of the project management practice and its micro-economic aspects in public sector in Latvia. Public sector project management in Latvia become popular in recent years as there is different type of public funding sources available. The paper describes the public sector project management practice in Latvia. Study shows

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<sup>1</sup> *Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. Original publication acknowledged; authors retain copyright. This paper was originally presented at the 4 th Scientific Conference on Project Management in the Baltic States, University of Latvia, April 2015. It is republished here with the permission of the author and conference organizers*

that public sector project maturity level is low and should be improved. Research period covers the time from January 2013 – March 2015.

**JEL codes:** *O220, H430, H540*

**Keywords:** *project management, project planning and initialization, public sector, efficiency*

## **Introduction**

Government and organizations usually embark on different projects with the aim of creating new service or improving the functional efficiency of the existing ones. All these projects require appropriate skills and techniques that go beyond technical expertise only, but encompass good and sound skills to manage limited budgets, and monitor shrinking schedules and unpredicted outcomes, while at the same time dealing with people and organizational issues (Abbasi, Y. G. & Al-Mharmah, 2000). The application of project management practice in public sector has been identified as an efficient approach which would help in upgrading management capabilities and enable public sector to efficiently complete projects and attain developmental objectives (Arnaboldi M., Azzone G., & Savoldelli A., 2004).

Recipients of funding – both public authorities, public institutions and businesses, is a major challenge for financial gain and to promote public welfare. However, the benefits bring with them the responsibility for waste and financial records and reports on practical goals. Funding Administration requires thorough knowledge and understanding of the law. A growing number of mass media and the administration of financial instruments institutional statements we hear that a large number of project applications, which is a low quality place. Now that the errors and weaknesses in project development and administration are unacceptable, more and more to think of an effective system that would be according to the conventional project management theory. Such a system would be built at local level, ensuring appropriate project specialist, but the program level, i.e. need to improve the administration of financial instruments including methodical and regulatory documents update and synchronize project management theory to improve the project initiation process and ensure the quality of project applications development, thus resulting in an effective and rational use of taxpayers' money (Pulmanis, 2012).

The typical steps of project planning are:

1. Development by, or on behalf of, the project sponsor of a project concept plan to explore the possibilities and clarify the broad nature of the project;
2. Development by, or on behalf of, the project sponsor of a more comprehensive project proposal with details of the proposed outcomes, product requirements and costing; and
3. Consideration and approval by the decision-maker of the project scope.

In many cases, there will be subsequent consideration and approval of a more detailed implementation plan and further approvals at key points during the project. Effective project planning and approval will also be assisted by having effective support arrangements at the entity level – such as promoting strategic alignment, having the right people and culture, and

having effective governance arrangements. This is the responsibility of the chief executive, normally assisted by the Senior Executive team (Pūlmanis, 2013).

Viewed in a broader sense, it can be concluded that the planning process phenomenon consists of three connected plans: the strategic plan, functional plans and project plans. Project plans are a reflection of the strategic plan, while functional plans represent a detailed guide to using resources to achieve a set purpose. Project realization planning represents a rational determination of how to initiate, sustain and complete a project (*Investment Management Standard*, 2010).

The **object** of the research is public sector project management.

The **aim** of the article is to evaluate public project micro-economical aspects in Latvia, defining their links to the project effectiveness and sustainability.

The **objectives** of the article are as follows:

- assess the public sector project initialization practice in Latvia,
- identify the problem areas of public sector project management,
- provide proposals for public sector project management process improvement.

The research methods used in the article include the project and program empirical data analysis and literature review as well as survey based on questionnaire.

## **Public project micro-economical aspects**

Investments can be seen as a bridge between generations, both for creating jobs for the young generation, and for inheriting the fixed assets, which it receives from previous generations. Also, investments are the material support for introducing the technical progress in all sectors of activity, while systematic updating allows maintaining them within the superior performance parameters.

The concept of economic sustainable development means both resource protection in terms of raw materials, and environmental protection and restoration of ecological balance in order to provide equal opportunities to the future generations. Any investment project has an environmental component on which the investment decision will be built. Public investments are defined as funds allocated by the authorities of the central or local public administration to achieve objectives or works of general interest in a certain administrative unit (Adriana Grigorescu, *Management of public sector investment projects*, course support, National School of Politic and Administrative Studies (SNSPA) in Bucharest) (Grigorescu Adriana, 2011). Public investments are designed to ensure the development of the society in general, seen as a whole. The effects of the public investments can be found in the social, cultural, health, science, and public order, etc. fields.

Public investment funds are limited through budget restrictions, however consuming and exceeding the limits granted in the originally approved budget can be made only by obtaining additional allowances or by redistributing the funds within the budget.

The whole community benefits directly or indirectly by the effects of public investments because they are designed to improve infrastructure, relationships, and services, all of them being available to all citizens.

Strategies, represented by the goals of the public projects, are a need for local authorities which have the possibility to implement investment projects based on the following: election programs, making a poll of the public opinion, establishing a long- or short-term thinking, establishing the way forward so that the relationship authority - community can run in the most harmonious manner possible. Public investment projects provide a direct correlation between the fundamental objectives, which take the form of capital expenditure, which in their turn, lead to producing public assets (Philip, 2007)

Specific characters of governmental projects are in the direct relation with peculiarities of the government as the specific subject of decision-making process. Apart from such characteristics as heterogeneous object of its impact, public authority, the combination of double, triple and so on standards there is a specific context that should be taken into account dealing with governmental projects:

- *The existence of specific legal norms* that determine activities of the whole society, on the one hand, and of institutions which realize projects – on the other. There are far more such legal norms than in business.
- *The existence of a wide range of stakeholders and the accountability to the society*, at that stakeholder can be both within the accountability process and outside this process. The inner stakeholders are governmental institutions, government agencies, public managers and so on. The range of external stakeholders is wider – the mass media, citizens, interest groups, etc.
- *The usage of public resources* which governmental projects are financed through a state budget by. That is why the responsibility of a public manager increases and it is complicated by the fact that it is rather difficult to measure the success of a project as well as of manager's work. Besides, it is also very difficult to appraise project's benefits for the society because sometimes it is not possible to use such indicators as Benefit-Cost Analysis (BCA) and Return of Investment (ROI). Public managers tend to estimate project's effectiveness and benefits by qualitative indicators (PMI, 2006).
- *Difficulties in establishing priorities and in the differentiation of governmental projects.* This characteristic follows from the previous one. While in business the system of projects' differentiation is based on principles of cost and profit, these principles often cannot be applied to governmental projects and it is necessary to establish the system which is quite different from the business one and which considers interests of different groups of citizens.

Thus, the necessary condition of "plausible effectiveness of Cohesion policy" according to (Molle, 2007) has been met, which however, does not represent a sufficient condition on which to draw conclusions on the effectiveness of a particular country or regions. Meeting such a sufficient condition requires provision of effective and successful management of

public funds at the micro level, an aspect that has also been pointed out by (Vanhoudt *et al*, 2000), who suggest that in order to define the productivity of capital expenditures in Europe, "(...)project selection and performance need to be studied in more detail. This clearly calls for a complementary bottom-up approach (...)" (*ibid*, 102). The second sufficient condition rests on the impact of public funding on private investment.

So far most of the public project implementation efficiency aspects and research has been analysed through macro-economic approach, mostly by investment analysis and impact to GDP growth. Meanwhile there is not so much evaluation on project micro-economical aspects and their possible impact to project efficiency and sustainability.

As the main micro-economical aspects and their possible impact to ensure effectiveness and sustainability of project author has identified project management methods and tools (technics) and social aspects – personnel and their competencies.

Table 1

**Micro-economic impact factors to project efficiency and sustainability**

| <i>Project micro-economic impact factors</i>   | <i>Main factor description</i>   |
|--|--|
| Project management methods, tools and technics | Cost-benefit analysis<br>Risk analysis<br>Problem definition and solving methods<br>Work Breakdown Structure (WBS)<br>Project situation analysis (SWOT,PEST)<br>Program Evaluation and Review Technics (PERT)<br>Critical Path methods (CPM)<br>SMART goals<br>AGILE, PRINCE, Body of Knowledge, ICB (IPMA) and etc. |
| Project manager, project team                  | Personnel competencies<br>Professional education<br>Experience<br>Certification and etc.   |

*Source: Authors construction*

**Research**

There is little evaluation done in the field of micro-economical aspect evaluation of cohesion policy implementation. As main authors who have done research in the field could mention Bachtler J, Bradley J, Wostner P.

Municipalities present several types of economies but effects are not limitless, diseconomies might arise. Polycentric approach to development of region territories is one of the ways how to move EU finance resources to investments of infrastructure and establish attractive environment both for inhabitants and investors. Regional resource inventory and assessment of development potentials is based on:

- region’s own perception & knowledge by active involvement of stakeholders
- resource inventory from the lowest level gradually aggregating to macro levels
- from generalized statements to more abstract, systematic and interlinked analysis of underlying causes, constraints and emerging opportunities.

Factors that make the difference:

- natural endowments,
- settlements pattern,
- infrastructure,
- production costs e.g. labour costs,
- human resources,
- innovation capacity,
- quality of the services,
- local institutions,
- regional identity.

The later study concluded that the fund management system advances towards simplification, nevertheless many aspects can be improved. The 3 main recommendation blocks of the report were the following: the EU structural fund programming is isolated from long-term state development planning, from industry focus or prioritization and from financial planning that municipalities and businesses carry out. Final beneficiaries have trouble planning their development in the context of Structural Funds available and delays in program introduction creates substantial losses to the final beneficiaries in form of cancelled orders or cost increases.

The second recommendation group stated that fund management institutions should harmonize their procedures and cooperate better to avoid situations when the final beneficiaries face large amount of different requirements, to reduce the amount of required documentation that the institutions can easily obtain themselves from each other or public registers and to disseminate best practice among intermediate bodies. The third finding was that administrative culture of fund management institutions is at times unacceptable when the institutions see the support applicant as an unreliable suppliant rather than as a valuable partner whose activates actually contribute to the country development. Such attitude is demonstrated by formal, at times excessive requirements regarding quantity and designs of documents for submission. It also shows in lack of enthusiasm to reconcile Project amendments quickly, even if those amendments do not materially affect the project substance and do not impede achieving project goals.

Authors has elaborated survey questionnaire for local municipality project management specialists. Questionnaire has been sent to all Latvian municipalities (in total 119), in the frame of study 97 responses has been collected (research sample is 97 out of 119, n=97). Research period is January 2013 – February 2014.

Quantitative analysis carried out in two steps: describing the central tendency and variation of parameters and in accordance with the empirical distribution with the normal distribution choice of parametric or non-parametric method for Inferential Statistics.

Study shows that in public sector project management there is lack of deep problem and situation analysis. 45.78% of respondents elaborated project proposals based on local municipal development programs and policy planning documents and don't provide deep analysis of problems. 26.05% of respondents accepted that they don't use situation analysis

methods but project proposals are elaborated based on desired situation. Still 28.17% of respondents showed that they used project management methods such as current situation analysis and research, case study methods by clarifying the factual situation and the desired situation. To be mathematically justified fair view of the project planning capacity in the public sector - was made in the survey data obtained in quantitative analysis, analysis of prior training, continuing education and practical work experience aspect of the relationship with the real operation of the methods used. The quantitative analysis carried out in two steps: describing the central tendency and variation in performance and in accordance with the empirical distribution with the normal distribution of parametric or non-parametric choosing the method of conclusive statistics.



**Fig. 1. Institutional aspects in public project planning in Latvia (n=97)**

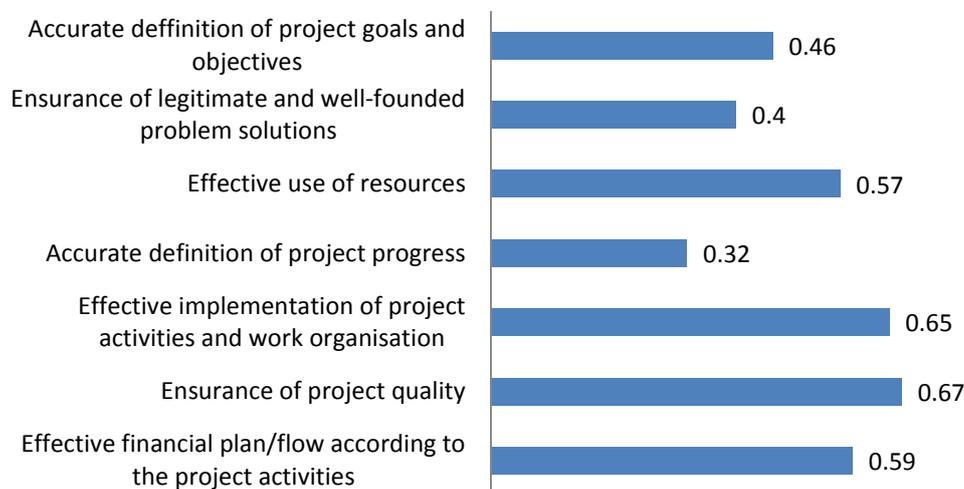
*Source:* author's empirical research

From institutional aspects Figure 1 shows practical project management fields in public administration (micro-economical perspective). Survey shows that there is still lack of such institution as project steering or monitoring committee which results in decision making process and its relation to political influence as it happens now days. Also research concludes that there is no detailed set of requirements for project management team and project manager and duties or responsibilities has been implemented on their main position not related to particular project. Meanwhile practitioners answered that do project feasibility studies e.g. cost-benefit analysis but author could explain that with obliged requirements when implementing donors financial instruments. Also not always those plans show relation to standard project management theory and practice.



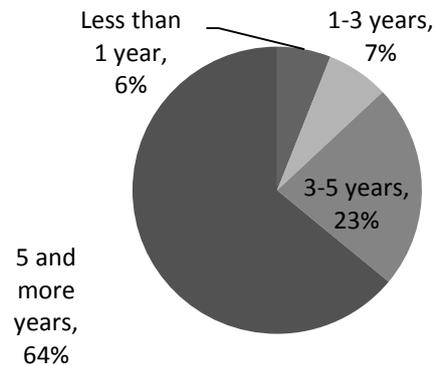
**Fig.2. Public project planning steps and activities in Latvia (n=97)**  
 Source: author's empirical research

When analyse detailed steps and carried activities at the project planning stage research showed that mostly are prepared documentation which is stated in donors requirements but not what would be common project management practice according to standards. Still there is lack of detailed risk analysis and even responsible project outcome and impact definition. Author has analysed those aspects before and links it to political influence and project definition without detailed problem analysis and possible project alternative definition.



**Fig. 3. Benefits from the use of project management tools and methods at project planning stage (n=97)**  
 Source: author's empirical research

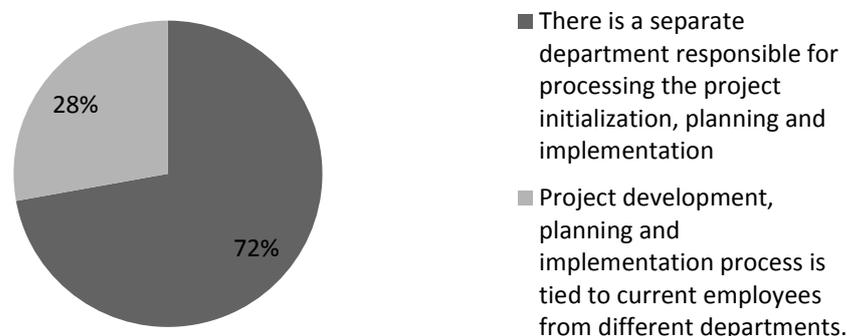
Figure 3 shows replies from public administration practitioners' and their stated benefits if they or organisations representatives would apply project management technics and tools. Answers show that project managers consider that practical project management methods would enhance quality of public funds spending and would ensure effective project implementation and allocation of responsibility.



**Figure 1. Specialists experience in project management field (n=97)**

Source: author's empirical research

Research shows that staff involved in project management processes in public sector in Latvia is well experienced as 64% of respondents has project management experience five and more years. 23% of respondents have been involved in project management for three till five years, which is explained by the available different public funds (such as European Union structural funds, European Economic Zone and Norwegian cooperation programs, Latvian – Swiss cooperation program etc.).



**Figure 2. Organizational structures of project management in public sector (n=97)**

Source: author's empirical research

In project management practice there can be identified different types of project organizational structures. Research shows that 72% of responds has pure organizational project management structure or signs of it. Meanwhile 28% of respondents has matrix or mixed project management organizational structure. Deeper analysis of matrix structures showed that we could say it's more so called "weak matrix" what sometimes arise many problems in project implementation. Pure project organisation structures are more suitable for project implementation but due to the specific of public projects and political decisions common practice is matrix structures. Even if we need to consider specific of public administration author concludes that there is still good ground to establish good pure project management organisation structures for public investment project implementation.

Case of Latvia shows that there is still misunderstanding between political decision making process and project management and implementation as there is not common practice to delegate all responsibility to project manager and good establishment of project steering committees and monitoring committees which usually responsible for strategic decisions within project frame.

Ultimately, project management directors seek organizational methods that facilitate teamwork, can maximize the use of limited resources, efficiency and quality in the way a project is completed and how goals and objectives are achieved. Public sector organizations are often complex with internal and external relationship intertwine with each other and difficult to apprehend.

The rational of organizational management is to facilitate the application of knowledge, skills, tools and techniques to project activities to meet project requirements in terms of Scope, Cost, Time, Quality, Participant satisfaction.

Organizational strategy is the way in which resources are used in the achievement of a purpose. Strategies are at the same time action plans for laying down instructions for the coordination of resource use through an employment program, projects, policies, procedures and organizational design, as well as the definition of execution standards. Organizational structure is the placing of human resources in the function of the organization. When speaking about project planning, it can be said that plans represent merely good intentions, until they degenerate at the moment they are transformed into hard work.

The author evaluated the public sector practice in project development and initialization process. In the frame of research evaluation of project problem and goal definition has been done.

Study shows that in public sector project management there is lack of deep problem and situation analysis. 45.78% of respondents elaborated project proposals based on local municipal development programs and policy planning documents and don't provide deep analysis of problems. 26.05% of respondents accepted that they don't use situation analysis methods but project proposals are elaborated based on desired situation. Still 28.17% of respondents showed that they used project management methods such as current situation analysis and research, case study methods by clarifying the factual situation and the desired situation.

Many traditional definitions of projects assume that the objectives of a project, and the methods of achieving them, are well understood throughout the project. For instance, in its body of knowledge, the UK Association of Project Managers defines a project as 'an undertaking to achieve a defined objective (GF Consulting, 2009), and goes on to state that 'generally all projects evolve through a similar "lifecycle" sequence during which there should be recognized start and finish points'.

Other definitions similarly imply clearly defined objectives and methods: 'an activity defined by a clear aim, appropriate objectives and supporting activities, undertaken to define start and

completion criteria, and ‘a human activity that achieves a clear objective against a time-scale (Morris, P W G (Ed.), 1992).

The author research has identified the problem aspects of project initialization and planning process in public sector in Latvia. As the minor problems respondents identified: frequent change of management official’s decisions and initiatives, corruption, changes in responsible officials and political leaders. As the important or very important problem factors which could affect the ability and capacity of local government projects respondents defined: management official’s lack of understanding of project management issues, inadequate staff motivation system, lack of human resources and lack of project management competencies and professional skills.

I would like to mention also Mark Langley report as President & CEO of the Project Management Institute (PMI). He presented PMI assessment of various studies related provided by Research Department which shows that the application of program and project management’s practices can enhance the performance of public authorities. Furthermore, as the CPR has been established in order to improve coordination and harmonize the implementation of EU Funds, it is expected that it will simplify its use by recipients and reduce the potential risk of irregularities. However, building the capacity of local actors to develop and implement operations including fostering their project management capabilities, should be taken into account as a one of the effective management of the EU Funds though drivers. Managing EU Funds requires unique skills, capabilities, processes and practices, particularly project and program management.

The above mentioned critical disciplines that can be applied to EU Funds may ensure effective implementation success on the ground in the EU Member States. Furthermore, PMI’s research carried out shows that organizations need to focus on the development and training of their talent in order to achieve superior project performance, successful strategic initiatives and become high performers in order to avoid high cost at the end. In addition, not only must focus on development of people and practices by which they do that, but also need to focus on managing people through rapid changes -strategic focus on people, processes and outcomes are crucial items. However, institutional capacity is not just a technical matter of training civil servants in the European Union and other markets across, but should be seen as component of good governance which is a basis for institutional capacity building, creating trust and social capital.

Successful organizations have a continued focus on the outcomes of the intended benefits of their projects and programs. Based on the mentioned, it’s clear that once the organizations developed and deployed three focus areas (people, processes and outcomes), it would lead to increased success of both projects and strategic initiatives on the ground. Why project management practices are important for this theme? Because it gives analysis, competitive intelligence, market analysis and information gathering outcomes that EU Institutions not necessary are able to capture while analyzing the efficient implementation of policy objectives. Measures for reinforcing the administrative capacity of the authorities involved in the management and control of the programs in EU Member States will now finally be given the priority they deserve. And it is essential and timely to address it respectively.

Although there are differences in administrative and political tradition, the experiences of western countries can be useful for other countries in Europe. This note suggests the following recommendations for the transition countries as Latvia:

- Public investment strategies need to be closely linked to budgets. Strategies need to be periodically reviewed for relevance, including by relying on external experts.
- Capital projects need multi-year funding commitments that cover the duration of the project or the project phase.
- Cost-benefit assessments of competing projects should be the key tool for selecting individual projects to ensure value for money.
- Evaluation of past project experiences should be required and needs to be built into future planning, guidance and regulations. Evaluations could be undertaken by any number of institutions, including ministries of finance.
- Effective audit and reporting processes are needed to facilitate transparency and encourage feedback to improve the quality of the decision-making and management process.
- Project planning and management skills need to be enhanced and retained within the civil service.

## **Conclusions**

Public sector project realization planning represents a project management phase that encompasses goal definition and the determination of ways and measures for achieving the set goals, i.e., that the project is realized in the planned time, at the planned cost.

The author research has identified the problem aspects of project initialization and planning process in public sector in Latvia. As the minor problems respondents identified: frequent change of management official's decisions and initiatives, corruption, changes in responsible officials and political leaders. As the important or very important problem factors which could affect the ability and capacity of local government projects respondents defined: management official's lack of understanding of project management issues, inadequate staff motivation system, lack of human resources and lack of project management competencies and professional skills.

Programs as it self of course shows impact to the industry or GDP growth in macro-economic level, but also micro-economical aspects of project implementation is important issue to ensure efficiency and sustainability in public funds spending and absorption.

Study shows that self-assessment of public sector organizations in Latvia is quite high. Project management specialists define them self as very experienced in Project management, but meanwhile the self-assessment of organization Project maturity levels shows that organizations is only at the beginning of setting up the appropriate Project management system. The public sectors project management usually is described as different kind of foreign financial instrument and program implementation.

To improve project management practice in public sector in Latvia, author can recommend:

1. To increase the capacity and professional skills level for local municipal project management staff (training programs, supervisions etc.);
2. Define the appropriate organizational structure for project elaboration and implementation (matrix or pure project organization structures);
3. Project management tools and techniques should be applied gradually (should be as an obligatory requirement in big scale public sector projects).

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