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Strategy for Implementing Financial Planning in Small Business Construction Projects

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Abstract

The study focuses on developing a structured strategy for integrating financial planning into small business construction projects, with an emphasis on housing development. Relevance stems from the high sensitivity of small construction firms to cost overruns, late payments and financing constraints, which often lead to liquidity crises and project failure. Scientific novelty lies in combining approaches from SME financial planning and construction project cost management into a single implementation algorithm tailored to small developers. The article describes a phased model of financial planning across the project life cycle, examines typical cash-flow and risk patterns in small construction projects, and presents a simplified numerical example for a multifamily housing project. The research goal is to substantiate practical guidelines for organising budgeting, cash-flow forecasting and financing structure decisions in small construction businesses. Comparative analysis, synthesis of recent empirical studies, and analytical modelling of project cash flows are applied. The conclusion outlines conditions for the sustainable implementation of financial planning routines in practice. The material is helpful for owners and financial managers of small construction firms, students in financial management, and consultants designing financial control systems for project-based SMEs.

Keywords: small construction firms, financial planning, construction project budgeting, cash flow management, project finance.

INTRODUCTION

Small construction businesses engaged in residential and mixed-use development operate in an environment of volatile input prices, tightening credit standards and frequent payment delays from clients and intermediaries. These conditions compress liquidity buffers and leave little room for error in cost estimation or cash-flow forecasting, particularly for firms that undertake a limited number of comparatively large projects relative to their capital base. Misaligned schedules of costs and receipts, underestimation of financing expenses and the absence of formal budgeting procedures often transform modest deviations in cost or schedule into systemic solvency problems for such enterprises.

This article aims to substantiate and describe a strategy for implementing financial planning in small business construction projects that ensures the consistent integration of budgeting, cash-flow modelling, and risk-sensitive financing decisions into the project management process.

To meet this aim, three research tasks are formulated:

1) Modern approaches to financial planning, liquidity management, and cost control applicable to project-based SMEs in construction are systematised.

2) Typical problems in cash-flow management, cost planning and financial risk for small construction projects are identified and related to deficiencies in planning procedures.

3) A stepwise implementation algorithm is proposed, supported by a simplified calculation for a small multifamily housing project that illustrates the impact of planning decisions on project outcomes.

Novelty stems from the focus on small construction businesses rather than large contractors, from the integration of SME financial planning techniques with construction-specific cost and cash-flow tools, and from demonstrating how these instruments can be embedded into the everyday decision-making of a small developer managing a limited portfolio of housing projects.

MATERIALS AND METHODS

The theoretical and methodological basis combines recent research in construction cost management, SME finance, liquidity management and project cash-flow risk. T.O. Ajayi, O.T. Daramola and O.O. Adhuze [1] summarise innovations in cost management for building projects, emphasising digital tools, integrated cost control and the linkage between cost information and managerial decisions at all stages of the project life cycle. D.I. Ikediashi and K.C. Okolie [2] analyse the risks associated with contractors' cash-flow projections in South-South Nigeria and demonstrate how the structure of progress payments, advance payments, and retention affects the probability of financial distress in construction firms. G.M. Mokoena, B.B.S. Makhanya, and H. Nel [3] investigate project cost planning in the construction industry, highlighting weaknesses in pre-contract estimation and recommending structured cost-planning procedures throughout the design and execution phases. Q.S.A. Muhammad, K.U. Shuaibu and I.A. Hassan [4] focus on the factors influencing cash-flow management in project delivery in Kaduna, revealing the interconnected effects of cost escalation, delayed payments, and weak financial control on contractors' ability to meet their obligations. T.S. Msomi [5] examines the relationship between SME budgeting skills and loan repayment in South Africa, confirming that structured budgeting practices reduce credit risk and facilitate access to external finance for enterprises operating in sectors such as construction. C.P. Mukumba, with co-authors [6], discuss construction project finance from an SME perspective and describes typical funding mixes, lender requirements and internal capability gaps that limit the ability of small contractors to structure sustainable project finance. A.V.B. Paguay et al. [7] demonstrate how detailed financial planning, based on projected financial statements and scenario analysis, increases profitability and reduces vulnerability to shocks in a manufacturing SME, offering transferable techniques for project-based firms. E.D. Ruiz, J.F. Salazar Gómez and M. de J. Valdivia Rivera [8] quantify the joint impact of financial planning and managerial decision-making quality on MSME financial performance, using structural modelling to show that formal planning routines significantly enhance sustainability. A.A. Samiun, with co-authors [9], examines the effects of financial planning, sustainable investment, and risk management on SME business sustainability and justifies the need to align financial plans with long-term resilience rather than short-term cash flow alone. G. Zimon and co-authors [10] analyse liquidity management strategies in construction companies and show that conservative liquidity policies combined with disciplined receivables control reduce insolvency risk in cyclical construction markets.

These works collectively provide empirical evidence on how budgeting quality, liquidity strategy, project cost planning and access to finance affect the financial stability of SMEs and construction firms, and furnish techniques that can be adapted into a unified implementation strategy for small business construction projects.

The research relies on analytical and comparative methods, integrating findings from the cited studies into a coherent framework for financial planning in small construction projects [1–10]. Comparative analysis is used to align general SME financial planning recommendations with the specific structure of construction project cash flows and contractual payment arrangements. A narrative synthesis of empirical results informs the classification of financial risks and the selection of mitigation instruments. Analytical modelling is applied to construct a simplified cash-flow scheme for a small multifamily housing project and to evaluate the influence of financing terms, contingency reserves and

payment schedules on liquidity and profitability. Content analysis of recent publications supports the selection of practically applicable planning tools suitable for firms with limited internal financial expertise.

RESULTS

The analysis of the literature, combined with the constructed model of a housing project, provides a comprehensive view of how financial planning can be systematically integrated into the management of small construction projects. Across sources focusing on cost management, liquidity, budgeting, and SME financial planning, a common theme emerges: financial decisions must be integrated with technical and organisational choices from the earliest project stages, rather than being treated as a separate reporting function [1, 3, 7, 8, 10].

A first result concerns the structure of the financial planning cycle for small construction businesses. Building on the cost-management life-cycle description proposed by T.O. Ajayi and co-authors [1] and on the liquidity strategy findings of G. Zimon and colleagues [10], a six-stage cycle can be distinguished:

1) strategic pre-investment screening of potential projects based on the firm's capital and liquidity limits;

2) preliminary cost and revenue modelling with explicit identification of contingency reserves;

3) detailed budgeting and scheduling of costs and receipts;

4) design of the financing mix and credit terms;

5) operational cash-flow monitoring and variance analysis during execution;

6) post-project financial review to refine planning parameters.

This cycle ensures that each technical decision—such as the selection of construction technology, phasing of works, and contracting arrangements—is evaluated based on its impact on net cash flows and liquidity, not just on nominal project profit.

The second result relates to the mapping of typical financial problems in small construction projects to weaknesses in specific elements of the financial planning cycle. Empirical studies on project cost planning and cash-flow risk reveal that inaccurate pre-tender estimates, underpricing, and failure to plan for cost escalation frequently lead to systematic cost overruns [1, 3, 4]. Late or incomplete payments, retention mechanisms and poorly negotiated advance payment terms distort the timing of inflows, producing liquidity gaps even in projects that remain profitable in accounting terms [2, 4, 6]. At the enterprise level, the absence of structured budgeting and reliance on intuitive planning hinder disciplined allocation of scarce internal funds [5, 7, 8]. SME-oriented studies on financial planning and sustainability emphasise that when planning focuses exclusively on short-term survival rather than striking a balance between profitability, liquidity, and risk, firms remain vulnerable to shocks and credit restrictions [8, 9].

The third result pertains to the adaptation of SME financial planning tools to the specific needs of construction projects. Approaches based on projected income statements and balance sheets, as discussed by A.V.B. Paguay et al. [7], are translated into a project-oriented format in which cash-flow statements are structured by project stage and by stakeholder (client, bank, subcontractors, suppliers). The integration of budgetary control techniques and scenario analysis, as suggested in the broader SME literature [7–9], is aligned with construction-specific parameters, such as unit construction cost, productivity assumptions, payment milestones, and retention percentages. In combination with liquidity ratios and working capital indicators described by G. Zimon and co-authors [10], these tools form a compact financial planning toolkit that a small construction firm can maintain even with limited staffing: project budget with built-in contingencies, stage-based cash-flow forecast, financing plan linking bank debt and own capital, and a set of monitoring ratios tracked monthly.

A fourth result emerges from the synthesis of project-finance evidence with SME financial management research. Conference work on construction project finance from an SME perspective [6] emphasises that small contractors often rely on short-term, high-cost financing and informal funding sources, leading to fragile capital structures. Combined with findings that budgeting skills directly affect loan repayment behaviour [5] and that structured financial planning improves the probability of achieving sustainable performance [8, 9], this indicates that lenders and small construction firms have converging interests in more formal financial planning. The proposed strategy, therefore, includes standardised documentation—project cash-flow statements, sensitivity analyses for interest rates and

delays, and a clear description of collateral coverage—that responds to the bank's information needs described in SME finance research and thereby improves the probability of obtaining credit on acceptable terms [6–9].

A key practical component of the study is the illustrative calculation for a small residential construction project. Consider a developer-owned small enterprise planning a three-storey, 12-apartment building. Direct construction costs, based on recent contracts, are budgeted at 12,000,000 units of currency. Overheads allocated to the project (design, permits, administration, and marketing) amount to $ 1,800,000, so the total baseline cost before financing equals $ 13,800,000. The firm targets a 15% margin on price, which implies a minimum required sales revenue of 15,870,000. Apartments are planned to be sold progressively during construction, with final settlements at completion.

If the firm relies on a bank loan covering 60% of the baseline cost (8,280,000) at an annual interest rate of 14%, drawn gradually over 18 months in three tranches aligned with the construction phases, the financing cost can be approximated. Assuming each tranche is outstanding on average for one year before full repayment from apartment sales, the annual interest expense amounts to approximately $ 1,159,200. Without explicit planning for financing costs, management might treat the $2,070,000 difference between expected revenue and baseline cost as free profit. After incorporating interest, the projected pre-tax profit falls to roughly 910,800, equivalent to a realised margin of about 6.6% on cost. If actual construction costs increase by 7% due to material price rises, and no contingency has been built into the budget, the total cost before interest becomes $ 14,766,000. Including interest, the total outlay reaches approximately $ 15,925,200, which already exceeds the planned revenue. In that scenario, the project becomes a loss despite initially appearing to have reasonable pricing.

This simplified calculation illustrates how the explicit inclusion of financing costs and cost-escalation contingencies in the project budget alters managerial perceptions of acceptable sales prices and risk. It demonstrates the necessity for a small developer to treat expected interest and risk allowances as integral components of financial planning, not as residual items. The worked example reflects the empirical observation that underestimation of cost growth and liquidity pressures is a recurrent cause of economic distress among small construction companies [2–4, 6, 10].

The conceptual outcomes of the analysis are summarised in Figure 1.

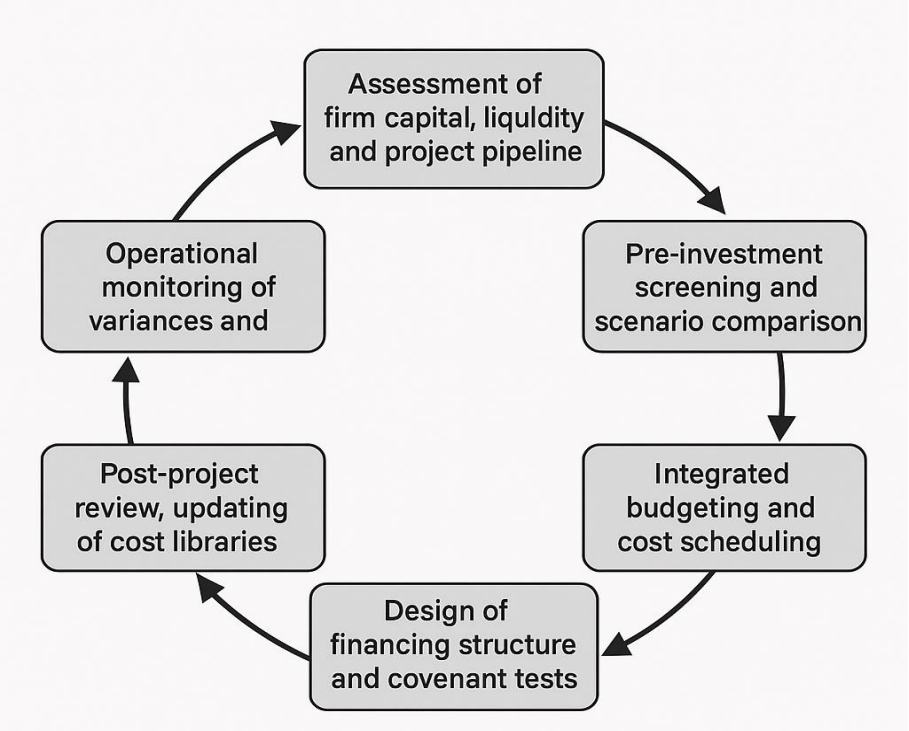


Figure 1. Strategic financial planning cycle for small construction projects (developed by the author based on [1–4, 6–10])

The figure presents a circular scheme consisting of six interconnected blocks:

1) diagnostic assessment of the firm's capital, liquidity and project pipeline;

2) pre-investment screening and scenario comparison;

3) integrated budgeting and cost scheduling for selected projects;

4) design of the financing structure and covenant analysis;

5) operational monitoring of budget variances, cash-flow gaps and compliance with liquidity thresholds;

6) post-project review, updating cost libraries and risk premiums.

Arrows between the blocks indicate feedback loops: results of monitoring trigger revisions to budgeting rules, and insights from post-project reviews affect the screening criteria used in stage (2). The figure visualises how scattered tools from the literature—budgeting, cash-flow forecasting, liquidity ratios, risk registers and project finance techniques—cohere into a continuous process that a small construction firm can embed into routine decision-making.

DISCUSSION

The proposed strategy can be interpreted as a bridge between general SME financial planning models and the specific risk structure of small construction projects. Works devoted to financial planning as a management tool emphasise the need for integrated projected financial statements, profitability scenarios and sensitivity analysis for external shocks [7–9]. At the same time, construction-focused studies stress that cost uncertainty, payment delays and retention create distinctive patterns of cash-flow risk that are not captured by static annual budgets [1–4, 6, 10]. The integration achieved in this article involves translating SME-level planning instruments into project-level tools and then re-aggregating them at the firm level through a planning cycle, as shown in Figure 1.

A comparison of instruments recommended in the literature permits an evaluation of their suitability for small construction businesses with limited administrative capacity. Table 1 synthesises the primary financial planning tools discussed across the selected sources and positions them against the decision problems they address.

Table 1. Financial planning tools relevant for small construction enterprises and typical decision applications (developed by the author based on [1–4, 7–10])

Tool/instrument	Main decision problem addressed	Advantages for small construction firms	Limitations and implementation constraints
Project-based operating budget with contingencies	Setting realistic cost and revenue targets for each project	Links technical quantities to financial outcomes; makes cost escalation visible early	Requires reliable cost data and periodic updating of unit rates
Stage-based cash-flow forecast	Aligning payment schedules with cost outlays and debt service	Reveals timing of liquidity gaps; facilitates negotiation of payment terms	Sensitive to contract changes and delays; needs frequent revision
Financing plan (debt–equity mix and schedule)	Choosing sustainable leverage and structuring bank relationships	Improves negotiation position with lenders; clarifies the affordability of debt	Demands basic knowledge of credit products and covenant analysis

Ratio-based liquidity and solvency monitoring	Tracking the firm's financial resilience during project execution	Simple indicators (current ratio, interest coverage) provide early warnings	May underestimate project-specific risks if analysed only at the firm level
Scenario and sensitivity analysis	Evaluating the impact of cost, delay or interest-rate shocks on outcomes	Supports pricing decisions and contingency sizing; aligns with planning methods in SME studies	Requires spreadsheet competence and structured assumptions
Post-project financial review	Learning from completed projects to refine future planning	Builds an internal database for unit costs, risk premiums and financing terms	Benefits appear gradually; needs disciplined documentation

The table indicates that a relatively compact set of instruments can address the majority of financial decisions faced by a small construction firm. Significantly, the tools are mutually reinforcing: the usefulness of liquidity ratios depends on the quality of the underlying cash flow forecast, while the value of bank relationships, as discussed in SME finance and project finance studies, increases when lenders receive transparent and credible planning documents [5–9].

Further discussion concerns financial risks and their translation into planning responses. Studies on contractor cash-flow risk show that project delays, under-certification of work and retention reduce the predictability of inflows and increase the likelihood of financial stress [2, 4]. Research on project cost planning and cost management evolution emphasises that incorrect assumptions regarding unit rates, design changes, and productivity can result in substantial deviations between planned and actual costs [1, 3]. Liquidity-focused work on construction companies suggests that conservative policies—maintaining higher liquidity buffers, controlling receivables and avoiding excessive short-term borrowing—are associated with stronger financial performance [10]. SME-oriented research on financial planning and sustainability extends the picture by showing that firms combining disciplined planning with structured risk management achieve more stable growth and a lower probability of distress [7–9].

In light of these findings, Table 2 summarises typical adverse events in small construction projects and aligns them with corresponding financial planning responses.

Table 2. Typical risk events in small construction projects and recommended financial planning responses (developed by the author based on [1–4, 6–10])

Risk event/mechanism	**Financial consequence**	**Recommended planning response**
Underestimation of direct construction costs	Cost overrun and erosion of project margin	Use conservative unit rates, explicit contingencies and scenario analysis in budgets
Client payment delays or under-certification of work	Liquidity gaps, reliance on expensive short-term borrowing	Stage-based cash-flow forecasts, negotiation of milestones, and inclusion of delay scenarios

Increase in interest rates on bank credit	Higher financing cost and reduced net profit	Sensitivity analysis on interest rates; negotiation of fixed or capped rates; stress-testing of coverage ratios
Simultaneous execution of several projects with shared crews	Peak funding needs exceed internal cash and available credit lines	Portfolio-level cash-flow planning; sequencing of project start dates; limits on overlapping commitments
Weak internal budgeting and record-keeping	Inaccurate forecasts, poor negotiation position with lenders	Training in budgeting, adoption of standard templates and periodic variance analysis
Absence of structured post-project reviews	Repetition of previous pricing and planning errors	Systematic ex-post financial review and updating of cost libraries and risk premiums

The patterns in Table 2 clarify that many financial risks confronting small construction projects have planning-based mitigations that do not require sophisticated software or large financial departments. Instead, they require institutionalising a limited number of routines—budget preparation with contingencies, project cash-flow forecasting, fundamental scenario analysis and post-project financial review—supported by appropriate training of owner-managers and key staff [5, 7–9].

The illustrative calculation presented in the Results section can now be interpreted through the lens of these planning responses. The example illustrates that when financing costs and realistic cost-escalation scenarios are incorporated into the budget, a project that initially appears to provide a comfortable margin becomes marginal or loss-making. Had the developer used the recommended toolkit—conservative unit rates, explicit contingency, interest-rate sensitivity analysis, and liquidity-threshold monitoring—the decision either to renegotiate sales prices, adjust design specifications, or decline the project would have emerged at the planning stage rather than during execution. This aligns with empirical observations that financially distressed construction SMEs often accept projects with insufficient margins due to incomplete financial analysis [2, 4, 6, 10].

The discussion further suggests implications for practice and education. For small construction firms, the strategy implies that the minimum set of financial planning documents for each project should include: a detailed budget with contingencies, a stage-based cash flow schedule, a financing plan, and a simple risk register that links each risk to numerical assumptions in the budget. For students of financial management specialising in construction, the results illustrate how theoretical instruments—such as NPV, budget variance analysis, and liquidity ratios—translate into concrete decisions on project selection, contract negotiation, and scheduling of works. For lenders and policymakers, the strategy suggests how training programmes and financial products could be designed to reward firms that adopt transparent planning practices, thereby reducing credit risk and supporting the sustainable development of the small construction sector.

CONCLUSION

The study develops a strategy for implementing financial planning in small business construction projects, with a particular focus on housing development undertaken by small firms. The first research task, systematisation of approaches to financial planning and cost management, is addressed through the integration of SME-oriented financial planning techniques with construction-specific cost and cash-flow tools into a six-stage financial planning cycle. The second task, identifying typical problems in cash-flow management and cost planning, leads to a typology of financial risks and shows how they stem from weaknesses in budgeting, payment scheduling, financing structure, and post-project learning. The third task, formulation of an implementation algorithm supported by a practical example, results in a sequence of actions accompanied by a numerical illustration that

quantifies the impact of financing cost and cost escalation on the profitability of a small residential project.

For small construction firms, the proposed strategy suggests that stable development depends on institutionalising a modest set of financial planning routines that link technical decisions with financial consequences over the whole project life cycle. For a student of financial management working in the construction industry, the analysis demonstrates how abstract concepts of planning, liquidity, and risk can be transformed into concrete, project-level decisions and simple calculations relevant to everyday practice in a small enterprise.

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