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Research Article

Factors influencing open innovation in small and medium enterprises: A survey in Da Nang City, Vietnam

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ABSTRACT

Small and medium-sized enterprises (SMEs) play an important role in the economy of every country, not only because they account for a large number of total types of enterprises but also because of their flexibility and contribution to economic development. SMEs often account for a large proportion of total enterprises, create many jobs and contribute significantly to local and national GDP. This article explores and quantifies factors affecting open innovation in small and medium-sized enterprises. The research team approaches innovation from a supply-demand approach using a combination of qualitative and quantitative methods, from the survey results of 38 enterprises operating in Da Nang city, Vietnam. The research results show that the 8 initially proposed factors all have a positive impact on open innovation in enterprises in Da Nang city, Vietnam, in which financial resources (FR) , competitive market (CM), research and development (RD) are the 3 factors that have the greatest impact on open innovation in SMEs in Da Nang city. From there, the research team proposes a number of breakthrough solutions to enhance open innovation in SMEs in Da Nang city in the coming time.

Keywords: Open innovation; SMEs; Da Nang; Supply-demand approach.

INTRODUCTION

In Da Nang city, SMEs account for a large part of the business structure, contributing significantly to the city's economic development (digital.business.gov.vn).

In the context of the 4th industrial revolution and the need for innovation, the application of open innovation solutions in SMEs has become extremely necessary. Open innovation not only helps businesses improve products and services but also enhances competitiveness and adapts to rapid changes in the market and technology .

In Vietnam, SMEs account for more than 98% of the total number of enterprises, contributing about 45% of GDP and 50% of employment nationwide (VCCI, 2020). In Da Nang, SMEs also make an important contribution to local economic development, accounting for a large proportion of the total number of enterprises and contributing significantly to the city budget (Da Nang Portal, 2021).

According to statistics, Da Nang currently has about 29,000 SME enterprises, accounting for about 97% of the total number of enterprises ; The total number of registrations in the first 3 months of 2024 is 6,969 enterprises (Da Nang City People's Committee , 2024).

Vietnam is becoming an attractive destination for venture capitalists and private equity investors. The COVID-19 pandemic has further highlighted the need to accelerate the adoption of new technologies and business models to support business growth and agility (World Bank, 2020)

Open Innovation is a modern trend that allows businesses to use ideas and technology from outside as well as share internal content with external partners. This helps SMEs take advantage of external resources and knowledge, thereby promoting the innovation process more effectively (Chesbrough, 2003; Gassmann, Enkel & Chesbrough, 2010)

Open innovation not only helps SMEs improve their competitiveness but also contributes to the sustainable development of the national economy in general and the local economy in particular. Researching and proposing solutions to develop open innovation in SMEs in Da Nang will help businesses maximize their potential, contributing to the socio-economic development of the city and the country (Chesbrough, 2003; Gassmann, Enkel & Chesbrough, 2010) (7)

With the reasons for choosing the detailed topic as above, this study aims to analyze and provide practical solutions to develop open innovation in SMEs in Da Nang, contributing to improving business efficiency and sustainable development of enterprises as well as the local economy of Da Nang, contributing to the strategy and goal of becoming a comprehensive innovation city in the future.

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2. THEORETICAL BASIS AND RESEARCH MODEL

2.1. Some concepts

Open innovation is a concept introduced by Henry Chesbrough in the early 2000s. According to Chesbrough (2003), open innovation is a method by which organizations tap resources and ideas from both inside and outside the organization to drive the development of new products, services, and processes. The main components of open innovation include:

Technology and digitalization:

The development of digital technology, artificial intelligence and big data analytics has promoted open innovation (Chesbrough & Rosenbloom, 2002).

The development and maturity of digital technologies such as artificial intelligence (AI), big data analytics (Bid data), Internet of Things (IoT), Blockchain, cloud computing have had a profound impact on open innovation. Digital technologies and digital platforms enable companies to connect and collaborate with global partners and communities more easily and effectively. Artificial intelligence and big data analytics help analyze and process huge volumes of data to detect trends, predict needs and optimize innovation processes.

Expanding international cooperation:

Organizations increasingly collaborate internationally to take advantage of global knowledge (Chesbrough, 2003).

Organizations are increasingly looking to expand international cooperation to leverage knowledge and technology from global markets. International cooperation not only helps companies access new resources and knowledge, but also creates opportunities to expand markets and reduce risks to technology and sustainable development.

International collaboration: Organizations are building international collaboration networks with partners in different countries to share knowledge, resources, and technology. This collaboration helps companies access advanced technologies and diverse market insights (Chesbrough, 2003).

Leveraging global knowledge: Companies can tap into knowledge from global markets to develop products and services that meet global needs and trends, and improve their competitiveness in international markets (Chesbrough, 2003).

Startups and innovation ecosystems:

Startups and innovation ecosystems play an increasingly important role in open innovation (Chesbrough, 2006). Large companies often partner with technology startups to take advantage of the rapid innovation and creativity in small companies and groups of young, energetic and creative people.

The role of startups: startups apply technology to bring new creative solutions, with the ability to innovate quickly and flexibly. Large enterprises in the world often cooperate with startups through incubation and acceleration programs, with the participation of venture capital funding from investment funds, and strategic alliances to explore and develop creative solutions (Chesbrough, 2006).

Innovation ecosystems: Innovation ecosystems include incubators, and support networks that connect companies, investors and venture capital funds, and research institutes and universities. These ecosystems facilitate collaboration and knowledge sharing, contributing to the promotion of open innovation (Chesbrough, 2006).

Sustainable innovation and social responsibility:

Companies are looking for sustainable and socially responsible solutions (Chesbrough & Bogers, 2014). Companies are increasingly focusing on developing innovative sustainable and socially responsible solutions. This not only helps to solve environmental and social problems but also enhances the image and value of the company.

Sustainable innovation: Companies are looking to develop sustainable products and processes to minimize negative impacts on the environment. Sustainable innovation includes using recycled materials, reducing emissions, and developing environmentally friendly products (Chesbrough & Bogers, 2014).

Social Responsibility: Companies also focus on social responsibility by ensuring that their operations benefit the community and society. This includes implementing community projects, supporting social development programs, and ensuring fair working conditions (Chesbrough & Bogers, 2014).

2.2. Some open innovation research models

a, Collaborative Model:

Collaborating with partners: SMEs collaborate with companies, research organizations, or research institutes to jointly develop new products or solutions (Chesbrough, 2003).

Partner networks: Participate in industry networks or clusters to exchange knowledge and technology (Chesbrough, 2006).

b, Crowdsourcing model:

Gathering ideas from a large community or customers to develop new products or services (Howe, 2008).

Solution Crowdsourcing: Inviting the community or experts to contribute solutions to specific problems faced by the business (Brabham, 2013).

c, Innovation Funding Model:

Venture capital: Participate in venture capital or innovation funds to raise capital for innovative projects (Chesbrough, 2012).

Support programs: Take advantage of government or nonprofit support programs for innovation (Miller, 2014).

d, Customer innovation model:

Customer Consulting: Conduct surveys and research to collect opinions and feedback from customers about products or services (Von Hippel, 2005).

Custom development: Developing products or services according to customers' specific requirements, customizing them to fit their needs (Sawhney, Wolcott, & Arroniz, 2006).

e, Experimentation and Development model:

Develop a team of innovators: Create small teams or innovation labs to test new ideas and develop new business models (Blank, 2013).

Pilot programs: Implement pilot programs to evaluate the feasibility and effectiveness of innovative solutions (Ries, 2011).

f, Technology Licensing and Acquisition

Patent acquisition: Acquiring or licensing technology from other companies for integration into a firm's products or services (Arora & Gambardella, 1994).

Licensing negotiations: Negotiating and licensing the use of other partners' technology to save development costs and time (Jensen & Thursby, 2001).

g, Internal Innovation Model:

Innovation Incentive Programs: Create programs that encourage and motivate employees to participate in the innovation process (Tushman & O'Reilly, 1996).

Process improvement: Applying process improvement methods and technology to improve efficiency and product quality (Bessant & Tidd, 2015).

2.3. Author's proposed research model

The study chooses an empirical approach to clarify the research issues. Based on the generalization and clarification of endogenous factors affecting innovation capacity, the study surveys and clarifies the level of impact of the factors, thereby proposing appropriate policies to enhance innovation capacity.

Research hypotheses :

H1: Resources financial impact positively (+) with power innovation force bright Creation of SMEs in Da Nang city.

H2. The consulting and training center for innovation has a positive (+) impact on power innovation force bright Creation of SMEs in Da Nang city.

H3. The network of innovation experts has a positive (+) impact on power innovation force bright Creation of SMEs in Da Nang city.

H4. Research & development of innovation has positive (+) impact on power innovation force bright Creation of SMEs in Da Nang city.

H5. Activities supporting innovation have positive (+) impacts on power innovation force bright Creation of SMEs in Da Nang city.

H6. Market competition has a positive impact (+) on power innovation force bright Creation of SMEs in Da Nang city.

H7. Adaptation Changing business models has a positive (+) impact on power innovation force bright Creation of SMEs in Da Nang city.

H8. Expand market impact positively (+) with power innovation force bright Creation of SMEs in Da Nang city.

SUPPLY SIDE APPROACH DEMAND SIDE APPROACH

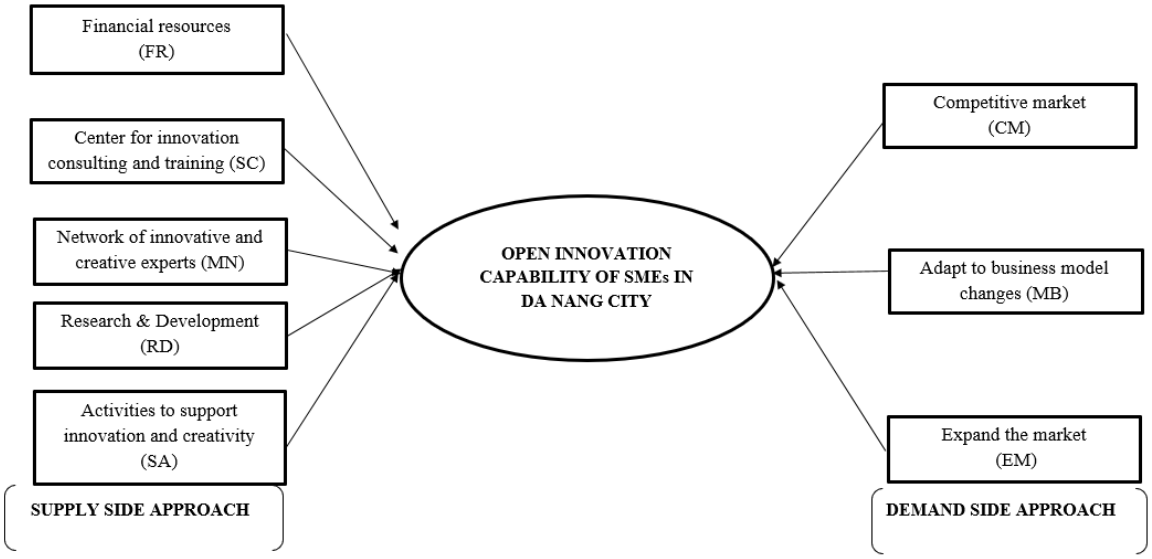


Figure 1: Research model on open innovation capacity of SMEs in Da Nang city

3. RESEARCH METHODS

3.1. Secondary and primary data collection methods

To conduct research on open innovation in SMEs in Da Nang, the author deployed data collection methods through three main methods: document research, expert interviews, and business surveys.

3.1.1. Document research

Collect information from the following sources:

Science, Technology and Innovation Report 2020 conducted by the World Bank in 2020.

Project on international integration and cooperation of Da Nang city until 2030 (Decision 2887/QD-UBND dated December 26, 2023 of the Chairman of Da Nang City People's Committee)

Domestic and international reports, books, scientific research articles, seminars related to innovation and open innovation in enterprises.

Purpose: The literature review aims to synthesize and analyze existing information from domestic and international reports, books, and scientific articles on open innovation and its application models, and then apply them in the context of small and medium enterprises (SMEs) in Da Nang.

Implementation process:

Documents used: in academic databases, electronic libraries, research reports, monographs, and related scientific articles.

Select the most relevant and valuable documents to ensure the accuracy and completeness of information.

Synthesis and analysis: Read, summarize, and analyze documents to build a theoretical basis and research framework for the topic. Focus on important trends and findings on open innovation in the context of SMEs and in Da Nang. Contribute to promoting and implementing to help Da Nang become an innovation city in the coming time.

3.1.2. Expert Interview

Interviews with experts in the innovation ecosystem, to gather opinions, experiences and perspectives from people with deep expertise in innovation, SME management and research and development activities.

Implementation process:

Expert selection: Identify and select reputable experts in the field of innovation and SME ecosystem management such as presidents of small and medium-sized enterprise associations, presidents of Da Nang Young Entrepreneurs Association, presidents of private entrepreneurs associations in Da Nang, presidents of startup incubators in Da Nang

The experts are professors, lecturers, researchers, industry managers, and business consultants on innovation.

Interview Questionnaire Design: The author developed a detailed set of interview questions, covering key issues related to understanding and readiness for open innovation and open innovation models, digital transformation, technology, financial resources, market challenges and opportunities, etc.

In addition, refer to the questionnaire on business readiness for open innovation designed and issued by Strategyer in 2020.

Consists of 3 main pillars and related sub-elements:

- *Leadership factor*

Publish and guide strategy (clear innovation strategy identifies where to leverage)

Resource Allocation (Allocating available resources for innovation)

Portfolio management (exploring new opportunities to run core business).

- *Organizational design*

Legitimacy and power (status of innovation groups and projects within the organization)

Bridge to the core (access to resources and skills)

Reward and Incentive (Incentive System for Subordinates to Perform)

- *Implement innovation*

Innovation Tools use innovation tools across the company.

Managing the innovation process from idea to scale.

Skills Development: Training in skills and innovation experience.

Interviews: Conduct in-depth interviews with individual experts. Interviews are conducted in person, over the phone, and via online platforms.

Conduct in-depth interviews with experts in the innovation ecosystem such as:

Director, Deputy Director of the Center for Innovation Support of Da Nang City

Director of startup incubator centers

Leaders of innovation centers at universities

Danang City Innovation Consultants

Angel investors, venture capital funds

Business advisors on innovation

Data collection and analysis:

Record and analyze information obtained from interviews to draw conclusions and recommendations based on expert opinions and experiences.

3.1.3. Business survey

Primary data through direct interviews with 38 innovative enterprises in Da Nang and Quang Nam in 2024. The interviews focused on clarifying factors that are believed to have an impact on innovation capacity in enterprises, the importance of these factors, other supports or limitations that impact innovation, especially the impact of policies to propose solutions.

Design survey questionnaires and direct group surveys in innovation workshop programs for SMEs in Da Nang, through the following programs:

- Organize a mini workshop on the need to access preferential interest rate capital with innovation requirements for SMEs with capital funding partners

- Organize training programs on innovation and open innovation in enterprises for SMEs

- In-depth interviews with business owners and sales and marketing managers

At SME business associations, young businesses, startup founders.

Selecting Businesses for Survey:

The businesses selected for the survey need to reflect a range of industries and company sizes within the SME category in Da Nang. The goal is to gather diverse data that can be generalized to represent the broader SME landscape in the city.

Criteria for Selecting Businesses

Size:

Small Enterprises: Typically fewer than 50 employees and low annual turnover.

Medium Enterprises: Between 50 and 250 employees, with a higher annual turnover.

Include both small and medium-sized enterprises to understand how open innovation adoption might vary by size.

Sector:

Select businesses from diverse sectors such as manufacturing, retail, information technology, agriculture, and services. Different sectors may adopt open innovation in varying ways, depending on their needs and challenges.

High-tech or innovative sectors (e.g., IT, electronics) may be more inclined to adopt open innovation than traditional sectors (e.g., agriculture).

Innovation Readiness:

Choose businesses that are either already engaged in open innovation practices or are considering doing so. For instance, companies that have partnerships with universities, have invested in R&D, or are involved in innovation ecosystems could provide relevant insights.

You can also survey businesses that have not yet adopted open innovation, to understand the barriers they face.

3.2. Data analysis method

- Qualitative analysis: using coding method to analyze data from interviews.

- Quantitative analysis: use statistical tools to analyze data from surveys.

The study used SPSS 26.0 software to analyze factors and test the reliability of data and used correlation regression model to test the relationship between dependent variable and independent variables.

4. RESEARCH RESULTS

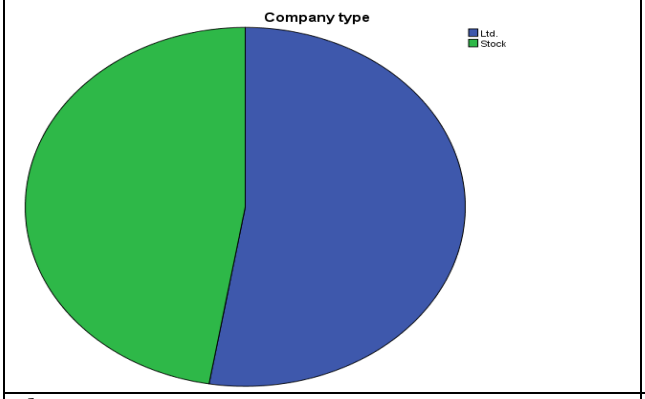
4.1. Descriptive statistics

a. Number of years of operation of the businesses

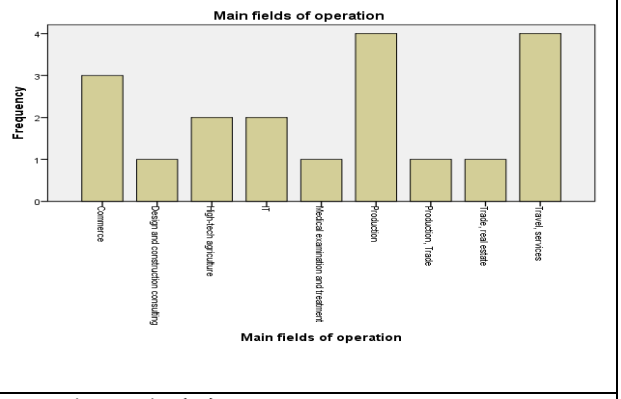
Table 1. Year of establishment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1978	2	5.3	5.3	5.3
	1989	2	5.3	5.3	10.5
	1998	2	5.3	5.3	15.8
	2005	2	5.3	5.3	21.1
	2006	4	10.5	10.5	31.6
	2009	2	5.3	5.3	36.8
	2011	4	10.5	10.5	47.4
	2016	2	5.3	5.3	52.6
	2018	2	5.3	5.3	57.9
	2019	4	10.5	10.5	68.4
	2022	6	15.8	15.8	84.2
	2023	4	10.5	10.5	94.7
	2024	2	5.3	5.3	100.0
	Total	38	100.0	100.0	

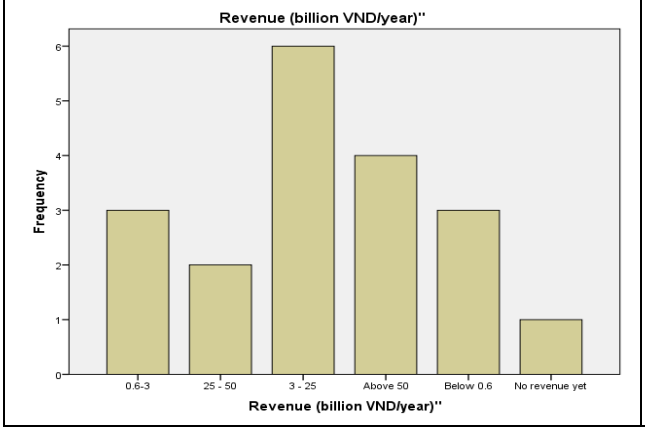
b. Type of company



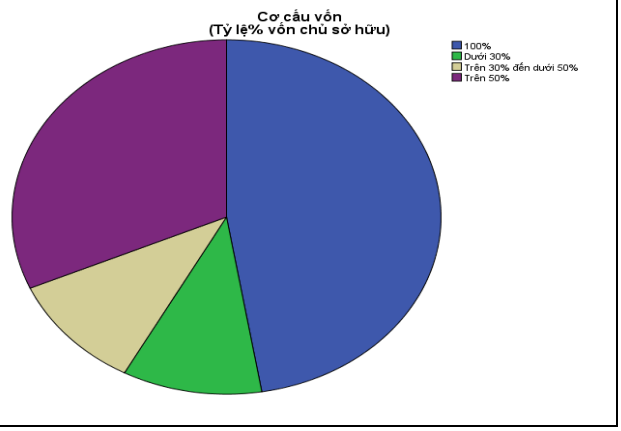
c. Field of operation



d. Revenue



e. Equity ratio (%)



4.2. Results of reliability testing of the scale

Table 2. Reliability testing of the scale

Reliability Statistics - independent variable FR

Cronbach's Alpha	N of Items	**Variable**
.920	4	**FR**
.891	5	CM
.832	4	MN
.880	4	MB
.840	4	SA
.770	5	SC
.662	4	CS
.783	5	IO

With the obtained analysis results, it can be concluded that there is no change in the research model of factors affecting open innovation of SMEs in Da Nang City. The revised research model will still retain the initially proposed influencing factors after removing a total of 3 inappropriate observed variables. The initially proposed hypotheses are maintained.

4. 3. Multiple regression analysis

a. Correlation analysis

Correlation analysis was conducted to examine the correlation between the dependent variable of open innovation in SMEs in Da Nang City (IO) and the independent variables including Financial resources (FR), Consulting and training center (SC), Innovation expert network (MN), Research and development (RD), Innovation support activities (SA), Competitive market (CM), Adaptation to changing business environment (MB), Market expansion (EM). to quantify the strength of the linear relationship between variables. The closer the value of Pearson's coefficient is to 1, the more likely it is that there is a strong correlation between the independent variables. tight with variable extra belong Conclude fruit stool product soy sauce mandarin body presently via board below:

Table 3. Results of Pearson correlation analysis

IO		SC	FR	CM	RD	MN	MB	EM	SA
Open innovation in SMEs in Da Nang City	Pearson Correlation	,141(**)	,258(**)	,241(**)	,189(**)	,170(**)	,162(**)	,131(**)	,1 55 (**)
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,000
	N	212	212	212	212	212	212	212	212

Comment:

All independent variables have a fairly close correlation with the dependent variable, the correlation coefficients are all statistically significant: Sig.(2-tailed) = 0.000 < 0.01

b. Regression results

The above analysis results confirm that continuing to perform multiple regression analysis variable is appropriate for the data set under consideration.

When considering a model that shows a linear correlation between the dependent variable and seven variable toxic set up above, I build build direction program return rule line calculate like after:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + e}$$

With :

Y: Open innovation at SMEs in Da Nang city.

X_1 : FR; X_2 : SC; X_3 : MN ; X_4 : RD; X_5 : SA ; X_6 : CM; X_7 : MB; X_8 : EM

The results of multiple regression analysis are as follows:

Table 4. Results of multiple regression analysis

Variables Entered/Removed(b)						
Model		Variables Entered		Variables Removed	Method	
1		FR , SC , MN , RD , SA , CM , MB , EM		No	Enter	
All requested variables entered. Dependent Variable: Open innovation in SMEs in Da Nang City.						
Model Summary(b)						
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate	Durbin- Watson
1	,788	,621	,614		,86766	1,829
a Predictors: (Constant), FR, SC, MN, RD, SA, CM, MB, EM Dependent Variable: Open innovation in SMEs in Da Nang City.						
ANOVA(b)						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	177,699	7	25,386	33,720	,000(a)
	Residual	529,997	704	,753		
	Total	707,695	711			
a Predictors: (Constant), FR, SC, MN, RD, SA, CM, MB, EM Dependent Variable: Open innovation in SMEs in Da Nang City.						
Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	-,016	,033		-,479	,632	
	SC	,139	,032	,141	4,274	,000	1,000
	FR	,256	,033	,258	7,855	,000	1,000
	CM	,242	,033	,241	7,410	,000	1,000

	RD	,184	,033	,189	5,609	,000	1,000
	MN	,172	,033	,170	5,237	,000	1,000
	MB	,156	,033	,162	5, 135	,000	1,000
	SA	,163	,033	,155	5,002	,000	1,000
	EM	,130	,033	,131	3,984	,000	1,000
a Dependent Variable: Open innovation in SMEs in Da Nang City.							

Table 5: Model estimation results

Independent variable	Standardized Coefficients Beta	Std. Error	P-Value	Test results
SC	,141	,033	0,001	Accept
FR	,258	,032	0,010	Accept
CM	,241	,033	0,000	Accept
RD	,189	,033	0,000	Accept
MN	,170	,033	0,071	Reject
MB	,162	,033	0,000	Accept
SA	,155	,033	0,000	Accept
EM	,131	,033	0,001	Accept

Comment:

Regression equation result:

Y = -0.16 + 0.141 SC + 0.258 FR + 0.241 CM + 0.189 RD + 0.170 MN + 0.162 MB + 0.155 SA + 0.131 EM

Correlation between factors affecting open innovation in SMEs in Da Nang City: Adjusted R-squared reached 0.614, which means that 61.4% of the variation in the dependent variable open innovation in SMEs in Da Nang City can be explained by the variation of the component factors. Thus, the remaining 75.6% is affected by other factors that the study has not considered. This result is quite similar to the research results of Tai et al. (2003) when studying the influence of innovation factors of enterprises (R = 0.274 with 787 samples) because both studies surveyed with a relatively large number of samples, covering many enterprises with special enemy belong to Vietnamese Male. Outside go out, For the studies referred to such as Huang and Hsu (2005) with R^2 = 0.58; Curran & Rosen (2006) with R^2 = 0.77; Maat and Zakaria (2010) with R^2 = 0.432 and 0.421, the studies have adjusted R square values that are quite low.

However, this conformity only shows between the newly built model and the sample data set. We need to test the conformity of the overall regression model as follows:

The overall R-squared coefficient = 0

We have the value of F (7; 704) = 33.720; sig = 0.000 < 5%. Thus, we safely reject the hypothesis H_0 and conclude that the constructed linear model is suitable for the whole [2] or it can be said that the correlation between the factors including FR, CM, RD, MN, MB, SA, SC, EM with the dependent factor of innovation of SMEs in Da Nang City is statistically significant. list.

Sig ($\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$) all have values of 0.000 < 0.05, meaning the regression coefficients rule soy sauce application belong to the variable toxic set up even Have idea meaning about face system list live level idea meaning 5%.

Residuals: The results in the standardized residual frequency plot show that the mean = 0, standard deviation = 1, showing that the residuals meet the distribution requirements. standard.

5. SOME POLICY IMPLICATIONS

5.1. Policy solutions

5.1.1. Support policies from the government and local authorities

Innovation Support Fund:

Currently in Da Nang, according to personal observations and participation in projects to support innovation implemented by the Department of Science and Technology and the Department of Industry and Trade, the city also

has projects to sponsor creative startup projects, SMEs receiving technology transfer and innovation, standardizing products as well as management according to international standards.

However, the number of businesses that meet the standards for funding is still modest due to many reasons: it could be that businesses have not demonstrated their ability to implement projects or have low innovation, project viability, or businesses do not really understand innovation.

City funding support funds for loans and venture capital still have legal barriers regarding capital recovery responsibilities, making it difficult for SMEs to access.

Therefore, local authorities need to review regulations and rules so that startups and SMEs can access them more easily.

In addition, the city should cooperate with international funding sources to directly finance or lend at preferential interest rates to new SME projects in design and development, accelerating from innovative methods such as startups.

Tax reduction policy:

Apply tax breaks for businesses that invest in research and development (R&D) or adopt new technology. This helps reduce the financial burden and encourages businesses to invest in innovation.

Tax reduction policy for enterprises applying and developing innovative projects in enterprises in innovation factors from management to product and market development.

Training program:

Organize specialized training programs on innovation, new technologies and innovation management for SMEs leaders and employees. These programs should be conducted by universities, research institutes or specialized innovation organizations with experts who are strictly assessed for academic and market experience in open innovation.

International cooperation:

Implement cooperation with international organizations to bring training programs and transfer advanced technology on innovation from developed countries, successful in implementing innovation for SMEs such as Switzerland, USA, Singapore.

Technical Support Center:

Establish technical support and innovation centers to provide consulting services, technical support and information on new technologies to SMEs.

5.1.2. Proposals to improve existing policies

Evaluate effectiveness and adjust policy:

Regularly evaluate the effectiveness of current support policies to ensure they are providing practical benefits to SMEs. This includes collecting feedback from businesses and analysing real-world data.

Should be annual evaluation based on policy implementation outputs

Enhance transparency and information:

Ensure that all innovation support policies are widely publicized and accessible. The city should design more accessible dissemination programs in regular outreach to SMEs, in guidance, and in supporting business registration.

It can be multimedia communication programs, via electronic platforms such as text messages, emails, etc. with friendly, easy-to-register initial links and forms.

Live dialogue programs with each industry group with innovation experts to guide and train on how to innovate

Encourage private sector participation:

Strengthen public-private partnership (PPP) models to mobilize resources from the private sector in promoting innovation. This could include encouraging private investment in innovation support funds or collaboration in R&D projects.

5.2. Technology solutions

Research and apply advanced technology:

Encourage businesses to cooperate in researching and applying the latest technologies, such as artificial intelligence (AI), Internet of Things (IoT), blockchain, biotechnology, new environmentally friendly materials technology, semiconductor technology, quantum computers, etc. to improve competitiveness, productivity and efficiency in production and business.

Regular technology updates:

Ensure that businesses regularly update and upgrade technology to keep up with market trends and needs.

Refer and learn creative business models

Encourage businesses to consult and research innovative business models at home and abroad, through the application of science and technology, and cooperate with external units to implement in the business.

Investing in technology infrastructure and supporting software

Building technology infrastructure:

Invest in technology infrastructure such as servers, networks and hardware to ensure smooth and efficient business operations.

Partner with cloud storage service providers and/or non-cloud internal secure network management networks depending on the capabilities, capacities and business model of the enterprise

Software development support:

Invest in enterprise resource planning (ERP) software, customer relationship management (CRM) software and other supporting technology and software tools to optimize internal processes and enhance business capabilities.

5.3. Financial solutions

5.3.1. Increasing access to capital for SMEs

Venture Capital Funds: Encourage venture capital funds to participate in providing financial support to businesses with high potential for innovation.

5.3.2 Financial incentive policy:

Apply financial incentives, such as reduced loan interest rates and tax exemptions, for businesses investing in innovation.

5.3.3. Financial support programs from banks and credit institutions

Concessional Loan Program: Develop concessional loan programs for SMEs so they can invest in innovation.

Financial support from credit institutions: Cooperate with credit institutions to provide flexible financial support packages that suit the needs of businesses.

5.4. Human resource solutions

Training and skill development for employees

Intensive training program: Organize intensive training courses on technology, innovation management and creative skills for employees

Cooperation with universities and research institutes: Cooperation with universities and research institutes to provide training and internship programs for employees.

Create a work environment that promotes creativity

Encourage a culture of innovation: Facilitate and encourage employees to participate in innovation activities through competitions, workshops and reward programs.

Building a creative workspace:

Design open and flexible workspaces to promote creativity and interaction among employees.

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