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Financial planning and cost control as key factors for efficiency in the construction industry.

Financial planning and cost control as determining factors for efficiency in civil construction
Financial planning and cost control as determining factors for efficiency in civil construction

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Summary

The construction industry operates under technical, financial, and organizational constraints that make predictability a central asset for project performance. In this context, projects with a technically sound scope can lose efficiency when they lack adequate financial planning, reliable cost estimates, integration between budget and schedule, and permanent monitoring mechanisms. This article analyzes the role of financial planning and cost control as determining factors of efficiency in the construction industry, considering...

This study investigates how budgeting, contingencies, cash flow, physical scheduling, and management control are interconnected throughout the project lifecycle. It is a qualitative, exploratory, and descriptive study, developed through a systematic literature review and document analysis. The corpus consisted of international literature on cost management in construction projects, Brazilian technical and institutional references, and national studies on planning and control in construction production. The results indicate that economic and financial efficiency does not stem from mere expense compression, but from the ability to structure the budget based on feasible quantities and assumptions, incorporate contingencies compatible with the project's level of uncertainty, integrate cost and schedule, monitor deviations, and act on their causes. It concludes that financial planning and cost control are not accessory functions of the work, but structuring dimensions of good engineering and efficient management, being decisive in reducing waste, preventing delays, rationalizing resource allocation, and increasing project reliability.

Keywords: civil construction; financial planning; cost control; construction budgeting; efficiency.

Abstract

Construction projects are subject to technical, financial, and organizational constraints that make predictability a central asset for project performance. In this context, even technically consistent undertakings may lose efficiency when they lack adequate financial planning, reliable cost estimation, cost-schedule integration, and continuous monitoring mechanisms. This article analyzes the roles of financial planning and cost control as determining factors in construction efficiency, considering how budgeting, contingency, cash flow, physical scheduling, and managerial control interact throughout the project cycle. This is a qualitative, exploratory, and descriptive study developed through a systematic literature review and documentary analysis. The corpus included international literature on construction cost management, Brazilian technical and institutional references, and national studies on production planning and control in construction projects. The findings indicate that economic-financial efficiency does not result from mere cost-cutting, but from the ability to structure budgets on the basis of feasible quantities and assumptions, incorporate contingencies compatible with project uncertainty, integrate cost and time, monitor deviations, and act on their causes. It is concluded that financial planning and cost control are not secondary tasks, but structural dimensions of sound engineering and efficient management, playing a decisive role in reducing waste, preventing delays, rationalizing resource allocation, and increasing project reliability.

Keywords: construction; financial planning; cost control; construction budgeting; efficiency.

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1. Introduction

The construction industry is a sector that is particularly sensitive to the quality of planning. Unlike highly repetitive production systems, the work develops under conditions variables, with strong input dependence, multiple decision-makers, time constraints, Project changes, unforeseen events in the field, and frequently squeezed margins. In this In an environmental context, efficiency cannot be understood as simply accelerating production, nor as... Indiscriminate reduction of expenses. It depends on the ability to transform the business. in a technically organized, financially predictable, and managerially monitorable system.

This finding has significant practical implications. In poorly planned projects, the budget... It is usually treated as a formal contracting document, separate from the actual operation of the The construction site. The schedule, in turn, often evolves without adhering to the site's behavior. cash flow, productivity, and resource availability. The result is a loss of Predictability: supplies are acquired outside the optimal time, teams are mobilized without the Due to the necessary maturity of the work fronts, corrective decisions are made late, and the final cost of The project begins to respond more to improvisation than to technical criteria.

International literature supports the view that cost management in construction should be aligned with... Project management from the pre-contractual phase to the completion of the work, encompassing estimation, definition of budget, contingencies, risk analysis, performance monitoring, change management and cost assessment at the end of the project (POTTS; ANKRAH, 2013; HANIOÿLU, 2023).
Potts and Ankrah (2013) observe that cost management is indispensable to ensure that the Project development and the choice of contracting strategy should keep construction costs down. within the limits expected by the client and compatible with the value of the investment. Hanioÿlu (2023), In a convergent approach, it proposes a strategy in which budget, schedule, and control are... built in an integrated way, highlighting that cost control is not simply about reduction.
The focus is not on expenses, but on monitoring variations, interpreting their causes, and adopting appropriate corrective measures.

In the Brazilian context, the topic also takes on special importance. The National System for Research on Costs and Indices of Civil Construction (SINAPI), maintained by CAIXA and IBGE, is recognized as the main national benchmark for costs in engineering works and services, serving as a basis for the preparation of reference budgets in the public sector (CAIXA; IBGE, 2025). In addition, the Federal Court of Accounts has consolidated detailed methodological guidelines. for the preparation of public works budget spreadsheets, emphasizing the need for Surveying and quantifying services, consistent assessment of unit costs and accurate definition of BDI and selling price (BRAZIL, 2014). These instruments show that the

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Budgetary rationality in Brazil has long ceased to be an exclusively public problem.
Internally, companies need to assume institutional, regulatory, and supervisory relevance.

The research problem guiding this study can be formulated in the following terms: in
To what extent do financial planning and cost control affect efficiency in construction?
civil engineering? The assumption is that more efficient construction projects are not simply those that are more economical.
less so, but those in which cost, time, scope, resources, and monitoring operate in a way
integrated, allowing for preventive and corrective decisions based on consistent technical information.

The overall objective of this article is to analyze financial planning and cost control as...
Key factors determining efficiency in civil construction. Specific objectives include: a)
a) examine the function of the budget as a technical and managerial instrument; b) discuss the relevance of
cost estimates and contingencies for the financial reliability of the project; c)
to analyze cost control as a process of monitoring and action; and to demonstrate the importance
the integration of budget, schedule, and production for the economic and financial stability of
work.

The relevance of the topic lies in the fact that a large part of the observed cost and schedule deviations
In the construction industry, problems arise less from unavoidable accidents and more from planning deficiencies.
lack of integration between control systems and delayed responses to problems that were already causing concern.
signs in the initial phase of the undertaking. By discussing these issues, the article seeks to contribute to
A more rigorous analysis of efficiency in construction projects, re-evaluating financial planning and control.
Cost control is central to good engineering practices.

2. Theoretical Framework

2.1 Financial planning as a decision-making framework in construction projects

Financial planning in the construction industry is not limited to forecasting a total cost for...
the undertaking. Its function is to economically structure the execution of the work, transforming the
scope designed in decisions regarding quantities, inputs, execution sequence, direct costs and
Indirect costs, provisions, disbursements over time, and capital requirements. In practical terms,
This means that financial planning is linked to the very intelligibility of
Project: without it, the work may begin, but it begins without a map.

Hanioğlu (2023) states that the project budget should be understood as a starting point.
from the planning stage, and not as a residual element to be adjusted after the schedule has been drawn up.
This formulation is important because it corrects a frequent inversion in practice: schedules are

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drawn up based on desired deadlines, the budget then attempts to adapt to a sequence.
The executive branch was not economically modeled. The author also highlights that project budgets
They include known costs and incorporate known uncertainties in the form of contingencies or
provisional sums, which highlights the intrinsic relationship between planning, uncertainty, and decision-making.

Potts and Ankrah (2013), when discussing cost management in the pre-contractual phase,
They argue that financial control should be exercised before spending commitments are made.
assumed. Otherwise, what is called control becomes mere monitoring.
later, unable to alter decisions already made. The authors argue that the planned cost
It should be used in a positive way to ensure that the project's development remains within the established guidelines.
of the scope and budget originally established, and not just to record deviations after their
materialization.

In Brazil, SINAPI presents the logic for cost composition and the parameters.
adopted as a basis for the preparation of reference budgets (CAIXA; IBGE, 2025). This basis
The methodological approach reinforces the understanding that the technical budget is not an arbitrary aggregate of
not just prices, but a structure based on services, inputs, charges, coefficients, and parameters.
of production. Similarly, the TCU organizes the budgeting process into stages that go
from the surveying and quantification of services to the formation of the final price of the work, emphasizing that
The consistency of the spreadsheet depends on a technically verifiable procedure (BRASIL, 2014).

From this set of contributions, an important theoretical conclusion emerges: planning.
In the construction industry, "financial" refers to a way of translating the project into its executive reality.
It does not replace the project or the schedule, but it gives them economic viability and predictability.
operational.

2.2 Cost estimation, contingencies and budget reliability

Cost estimation is one of the most intellectually delicate operations in construction management.
because it brings together different levels of project definition, professional experience, and availability.
Based on data, market behavior, and margins of uncertainty, this is a technically fragile estimate.
It doesn't just affect the final number on the spreadsheet; it compromises the very ability to make decisions.
consistent throughout the project.

Potts and Ankrah (2013) observe that the degree of realism and confidence of an estimate
It depends on the level of definition of the work and the extent of risk and uncertainty present in the project.
Unique projects, poorly defined projects, or projects subject to unknown conditions tend to produce...
less precise estimates. This observation is especially relevant because it dispels the idea that

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Every budget should have the same expectation of accuracy. What is required in each case is...
Compatibility between the project's maturity and the expected accuracy of the estimated cost.

Hanioÿlu (2023), in turn, dedicates a specific chapter to contingency as part of the cost.
He distinguishes between known, known-unknown, and unknown-unknown risks.
drawing attention to the fact that contingency should not be confused with a margin.
arbitrary budget inflation. Its function is to accommodate errors, omissions, and escalations.
price changes, changes not yet fully defined, and events that, while not fully defined, are still possible.
While quantifiable at the initial stage, they are predictable in the abstract. The author also differentiates
contingency and profit, highlighting that mixing the two categories creates managerial distortions.
and contractual.

Brazilian literature addresses this problem through other avenues. Studies published in the journal
Built Environment shows that estimation difficulties are not limited to the phase of
contracting and are related to the behavior of cost and schedule deviations in projects.
The systematization proposed by Muianga, Granja and Ruiz (2015) shows that deviations have multiple
The causes cannot be interpreted solely as execution failures. In many cases, the problem
It takes hold in the conception phase, in the insufficient definition of the scope, in the design deficiencies and in
fragility of initial planning. In an investigation on public works, Alvarenga et al. (2020)
They also demonstrate the recurrence of cost and schedule changes, reinforcing the need for
estimation structures and controls capable of absorbing and explaining such variations.

Therefore, cost estimation should be understood less as an exercise in
guessing and more as a technical practice of progressively building reliability. How much
improve the quality of quantities, compositions, executive assumptions, and provisions for
With uncertainty, the greater the budget's ability to guide real-world decisions.

2.3 Cost control as a continuous process, not as indiscriminate cost cutting.

One of the most relevant points in the consulted literature is the distinction between cost control and
the simple accounting record of expenses. Hanioÿlu (2023) expressly states that the control of
Cost reduction is not a process of cost cutting. Indiscriminate reductions can compromise the...
Quality and value of the project. Controlling means monitoring previously established indicators.
to compare actual quantities, unit costs, and efficiencies with those projected in the planning, to identify
To identify the causes of variation and propose corrective measures. It is, therefore, an ongoing managerial function.
Proactive and analytical.

The formulation aligns with Potts and Ankrah's (2013) understanding of cost management.

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According to the authors, keeping a project within budget depends on the application of a system of Efficient control, capable of identifying past trends and anticipating the consequences of decisions. future factors, including the likely final cost of the project, are also considered. They also point out that control should... Include action, and consider that merely historical or excessively slow systems transform the manager into... a late observer of the problem.

This distinction is crucial because, in construction practice, the term "control" is often used for... activities that are quite heterogeneous: checking invoices, monthly closing, approval of Measurements, spreadsheet review, productivity analysis, final cost projection. Without a clear delimitation. With a clear conceptual framework, management loses focus. Cost control, in a technical sense, involves at least five stages: selection of critical items to monitor; collection and processing of field and remote data. supplies; comparison between what was achieved and what was planned; interpretation of the causes of deviations; and action. Corrective or justified revision of the budget.

Brazilian studies on production planning and control contribute to this discussion. by demonstrating that the performance of the work depends on the quality of the information used to monitor the execution. Moura and Formoso (2009), when analyzing indicators of the Last system Planners show that the planning and control process has a strong impact on the performance of the ventures. Vargas and Formoso (2019), in turn, indicate that methods BIM-supported technologies can enhance the capacity for representation, analysis, and monitoring of progress. physics. Although these studies do not deal exclusively with cost control, they help to demonstrate that the quality of the decision depends on the articulation between planning, measurement, and feedback. of management.

There is, therefore, a theoretical basis for asserting that cost control only fulfills its function. when it is able to explain the variation and guide the managerial response. When it is limited to recording the If the diversion occurs after consumption, its usefulness is significantly reduced.

2.4 Integration between cost, schedule and production

The financial efficiency of the construction industry depends on the integration of cost and schedule. It is not... It's not just about acknowledging that delays are costly, but about understanding that the budget and the Schedules are mutually conditioning systems. Hanioÿlu (2023) argues that budgets Project plans and schedules are correlated and are used together to generate cash flow and Schedule resources. An activity may incur costs before, during, and after the interval in which is implemented, requiring a careful reading of the link between expenditure, production and receipt.

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Potts and Ankrah (2013) also recognize the importance of this integration. When discussing control systems, they observe that there are different degrees of sophistication in the articulation between time and cost and that data processing should allow the identification of financial trends and Programmatic. The literature that dealt with *earned value, cost-value reconciliation ,* and cash flow projections. Financial management in construction projects reinforces this understanding: without integration between cost and schedule, management loses control. ability to correctly interpret the state of the undertaking.

In the Brazilian context, the integration between planning and production has been discussed under different approaches. Research in the Built Environment indicates that production planning can have a measurable impact on the performance of the enterprise and that zone-based methods Work processes and BIM models contribute to organizing workflow, identifying constraints, and improving... reliability of programming (MOURA; FORMOSO, 2009; VARGAS; FORMOSO, 2019). Although they do not, by themselves, resolve the economic and financial complexities of the project, such approaches They indicate that efficient management depends on information systems capable of interacting with the scope, time, resources, and cost.

This integration produces concrete effects. First, it improves the predictability of disbursement and cash flow scheduling. Secondly, it allows you to synchronize purchases and mobilize funds. teams and open fronts. Thirdly, it expands the capacity to detect peaks in advance. Consumption, idle capacity, and bottlenecks. Fourth, it makes the assessment of the financial impact more consistent. changes in scope, rescheduling, and adverse events.

The theory thus allows us to argue that the financial efficiency of a project is inseparable from its... Physical-temporal coherence. A budget that ignores the logic of production tends to fail; a A schedule that also ignores cost behavior.

3 Methodology

This study adopts a qualitative approach, of an exploratory and descriptive nature, with bibliographical-documentary design. The choice of this methodological approach stems from the nature of the problem under investigation, which requires critical interpretation of theoretical, technical and Institutional studies regarding the role of financial planning and cost control in the construction industry. This article does not aim to statistically measure the behavior of a sample of works. but to reconstruct, from relevant sources, the conceptual and operational elements that explain because such practices affect the efficiency of the undertaking.

The choice of a qualitative approach is justified because the object of study involves relationships between Planning, budgeting, monitoring, uncertainty, and efficiency—the examination of which requires interpretation.

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contextualized from the meanings attributed by specialized literature and technical documents. (FLICK, 2009). The exploratory nature stems from the intention to delve deeper, from a critical perspective, a recurring problem in construction practice. The descriptive character, in turn, manifests itself in systematization of the components that structure financial planning and cost control in civil construction projects (GIL, 2019).

3.1 Methodological design

The research was developed through a systematic literature review and analysis. documentary. The literature review focused on national and international literature related to: a) cost management in civil construction; b) construction budgeting; c) contingency and risk in projects; d) integration between cost, schedule, and production; and e) managerial control and monitoring of deviations. The documentary analysis focused on institutional publications of reference in the Brazilian context. especially in methodological and guidance documents relating to cost formation in construction projects and engineering services.

According to Lakatos and Marconi (2017), a literature review allows for the identification, analysis, and... to critically interpret the contributions already produced on a given phenomenon. Severino (2016) He adds that bibliographical study should not be confused with a simple compilation of texts, because It requires comparison, synthesis, and argumentative positioning. Documentary analysis, on the other hand, according to... Cellard (2012) operates as a means of analytically reconstructing reality from official records. technical and institutional.

3.2 Selection criteria and sources consulted

Studies and documents that met the following criteria were considered for analysis. criteria: i) direct relationship with cost, budget, financial planning or construction control; ii) recognized technical or academic relevance; iii) adherence to the theme of efficiency in civil construction; iv) clear conceptual or methodological contribution to the proposed discussion; and ev) possibility of dialogue with the Brazilian context.

Internationally, the main body of work consisted of two central works: Construction Cost Management: Learning from Case Studies, by Keith Potts and Nii Ankrah, and A Cost Based Approach to Project Management: Planning and Controlling Construction Project Costs, by Mehmet Nihat Hanioÿlu. The choice stemmed from the fact that both deal directly with estimation. budget, contingency, cost-schedule integration, monitoring and corrective action in the context of

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construction projects.

At the national level, official publications from SINAPI and the Court of Auditors were selected.
of the Union, for its normative and methodological role in the preparation of budgets for works and services.
Engineering. Brazilian articles published in the journal Ambiente were also incorporated.
Built, with emphasis on studies on cost and schedule deviations, planning and control of
production and alterations in public works (MUIANGA; GRANJA; RUIZ, 2015; MOURA;
(FORMOSO, 2009; VARGAS; FORMOSO, 2019; ALVARENGA et al., 2020).

3.3 Analysis procedure

After a complete reading of the selected sources, the material was organized into index cards.
analytical and distributed across four axes of interpretation: i) structuring function of planning
financial; ii) reliability of cost estimates and the role of contingency; iii) managerial nature
cost control; and iv) integration between budget, schedule, and production. The analysis sought
to identify conceptual convergences between international literature and Brazilian technical documents.
and national research on construction management, in order to produce an argumentative synthesis.
Consistent and applicable to the context of engineering.

As a strategy for processing the content, a thematic analysis procedure was adopted.
understood as a technique capable of identifying conceptual recurrences, argumentative convergences and
core meanings relevant to the problem investigated (BARDIN, 2016). The discussion was then,
constructed from the intersection between these core concepts and the specific objectives of the study.

4. Results and Discussion

4.1 The budget as a technical architecture of decision-making

Analysis of the sources demonstrates that an efficient budget is not a sum of prices, but a...
The architectural decision-making process of the project. When the budget is technically structured, it
It allows you to see not only how much the project will cost, but also what services are included in the scope.
What resources will be needed, what indirect costs will be incurred, and where will the critical items be concentrated?
and when will the main disbursements occur?

This conclusion stems, on the one hand, from Hanioÿlu's (2023) approach, for whom the budget

It is a constitutive part of project planning, and, on the other hand, of the guidelines of the TCU (Brazilian Federal Court of Accounts) and SINAPI (National System of Construction Costs and Indexes).

which make proper pricing contingent upon the adequate assessment and quantification of services,
to the consistent use of compositions and the correct assessment of indirect incidences (BRAZIL, 2014;

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(CAIXA; IBGE, 2025). Together, these sources dispel the impoverished notion that planning Financially, it would simply mean "having a spreadsheet." The spreadsheet is merely the visible surface of... a more in-depth technical operation, which depends on the quality of the scope, the quantities, the executive premises and the adherence of the compositions to the reality of the work.

This reading has immediate practical implications. Projects started with flimsy spreadsheets or Generically constructed structures tend to lose their ability to coordinate. Without a technically sound budget reliable, there is no consistent purchasing schedule, nor serious cash flow analysis, nor A well-founded decision regarding hiring, work fronts, or production rates. The problem, In these cases, it doesn't just appear at the end of the project; it begins to erode management from the very beginning. initials.

4.2 Estimation, contingency and reliability of planned cost

A second relevant finding is the centrality of cost estimation for reliability. global undertaking. The literature reviewed shows that estimation errors are not events Marginal inefficiencies, but rather structural causes. Projects with low levels of definition, omissions. Relevant scope limitations, imprecise use of compositions, or arbitrary contingencies tend to present... an appearance of viability that does not hold up during execution.

Hanioğlu's (2023) contribution is especially useful for distinguishing between known cost and risk. The known and the contingent. His approach allows us to understand that contingency is not excess. unjustified nor an informal space to accommodate hidden profit, but rather a technical instrument for absorb the uncertainties inherent in the project's maturity stage. The problem arises when it is suppressed under commercial pressure or, conversely, inflated without criteria. In both cases, the Budget predictability deteriorates.

Potts and Ankrah (2013) also reinforce this interpretation by stating that the accuracy of the estimate It improves as the project evolves and the level of definition of the work increases. Therefore, the expectation Absolute accuracy in the preliminary phases is methodologically inadequate. What is required is a A degree of precision compatible with the stage of the project and the information available.

The Brazilian studies consulted regarding cost and schedule deviations reinforce this diagnosis. Muianga, Granja and Ruiz (2015) show that the causes of deviations are multiple and extend across all phases of conception, design and execution. Alvarenga et al. (2020), when studying Changes in public works projects highlight the recurring nature of cost and time extensions, which confirms that the instability of the venture is often prepared by insufficient initial decisions well-founded. The data do not allow for a simplistic interpretation according to which all deviation stems from

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field failure; in many cases, the origin lies in deficient planning and low robustness of the
I estimated.

This leads to an important consequence: the reliability of the planned cost should be treated as a gradient, not as an absolute given. As the project matures, the estimate...
It needs to be reviewed, detailed, and made compatible with new information. The artificial rigidity of
A preliminary budget can be as harmful as constant improvisation. What is needed is revision.
controlled, methodologically justifiable, and documented.

4.3 Cost control as a proactive practice

The third result of the analysis is that cost control is only effective when it ceases to be a
It breaks with bureaucratic routine and takes on a proactive character. Both Hanioÿlu (2023) and Potts and Ankrah (2013)
They agree that controlling is not limited to monitoring what has already been spent. It means observing the performance, interpreting variations and acting on their causes. This emphasis shifts the problem from
From a strictly financial plan to a management plan.

In practical terms, this implies selecting critical monitoring items and establishing...
appropriate data collection frequencies, comparing actual production with planned production, monitoring the
Effective unit cost, examine productivity and identify causes of variation, such as waste,
quantity error, scope change, supply delay, team unproductivity,
Climate interference or poorly managed rescheduling. Without this causal reading, the report of
Cost accounting is of little managerial use. It reports that there was a discrepancy, but doesn't say what should be done.

Potts and Ankrah (2013) also emphasize that control must occur before new
Commitments exacerbate the problem. This observation is of great importance to the environment.
Brazilian, where many companies still operate with slow feedback systems and with
Monthly closings that are excessively detached from the dynamics of the construction site. When the information arrives
Later, the room for maneuver shrinks. Control becomes a retrospective commentary on
an already entrenched inefficiency.

The national literature on production planning and control offers a contribution.
Complementary: the quality of monitoring affects the performance of the project. Moura and
Formoso (2009) demonstrate that the planning and control process has a significant impact.
in the performance of the work. Vargas and Formoso (2019) indicate that methods supported by BIM expand
The visibility of physical progress facilitates the analysis of execution. In other words, the cost is not...
an isolated variable; it depends on how production is planned, released, monitored and
corrected.

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4.4 Integration between cost, schedule and production

A fourth result, perhaps the most decisive, is that the financial efficiency of the project depends on...
Integration between budget, schedule, and production. This integration is clearly evident in
Hanioÿlu (2023), when the author argues that budgets and schedules are used
used together to generate cash flow and schedule resources. It also appears in Potts and Ankrah.
(2013), when discussing control systems that combine or articulate time and cost.

The importance of this integration stems from the fact that the cost of the project is not distributed in a way that...
homogeneous. There are outlays that precede the physical execution of the activity, costs that accumulate.
during its execution and financial effects that extend beyond the completion of the service. If the
If the schedule ignores this temporality, the financial planning becomes artificial. If the budget
It ignores the logic of production; the cash flow doesn't reflect the reality of the construction site.

In the context analyzed, the cost-time-production integration showed at least five
Positive effects. First, it improves the predictability of disbursements throughout the project. Second,
It allows for more rational planning of purchases and contracts. Third, it reduces the probability
of premature or late mobilization of resources. Fourth: it facilitates the understanding of the financial impact of
Changes in scope and rescheduling. Fifth, it increases the ability to prevent delays that, by
In turn, they put pressure on indirect costs, overhead, and working capital.

Brazilian studies on production planning and control converge with this perception.
by demonstrating that workflow organization and scheduling reliability affect the
project performance (MOURA; FORMOSO, 2009; VARGAS; FORMOSO, 2019).
Therefore, the integration of cost, schedule, and production should not be treated as an optional sophistication.
but as a requirement of mature management.

4.5 Implications for efficiency in the Brazilian construction industry

The synthesis of the sources allows us to affirm that financial planning and cost control are
determining factors for efficiency in civil construction, as they directly affect
Predictability of the undertaking. In the Brazilian case, this conclusion is reinforced by three elements.

The first is institutional. The country has official systems and guidelines capable of offering
a solid methodological basis for the preparation of costs and budgets for works and services of
engineering. SINAPI and the TCU manuals do not eliminate the need for technical judgment, but
They provide a consistency framework that reduces arbitrariness and improves the auditability of
spreadsheets (BRAZIL, 2014; CAIXA; IBGE, 2025).

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The second is academic. National production in construction management has already demonstrated that cost and schedule deviations, contractual changes, and failures in production planning and control. They are not episodic. They form a pattern that recurs sufficiently to warrant a response. robust methodological approach (MUIANGA; GRANJA; RUIZ, 2015; ALVARENGA et al., 2020). In other In other words, inefficiency cannot be normalized as an inevitable attribute of the sector.

The third element is professional. The contemporary profile of the engineer, the construction manager and The budgeter's role requires the ability to navigate between a technical reading of the project and rationality. Economics of execution. Good engineering doesn't end with dimensioning or detailing. constructive; it extends to budgeting, scheduling, monitoring, and corrective decision-making. Projects that remain financially stable throughout their execution cycle tend to reveal, therefore... Behind their results lies not only good luck in contracting, but also disciplined planning and control.

Final Considerations

This article has demonstrated that financial planning and cost control constitute Structural dimensions of efficiency in civil construction. An analysis of the international literature, of Brazilian institutional documents and national studies in construction management allowed to conclude that the economic and financial efficiency of the project does not result from random spending cuts, but the quality with which cost, scope, deadline, contingency, production and monitoring are integrated from the project's conception phase.

The budget was identified as the technical architecture of the decision, and not merely as... Formal documentation. The cost estimate was presented as a construction practice. progressive reliability, dependent on the level of project definition and adequate Considering the uncertainties, cost control proved to be a proactive monitoring process. Interpreting the causes and taking corrective action. Integrating budget, schedule, and production. It proved crucial for cash flow predictability, resource coordination, and prevention. of deviations.

In practical terms, this means that efficient projects tend to be those in which planning... The finance department organizes the execution, the budget is methodologically consistent, and the schedule is coherent. Given the reality of the resources and the control, it is possible to act before the deviation compromises the undertaking. Conversely, the fragmentation between project, budget, planning and This execution process encourages improvisation, additives, rework, waste, and loss of reliability.

It can be concluded, therefore, that financial planning and cost control do not occupy a position...

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peripheral in civil construction. They are part of the very technical rationale of the undertaking.
Where these functions are handled rigorously, management tends to gain predictability, and production improves.
It organizes itself with greater stability, and engineering approaches its most mature form: that which
knows how to design, execute, measure and correct based on technical, economic and
coherent organizational structures.

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