

## The determinants affecting the implementation of target costing in startup firms

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### ABSTRACT

The research investigated the dynamics affecting the implementation of target costing in startups in Thailand. Startups face turbulent and competitive environments, lack of market demand and regulatory hurdles, which require effective cost management strategies. The study used quantitative methodology to evaluate the effect of various factors - perceived environmental uncertainty, competitor influence, product diversity, firm revenue, and business strategy for the adoption of target costing. Primary data from a sample of 314 respondents were used. The constructs validity and reliability were analyzed using Confirmatory Factor Analysis while Multiple regression analysis was used to evaluate the study hypotheses. The findings indicated that adoption of target costing was positively and significantly influenced by perceived environmental uncertainty, competitor influence, firm revenue, and business strategy, while product diversity has an insignificant influence. The study recommended that startup managers should consider using complex cost management techniques, as a means of acquiring competitive market advantage, strategic alignment of cost management and using competitors as a benchmark to evaluate their market competitiveness.

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### 1. Introduction

In today's challenging business environment, startups must develop a unique product among all the competitors and market unpredictability; affordable cost management tools must be emphasized. A strategic approach of costing management is pivotal and a pillar that not only controls production costs but also offers a means to set the product price (Masadeh et al., 2023). Innovative startup firms that offer products that align with customer demand, like startups, also face high uncertainty. Startups are newly established firms or business ventures typically characterised by innovative ideas, entrepreneurial spirit, and a focus on growth and scalability. These firms are often founded by entrepreneurs or small teams to address a specific problem or meet market demand in a unique way. Startups produce a wide range of products and services across various industries. The specific products or services offered by a startup firm depend on the nature of the business, the market it targets, and the problem it aims to solve.

Startups are constantly confronted with intense competition, lack of market demand, regulatory hurdles, etc. Particularly, how startups can achieve profitability is a question. Based on Porter's viewpoint, for an enterprise to achieve a successful strategy, it is essential to manufacture items with the utmost efficiency and consistently manage costs throughout all aspects of the organization, encompassing manufacturing, marketing, and non-marketing support services (Gaiardelli & Songini, 2021; Ngo, 2023). To become the most cost-effective producer in their industry, experienced enterprises should actively seek to reduce expenses, implement strict cost controls (particularly for overhead or fixed costs), and minimize costs at every level. Target costing is a production control technique that the Japanese first created to handle the costs of developing new products and meet client requests in unpredictable situations (Dekker & Smidt, 2003). Given the market pricing, this is the highest cost that the business can bear for the product to reach the desired profit (Huang et al., 2012). However, how startup firms can implement target costing is underestimated. As the compass of a startup firm around cost management,

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the target costing is the sign that should be used as an orientation tool for pathfinding among the cost management (Mnif & Gafsi, 2020). This approach lends these business foundations the autonomy to scrutinize every design detail from the cost-per-unit point of view until we get the end product to fit perfectly with the market pricing (Rankin, 2020; Stadtherr & Wouters, 2021). The same direct connections not only ensure the competitiveness of the firms but also boost their profitability, which becomes a powerful instrument for successful business development (Qi et al., 2020). Target costing is a route of financial prudence and future considering approaches for startups where each cent counts and makes such a difference.

In contrast to the earlier cost methods, the paradigm shifts of target cost states that the actual costs are not controlled post-production but are reduced at the product's initial design. Through painstaking data analysis of customer behaviour, market trends and competitor products, startups get equipped with an understanding of what needs to be done to deliver and exceed customers all this while keeping cost-efficient (Ali & Anwar, 2021). This method can be a source of innovation and, at the same time, help startup firms avoid the traps of high-cost overruns and mismatching prices, which in turn improves their competitiveness in the market. In an unstable environment for startups with much uncertainty and tight resources, the target costing method should be the top choice. The instability of the market, shortage of money, and necessity of speed make startups naturally adapt to the best economies and customer-focused behaviour since their very first days (Vărzaru et al., 2022). Blending target costs onto the startup firm move to the upper side, the startup could control its business strategy and financial policy accurately without fear of unexpected economic crashes and trials.

However, the utilization of target costing precisely goes with the principles of the lean startup model, whereby the defining of experimentation processes and iteration of product development, together with learning and encouragement, are the critical values (Burova et al., 2021; Hadid & Al-Sayed, 2021). Cost targeting motivates a culture of variable responsiveness, invention, and action by incorporating expense awareness throughout all aspects of the startup operation, thus creating an environment that facilitates the firm's evolution in the long run. The research discovers how to use the target costing model effectively in startup niches. Its purpose is twofold: author has first scrutinized the plethora of internal and external forces acting as either enablers or constraints necessary for the application and implementations of desired target costing, and secondly, impart valuable tips that might prove to be essential in the development of strategic targeting costing measures and lead to a competitive advantage (Quesado & Silva, 2021). Through a close analysis of the target costing in a startup environment and the accompanying methods, this research study will give entrepreneurs and management a clear-cut instrument, enabling them to navigate towards a platform of financial austerity and market leadership.

Target costing is not only an aspect of financial management but also serves as a means of strategic planning in the startups. Startup firms are in the process of perfecting cost management techniques that not only push for competitive advantage but also emphasize sustainability on capacity growth and market positions (Rankin, 2020; Quesado & Silva, 2021). Together with that, in the authenticity of our undertaking, startups would gain momentum, be equipped with learning on the way, and be ready to deal with the upcoming threats. This research aims to investigate the variables affecting target costing in startup firms empirically.

## 2. Literature Review

### 2.1 *The Concept of Target Costing*

Target costing has become a key concept in cost accounting, specifically for startups operating in a competitive environment. Target costing is a vital tool for controlling costs, which has a strategic role in a business and is perfectly aligned with market-driven prices. Under the traditional system, firms' pricing was based on their production costs, and it needs to be more cost-centred, which makes pricing mismatches in the market and affects their competition (Bocken & Konietzko, 2022). Moreover, target costing refers to the reverse of convention. It derives the desired cost from predetermined profit margin and market demand, thus initiating the cost-cutting process with product design, i.e. earlier than later (Burova et al., 2021; Masadeh et al., 2023). Through this strategy, the items remain on the list of products consumers purchase while keeping the business on the profit margin.

### 2.2 *Target Costing in Startups*

Startups are resource-constrained and in a market with many competitors, which makes target costing even more critical. A startup business carries out its activities under uncertain and fluctuating circumstances, which makes cost management effective and the cornerstone of thriving and growing the business. A startup can gain a competitive advantage through targeted costing by proactively managing costs, optimizing resources, and achieving good cost optimization (Stadtherr & Wouters, 2021; Vărzaru et al., 2022). Also, target costing is aimed at lean startup development strategy, ensuring survival, competitive advantages, innovativeness, and responsiveness to market changes. Uddin (2013) suggests that an advanced cost management system is crucial for a startup firm that has a larger operational scale and scope. This research paper reveals that the significance of target costing is critical in the startup founders' business. Key facts which come forward in this study help those who are in the process of strategic planning (Al-Mawali, 2021; Qi et al., 2020). Furthermore, more efficient operations coupled with an attractive market positioning promise to achieve the desired status of innovation and profitability overhaul and help startups reshape business contours in the long run. The contingency theory acknowledges that organizational competencies, including decision models, are contingent on various internal and external environments.

These include environmental uncertainty, competition, product diversity, revenue size, and strategy orientation (Al-Mawali, 2021; Burova et al., 2021). Knowing what these fluctuations do to cost management, as seen in target costing, is an important ingredient to success in this strategy.

### *2.3 Determinants of Target Costing Adoption Under Perceived Environmental Uncertainty*

It has been found in prior literature that many contingency variables affect the design of a firm's costing systems. However, five contingency factors were chosen in this study to investigate whether they influence the implementation of a target costing system in Thailand startups based on the findings in previous literature mentioned (e.g., Cooper & Slagmulder, 1997; Dekker & Smidt, 2003; Ax et al., 2008; Navissi & Sridharan, 2017). That is, perceived environmental uncertainty, competitors influence, product diversity, firm revenue, and strategy. Perceived environmental uncertainty poses a significant obstacle for startup founders and greatly influences their decision-making process; as suggested by earlier research, a perceived environmental unpleasantness commonly affects the usage of target costing significantly (Burova et al., 2021; Masadeh et al., 2023; Mnif & Gafsi, 2020). Startup founders consider an elevated level of uncertainty as a normal element of their business regarding the market and industry. However, their views of uncertainty can shift continuously according to various factors in their surroundings and the availability of new data. When the market conditions are unstable in challenging settings, firms tend to rate costing as the most accessible solution to increase flexibility and reactivity to possible changes (Kanzola et al., 2023; Restuti et al., 2023). The researchers proposed Hypothesis 1 based on the above discussions:

**H<sub>1</sub>:** *Perceived environmental uncertainty has a significant influence on target costing.*

### *2.4 Impact of Competitor Influence on Cost*

A big factor in decision-making processes is majorly the competitive pressure that appears with target costing implementation. Startup firms bumping elbows against fierce competition are more readily directed towards target costing methodology to maintain or improve their market performance by offering cost-comparable products (Bocken & Konietzko, 2022; Hadid & Al-Sayed, 2021). Competitors play a significant role in shaping market dynamics, affecting industry cost structures; when competitors introduce innovations or cost-saving measures, firms often feel compelled to respond to maintain competitiveness (Pisano, 2015), leading to downward pressure on prices and profit margins, necessitating cost reductions to remain viable (Gaudin et al., 2016; Stucke, 2013). In addition, competitors must focus more on cost efficiency to have more leeway to invest in other areas, such as product differentiation or customer service (Gupta et al., 2023). Also, competitor actions can influence supplier prices and bargaining power, further impacting costs; understanding and responding to competitor influence on cost is essential for firms to navigate competitive markets effectively and sustain profitability (Cai et al., 2022; Zhao, 2019). As Stolz (2020) suggests, startups must stay agile and responsive to thrive in a competitive market. The following hypothesis is proposed to justify the literature:

**H<sub>2</sub>:** *Competitor influence has a significant influence on target costing.*

### *2.5 How Target Costing Affects Product Diversity*

Having a wide range of products might result in cost dissonance when those products use activity resources in varying quantities. Consequently, a diverse array of products necessitates using more advanced costing systems to measure the differences in resource usage precisely. Product diversity covers a range of different types of products, including volume, process, and support diversity (Ding et al., 2023; Nambiar et al., 2022). Support diversity pertains to the diverse levels of support provided by different support departments to each product. In contrast, process diversity refers to the differences in consumption among all recognized product design, manufacture, and distribution activities. Volume diversity refers to the variation in batch sizes during the manufacturing process, which impacts the allocation of batch-level expenses to different products (Akinyomi, 2014; Blommaert & Coenders, 2024; Morgan et al., 2021). A more elaborate production process necessitates a more complex pricing method to simulate it. The level of product diversity directly influences the complexity of the manufacturing process, necessitating a greater number of activities to make them (Yue & Xu, 2023). Hence, it is imperative to employ advanced costing techniques to accurately quantify the utilization of resources across various items in an intricate environment.

Two factors make product complexity and a diverse product offering difficult to use with target-costing systems. When firms diversify their product lines, it can pose problems in consistently applying the correct target costing calculation (Hadid & Al-Sayed, 2021; Qi et al., 2020; Quesado & Silva, 2021). This results in disparate cost structures and different market requirements. The revenue size of a firm might affect the efficiency of the target costing implementation. More prominent firms have more excellent financial capabilities for cost controlling; however, they need more time for cost accumulation and lower cost accuracy (Al-Mawali, 2021; Burova et al., 2021; Masadeh et al., 2023). Given the circumstance, larger firms with more considerable revenues can be expected to have more resources and competence to embark on target costing, but in contrast, small firms may be limited in terms of resources and experience while undertaking target costing. According to Mnif & Gafsi, (2020) the firm's strategy contributes to its cost management, including target costing is evidence of this. Firms that opt for the cost leadership approach are more inclined to implement target costing; the startup firm is doing so to reduce costs. Also, by doing so, they can access low-price markets where competitors are charging for their products. The hypothesis formulated is based on the preceding discussion:

**H<sub>3</sub>:** *Product diversity has a significant influence on target costing.*

### 2.6 Target Costing and Firm Revenue

When analyzing target costing, it has been argued that firm revenue exerts a vital influence and is critical in determining strategic decisions and operational approaches (Celayir, 2020; Ojra et al., 2021). Target costing is a proactive and future-oriented method that encourages businesses to adjust their costs in accordance with market conditions. As firms navigate competitive markets and strive for profitability, the magnitude of their revenue stream directly impacts the feasibility and effectiveness of target costing initiatives; high revenue levels afford greater flexibility in cost management strategies, allowing firms to allocate resources more liberally towards cost reduction efforts without compromising product quality or market competitiveness (Alkababji, 2023; Gupta et al., 2023). Contrarily, firms operating within lower revenue brackets may face constraints in implementing target costing methodologies, necessitating a more judicious balance between cost optimization and revenue generation (Al-Hattami et al., 2020). Thus, the correlation between firm revenue and target costing highlights the dynamic interplay between financial performance, cost management, and strategic decision-making within contemporary business environments (Habib, 2023; Mijoč et al., 2014). Increased revenue indicates the availability of financial capital and resources to adopt complex cost management systems (Carlsson-Wall, 2011). These arguments led to the postulation of Hypothesis 4.

**H<sub>4</sub>:** *Firm revenue has a significant influence on target costing.*

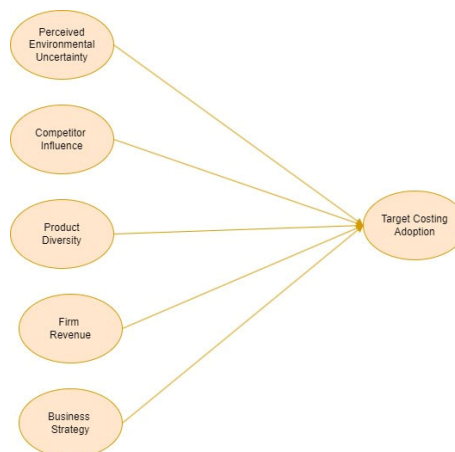
### 2.7 Target Costing and Business Strategy

Business strategy is very important in the discourse on target costing, substantially influencing its implementation, efficacy, and outcomes (Celayir, 2020). Target costing is a strategic approach that aligns product costs with market targets for profitability and competitiveness; it is a crucial element in attaining a competitive edge (Daowadueng, 2022). The formulation and execution of an organization's business strategies are pivotal in shaping the scope and direction of target costing initiatives (Alkababji, 2023). A well-defined business strategy provides the overarching framework for setting target costing objectives, allocating resources, and establishing performance metrics; strategic considerations, such as product positioning, differentiation, and market segmentation, directly inform target costing decisions by delineating cost parameters, identifying value drivers, and prioritizing cost reduction efforts (Nadube & Didia, 2018). Furthermore, the dynamic nature of competitive landscapes necessitates strategic agility in adapting target costing methodologies to evolving market dynamics and competitive pressures (White et al., 2019). Thus, the symbiotic relationship between business strategy and target costing highlights the integral role of strategic alignment in achieving cost leadership, product innovation, and sustainable competitive advantage in today's dynamic business environments (Alghamdi & Agag, 2023; Rožman et al., 2023). Hypothesis 5 is proposed in the light of these submissions:

**H<sub>5</sub>:** *Business strategy has a significant influence on target costing.*

### 2.8 Conceptual Framework

Based on the hypotheses developed above and the critical review of literature, a conceptual framework for this study was developed as depicted in Fig. 1. The independent variables include perceived environmental uncertainty, competitor, product diversity, firm revenue, and strategy, while the dependent variable is target costing.



**Fig. 1.** Conceptual framework of the study

### 3. Research Methodology

The study utilized a quantitative survey research design to ascertain the implementation of target costing for startup firms. The research population was drawn from entrepreneurs, accountants, and general managers of startup firms in Thailand. The startups were identified from the database of startup firms found on the website of Startup Thailand Ecosystem (<https://ecosystem.startupthailand.org/>), maintained by the Ministry of Science and Technology; there were 564 startup firms in 2024. The study examined various industries in which startup firms operate, such as Agricultural startups, Industrial management startups, Product and service technology startups, Startups in Fintech, government and educational, medical and healthcare, lifestyle and entertainment, and travel. Because there were few startups, a census method was used to collect primary data from the respondents, as there was no need for sample selection. The primary data was collected using a structured questionnaire hosted online via Google Forms. The link to the survey was sent to the email addresses of the startup organizations; a cover letter was attached to the emails explaining the aim and objectives of the study. After two weeks, reminder emails were sent as follow-ups to the initial survey link that had been sent out. Data was collected from February to March 2024.

For the validity and reliability of the measures used, the survey questionnaire was designed based on prior studies, primarily Ax et al. (2008), Bjørnenak (1997), Govindarajan (1984), Govindarajan (1988), Schoute (2009) and Kallunki and Silvola (2008). The survey questionnaire was tested with two accounting managers, two startup owners, and two accounting scholars. This procedure resulted in improvements in survey questionnaire wording. Moreover, the questionnaire was pre-tested before being sent to participants. The variables were meticulously analyzed using a 5-point Likert scales questions, ranging from 1=strongly disagree to 5=strongly agree. These items were developed with reference to previous literature, with careful modifications to suit the specific requirements of the current study. The measurement scales of target costing adoption, perceived environmental uncertainty, competitor influence, product diversity, and firm revenue and business strategy were all adapted from the works of Ax et al. (2008), Govindarajan (1984), Schoute (2009), Bjørnenak (1997), and Kallunki & Silvola (2008) respectively, ensuring their relevance and applicability.

The statistical analysis was conducted using a variety of robust methodologies. The initial approach involved the use of descriptive statistics to evaluate the participants' demographic details. This was followed by confirmatory factor analysis (CFA) to assess the model's adequacy. The fitness testing included the evaluation of Goodness of Fit (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), The Root Mean Square Error of Approximation (RMSEA), and (Standardized) Root Mean Square Residual (SRMS). The study also examined the reliability of the measures using Cronbach's alpha and convergent reliability. The validity of the measures was further scrutinized through the analysis of standardized factor loadings and average variance extracted (AVE). The third analysis involved the use of multiple regression analysis to test the hypotheses, by analyzing the effect of the independent variables on the dependent variables. The analysis was conducted using SPSS AMOS software. Out of the total population of 564 emails sent, the researchers received a returned survey of 314, resulting in a response rate of 55.67%.

### 4. Results

#### 4.1 Descriptive Statistics

The first analysis was descriptive statistics aimed at evaluating the respondents' properties. The first descriptive statistics was to evaluate the characteristics of the company in which the startups were operating. The results indicated that considering the firm age, the results indicated that the majority of startups were aged 6-10 years (61.5%), and the next group was aged 1-5 years (13.7%), followed by those 11-15 years (13.7%). Considering the number of employees, the majority had 11 – 20 employees (54.5%), followed by those with 20 – 30 employees (33.8%). The startups' annual income was also evaluated, with the majority being 10,000,000 – 19,000,000 (45.5%) and 30,000,000 and above (36%).

The industry of operation was also evaluated, with results indicating that the most common industry was Medical and healthcare startup (20.7%), then Service technology business startup (13.4%), and then Lifestyle entertainment startup (11.8%). The number of products/services handled was evaluated, with the majority indicating that they had various products/services (2-5 types), comprising 88.9%. The respondents were asked about the use of a target costing system in their business, where the majority indicated that they considered themselves “adopters” (67.8%), and the Non-Adopters were established to constitute 32.2%.

In addition, the respondents' demographic characteristics were also evaluated. Regarding gender, females comprised the majority (55.1%), while males comprised 44.9%. Considering the age, the majority were those aged 31 – 40 (52.2%), followed by those with 19 – 30 years (39.2%). The participants were required to show their position in their business position, with the majority indicating that they are accountants (89.8%) while those others are business owners (5.1%). The managerial experience, in terms of years they have worked for their organizations. The majority were those who had worked for 6-10 years (36.6%), then those with 1-5 years (27.4%), and those with more than 20 years of managerial experience were the least, with 16.9%.

**Table 1**

Descriptive statistics for startup firms

Variables	Categories	Frequency	Percent
Firm Age (Years)	1-5	43	13.7
	6-10	193	61.5
	11-15	43	13.7
	16 and above	35	11.1
Employee (Numbers)	1-10	4	1.3
	11-20	171	54.5
	20-30	106	33.8
	30-40	25	8
	41 and above	8	2.5
Annual Revenue (Baht)	0 - 9,000,000	14	4.5
	10,000,000 – 19,000,000	143	45.5
	20,000,000 – 29,000,000	44	14
	30,000,000 and above	113	36
Industry Type	Service technology business startup	42	13.4
	Industrial management startup	30	9.6
	Travel startup	36	11.5
	Government Educational startup	30	9.6
	Startups in finance, banking, and investing	21	6.7
	Medical and healthcare startup	65	20.7
	Lifestyle & entertainment startup	37	11.8
	Real estate startup	19	6.1
	Agricultural startup	34	10.8
	Adopters	213	67.8
Target Costing System	Non-Adopters	101	32.2

**Table 2**

Descriptive statistics for respondents

Variable	Categories	Frequency	Percent
Gender	Female	173	55.1
	Male	141	44.9
Age (Years)	0 - 18	2	0.6
	19 - 30	123	39.2
	31-40	164	52.2
	Above 40	25	8
Position	Business Owner	16	5.1
	Accountant	282	89.8
	Manager	16	5.1
Managerial Experience (Years)	1-5	86	27.4
	6-10	115	36.6
	11-20	60	19.1
	Above 20	53	16.9

## 5. Model Evaluation

The second analysis was the model evaluation. The fitness of data to the constructs and model fitness was evaluated by conducting confirmatory factor analysis (CFA). The tests summarized in Table 3 include CMIN/DF, NFI, CFI, RMSEA, and SRMS. From the results obtained, all the results met the required threshold, indicating a model fit corresponding to the analyzed data.

**Table 3**

Fitness tests of the model

Fitness Index	CMIN/DF	CFI	IFI	TLI	RMSEA
Threshold	<0.30	>0.90	>0.90	>0.90	<0.080
Value	2.190	0.937	0.937	0.923	0.061
Conclusion	Satisfied	Satisfied	Satisfied	Satisfied	Satisfied

In addition to conducting the model fitness, the reliability and validity analysis was also evaluated. The reliability of the data was assessed using Cronbach's alpha and composite reliability, while the validity was assessed by employing average variance extracted (AVE) and standardized factor loadings. The AVE values fluctuated between 0.53 and 0.60, whereas the standardized beta values varied from 0.60 to 0.85. These values are above the required threshold of 0.50 (Cheung et al., 2023), which clarified that the constructs' validity was satisfactory. Considering the reliability, the findings revealed that Cronbach's alpha values differed between 0.73 and 0.88, while that of composite reliability ranged from 0.72 to 0.87 (Fornell & Larcker, 1981). This implied that the required threshold of 0.70 for the reliability of the constructs was satisfactory.

**Table 4**  
Reliability and validity tests

Latent variables	Observed Variables	Standardized beta	CR	AVE	Cronbach's Alpha
Competitor Influence	com1	0.73	0.85	0.58	0.78
	com2	0.74			
	com3	0.80			
	com4	0.77			
Firm Revenue	frev1	0.78	0.84	0.56	0.88
	frev2	0.73			
	frev3	0.75			
	frev4	0.73			
Product Diversity	pdi1	0.76	0.82	0.53	0.85
	pdi2	0.75			
	pdi3	0.73			
	pdi4	0.67			
Perceived Environmental Uncertainty	peu1	0.75	0.87	0.63	0.77
	peu2	0.79			
	peu3	0.78			
	peu4	0.85			
Business Strategy	stra1	0.67	0.72	0.60	0.88
	stra2	0.62			
	stra3	0.60			
	stra4	0.63			
Target costing adoption	tcos1	0.63	0.84	0.57	0.73
	tcos2	0.70			
	tcos3	0.83			
	tcos4	0.85			

Once the model's fitness, validity, and reliability of the constructs were deemed satisfactory, it was suitable to proceed with the analysis of the study hypothesis. A multiple regression analysis was employed to assess the impact of various independent variables (perceived environmental uncertainty, product diversity, business strategy, firm revenue, and competitor influence) on the adoption of target costing by startup firms. The findings are succinctly presented in Table 5 and Fig. 2. The study's findings show that perceived environmental uncertainty has a strong and positive impact on adopting target costing ( $\beta = 0.316$ ,  $p=0.000$ ). Additionally, business strategy, competitor influence, and firm revenue also significantly and positively influence target costing adoption ( $\beta = 0.397$ ,  $p=0.000$ ;  $\beta = 0.146$ ,  $p=0.000$ ;  $\beta = 0.143$ ,  $p=0.001$ , respectively). On the other hand, product diversity positively influences target costing adoption, but it is not statistically significant ( $\beta = 0.004$ ,  $p=0.940$ ).

**Table 5**  
Hypotheses empirical tests

	Relationship		Beta	S.E.	t	p-value
Perceived Environmental Uncertainty	→	Target costing adoption	.316	.063	4.986	***
Business Strategy	→	Target costing adoption	.397	.077	5.144	***
Competitor Influence	→	Target costing adoption	.146	.043	3.421	***
Firm Revenue	→	Target costing adoption	.143	.044	3.248	.001
Product Diversity	→	Target costing adoption	.004	.052	.076	.940

## 6. Discussion

The findings of this study constitute important knowledge for understanding the aspects of target costing in the startup ecosystem. By examining various aspects of influence - perceived environmental uncertainty, business strategy, competitor influence, firm revenue, and product diversity – the research highlights important managerial practices that could be explored towards improving the costing management and the overall performance of startups in the market. The research found that perceived environmental uncertainties such as unpredictability, market volatility, regulatory dynamics, and rapid technological changes influence the adoption of target costing. The results indicated that if perceived environmental uncertainty increased by one unit, the intention to adopt target costing increased by 0.316 units. These findings echo the contingency theory, demonstrating how organizations adjust their structures and operations based on the external environment. Target costing is a forward-looking and proactive technique that propagates a business to align its cost to market conditions. In times of uncertainty, startups consider target costing an appropriate risk mitigation technique for cost overruns and pricing misalignments. The business strategy was found to be a significant aspect of consideration in the adoption of target costing. A startup strategically oriented towards competitiveness, customer satisfaction, and business performance is likelier to adopt targeting costing. In other words, target costing is essential to achieving a competitive advantage (Daowadueng, 2022). Target costing is among the techniques for effective cost management and aligning production and operation costs to management practices. As such, it is a critical tool for achieving a competitive advantage.

Competitors were a significant determinant of startup adoption of target costing. It suggests that competitor pressure or market competition could motivate startups to adopt target costing. This observation supports the competitive dynamic theory, which argues that businesses and firms tend to act in response to their competitor's moves (Pisano, 2015). In this case, the startups facing stiff competition tend to adopt advanced cost management practices and strategies, which could give them a competitive advantage and help them to handle increased complexities in operations. As indicated by Stolz (2020), to survive in a competitive market, startups must remain agile and responsive to the strategies of their peers. In this case, the adoption of target costing would be geared towards achieving a competitive advantage over the competitors in terms of efficiency and pricing strategy. The relevance of firm revenue to target costing adoption is important to the discourse. Increased revenue implies an increased tendency towards using target costing. A firm with greater revenue may need to adopt a rigorous cost management technique, such as target costing, which can handle complex business operations. According to Carlsson-Wall (2011), increased revenue implies the availability of financial capital and finance resources that could help adopt complex and advanced cost management systems. This implies the startup can afford the required initial investment in systems installation and staff training. Another perspective suggested by Uddin (2013) is that an advanced cost management system could be important in a firm with an expanded operational scale and scope. A greater number of business transactions, products, services, and customers would be appropriately handled by a rigorous cost management strategy.

## 7. Study Implications

The research has culminated in developing various theoretical aspects. First, this study supports the aspect of Contingency Theory in cost management. The theory posits that there is no universally applicable approach in management accounting. The significant influence of perceived environmental uncertainty, business strategy, and competitors influence shows that external and internal contextual aspects are critical in business cost management. Secondly, this study suggests the expansion of the Resource-Based View (RBV), which is suggested by the significant influence of firm revenue in target costing. According to RBV, a firm with complex, effective, and valuable resources would easily achieve a competitive advantage. The findings expound the RBV view that financial capacity is an important resource that facilitates the adoption of complex and advanced cost management techniques. The last theoretical implication is the integration of strategic management and accounting. Accounting practices should be considered a crucial and integral part of the strategic management process.

Regarding the managerial implications, several managerial implications were suggested:

1. Enhanced decision-making under uncertainty is necessary. Startup managers should use complex cost management techniques to acquire a competitive market advantage. Managers are advised to adopt cost management techniques to advance their control over costs, particularly in unpredictable external conditions.
2. This study suggests the importance of strategic alignment of cost management. The adopted cost management systems should align with the overall business strategy, including the firm's objectives, aim, vision, and mission. This way, the products and services could effectively address market demand and customer value perceptions.
3. Competitiveness awareness was advised.

Given that competitors influence the adoption of cost management, startups' awareness of competitors could be used as a benchmark against which to compare themselves and adopt similar techniques and tools to remain competitive.

## 8. Conclusions and Future Studies

This study aimed to examine the characteristics that influence the adoption and execution of target costing in startup firms. The study was driven by the fact that cost management is a critical aspect of business management, particularly for new businesses and those experiencing a competitive environment. The evaluated factors included perceived environmental uncertainty, business strategy, competitor influence, firm revenue, and product diversity. The results indicated that perceived environmental uncertainty, business strategy, competitor influence, and firm revenue positively and significantly influenced target costing adoption—both external pressures and internal growth influence startup adoption of costing techniques. From a managerial practice perspective, the study advises startup managers to consider aligning cost management with the overall strategic objectives of the study and the role of effective cost management strategies in environmental uncertainties and volatile markets. The study also recognizes the importance of startups monitoring their peers and competitors' strategies to stay updated on market trends. Considering that this study addressed startups in general, future studies could examine industry-specific factors influencing the adoption of target costing.

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## References

- Akinyomi, O.J. (2014). Effects of product diversity and activity-based costing system implementation in Nigerian manufacturing sector. *International Journal of Marketing and Technology*, 4(2), 46-54.
- Alghamdi, O., & Agag, G. (2023). Competitive advantage: A longitudinal analysis of the roles of data-driven innovation capabilities, marketing agility, and market turbulence. *Journal of Retailing and Consumer Services*, 76, 103547. <https://doi.org/10.1016/j.jretconser.2023.103547>
- Al-Hattami, H.M., Kabra, J.D., & Lokhande, M.A. (2020). Reducing costs in manufacturing firms by using target costing technique. *International Journal of Business Excellence*, 22(1), 69-82. <https://doi.org/10.1504/IJBEX.2020.109216>
- Ali, B. J., & Anwar, G. (2021). Marketing strategy: Pricing strategies and its influence on consumer purchasing decision. *International Journal of Rural Development, Environment and Health Research*, 5(2), 26-39. <https://doi.org/10.22161/ijreh.5.2.4>
- Alkababji, M.W. (2023). The impact of applying the target cost and continuous improvement (Kaizen) on achieving the sustainable competitive advantage of Palestinian industrial companies. *Journal of Business and Socio-economic Development*, 3(4), 372-387. <https://doi.org/10.1108/JBSED-11-2022-0121>
- Al-Mawali, H. (2021). Environmental cost accounting and financial performance: The mediating role of environmental performance. *Accounting*, 7(3), 535-544. <https://doi.org/10.5267/j.ac.2021.1.005>
- Ax, C., Greve, J., & Nilsson, U. (2008). The impact of competition and uncertainty on the adoption of target costing. *International Journal of Production Economics*, 115(1), 92-103. <https://doi.org/10.1016/j.ijpe.2008.04.010>
- Bjørnenak, T. (1997). Conventional wisdom and costing practices. *Management Accounting Research*, 8(4), 367-382. <https://doi.org/10.1006/mare.1996.0050>
- Blommaert, L., & Coenders, M. (2024). Understanding public support for workplace diversity and antidiscrimination policies in Europe. *Frontiers in Sociology*, 9. <https://doi.org/10.3389/fsoc.2024.1256751>
- Bocken, N., & Konietzko, J. (2022). Circular business model innovation in consumer-facing corporations. *Technological Forecasting and Social Change*, 185, 122076. <https://doi.org/10.1016/j.techfore.2022.122076>
- Burova, E., Grishunin, S., Suloeva, S., & Stepanchuk, A. (2021). The cost management of innovative products in an industrial enterprise given the risks in the digital economy. *International Journal of Technology*, 12(7), 1339. <https://doi.org/10.14716/ijtech.v12i7.5333>
- Cai, G., Deng, J., Ge, R., & Zheng, G. (2022). The product market power of major customer firms and their suppliers' performance. *China Journal of Accounting Studies*, 10(4), 435-458. <https://doi.org/10.1080/21697213.2022.2148907>
- Carlsson-Wall, M. (2011). *Targeting target costing: Cost management and inter-organizational product development of multi-technology products*. Stockholm School of Economics.
- Celayir, D. (2020). Target costing as a strategic cost management tool and a survey on its implementation in the Turkish furniture industry. *Journal of Business Research-Turk*, 12(2), 1308-1321. <https://doi.org/10.20491/isarder.2020.913>
- Cheung, G.W., Cooper-Thomas, H.D., Lau, R.S., & Wang, L.C. (2023). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, 1-39. <https://doi.org/10.1007/s10490-023-09871-y>
- Cooper, R., & Slagmulder, R. (1997). *Target costing and value engineering*. The IMA Foundation for Applied Research Inc., Productivity Press. Portland, OR.
- Daowadueng, P. (2022). The Antecedents on the Adoption of Advanced Costing Systems in Thailand Startups. *ABAC Journal*, 42(3), 162-179.
- Dekker, H., & Smidt, P. (2003). A survey of the adoption and use of target costing in Dutch firms. *International Journal of Production Economics*, 84(3), 293-305. [https://doi.org/10.1016/S0925-5273\(02\)00450-4](https://doi.org/10.1016/S0925-5273(02)00450-4)
- Ding, C., Zhang, R., & Wu, X. (2023). The impact of product diversity and distribution networks on consumption expansion. *Journal of Business Research*, 161, 113833. <https://doi.org/10.1016/j.jbusres.2023.113833>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Gaiardelli, P., & Songini, L. (2021). Successful business models for service centres: an empirical analysis. *International Journal of Productivity and Performance Management*, 70(5), 1187-1212. <https://doi.org/10.1108/IJPPM-05-2019-0230>
- Gaudin, G., & Mantzari, D. (2016). Margin squeeze: An above-cost predatory pricing approach. *Journal of Competition Law & Economics*, 12(1), 151-179. <https://doi.org/10.1093/joclec/nhv042>
- Govindarajan, V. (1984). Appropriateness of accounting data in performance evaluation: An empirical examination of environmental uncertainty as an intervening variable. *Accounting, Organizations and Society*, 9(2), 125-135. [https://doi.org/10.1016/0361-3682\(84\)90002-3](https://doi.org/10.1016/0361-3682(84)90002-3)
- Govindarajan, V. (1988). A contingency approach to strategy implementation at the business-unit level: Integrating administrative mechanisms with strategy. *Academy of Management Journal*, 31(4), 828-853. <https://doi.org/10.2307/256341>
- Gupta, S., Kushwaha, P., Badhera, U., Chatterjee, P., & Gonzalez, E. D. S. (2023). Identification of benefits, challenges, and pathways in E-commerce industries: An integrated two-phase decision-making model. *Sustainable Operations and Computers*, 4, 200-218. <https://doi.org/10.1016/j.susoc.2023.08.005>
- Habib, A.M. (2023). Do business strategies and environmental, social, and governance (ESG) performance mitigate the likelihood of financial distress? A multiple mediation model. *Heliyon*, 9(7). <https://doi.org/10.1016/j.heliyon.2023.e17847>
- Hadid, W., & Al-Sayed, M. (2021). Management accountants and strategic management accounting: The role of organizational culture and information systems. *Management Accounting Research*, 50, 100725. <https://doi.org/10.1016/j.mar.2020.100725>
- Kallunki, J., & Silvola, H. (2008). The effect of organizational life cycle stage on the use of activity-based costing. *Management Accounting Research*, 19(1), 62-79. <https://doi.org/10.1016/j.mar.2007.08.002>

- Kanzola, A., Papaioannou, K., & Petrakis, P. E. (2023). Environmental behavioral perceptions under uncertainty of alternative economic futures. *Technological Forecasting and Social Change*, 190, 122428. <https://doi.org/10.1016/j.techfore.2023.122428>
- Masadeh, A., Jrairah, T., & Almasria, N. (2023). The impact of applying the target cost approach on products' structure (products pricing, development and quality). *International Journal of Professional Business Review*, 8(6), e02086–e02086. <https://doi.org/10.26668/businessreview/2023.v8i6.2086>
- Mijoč, J., Pekanov Starčević, D., & Mijoč, I. (2014). Investigation of the relationship between contemporary cost management methods and improvement in financial performance. *Economic Research-Ekonomska Istraživanja*, 27(1), 393–413. <https://doi.org/10.1080/1331677X.2014.966970>
- Mnif, Y., & Gafsi, Y. (2020). A contingency theory perspective on the analysis of central government accounting disclosure under International Public Sector Accounting Standards (IPSAS). *Meditari Accountancy Research*, 28(6), 1089–1117. <https://doi.org/10.1108/medar-04-2019-0480>
- Morgan, J., Halton, M., Qiao, Y., & Breslin, J. G. (2021). Industry 4.0 smart reconfigurable manufacturing machines. *Journal of Manufacturing Systems*, 59, 481–506. <https://doi.org/10.1016/j.jmsy.2021.03.001>
- Nadube, P.M., & Didia, J.U.D. (2018). Market targeting and strategic positioning. *International Journal of Marketing Research and Management*, 8(1), 32–45.
- Nambiar, A., Rubel, T., McCaull, J., & Bedau, M. (2022). Dropping diversity of products of large US firms: Models and measures. *PLoS ONE*, 17(3). <https://doi.org/10.1371/journal.pone.0264330>
- Navissi, F., & Sridharan, V. G. (2017). Determinants of Target Costing Adoption: A Research Note. *Journal of Management Accounting Research*, 29(1), 67–77. <https://doi.org/10.2308/jmar-51501>
- Ngo, Q. (2023). The effectiveness of strategic alignment between open innovation and generic strategies: Empirical evidence from restaurant SMEs in Vietnam. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(1), 100016. <https://doi.org/10.1016/j.oiotmc.2023.100016>
- Ojra, J., Opute, A.P., & Alsolmi, M.M. (2021). Strategic management accounting and performance implications: A literature review and research agenda. *Future Business Journal*, 7(1), 1–17. <https://doi.org/10.1186/s43093-021-00109-1>
- Pisano, G.P. (2015). A normative theory of dynamic capabilities: connecting strategy, know-how, and competition. *Harvard Business School Technology & Operations Mgt. Unit Working Paper*, (16-036).
- Qi, Y., Mao, Z., Zhang, M., & Guo, H. (2020). Manufacturing practices and servitization: The role of mass customization and product innovation capabilities. *International Journal of Production Economics*, 228, 107747. <https://doi.org/10.1016/j.ijpe.2020.107747>
- Quesado, P., & Silva, R. (2021). Activity-Based costing (ABC) and its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 41. <https://doi.org/10.3390/joitmc7010041>
- Rankin, R. (2020). The predictive impact of contextual factors on activity-based costing adoption. *Journal of Accounting and Finance*, 20(1). <https://doi.org/10.33423/jaf.v20i1.2742>
- Restuti, M. D., Gani, L., Shauki, E. R., and Leo, L. (2023). Cost stickiness behavior and environmental uncertainty in different strategies: Evidence from Southeast Asia. *Business Strategy & Development*, 6(4), 972–985. <https://doi.org/10.1002/bsd2.291>
- Rožman, M., Tominc, P., and Štrukelj, T. (2023). Competitiveness Through Development of Strategic Talent Management and Agile Management Ecosystems. *Global Journal of Flexible Systems Management*, 24(4), 373–393. <https://doi.org/10.1007/s40171-023-00344-1>
- Schoute, M. (2009). The relationship between cost system complexity, purposes of use, and cost system effectiveness. *The British Accounting Review*, 41(4), 208–226. <https://doi.org/10.1016/j.bar.2009.10.001>
- Stadtherr, F., and Wouters, M. (2021). Extending target costing to include targets for R&D costs and production investments for a modular product portfolio—A case study. *International Journal of Production Economics*, 231, 107871. <https://doi.org/10.1016/j.ijpe.2020.107871>
- Stolz, L. (2020). Startup competitions and their role in entrepreneurial ecosystems: A conceptual attempt. *Zeitschrift für Wirtschaftsgeographie*, 64(4), 233–246.
- Stucke, M.E. (2013). Is competition always good? *Journal of Antitrust Enforcement*, 1(1), 162–197. <https://doi.org/10.1093/jaenfo/jns008>
- Uddin, M.B. (2013). Techniques of interorganizational cost management: A review essay. *Journal of Statistics and Management Systems*, 16(1), 89–108.
- Värzaru, A. A., Bocean, C. G., Mangra, M. G., & Mangra, G. I. (2022). Assessing the effects of innovative management accounting tools on performance and sustainability. *Sustainability*, 14(9), 5585. <https://doi.org/10.3390/su14095585>
- White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of marketing*, 83(3), 22–49. <https://doi.org/10.1177/0022242919825649>
- Yue, H., and Xu, Y. (2023). Production quality and pricing strategy for substitutable products under comparison effects. *Journal of Management Science and Engineering*, 8(4), 529–557. <https://doi.org/10.1016/j.jmse.2023.01.003>
- Zhao, Q. (2019). The influence of buyer power on supply chain pricing with downstream competition. *Sustainability*, 11(10), 2924. <https://doi.org/10.3390/su11102924>

