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FINANCIAL COMPETENCY OF PUBLICLY SUPPORTED HEALTHCARE ENTREPRENEURS: A SOCIAL MARKETING PERSPECTIVE ON ENTREPRENEURSHIP SUPPORT PROGRAMS*

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Abstract

The aim of this research is to examine the financial sufficiency requirements of publicly supported healthcare entrepreneurs and evaluate the extent to which entrepreneurship support programs are compatible with social marketing principles. In the first part of the study, survey data obtained from 245 participants working in 144 healthcare startups operating in four technoparks and KOSGEB-supported entrepreneurship ecosystems in Ankara were analyzed using descriptive statistics, correlation, and multiple regression analyses in SPSS 21.0. The findings indicated high levels of financial awareness and moderate-to-high self-reported financial literacy, whereas objectively measured basic financial management knowledge remained low. The social and economic impacts dimension of financial literacy was identified as the strongest predictor of financial awareness, while financial competency gaps were more evident among low-income participants, micro-enterprises, less-educated entrepreneurs, and early-stage startups. In the second part, publicly available official documents of entrepreneurship support programs were evaluated using the National Social Marketing Centre's eight benchmark criteria. Although the programs clearly defined funding, mentoring, incubation, training, and investor access, the reviewed documents provided limited evidence of behavior change theory, entrepreneur insights, competition analysis, and motivation-based segmentation. The findings indicate a gap between perceived competence and objective financial knowledge. Accordingly, the study proposes segment-sensitive financial competency models incorporating diagnostic feedback, cash-flow and pricing practices, low-cost implementation opportunities, and milestone-based coaching. Financial education programs guided by social marketing principles and tailored to target groups can be developed, taking into account the impact of income and education disparities.

Keywords: Financial Literacy, Financial Awareness, Financial Management Knowledge, Healthcare Entrepreneurship, Social Marketing

JEL Codes: A20, I11, L26, I10, M31

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INTRODUCTION

Entrepreneurship is fundamental to economic growth, innovation, and consequently, social development for countries. Entrepreneurial activities, particularly in the health sector where human lives are at stake, not only create economic value but also directly contribute to the health of citizens. Despite this importance, the ability of entrepreneurship to achieve successful results faces a number of challenges: high failure rates of newly established companies. Bowler, Dawood, and Page (2007) reveal that most new entrepreneurs fail in terms of sustainability. This indicates a systemic problem leading to the loss of national resources and individual losses.

The reasons why startups fail are often not due to insufficient ideas or a lack of market potential. In this failure, marketing skills as a managerial element, and the inability to integrate economic and financial factors play a central role (Jayasekara et al., 2020, pp. 4–5). This is because factors such as lack of capital, inefficient resource management, flawed cost analysis, and market research threaten the survival of entrepreneurs (Avcı, 2024, pp. 174, 175). Furthermore, a lack of expertise in advertising, sales, distribution, finance, and management limits the growth potential of entrepreneurs' ventures (Müftüoğlu, 1993; Akıncı, 2002, p. 121). Therefore, public incentives alone will not be sufficient; entrepreneurs will need to improve their knowledge and skills in finance and marketing; otherwise, there will be a risk of wasting public resources. As can be seen, the problem is that the success of entrepreneurs becomes even more important along with the waste of public resources. Furthermore, governments provide training to entrepreneurs through various support systems such as grants, interest-free loans, and consulting services to strengthen their economies and promote development. While these supports help entrepreneurs overcome the barrier of initial capital, they do not guarantee success. The failure of a business established with public resources should be considered a "public waste" beyond the loss of a private enterprise. Therefore, the realization of the vision of public support and the achievement of the targeted social benefit are directly dependent on the managerial competencies of the entrepreneurs using these resources. Especially in a highly competitive sector like healthcare, the success of publicly supported entrepreneurs depends not only on technical or medical knowledge but also on their capacity to manage the business as a whole. At this point, defining and developing the core competencies that determine success becomes a necessity for both academic research and policymakers in order to ensure the efficient use of public resources and increase the sustainability of the entrepreneurial ecosystem.

Social marketing offers a framework for addressing this implementation gap. It begins with a clearly specified behaviour and an audience-centred understanding of barriers, benefits, exchange, competition, and segment differences; it then combines services, incentives, communication, and environmental design to make the desired behaviour easier and more rewarding (Andreasen, 2002; French & Russell-Bennett, 2015; The NSMC, 2010). Applied to entrepreneurship support, the relevant

outcome is not merely program participation or awareness, but the sustained use of cash-flow forecasting, cost and pricing analysis, financial-statement interpretation, and evidence-based financing choices. The objectives of this research can be summarized as follows: 1) To determine the levels of financial literacy, financial awareness, and basic financial management knowledge of publicly supported healthcare entrepreneurs in Turkey; 2) This study evaluates the financial competencies of healthcare entrepreneurs within the context of social marketing.

In practice, the findings can serve as a guide for entrepreneurs, educational institutions, and, most importantly, policymakers who design public support mechanisms. Defining competency sets that will ensure more effective and efficient use of public resources will make significant contributions to both the sustainability of the entrepreneurial ecosystem and the national economy. This research's unique contribution, unlike existing studies, focuses specifically on healthcare entrepreneurs operating in technoparks and receiving public support. Furthermore, the study simultaneously assesses financial literacy, financial awareness, basic financial management knowledge, and a social marketing perspective. Therefore, the research contributes to the entrepreneurship, financial literacy, and marketing literature with findings from an insufficiently studied sample.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

In this section of the research, we will first conceptually address the variables that form the basis of the developed hypotheses and the empirical model. In this context, the concepts of financial literacy and basic financial management knowledge, which are examined as independent predictors of financial awareness, and financial awareness, which is the dependent variable of the study, will be explained in detail in terms of their definitions in the literature and their roles in previous studies.

Financial Literacy

The Organization for Economic Cooperation and Development (OECD) defines financial education as the process of enhancing financial well-being by enabling financial consumers to be informed about financial products and concepts and to make informed choices between financial risks and alternatives (OECD, 2005, p. 26). Similarly, many researchers believe that this competence is based on individuals having sufficient information to make important financial decisions for their own benefit (Mandell, 2006, p. 1), effectively managing their financial resources for lifelong financial well-being (PACFL, 2008, p. 35; Huston, 2010, p. 302), acquiring, understanding, and evaluating the necessary information in decision-making processes by being aware of financial concepts (Mason & Wilson, 2000, p. 4), and being able to make informed decisions on issues such as financial planning, wealth accumulation, retirement, and debt management using economic information (Lusardi & Mitchell, 2014, p. 6).

The scope of financial literacy includes having knowledge of and developing behaviors related to basic financial practices such as budgeting, saving, investing, borrowing, insurance, and income and expense management (Bodie, 2006, p. 2). When the concept is expanded, it emerges as a holistic construct encompassing skills such as financial knowledge, individual financial management, making sound financial decisions, communicating financially, and planning for future financial needs (Remund, 2010, p. 279). This construct also requires knowledge and awareness of specific concepts such as budgeting and planning, debt management, financial decision-making, money management, financial access, saving, financial well-being, stocks, bonds, inflation, and credit ratings (Lusardi, 2008: 4; Adalar, 2019, p. 27).

If entrepreneurs have low levels of financial literacy, problems may arise in the long run as a result of making incorrect financial decisions. In this context, this competency also forms the basis of financial development and stability at the global level (Barmaki, 2015, p. 1). Financial literacy enables entrepreneurs to make more rational decisions regarding borrowing, saving, and investing by accurately analyzing their current financial situation and structure (Saraç, 2014, p. 4). Indeed, the President's Advisory Council on Financial Literacy (PACFL) argues that individuals who receive training in this area will increase their critical skills such as understanding capital markets, investment instruments, managing household cash flow, protecting credit ratings, and identifying and mitigating financial risks (PACFL, 2008, pp. 35–36).

In conclusion, financial literacy is defined as the ability of individuals to make rational decisions, manage their current financial situation, and plan for the future by being informed about financial matters, and this ability is considered an important skill in today's world. The increasing importance of concepts such as investment and money management has encouraged studies on financial literacy at both national and international levels. Financial management is essential for the sustainability of businesses, and it is also imperative for individuals to possess a certain level of financial literacy to ensure their financial well-being. It is argued that this competence acquired at the individual level indirectly contributes to the overall economic stability of the country.

Financial Awareness

According to the OECD definition, financial education is a process by which financial consumers and investors improve their knowledge and understanding of financial products and concepts; enable them to better recognize financial risks and opportunities, make more informed choices, and undertake all other effective activities to enhance their financial well-being through information, guidance, and objective advice (OECD, 2005, p. 26; Akyol, 2010, p. 35).

Financial literacy refers to a broader set of competencies including financial knowledge, attitudes, behaviors, and management, while financial awareness is more concerned with how "aware" an individual is of these concepts. Therefore, this state of knowledge, which forms the basis of the development of financial literacy, can be considered the first step in the financial decision-making process for individuals and entrepreneurs. Consequently, measuring the level of financial awareness is seen as a critical variable in the literature for understanding financial behavior (Eker, 2017, as cited in Aktaş, 2020, p. 57).

Financial Management Information

Achieving defined goals, increasing profitability, and making operations sustainable depend on an effective financial management function (Ercan & Ban, 2010, p. 5). Financial management, in its most general definition, is the process of developing, implementing, and evaluating the financial plans necessary for a business to achieve its goals (Gönen & Özmete, 2007, p. 58). This process includes activities to obtain assets such as money, funds, and capital (financing) that the business needs under the most favorable conditions (Ağırbaş, 2014, p. 18).

When assessing the financial literacy levels of businesses and entrepreneurs, their basic financial management knowledge is examined. This knowledge includes topics such as reading and interpreting financial statements, working capital management, profitability analysis, cost and expense control, and cash flow management. For newcomers to the market, this knowledge is vital not only for choosing the right investment area but also for efficiently utilizing existing resources to maximize business profitability.

Social Marketing, Financial Capability, and Public Entrepreneurship Support

Social marketing is the strategic application of marketing principles to influence behaviour that benefits individuals and society (Kotler & Zaltman, 1971; Andreasen, 2002). Its contribution is broader than promotional communication. The NSMC framework evaluates whether an intervention demonstrates customer orientation, a clear behavioural focus, theory, insight, exchange, competition, segmentation, and an integrated methods mix (The NSMC, 2010). French & Russell-Bennett (2015) similarly distinguish the social purpose of an intervention from the concepts and techniques through which behaviour is influenced.

For this study, financial capability is treated as a behaviourally expressed competence rather than a stock of information. The focal behaviours include maintaining a rolling cash-flow forecast, linking costs to price decisions, reading financial statements before resource allocation, comparing financing

alternatives, and reviewing the return on marketing expenditures. This definition prevents high self-reported awareness from being mistaken for demonstrated managerial capability.

Audience segmentation is therefore not a descriptive exercise alone. Income, firm size, education, venture age, and support setting can identify priority audiences, but social marketing requires these observable differences to be translated into distinct barriers, benefits, delivery preferences, and behavioural propositions. Because the analysis contains group comparisons rather than person-level cluster modelling, the present study uses the term priority target audience rather than latent financial-capability segment.

Exchange analysis asks what an entrepreneur must give up—time, attention, cash, autonomy, or the discomfort of diagnostic feedback—to adopt a financial routine, and what immediate value is obtained in return. Competition analysis asks what displaces that routine, including urgent sales activity, product development, regulatory work, and confidence in informal judgement. These mechanisms are particularly important for low-resource and micro ventures, for which the opportunity cost of generic classroom training can be high.

An appropriate methods mix may combine diagnostic assessment, personalised feedback, templates and dashboards, mentoring, peer comparison, milestone prompts, financial incentives, and changes to program rules. Public support agencies thus operate as upstream social marketing actors: they can shape the service environment and the exchange conditions under which financial behaviours become feasible, not merely encourage entrepreneurs to seek more information.

The resulting framework connects participant need to program design. The first evidence stream identifies where the confidence-knowledge gap is concentrated; the second evaluates whether public-facing program documents make the eight benchmark criteria visible. Their joint interpretation yields targeted interventions and a marketing-based evaluation agenda for public entrepreneurship support.

METHOD

This section discusses the research model and hypotheses, as well as the population and sampling methods, data collection tools, and statistical analyses used to test them. In addition, the limitations and assumptions of the study are addressed, establishing the scientific framework upon which the research is based.

The study uses a sequential mixed-evidence design. Study 1 reports the existing cross-sectional survey analysis of financial literacy, financial awareness, and basic financial management knowledge. Study 2 is a structured document audit guided by social marketing benchmark criteria. The two strands

are integrated in a joint display that links priority target audiences to publicly visible program responses and design gaps.

Research Model and Hypotheses

This research examines the relationships between the three fundamental constructs that constitute the dimension of financial competence: financial literacy, financial awareness, and basic financial management knowledge.

The model relating to the theoretical structure of the research is as follows:

- *Basic Skills and Knowledge (Independent Variables):*
    - **Basic Financial Management Knowledge:** This refers to the theoretical knowledge that healthcare entrepreneurs possess regarding finance.
    - **Financial Literacy (Skills and Attitudes):** Financial literacy includes the ability and attitude to acquire and use information.
- *Outcome / Higher-Level Competence (Dependent Variable):*
    - **Financial Awareness:** Awareness is a result of knowledge and skills. In addition to being knowledgeable, entrepreneurs with high financial awareness understand their current financial situation and the overall economic climate, and can foresee the consequences of financial decisions through proactive approaches.

Given the complementary nature of the discussions and concepts in the literature, positive relationships are expected between these structures. The research hypotheses developed within this framework are presented below:

H1: There is a positive and significant relationship between the financial literacy levels and financial awareness levels of healthcare entrepreneurs.

H2: There is a positive and significant relationship between the financial literacy levels and basic financial management knowledge levels of healthcare entrepreneurs.

H3: There is a positive and significant relationship between the financial awareness levels of healthcare entrepreneurs and their basic financial management knowledge levels.

H4a: The economic knowledge dimension of financial literacy positively and significantly influences the financial awareness levels of healthcare entrepreneurs.

H4b: The economic rationality dimension of financial literacy positively and significantly influences the financial awareness levels of healthcare entrepreneurs.

H4c: The socioeconomic impact dimension of financial literacy positively and significantly influences the financial awareness levels of healthcare entrepreneurs.

H4d: The personal financial planning dimension of financial literacy positively and significantly influences the financial awareness levels of healthcare entrepreneurs.

H5: Healthcare entrepreneurs' knowledge of financial management positively and significantly predicts financial awareness.

RQ1: Which observable participant and venture groups constitute priority target audiences for financial capability intervention?

RQ2: To what extent are the eight social marketing benchmark criteria publicly observable in the entrepreneurship-support programs represented in the study context?

RQ3: Where do gaps emerge between target-audience needs and program design, and what segment-sensitive social marketing interventions follow?

Study Implementation, Population and Sample

The sample group for this study consists of all entrepreneurial firms and their employees in the healthcare sector (IT, pharmaceuticals, medical devices, etc.) operating in technology parks in Ankara. There are a total of 144 firms in the Gazi, Bilkent, Hacettepe, METU, and KOSGEB technology parks in Ankara. At the beginning of the study, interviews with selected firms from each technology park revealed that the average number of employees fitting the definition of a healthcare worker and entrepreneur was 4. Consequently, it was decided that the population size for the study could be determined as 576. Considering the framework and limitations of the study, a target sample size of 231 individuals was adopted as a planning benchmark (Yamane, 2001). In the implementation phase, a total of 245 data points obtained using a convenience sampling method between April 20, 2024, and October 25, 2024, were included in the analysis. Ethical approval for this study was granted by the Ankara Hacı Bayram Veli University Ethics Committee at its meeting no. 3, held on March 27, 2024.

Scales Used in the Study

In the study, three different scales that had been previously developed and validated were used to measure the three sub-dimensions of financial competency:

- **Financial Literacy Scale:** The scale developed by Gerek and Kurt (2011), consisting of 33 items and a 5-point Likert-type response format, was used. In this study, the internal consistency coefficient of the scale was calculated as Cronbach's Alpha (α) = 0.99, and the scale was determined to be highly reliable.
- **Financial Awareness Scale:** The scale developed by Onur and Nazik (2014) and adapted by Aktaş (2020)—consisting of 18 items and a 5-point Likert-type response format—was used. In this study, the internal consistency coefficient (Cronbach's alpha, α) of the scale was calculated as 0.96, and the scale was determined to be highly reliable.

- **Basic Financial Management Knowledge Scale:** A 20-item knowledge test scale adapted by Aktaş (2020) from the work of Berman and Knight was used. In this study, the internal consistency coefficient of the scale was calculated as Cronbach's Alpha (α) = 0.70, and the scale was determined to be highly reliable.

Statistical Tests Used

The survey data were analyzed using SPSS 21.00. In addition to descriptive statistics such as frequency, percentage, mean, and standard deviation, reliability analysis included Cronbach's Alpha coefficients, independent samples t-test, one-way analysis of variance (ANOVA), Pearson correlation, and linear regression analysis.

The Financial Awareness Scale, Financial Literacy Scale, and Financial Management Knowledge Level Scale were used in their original form without any modifications. Since no adaptations or item revisions were made, the original factor structure was preserved. The internal consistency of the scale was re-evaluated using Cronbach's alpha coefficients in the current sample.

Limitations of the Study

The fact that the research sample is limited to publicly funded healthcare entrepreneurs in Ankara restricts the generalizability of the findings. Studies conducted in different sectors or geographic regions may yield more comprehensive results. The convenience sampling method used in the research is weaker than probability-based methods in terms of its ability to represent the population.

Study 2: Public-Document Social Marketing Audit

The document corpus was purposively bounded to official public sources representing the support environments named in the survey: KOSGEB's Entrepreneur Support Program Application Principles (revision dated 24 May 2024); the official YFYI program page associated with ODTU Technopolis; Bilkent CYBERPARK's BİGG MARKA program materials and 2024 call report; Hacettepe Technopolis's Incubation Centre page; and Gazi Technopark's BİGG Anahtar official page and November 2024 program presentation. Web materials were retrieved on 24 July 2026. The temporal difference between the 2024 survey and some currently visible web content is treated as a limitation; the audit is not used to attribute survey outcomes to any program.

Each program was coded against the eight NSMC criteria: customer orientation, behaviour, theory, insight, exchange, competition, segmentation, and methods mix. An explicit (E) code required a publicly stated operational mechanism or target aligned with the criterion. Partial (P) indicated that a related eligibility rule, benefit, or activity was visible but the underlying audience or behavioural

analysis was not. Not publicly observable (N) indicated that the reviewed documents did not state the criterion. No weighted total or league table was calculated because the codes describe documentary visibility, not institutional effectiveness.

Integration used a joint display. Survey means and statistically significant omnibus group differences were mapped to behavioural objectives, likely exchange barriers, publicly visible program responses, and proposed intervention elements. This procedure is diagnostic and design-oriented; it does not test whether program participation caused the reported differences.

The document audit involved no interaction with human participants, no collection of personal data, and no access to restricted records. The existing ethics approval applies to Study 1.

FINDINGS

This section of the study includes reliability and validity analysis findings, frequency distribution findings for demographic variables, scale statistics, analysis findings in terms of demographic variables, and correlation and regression analysis findings.

Table 1: Cronbach's alpha coefficient for the financial literacy scale, financial awareness scale, and basic financial management knowledge scale used in the study

Scale/Size	Number of Items	Cronbach Alfa
Financial Literacy Measurement	33	0.99
Financial Awareness Measurement	18	0.96
Basic Financial Management Knowledge Assessment	20	0.70

According to the findings, the reliability of the Financial Literacy Scale and the Financial Awareness Scale was determined to be "high reliability". The reliability of the Basic Financial Management Knowledge Scale was determined to be "very reliable".

Table 2: Demographic information

		Number	Perc.			Number	Perc.
Marital status	Single	96	39.2	Education Level	High school and equivalent education	28	11.4
	Married	149	60.8		Licence	156	63.7
Gender	Woman	133	54.3		Postgraduate	61	24.9
	Male	112	45.7	Activity Period	Less than 2 years	64	26.1
Age group	Ages 18-25	22	9.0		2-5 Years	47	19.2
	Ages 26-30	37	15.1		6-10 Years	48	19.6
	Ages 31-35	41	16.7		11-15 Years	42	17.1
	Ages 36-40	41	16.7		16-20 Years	27	11.0
	Ages 41-45	28	11.4		More than 20 years	17	6.9
	46+	76	31.0	Number of Employees	Less than 10	138	56.3
Bachelor's Degree	Health Management	8	3.3		10-49 people	55	22.4
	Economics/Business Administration/Finance	102	41.6		50-99 people	16	6.5
	Medicine/Dentistry	47	19.2		100-150 people	25	10.2
	Engineering	26	10.6		151-250 people	7	2.9
	Lab	13	5.3		More than 250	4	1.6
	Other	23	9.4	Activity Location	Hacettepe Technopolis	49	20.0
	None	26	10.6		Bilkent Technology City	37	15.1
Monthly Income	Minimum wage	20	8.2		Gazi Technopark	44	18.0
	20,000/40,000 TL	53	21.6		METU Technology City	42	17.1
	40,001/60,000 TL	89	36.3		KOSGEB	73	29.8
	60,001 / 90,000 TL	37	15.1				
	90,001 and above	46	18.8	Total		245	100.0

The fact that a significant portion of the participants (41.6%) graduated from disciplines such as Economics, Business Administration, and Finance indicates a relatively high percentage of individuals with a basic understanding of the subject. Looking at the characteristics of these businesses, the majority of the sample consists of micro-enterprises with fewer than 10 employees (56.3%), and they are distributed geographically between technology parks (70.2%) and state-supported entrepreneurs (29.8%).

Table 3: Descriptive statistics for research variables

Variable	Average	Standard Deviation	Comment
Financial Awareness (1-5 Points)	3.88	0.911	High Level
Financial Literacy (1-5 Points)	3.75	1.016	Intermediate-High Level
Basic Financial Management Knowledge (%)	47.25	18.35	Low Level

Since awareness is an attitude, healthcare entrepreneurs possess a high level of conscious awareness regarding the importance of financial matters. They also have a high self-perception of their financial literacy. Therefore, they are confident in their ability to manage money and consider themselves competent. However, their potential to understand and apply financial concepts is weak. The overall picture shows that healthcare entrepreneurs perceive themselves as financially conscious and literate (with high self-confidence). However, there appears to be a lack of the fundamental and technical knowledge necessary to support this attitude. Consequently, the problem arises between thinking one knows and actually knowing.

Table 4: Analysis of financial literacy in terms of demographic variables

Variable	N	Mean	Standard Deviation	t/F	P
Woman	133	3.62	0.992	-2.141	0.033
Male	112	3.90	1.029		
Single	96	3.42	1.130	-4.223	0.000
Married	149	3.96	0.876		
Ages 18-25	22	3.57	1.012	1.781	0.117
Ages 26-30	37	3.51	1.019		
Ages 31-35	41	3.92	0.614		
Ages 36-40	41	3.99	1,050		
Ages 41-45	28	3.96	0.905		
46+	76	3.62	1.171		
High school and equivalent education	28	3.01	1.287	9.260	0.000
Licence	156	3.82	0.952		
Postgraduate	61	3.92	0.903		
Economics/Business Administration/Finance	102	3.95	0.838	1.549	0.215
Medicine/Dentistry	47	3.66	1.059		
Engineering	26	3.89	1.037		

Minimum wage	20	3.52	1.081		
20,000/40,000 TL	53	3.50	1.070		
40,001/60,000 TL	89	3.67	1.012	4.193	0.003
60,001 / 90,000 TL	37	4.29	0.721		
90,001 and above	46	3.87	1.001		
Less than 2 years	64	3.56	0.966		
2-5 Years	47	3.45	1.195		
6-10 Years	48	4.17	0.540	6.713	0.000
11-15 Years	42	4.16	0.734		
16 years and older	44	3.48	1.242		
Less than 10	138	3.62	1.125		
10-49 people	55	3.98	0.853	2.724	0.068
50 people or more	52	3.84	0.816		
Hacettepe Technopolis	49	3.84	1.023		
Bilkent Technology City	37	3.77	0.823		
Gazi Technopark	44	3.90	0.823	0.705	0.589
METU Technology City	42	3.59	1.197		
KOSGEB	73	3.68	1.097		

A statistically significant difference was found when gender, marital status, education level, monthly income, and duration of activity were examined ($p < 0.05$). Furthermore, it was observed that men, those who were married, those with a bachelor's degree or higher, and those with a master's degree, as well as those in higher income groups, had higher levels of financial literacy. Regarding duration of activity, entrepreneurs with 6-10 years and 11-15 years of experience were found to have higher mean literacy scores compared to both newcomers and those with much longer experience.

Table 5: Analysis of financial awareness in terms of demographic variables

Variable	N	Mean	Standard Deviation	t/F	P
Woman	133	3.87	0.812	-0.209	0.835
Male	112	3.89	1.019		
Single	96	3.74	0.962	-1.950	0.052
Married	149	3.97	0.868		
Ages 18-25	22	3.77	0.839	2,826	0.017
Ages 26-30	37	3.60	0.925		
Ages 31-35	41	4.19	0.609		
Ages 36-40	41	3.75	1.011		
Ages 41-45	28	4.23	0.713		
46+	76	3.82	1.008		

High school and equivalent education	28	3.29	1.159		
Licence	156	3.91	0.891	7.629	0.001
Postgraduate	61	4.06	0.721		
Economics/Business Administration/Finance	102	4.09	0.748		
Medicine/Dentistry	47	3.97	0.803	0.489	0.614
Engineering	26	3.96	0.975		
Minimum wage	20	3.38	1.033		
20,000/40,000 TL	53	3.82	0.952		
40,001/60,000 TL	89	3.81	0.902	3.727	0.006
60,001 / 90,000 TL	37	4.28	0.671		
90,001 and above	46	3.97	0.888		
Less than 2 years	64	3.54	0.877		
2-5 Years	47	3.66	1.186		
6-10 Years	48	4.33	0.395	7.754	0.000
11-15 Years	42	4.17	0.637		
16 years and older	44	3.84	0.990		
Less than 10	138	3.77	0.957		
10-49 people	55	4.06	0.776	2.462	0.087
50 people or more	52	3.97	0.890		
Hacettepe Technopolis	49	3.82	0.992		
Bilkent Technology City	37	4.07	0.828		
Gazi Technopark	44	4.11	0.579	1.969	0.100
METU Technology City	42	3.64	1.116		
KOSGEB	73	3.83	0.903		

The findings indicate that financial awareness, unlike financial literacy, has negligible effects based on gender and marital status. While it was expected that higher education and income levels would increase awareness, entrepreneurs with 6-10 years and 11-15 years of experience showed the highest levels of awareness.

Table 6: Analysis of basic financial management knowledge in terms of demographic variables

Variable	N	Mean	Standard Deviation	t/F	P
Woman	133	9.63	3.683	0.829	0.408
Male	112	9.24	3.662		
Single	96	9.58	3.943	0.445	0.657
Married	149	9.37	3.496		
Ages 18-25	22	9.91	4.514	1.910	0.093
Ages 26-30	37	9.38	4.418		
Ages 31-35	41	10.20	3.593		
Ages 36-40	41	10.29	3.757		
Ages 41-45	28	8.04	3.049		
46+	76	9.03	3.055		
High school and equivalent education	28	8.54	4.367	2,093	0.126
Licence	156	9.80	3.621		
Postgraduate	61	8.98	3.379		
Economics/Business Administration/Finance	102	9.87	3.320	1,546	0.216
Medicine/Dentistry	47	8.81	2.924		
Engineering	26	9.69	4.688		
Minimum wage	20	6.45	3.620	4.665	0.001
20,000/40,000 TL	53	9.77	3.657		
40,001/60,000 TL	89	9.30	3,540		
60,001 / 90,000 TL	37	10.54	3.761		
90,001 and above	46	9.80	3.317		
Less than 2 years	64	9.89	4.114	3.408	0.010
2-5 Years	47	8.32	3.907		
6-10 Years	48	10.63	3.774		
11-15 Years	42	9.67	2.911		
16 years and older	44	8.55	2.757		
Less than 10	138	8.69	3,586	7.202	0.001
10-49 people	55	10.44	3.615		
50 people or more	52	10.44	3,534		
Hacettepe Technopolis	49	9.57	4.523	2.731	0.030
Bilkent Technology City	37	10.35	3,860		
Gazi Technopark	44	8.64	3.376		
METU Technology City	42	10.55	3.730		
KOSGEB	73	8.78	2.805		

Entrepreneurs with low income levels and those in micro-enterprises with fewer than ten employees appear to have lower mean knowledge scores. This suggests that resource and scale

constraints may also hinder the development of practical knowledge. Furthermore, entrepreneurs in places like METU Teknopolis are seen to have a higher level of knowledge compared to those supported by KOSGEB (Small and Medium Enterprises Development Organization). This indicates that environmental factors can contribute to competency levels in their field of activity.

Table 7: Correlation coefficients for relationships between research variables

	X1	X2	X3	X4	X5	X6	X7
Financial literacy (X1)	1						
Financial awareness (X2)	,723 **	1					
Basic financial management (X3)	,153 *	,162 *	1				
Economic information (X4)	,946 **	,648 **	,142 *	1			
Economic rationality (X5)	,971 **	,686 **	,176 **	,870 **	1		
Socioeconomic effects (X6)	,956 **	,734 **	,131 *	,830 **	,941 **	1	
Personal financial planning (X7)	,847 **	,690 **	0.106	,705 **	,814 **	,853 **	1

**: p<0.01; *: p<0.05

In this study, Pearson correlation analysis was performed to examine the relationships between variables before testing the hypotheses. As shown in Table 7, a statistically significant and positive relationship was found between the three variables. The strongest correlation was found between the social and economic effects dimension of financial literacy and financial awareness (r=0.734; p<.05).

A weak but significant association was found between financial literacy and basic financial management knowledge (r = 0.153; p < 0.05), and similarly, a weak but significant association was found between financial awareness and basic financial management knowledge (r = 0.162; p < 0.05). These findings provide significant evidence supporting hypotheses H1, H2, and H3.

Table 8: Effects of financial literacy and basic financial management variables on financial awareness. findings of the linear regression model

	Regression coefficients	Standard regression coefficients	T	P
Constant	1.238		7.254	0.000
Basic financial management	0.019	0.075	1.732	0.085
Economic information	0.164	0.189	2.186	0.030
Economic rationality	-0.209	-0.249	-1.716	0.087
Social and economic impacts	0.506	0.592	4.182	0.000
Personal financial planning	0.189	0.246	3.007	0.003
R	R-squared	adjusted R-squared	F	P
0.754	0.568	0.559	62,881	0.000

The model is statistically significant overall ($F=62.881$; $p<0.05$) and explains 55.9% of the total variance in financial awareness (Adjusted $R^2=0.559$). A detailed examination of the effects of the variables revealed that the dimensions of financial literacy related to economic knowledge ($B=0.164$; $p<0.05$), socioeconomic influences ($B=0.506$; $p<0.05$), and individual economic planning ($B=0.189$; $p<0.05$) were positive predictors of financial awareness. However, the effects of the basic financial management and economic rationality dimensions of financial literacy were found to be insignificant. These findings are consistent with the correlation coefficient results.

Table 9: Public visibility of social marketing benchmark criteria in reviewed Entrepreneurship-Support documents

	O	B	T	I	E	C	S	M
KOSGEB Entrepreneur Support Program	P	E	N	N	E	N	P	E
ODTU Technopolis YFYI	P	E	N	N	P	N	P	E
Bilkent CYBERPARK BİGG MARKA	P	E	N	N	P	N	P	E
Hacettepe Technopolis Incubation	P	E	N	N	P	N	P	E
Gazi Technopark BİGG Anahtar	P	E	N	N	P	N	P	E

Note: O = customer orientation; **B** = behaviour; **T** = theory; **I** = insight; **E** = exchange; **C** = competition; **S** = segmentation; **M** = methods mix. **E** = explicit and operationally visible; **P** = partially visible; **N** = not publicly observable in the reviewed documents. Codes assess documentary visibility, not program quality or effectiveness. Table 9 answers RQ2. All five programs publicly communicate a multi-component offer, including combinations of funding, mentoring, training, incubation, prototyping, business planning, and investor access. The intended venture outcomes—formation, commercialisation, sustainability, or investment readiness—are also visible. KOSGEB provides the clearest monetary exchange by specifying support amounts, rates, eligible expenses, and obligations. In the other programs, benefits are clear but entrepreneurs' full time, effort, and psychological costs are not publicly analysed. Across the corpus, no document explicitly linked the intervention to behavioural theory, documented actionable insight into entrepreneurs' financial routines, or analysed competing demands on their time and attention. Segmentation was largely based on venture age, sector, education status, or demographic eligibility rather than motivation and barrier profiles.

Table 10: Joint display of priority financial capability needs and social marketing responses

Priority Audience	Survey Signal	Exchange / Competition Barrier	Behavioural Proposition	Methods Mix
All participants: confidence-knowledge gap	Awareness 3.88/5; self-reported literacy 3.75/5; objective knowledge 47.25%	Feedback avoidance; confidence in informal judgement	Diagnose before training; give personalised feedback tied to cash-flow, pricing, and financing behaviours	Short diagnostic + private benchmark report + monthly action prompts
Lowest-income group	Objective knowledge 6.45/20; awareness 3.38/5	Time and cash costs; immediate survival priorities	Reduce price and time costs; make benefits immediate and concrete	No-cost mobile micro-clinics + completion-linked voucher + 13-week cash-flow template
Micro-enterprises (<10 employees)	Objective knowledge 8.69/20 versus 10.44/20 in both larger categories	No specialist finance capacity; founder overload	Build a repeatable liquidity and unit-economics routine	Four-week cash-flow sprint + mentor checkpoints + peer comparison
Early-stage ventures (≤5 years)	Literacy means 3.45–3.56; awareness means 3.54–3.66	Learning is displaced by sales, product, and regulatory work	Deliver capability at decision milestones rather than in one generic course	Onboarding at application, award, first hire, first sale, and first external financing
Lower formal education	High-school/equivalent: literacy 3.01; awareness 3.29	Technical language and cognitive load	Use accessible service design and verify comprehension through behaviour	Visual dashboard + plain-language cases + teach-back exercise
Different support locations	Objective knowledge differed overall by location ($p = .030$); post-hoc contrasts unavailable	Uneven access to capability resources	Create a cross-program minimum financial-capability standard without ranking institutions	Shared diagnostic, referral protocol, and common outcome dashboard

Note: Interventions are design propositions derived from the joint display; their effects were not tested in the present study.

Table 10 answers RQ3 by translating observable group differences into behaviour, exchange, competition, and methods-mix decisions. The resulting contribution is not a new statistical segmentation model. It is a needs-based targeting architecture that can be tested prospectively using behavioural outcomes such as completion of a rolling cash-flow forecast, documented pricing reviews, financing comparisons, and the timely use of financial statements.

CONCLUSION AND RECOMMENDATIONS

High failure rates in the entrepreneurial ecosystem, particularly in ventures supported by public funds, point to a significant problem of resource waste. In this context, the relational structure between financial literacy, financial awareness, and financial management knowledge was analyzed. Correlation analysis confirmed hypotheses H1, H2, and H3 by showing positive and significant relationships among the three competencies . Specifically, the strong and positive correlation between financial literacy and financial awareness (r=0.723; p:0.01) confirms the mutually reinforcing nature of these two structures. Therefore, H1: There is a positive and significant relationship between the financial literacy levels and financial awareness levels of healthcare entrepreneurs. H2: There is a positive and significant relationship between the financial literacy levels and basic financial management knowledge levels of healthcare entrepreneurs. H3: There is a positive and significant relationship between the financial awareness levels and basic financial management knowledge levels of healthcare entrepreneurs; the hypotheses are confirmed. Furthermore, the strongest correlation was found between the social and economic impacts sub-dimension of financial literacy and financial awareness ($r = 0.734$; $p < 0.05$).

The analysis revealed that financial literacy is significantly associated with financial awareness. This is related to the entrepreneur's capacity to understand, interpret, and evaluate financial information, as well as their awareness of market movements and financial risks. Indeed, the study's findings show that financial literacy has a positive and statistically significant correlation with financial awareness ($r = 0.723$, $p < 0.05$). According to the results of the multiple linear regression analysis, the sub-dimensions of financial literacy— economic knowledge ($\beta=0.189$; $p=0.030$), socioeconomic influences ($\beta=0.592$; $p<0.001$), and personal financial planning ($\beta=0.246$; $p=0.003$)—have positive and statistically significant effects on financial awareness. In contrast, the effect of the economic rationality sub-dimension on financial awareness was not found to be statistically significant ($\beta=-0.249$; $p=0.087$). Accordingly, hypotheses H4a, H4c, and H4d are supported, while hypothesis H4b is not. While basic financial management knowledge had a positive effect on financial awareness, it was not statistically significant ($\beta=0.075$; $p=0.085$). Therefore, hypothesis H5 was not supported.

While entrepreneurs generally believe they possess a basic understanding of financial concepts, it appears they fail to translate this knowledge into practical financial management skills and financial literacy necessary for effective strategic decision-making. For example, participants were found to have a relatively high level of financial awareness, but their financial literacy was moderate, and their basic financial management knowledge was low. The low average score of 47% on the basic financial management knowledge scale reveals a discrepancy between theoretical understanding and practical application of the subject. The high average scores of healthcare entrepreneurs on the financial literacy scale lead them to feel generally proficient in financial matters and to define themselves as "aware."

This finding suggests that participants' subjective financial awareness may not fully align with their objective financial management knowledge , as their basic financial management knowledge is low.

In conclusion, Financial Awareness can be interpreted as an outcome based on self-confidence rather than actual knowledge. Previous research identifies managerial and financial factors associated with SME failure (Jayasekara et al., 2020; Avcı, 2024). Consequently, it reveals that while entrepreneurs may possess a certain level of knowledge about financial concepts and products, they are insufficient in applying this knowledge in the form of practical decision-making skills (i.e., financial literacy) and, in particular, managerial competencies (e.g., reading financial statements and managing cash flow).

When the analysis results are considered as a whole, it was found that financial literacy is a strong and important indicator of financial awareness; however, it was concluded that the variable of basic financial management knowledge does not have a significant impact on this financial awareness. This shows that the level of literacy, which includes individuals' financial attitudes and behaviors, plays a more decisive role than theoretical knowledge. Simply possessing basic financial management knowledge is not sufficient for an entrepreneur to increase their financial awareness. For example, even if an entrepreneur is familiar with information about cost calculation formulas, lacking sufficient financial literacy skills to interpret the impact of this cost on pricing strategy in the market prevents this knowledge from translating into financial awareness and thus effective decision-making. In terms of basic financial management knowledge, it is suggested that information, formulas, or concepts remain theoretically in memory and may not be sufficient on their own to proactively increase an entrepreneur's awareness. The development of financial awareness depends on integrating technical knowledge with comprehensive comprehension and interpretation skills, which strengthens financial literacy.

The survey findings indicate that the main problem is not low awareness alone. Participants reported relatively favourable financial awareness and literacy while performing weakly on an objective management-knowledge test. This divergence is marketing-relevant because an audience that already feels capable may not perceive additional generic education as valuable. Low-income participants, micro-enterprises, early-stage ventures, and participants with lower formal education should therefore be treated as priority target audiences for distinct value propositions.

The document audit shows that the reviewed support programs possess many delivery assets required for intervention: funding, training, mentoring, incubation, prototyping, business-plan development, and investor access. The gap lies less in the number of activities than in the publicly visible behavioural design connecting them. Theory, actionable entrepreneur insight, competition for attention, and motivation-based segmentation were not explicit in the reviewed documents. These codes do not

prove that such practices are absent internally; they show that the public program logic does not make them auditable.

The study contributes to social marketing by extending the unit of analysis from a campaign directed at individuals to an upstream support system that shapes the conditions of entrepreneurial choice. In this setting, the social good is the more resilient and accountable use of public resources, the target behaviour is repeated financial decision practice, and the exchange is the entrepreneur's time, attention, disclosure, and effort in return for lower uncertainty, improved liquidity control, and better market decisions. This framing connects financial capability, audience segmentation, service design, and public policy within marketing.

For practice, support providers should replace the one-size-fits-all financial literacy course with a capability journey. A short diagnostic should trigger a specific pathway; low-income and micro ventures should receive low-friction cash-flow and pricing support; early-stage ventures should receive coaching at funding and growth milestones; and accessible formats should be used where technical language is a barrier. Program dashboards should record verified behaviours and decision outputs, not only attendance, satisfaction, or funds disbursed. The conclusions remain bounded by convenience sampling, self-report measures, uncertain respondent roles, unverified post-hoc comparisons, potential multicollinearity, and a single-coder public-document audit. Future research should validate the proposed pathways with participant-level data, motivation- and barrier-based segmentation, independent document coding, and prospective behavioural outcomes.

AUTHOR'S STATEMENT

The authors were equally responsible for the conception, conduct, and preparation of the manuscript. All authors reviewed and approved the final version of the manuscript and declare that there are no conflicts of interest.

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REFERENCES

Adalar, H. (2019). *Sosyal bilgiler öğretmen eğitiminde finansal okuryazarlık ve öğretimi: Bir model önerisi* [Unpublished doctoral dissertation]. Gazi Üniversitesi.

Ağırbaş, İ. (2014). *Sağlık kurumlarında finansal yönetim ve maliyet analizi*. Siyasal Kitabevi.

Akıncı, A. (2002). Küçük ve orta boy işletmelerin başarı ve başarısızlık nedenleri üzerine bir araştırma. *Öneri Dergisi, 5*(17), 121–125. https://doi.org/10.14783/maruoneri.683432

Aktaş, U. (2020). *Sağlık yönetimi alanında lisansüstü eğitim alan öğrencilerin finansal okuryazarlık, finansal farkındalık ve temel finansal yönetim bilgisi düzeylerini belirlemeye yönelik bir araştırma* [Unpublished doctoral dissertation]. Marmara Üniversitesi.

Akyol, C. (2010). *Finansal farkındalığın yatırımcı tercihlerine etkileri: özel bankacılık çalışanlarında finansal farkındalık üzerine bir araştırma* [Unpublished master's thesis]. Anadolu Üniversitesi.

Andreasen, A. R. (2002). Marketing social marketing in the social change marketplace. *Journal of Public Policy & Marketing, 21*(1), 3–13. https://doi.org/10.1509/jppm.21.1.3.17602

Avcı, P. (2024). İşletmelerin finansal başarısızlık riskine sermaye yapısının etkisi: KOBİ Sanayi Endeksi. *Politik Ekonomik Kuram, 8*(1), 174–188. https://doi.org/10.30586/pek.1422016

Barmaki, N. (2015). *Üniversite öğrencilerinin finansal okuryazarlık düzeylerini belirlemeye yönelik bir araştırma: Hacettepe Üniversitesi örneği* [Unpublished doctoral dissertation]. Hacettepe Üniversitesi.

Bodie, Z. (2006, April). *A note on economic principles and financial literacy*. Networks Financial Institute at Indiana State University. https://doi.org/10.2139/ssrn.923561

Bowler, A., Dawood, M. S., & Page, S. (2007). *Entrepreneurship and small business management.* Juta and Co. Ltd.

Eker, F. (2017). *Finansal farkındalık, finansal okuryazarlık ve finansal erişim düzeyleri üzerine bir çalışma: Silifke Ticaret ve Sanayi Odası örneği* [Unpublished master's thesis]. Toros Üniversitesi.

Ercan, M. K., & Ban, Ü. (2010). *Finansal yönetim: Değere dayalı işletme finansı*. Gazi Kitabevi.

French, J., & Russell-Bennett, R. (2015). A hierarchical model of social marketing. *Journal of Social Marketing, 5*(2), 139–159. https://doi.org/10.1108/JSOCM-06-2014-0042

Gerek, S., & Kurt, A. A. (2011). Ekonomi okuryazarlığı ölçeğinin geçerlik ve güvenirlik çalışması. *Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 30*(1), 59–73.

Gönen, E., & Özmete, E. (2007). Finansal refah: Finansal yönetim sürecinden duyulan tatmin, finansal davranışlar ile öz-saygı arasındaki ilişkinin incelenmesi. *Sosyal Politika Çalışmaları Dergisi, 11(*11), 57–69. https://doi.org/10.21560/spcd.08107

Huston, S. J. (2010). Measuring financial literacy. *The Journal of Consumer Affairs, 44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Jayasekara, B. E. A., Fernando, P. N. D., & Ranjani, R. P. C. (2020). A systematic literature review on business failure of small and medium enterprises (SME). *Journal of Management, 15*(1), 1–13. https://doi.org/10.4038/jm.v15i1.7592

Kotler, P., & Zaltman, G. (1971). Social marketing: An approach to planned social change. *Journal of Marketing, 35*(3), 3–12. https://doi.org/10.1177/002224297103500302

Lusardi, A. (2008). *Financial literacy: An essential tool for informed consumer choice?* (NBER Working Paper No. 14084). National Bureau of Economic Research. https://doi.org/10.3386/w14084

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

Mandell, L. (2006). *Financial literacy: If it's so important, why isn't it improving?* Networks Financial Institute at Indiana State University. https://doi.org/10.2139/ssrn.923557

Mason, C. L. J., & Wilson, R. M. S. (2000). *Conceptualising financial literacy*. Loughborough University Business School Publishing.

Müftüoğlu, T. (1993). *Türkiye'de Küçük ve Orta Ölçekli İşletmeler*. Turhan Kitabevi.

National Social Marketing Centre. (2010). *Social marketing benchmark criteria*. https://www.thensmc.com/sites/default/files/benchmark-criteria-090910.pdf

Onur, N., & Nazik, M. H. (2014). Öğretmenler için bireysel finans alanında finansal tutum ölçeğinin geliştirilmesi (FTÖ): Geçerlik ve güvenirlik çalışması. *Vocational Education, 9*(4), 90–99. https://doi.org/10.12739/nwsa.2014.9.4.2c0054

Organisation for Economic Co-operation and Development. (2005). *Improving financial literacy: Analysis of issues and policies*. OECD Publishing. https://doi.org/10.1787/9789264012578-en

President's Advisory Council on Financial Literacy. (2008). *Annual report to the President*.

Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs, 44*(2), 276–295. https://doi.org/10.1111/j.1745-6606.2010.01169.x

Saraç, E. (2014). *Finansal okuryazarlık ve Dumlupınar Üniversitesi Öğrencilerinin finansal okuryazarlık düzeylerinin ölçülmesi üzerine bir araştırma* [Unpublished master's thesis]. Dumlupınar Üniversitesi.

Yamane, T. (2001). *Temel örnekleme yöntemleri* (A. Esin, M. A. Bakır, C. Aydın, & E. Gürbüzsel, Trans.). Literatür Yayınları.