

**DESIGN STRATEGY GUIDELINES FOR
PROCESSED FOOD MICRO, SMALL, AND
MEDIUM ENTREPRENEUR IN BANDUNG,
INDONESIA**

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**DESIGN STRATEGY GUIDELINES FOR
PROCESSED FOOD MICRO, SMALL, AND
MEDIUM ENTREPRENEUR IN BANDUNG,
INDONESIA**

by

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TABLE OF CONTENT

ACKNOWLEDGEMENT.....	ii
TABLE OF CONTENT.....	iii
LIST OF TABLES	ix
LIST OF FIGURES	xii
LIST OF ABBREVIATIONS.....	xvii
LIST OF APPENDICES.....	xx
ABSTRAK	xxi
ABSTRACT	xxii
CHAPTER 1	1
1.1 Background of the Study.....	1
1.1.1 The Important Role of MSMEs in Indonesia	1
1.1.2 Processed Food as the Largest Industry in Indonesia.....	3
1.1.3 Bandung Regency: A Center of MSME Concentration	6
1.1.4 Key Issues Affecting Processed Food MSMEs in Bandung Regency .	8
1.1.5 Design as a Strategic Tool for Innovation and Branding	11
1.1.6 Pentahelix as a Holistic Approach in Empowering MSMEs.....	15
1.2 Problem Statement	18
1.3 Purpose of the Study	22
1.4 Research Question.....	24
1.5 Research Objective.....	26
1.6 Significance of the Study (Implication)	27
1.7 Scope and Limitation	28
1.8 Research Design.....	30

1.9	Conceptual Framework	31
1.10	Operational Definition	33
1.11	Structure of Chapters.....	35
1.12	Summary	36
CHAPTER 2		39
2.1	Introduction.....	39
2.2	MSMEs in Indonesia.....	40
2.2.1	Understanding MSMEs: Definition, Scope and Current Issues	40
2.2.2	The Competitiveness in MSME	44
2.2.3	MSME Empowerment Programs That Have Been Carried Out	47
2.3	The Pentahelix as a Model for Empowering MSMEs in Indonesia.....	53
2.3.1	An Overview of the Pentahelix Model.....	53
2.3.2	The Pentahelix Model in MSME Development	55
2.4	Design Integration in Business.....	58
2.4.1	The Changing Role of Design in Business Context	58
2.4.2	The Use of Design in Business.....	60
2.4.3	The Use of Design in MSMEs.....	65
2.4.4	The Use of Design as Part of Strategy.....	67
2.5	Strategic Design Framework.....	71
2.5.1	Overview	71
2.5.2	Strategic Design Framework	73
2.5.3	Environment Analysis	77
2.5.4	Business Model Canvas.....	79
2.5.5	Product Life Cycle.....	81
2.5.6	PEST Analysis.....	82
2.5.7	Porter's 5 Forces.....	84

2.5.8	Design Audit.....	86
2.5.9	SWOT Analysis.....	87
2.5.10	Setting Objective	89
2.5.11	Porter Generic Strategic	90
2.5.12	Intensive Strategies.....	91
2.6	Design as Practical Approach	92
2.6.1	The Use of Design.....	92
2.6.2	Design Knowledge and Design Skill.....	96
2.6.3	Design as a Process and Design as an Artifact.....	98
2.6.4	Design as an Output.....	99
2.7	Developing Methodological Framework	108
2.8	Summary	109
CHAPTER 3		111
3.1	Introduction.....	111
3.2	Research Stages.....	111
3.2.1	Stage 1 Scanning: Understanding and analyzing Variables.	113
3.2.2	Stage 2 Formulating: Developing Strategic Design Guideline	114
3.2.3	Improvement and Iterative Process Through Validation.....	114
3.3	Stage 1 Scanning.....	115
3.4	Data Collection Method for Stages 1	116
3.4.1	Questionnaire.....	116
3.4.2	Interviews	121
3.4.3	Observations	124
3.4.4	Document Study	126
3.5	Stage 1 Substage 1 Design Practice in MSMEs.....	128
3.5.1	Questionnaire.....	128

3.5.2	Interview	135
3.5.3	Observation.....	137
3.6	Stage 1 Substage 2: Design Opportunities in Industry.....	140
3.6.1	Questionnaire.....	140
3.6.2	Interview	142
3.6.3	Document Study	142
3.7	Data Analysis	144
3.7.1	Analysis Method Overview	144
3.7.2	Procedure of Analysis.....	146
3.8	Triangulation on Stage 1	151
3.9	Triangulation Process in Stage 1 substage 1	152
3.9.1	Triangulation Process in. Stage 2 substage 2	153
3.9.2	Stage 2 Formulation	154
3.10	Validation Stage	156
3.10	Research Ethics	158
3.11	Summary	159
CHAPTER 4		160
4.1	Introduction	160
4.2	Stage 1 – Substage 1 – Understanding the Internal conditions of MSMEs .	160
4.2.1	Data Collection and Questionnaire Results	161
4.2.2	Data Collection of Interviews.....	194
4.2.3	Data Collection of Observations	210
4.3	Stage 1 – Substage 2 – Understanding of the Opportunities Arrising in the Macro Environtment	252
4.3.1	Activities Related to Pentahelix	252
4.3.2	Data Collection of Interviews.....	265

4.3.3	Pentahelix Based Activity	266
4.3.4	Data Collection of Document Study.....	275
4.4	Summary and Identification of Data Patterns	312
4.4.1	Internal Analysis.....	314
4.4.1	External Factor	325
4.5	Summary	332
CHAPTER 5		333
5.1	Introduction	333
5.2	Finding from Stage 1 – Substage 1	333
5.2.1	MSMEs Business Process	334
5.2.2	Design Issue in MSMEs	338
5.2.3	MSME Design Capabilities: Low Level of Knowledge and Skill ...	341
5.2.4	Designs Practice in MSME Business Processes (Answering RQ 1)	345
5.3	Finding from Stage 1 – Substage 2	349
5.3.1	A Changing Role of Pentahelix Actors in MSMEs Empowerment .	349
5.3.2	Opportunities from Macro Environment (External Factor).....	352
5.3.3	Opportunities from industry – Level of Competition.....	354
5.3.4	Design Opportunities for MSMEs (Answering RQ 2)	357
5.4	Stage 2 - Formulation Design Strategy	363
5.4.1	The Strengths, Weaknesses, Opportunities, and Threats Inherent ...	364
5.4.2	TOWS Matrix.....	366
5.4.3	Setting Objective	368
5.4.4	Strategy Selection.....	370
5.4.5	Recommendations of Design Strategy Models	383
5.5	Validation of the Proposed Model (Answering Research Question 3).....	391
5.6	Summary	396

CHAPTER 6	398
6.1 Introduction	398
6.2 Conclusion.....	398
6.2.1 Conclusion for Research Objective 1	398
6.2.2 Conclusion for Research Objective 2	400
6.2.3 Conclusion for Research Objective 3	402
6.3 Recommendation.....	403
6.3.1 Recommendation for Processed food MSME	405
6.3.2 Recommendation for Academic	406
6.3.3 Recommendation for Business (Private Sector).....	407
6.3.4 Recommendation for Government	408
6.3.5 Recommendation for Community of MSMEs	409
6.4 Further Research	410
6.4.1 Further Research in Design Management Field	411
6.4.2 Further Research in the Design Field	412
6.4.3 Further Research in the Management Field.....	414
6.5 Summary	415
REFERENCES.....	416
APPENDICES	

LIST OF TABLES

	Page
Table 2.1 MSME Definition in Indonesia	41
Table 2.2 Number of MSMEs by Business Type in Bandung Regency 2022 ...	50
Table 2.3 Definition of Design	61
Table 2.4 Evolution of Design's Role in Business	62
Table 2.5 Value Creation by Design	66
Table 2.6 The Interpretation of Strategy Design	68
Table 2.7 Definition of Logo	100
Table 3.1 Variables and Data Collected Method	116
Table 3.2 Number of MSMEs in Food Industry	118
Table 3.3 The Category of MSMEs	119
Table 3.4 Interview based on Pentahelix Elements	122
Table 3.5 Observed Processed Food MSMEs	125
Table 3.6 Questions Intended to Obtain Respondents' Demographic	129
Table 3.7 Questions to Learn the Respondent Business Profile	130
Table 3.8 Element in Business Model Canvas	131
Table 3.9 Question About Business Process	131
Table 3.10 Question About MSME Issues	134
Table 3.11 Question About Design Knowledge and Usage	134
Table 3.12 Question Variables and its Objective	135
Table 3.13 Observation Form	138

Table 3.14	MSMEs Involvement with Pentahelix Actors	140
Table 3.15	Question Variables and its Objectives	141
Table 3.16	Document Study Data Selection.....	143
Table 3.17	Visual Analysis Criteria	149
Table 4.1	MSME Participants Involved in the Study	212
Table 4.2	Business Model Canvas of Processed Food MSMEs.....	215
Table 4.3	Shape of Participants Packaging	239
Table 4.4	Printing Technology for Participants Packaing	242
Table 4.5	Material of Participants Packaging.....	243
Table 4.6	Content of Packaging Surface	245
Table 4.7	Engagement Rate of Participants.....	249
Table 4.8	Porter’s Five Forces Analysis	309
Table 4.9	Triangulation Data	312
Table 4.10	Profile of the Participants	313
Table 4.11	Summary of MSME Business Model.....	314
Table 4.12	Summary of MSMEs Issues	319
Table 4.13	Summary of MSMEs Knowledge About Design	321
Table 4.14	Summary of Visual Analaysis of Design Output.....	322
Table 4.15	Summary of Macro Environment Data	326
Table 4.16	Summary of Pentahelix Based Activity.....	328
Table 5.1	Summary of Design Audit Findings	345
Table 5.2	Design Opportunities from Macro Environment.....	355
Table 5.3	Key Highlights of Opportunities from Market Size	356
Table 5.4	Key Highlights of Opportunities from Industry Growth.....	357

Table 5.5	Design Opportunities in Processed Food Industry	358
Table 5.6	The Role of Pentahelix Actors in MSMEs Empowerment	365
Table 5.7	SWOT Analysis.....	367
Table 5.8	TOWS Matrix	369
Table 5.9	MSMEs Objectives & Key Performance Indicators	371
Table 5.10	Selected Competitiveness Strategy.....	373
Table 5.11	Selected Market-Based Strategy.....	374
Table 5.12	The Extended Alignment Between Objective and Strategy	380
Table 5.13	Question for Validation	392
Table 5.14	Summary of Validator Suggestion	392

LIST OF FIGURES

	Page
Figure 1.1 Processed Food.....	4
Figure 1.2 Research Problem Statement.....	18
Figure 1.3 Purpose of the Study.....	23
Figure 1.4 The Relationship Between Research Stages and RQ	25
Figure 1.5 Limitation Based on Strategic Design Framework	29
Figure 1.6 Research Map	31
Figure 1.7 Conceptual Framework	32
Figure 1.8 Research Framework.....	36
Figure 2.1 MSME Activities in Bandung Regency	52
Figure 2.2 Pentahelix ABCGM.....	55
Figure 2.3 Pentahelix Concept in Bandung Regency	57
Figure 2.4 Design Generates Business.....	63
Figure 2.5 Model of Strategic Management Process	71
Figure 2.6 Design Management Strategy Process	74
Figure 2.7 Managing the Design Strategy	75
Figure 2.8 Business Model Canvas.....	80
Figure 2.9 Product Life Cycle.....	81
Figure 2.10 PEST Analysis	83
Figure 2.11 Porter's Five Forces.....	85
Figure 2.12 Design Audit Process.....	87
Figure 2.13 TOWS Matrix.....	88

Figure 2.14	Logo Design of Bandung Regency MSMEs	102
Figure 2.15	Packaging Design of Bandung Regency MSMEs	105
Figure 2.16	Social Media of Bandung Regency MSMEs.....	108
Figure 2.17	Developing Methodological Framework.....	109
Figure 3.1	The Connection Between Research Stage and RQ.....	112
Figure 3.2	Activities in Each Stage.....	114
Figure 3.3	Document Study Analysis	127
Figure 3.4	Alignment Between Research Variables and RQ.....	128
Figure 3.5	Observation Variables.....	137
Figure 3.6	Alignment Between Variables with RQ 2.....	140
Figure 3.7	Alignment Between Variables with RQ 2	142
Figure 3.8	Three Visual Analysis Perspective	148
Figure 3.9	Triangulation Process in Stage 1 Substage 1	153
Figure 3.10	Triangulation Process in Stage 1 Substage 2.....	153
Figure 3.11	Strategy Formulation Process.....	154
Figure 4.1	Description of Age Characteristic	161
Figure 4.2	Description of Gender Characteristic	162
Figure 4.3	Description of Education Level.....	162
Figure 4.4	The Establishment of Process Food MSME.....	164
Figure 4.5	Business Turnover of Respondents	165
Figure 4.6	Number of MSME Workes in the Process Food Industry.....	166
Figure 4.7	The Main Buyers of Respondents Products	166
Figure 4.8	Market Scope of Respondents	167
Figure 4.9	Main Advantage Offered in MSMEs Product.....	168

Figure 4.10	Main Advantage Offered in MSMEs Product	169
Figure 4.11	Type of Social Media Used by Bandung Regency MSME.....	170
Figure 4.12	How MSMEs Communication the Customers	171
Figure 4.13	How MSMEs Persuade the Customers.....	172
Figure 4.14	The Business Income Sources	173
Figure 4.15	Routine Business-Related Expenses.....	175
Figure 4.16	The Number of MSMEs Collaborating with Supplier	176
Figure 4.17	The Number of MSMEs Collaborating with Reseller.....	177
Figure 4.18	The Number of MSMEs Collaborating with Marketplace	177
Figure 4.19	The Number of MSMEs Collaborating with Online Delivery	178
Figure 4.20	The Number of MSMEs Collaborating with Other Partners.....	179
Figure 4.21	The Purchasing Process	180
Figure 4.22	The Production Process	181
Figure 4.23	Delivery Process	181
Figure 4.24	The Review Process	182
Figure 4.25	Priority Asset & Resources.....	183
Figure 4.26	Number of MSMEs with Marketing Issues.....	184
Figure 4.27	Knowledge about Branding as a Solution	185
Figure 4.28	Number of MSMEs that have Difficulty Implementing Branding...	186
Figure 4.29	Number of MSMEs that have Branding Funds	186
Figure 4.30	MSMEs that Stated that They Developed their Own Brand	187
Figure 4.31	Level of Understanding of Design as Part of Branding	188
Figure 4.32	Level of Understanding of How Design Improves Competitiveness	189
Figure 4.33	Number of MSMEs that Have Used Designer	189

Figure 4.34	Design Source of MSMEs	190
Figure 4.35	Mapping of the Processed Issue MSMEs	191
Figure 4.36	MSMEs that have Difficulty Producing Designs Independently	192
Figure 4.37	Design Used by MSMEs	193
Figure 4.38	Mapping of the Processed Issues MSME	195
Figure 4.39	Mapping of the use of Design	204
Figure 4.40	Design Output Used by Participants.....	234
Figure 4.41	Criteria of the Good Logo	234
Figure 4.42	Type of Participants Packaging	238
Figure 4.43	Instagram Engagement Calculator interface	248
Figure 4.44	Average Engagement Rates on Instagram.....	249
Figure 4.45	MSMEs that have Participated in Government Programs.....	252
Figure 4.46	Number of MSMEs that have Involved as a Community	254
Figure 4.47	Number of MSMEs that Benefit from Joining the Community	255
Figure 4.48	Number of MSMEs Involved in Academics	258
Figure 4.49	MSMEs that Recieve Benefit Through University Programs	259
Figure 4.50	Number of MSMEs Involved in other programs.....	261
Figure 4.51	MSMEs that Benefit from being Involved in other Programs	262
Figure 4.52	Number of MSMEs that Recieved Mass Media Publication.....	264
Figure 4.53	MSMEs that Use Sosial Media as a Promotional Platform.....	264
Figure 4.54	Mapping of Pentahelix Activity	266
Figure 4.55	Growth of the F&B Industry 2011-2022	282
Figure 4.56	MSMEs Actor Education Level	290
Figure 4.57	Proportion of MSME Sector Utilizing Digital Technology.....	292

Figure 4.58	Mapping of the Political & Legal Aspects	296
Figure 4.59	Mapping of the Economic Aspect	299
Figure 4.60	Mapping of the Socio Cultural Aspects.....	302
Figure 4.61	Mapping of the Technological Aspects.....	305
Figure 5.1	Interpretation of MSME Business Model in BMC Model	334
Figure 5.2	Factors in the MSME Business Model	335
Figure 5.3	MSMEs in the Product Life Cycle	337
Figure 5.4	Source of Design Output in MSMEs.....	342
Figure 5.5	Design Touchpoint in MSMEs Business Process.....	346
Figure 5.6	Linkage Key Activity with Design Practices.....	347
Figure 5.7	Changing Role in Pentahelix Actors.....	351
Figure 5.8	Design Opportunities Due to Need for Innovation.....	358
Figure 5.9	Design Opportunities Due to Need for Brand Identity.....	359
Figure 5.10	Design Opportunities Due to Need for Brand Communication	360
Figure 5.11	Design Opportunities are Based on Communication Content.....	361
Figure 5.12	Strategy Selection Process.....	364
Figure 5.13	Strategy of Determining Strategy	374
Figure 5.14	Basic Model of Design Strategy	384
Figure 5.15	Design Strategy Guidelines for Processed Food MSMEs.....	388
Figure 5.16	The Used of Recommended Guidelines	396
Figure 5.17	Adjustment of Model Rekommednations	397

LIST OF ABBREVIATIONS

ABCGM	Academics, Business, Community, Government, and Media
APJII	Asosiasi Penyelenggara Internet Indonesia
APTIKA	Aplikasi Informatika
B2B	Business to Business
B2C	Business to Customer
BAPPEDA	Badan Perencanaan Pembangunan Daerah
BCG	Boston Consulting Group
BLUD	Badan Layanan Umum Daerah
BMC	Business Model Canvas
BPR	Bank Perkreditan Rakyat
BPS	Badan Pusat Statistik
BPUM	Bantuan Produktif Usaha Mikro
BUMD	Badan Usaha Milik Daerah
BUMN	Badan Usaha Milik Negara
CSR	Corporate Social Responsibility
DAK	Dana Alokasi Khusus
DISDUKCAPIL	Dinas Kependudukan dan Pencatatan Sipil
DISKOP	Dinas Koperasi
DISPERINDAG	Dinas Perindustrian dan Perdagangan
DITJEN	Direktorat Jenderal
F&B	Food and Beverage

FB	Facebook
FUN	Forum UMKM Nusantara
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GERNAS BBI	Gerakan Nasional Bangga Buatan Indonesia
IBM	International Business Machine
ICT	Information and Communication Technology
IDR	Indonesian Rupiah
IFAC	Indonesian Fashion Accessories and Craft
IG	Instagram
IKABOGA	Ikatan Alumni Boga
IoT	Internet of Things
KABISA	Kaji Bisnis Sabilulungan
KADIN	Kamar Dagang Indonesia
KFR	Kajian Fiskal Regional
KOMINFO	Komunikasi dan Informasi
KUR	Kredit Usaha Rakyat
LLDPE	Linear Low-Density Polyethylene
MSMEs	Micro, Small, & Medium Enterprises
PEN	Pemulihan Ekonomi Nasional
PERDA	Peraturan Daerah
PERDA	Peraturan Daerah
PEST	Political, Economic, Social, and Technological

PET	Polyethylene Terephthalate
PIRT	Pangan Industri Rumah Tangga
PKBL	Program Kemitraan dan Bina Lingkungan
PLC	Product Life Cycle
PLUT	Pusat Layanan Unit Terpadu
PLUT	Pusat Layanan Usaha Terpadu
PM	Private Message
PP	Peraturan Pemerintah
PPh	Pajak Penghasilan
PPKM	Perkumpulan Pengusaha Karsa Mandiri
RO	Research Objective
RQ	Research Question
SD	Sekolah Dasar
SMA	Sekolah Menengah Atas
SMEs	Small & Medium Enterprises
SMESCO	Small and Medium Enterprises and Cooperatives
SMP	Sekolah Menengah Pertama
SPSS	Statistical Package for Social Science
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UMKM	Usaha Mikro, Kecil, dan Menengah
USM	Universiti Sains Malaysia
USP	Unique Selling Point

LIST OF APPENDICES

APPENDIX A	QUESTIONNAIRE
APPENDIX B	INTERVIEW
APPENDIX C	OBSERVATION FORM
APPENDIX D	VALIDATION PROCESS
APPENDIX E	PUBLICATION RELATED TO THESIS

**GARIS PANDUAN STRATEGIK REKA BENTUK UNTUK
MAKANAN PROSES USAHAWAN MIKRO, KECIL DAN SEDERHANA
DI BANDUNG, INDONESIA**

ABSTRAK

Peranan reka bentuk telah berkembang dengan ketara dalam konteks perniagaan. Kajian-kajian terdahulu menunjukkan bahawa reka bentuk, melalui inovasi dan pengukuhan jenama, memainkan peranan penting dalam meningkatkan daya saing syarikat. Namun, penggunaan reka bentuk secara strategik dalam perusahaan mikro dan kecil (PMKS) makanan terproses masih menghadapi pelbagai cabaran, seperti pengetahuan reka bentuk yang terhad dan kurangnya pemahaman terhadap strategi perniagaan berasaskan reka bentuk. Ini menyebabkan PMKS makanan terproses di Daerah Bandung sukar bersaing dengan jenama yang lebih kukuh. Kajian ini bertujuan untuk mengenal pasti keupayaan dalaman PMKS dalam mengintegrasikan reka bentuk ke dalam proses perniagaan, menganalisis peluang reka bentuk dalam industri makanan terproses, serta membentangkan garis panduan strategi reka bentuk yang boleh diaplikasikan. Pendekatan deskriptif kualitatif berparadigma fenomenologi digunakan, berdasarkan kerangka strategi reka bentuk. Kaedah pengumpulan data merangkumi soal selidik, temu bual, kajian dokumen, dan pemerhatian. Data dianalisis menggunakan NVivo dan analisis visual berdasarkan kaedah Gillian Rose. Hasil kajian ini diharapkan dapat meningkatkan daya saing PMKS serta memberi manfaat kepada usahawan dan pihak berkepentingan.

DESIGN STRATEGY GUIDELINES FOR PROCESSED FOOD MICRO, SMALL, AND MEDIUM ENTREPRENEUR IN BANDUNG, INDONESIA

ABSTRACT

The role of design has evolved significantly in the business context. Previous studies have shown how design, through innovation and brand strengthening, can play a significant role in enhancing a company's competitiveness. However, the strategic use of design to enhance the competitiveness of micro and small enterprises (MSMEs) in the processed food industry faces many challenges. Limited design knowledge and a lack of understanding of the use of design in business strategy are among them. This situation makes it difficult for processed food MSMEs in Bandung Regency to compete with the established brands. Thus, this study aims to identify the internal capabilities of MSMEs in integrating design into their business processes, analyze design opportunities in the processed food industry, and present applicable design strategy guidelines for MSMEs. Using a phenomenological paradigm qualitative descriptive approach based on the design strategy framework, this study aims to fully understand the external and internal elements of MSMEs. Data gathering consisted of questionnaires, interviews, document studies, and observations. NVivo's thematic analysis and Gillian Rose's method-based visual analysis were employed in the data study. The resulting design strategy guidelines are expected to enhance the competitiveness of MSMEs, benefiting both entrepreneurs and other stakeholders involved.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

1.1.1 The Important Role of MSMEs in Indonesia

Referred to MSMEs (Micro, Small, and Medium enterprises) are productive businesses owned by people or corporate entities fulfilling the requirements specified in Law Number 20 of 2008 on micro, small, and medium sized enterprises. The development of industries and macroeconomic expansion in Indonesia is strategically influenced by MSMEs sector. Based on data from the Central Statistics Agency (BPS) in 2022, the MSME sector in Indonesia is significant, contributing 61.9% to the Gross Domestic Product (GDP) (Limanseto, 2023). During crisis periods, such as the monetary crisis in 1998, the global crisis in 2008, and the Covid-19 epidemic, MSMEs have also proven to be crucial for Indonesia's economy.

The MSME sector's significant contribution is equally important for job creation. As a country with a very large population, the absorption of the labor force becomes crucial as one of the indicators of a country's economic development. Kuncoro (2000), stated in his research that MSMEs in Indonesia play a crucial role in absorbing the workforce and supporting household income. Based on the MSME Empowerment Report (2022), there are 65.4 million MSMEs in Indonesia that have employed 114.7 million people, or approximately 56% of the country's workforce (Mawarsari, 2023). Out of this total, 8.71 million MSMEs in Indonesia are officially registered with the Ministry of Cooperatives and Small and Medium Enterprises (2022).

Hapsari et al. (2014), mentioned that MSMEs are always depicted as a sector that plays an important role because a large portion of the Indonesian population has low education levels and engages in small and medium-sized businesses, both in traditional and modern sectors. This is reinforced by data from Directorate General of Population and Civil Registration (Disdukcapil Jawa Barat, 2022), which indicates that out of Indonesia's 275.36 million population, only 6.41% have a higher level of education (Kusnandar, 2022). The low level of education of the majority of Indonesian people shows reasons related to the tendency of the majority of Indonesian people to choose to become small entrepreneurs. A low level of education does not provide them with job opportunities in the formal sector, considering that the standard of education in the formal sector generally has a registration standard at the undergraduate level (Maulana, 2020).

Based on statistical data, MSMEs in Indonesia have experienced yearly growth. However, the MSME sector experienced a significant decline in 2020. The Covid-19 pandemic, which hit the world in early 2020, had a major impact on the economy, including MSMEs in Indonesia. Many MSMEs that closed their businesses due to social restrictions had difficulty developing their businesses. In fact, based on data from the Central Statistics Agency (BPS), more than 60% of MSMEs in all regions experienced a decrease in income. Research conducted by Adam et al. (2024) show that the cause of this decline was supply chain disruptions, decreased demand, and financial constraints. All of these factors hinder their ability to innovate and remain competitive. However, after the social restrictions were lifted from mid-2021 to early 2022, many MSMEs began to show signs of recovery.

Data from the Ministry of Cooperatives and MSMEs of the Republic of Indonesia show that in 2022, the MSME sector grew again, with a contribution to GDP reaching around 61% and absorbing more than 97% of the workforce (Aprilia et al., 2025). One sub-sector of manufacturing that is believed to be crucial and capable of maintaining its expansion is the food and beverage industry. The growth of the food and beverage industry remained stable during the pandemic, as it was seen as an effort to boost the body's immunity against Covid-19 (Adhiem, 2021).

Despite the negative impacts, the pandemic has brought positive changes to the MSMEs in Indonesia. One way to survive amidst social restrictions is to adapt MSMEs to technology faster. To gain market access, many MSMEs have started to switch to digital platforms such as social media, transportation services, and e-commerce. According to McKinsey (2020), Covid-19 forced companies to adopt long-term technology, and customers' purchasing habits migrated to the Internet. This also applies to small-scale business. MSMEs can prosper by adapting to the current market conditions using online platforms (Taufik & Ayuningtyas, 2020).

1.1.2 Processed Food as the Largest Industry in Indonesia

According to the Indonesian Dictionary (Kamus Besar Bahasa Indonesia), processed food refers to finished food products that result from processing intended for trade. According to the Regulation of the Food and Drug Monitoring Agency Number 03.1.5.12.11.09955 of 2011, processed food includes food or beverages resulting from specific processes with or without additional ingredients (Badan

Pengawas Obat dan Makanan, 2018). This encompasses specific processed food materials, additives, genetically engineered food products, and irradiated food.

Simply put, processed food undergoes changes from its natural state through various physical or chemical processes. This process is carried out to extend shelf life, enhance flavor, improve texture, and make food more practical for consumption. Some examples of processed foods in Indonesia are processed cooking ingredients, such as chili sauce; directly processed foods, such as cakes and pastries; and ready-to-eat foods, such as snacks, meatballs, and noodles.



Figure 1.1 Processed Food

The Central Statistics Agency (BPS) stated that the food and beverage industry in Indonesia experienced a growth of 2.54 percent from 2020 to 2021, reaching IDR 775.1 trillion (Sari, 2022). The Gross Domestic Product (GDP) of the national food and beverage industry, based on current prices, reached IDR 1.12 quadrillion in 2021, contributing about 38.05 percent to the non-oil and gas processing industry or 6.61

percent to the national GDP of IDR 16.97 quadrillion. These data indicate that the food and beverage processing industry in Indonesia is a mature industry (Sari, 2022).

Ragimun and Widodo (2019), explain that the food and beverage (F&B) industry is divided into food and beverage sectors. According to the Central Statistics Agency (BPS), Indonesia reported 3.9 million Micro, Small, and Medium Enterprises (MSMEs) in the food and beverage sector in 2019 (Ahdiat, 2022a). Regarding the food industry only data from the Central Statistics Agency (BPS) indicates that in Indonesia, the number of micro and small enterprises in the food industry reached 1.51 million units in 2020. Micro and small enterprises in the food industry represented 36% of the national total, or 4.21 million units. The second-largest industries are the wood and cork, rattan, and bamboo (non-furniture) industries, with a total of 632,000 units or 15% of the national total (Ahdiat, 2022a). The fields with the fewest Micro and Small Enterprises are the electrical equipment and computer sectors, each with less than a thousand units per sector. The food industry has shown higher productivity factor growth than other industries (Wijaya et al., 2023).

The growth of the domestic food manufacturing industry is driven by the increasing consumption of the middle- and upper-income populations. The Food Processing Ingredients Report (2022) claims that Indonesia, the biggest economy in Southeast Asia, still has considerable market opportunity for American food and food component providers (Yuningsih, 2022). This includes consumer-oriented products, such as fresh fruits, nuts, and food processing ingredients, including soybeans, wheat, milk powder, and other dairy products, corn, and beef (Yuningsih, 2022). Facing changes in Indonesia's eating culture, adaptation to trends has become crucial. The growing health awareness among the young population opens opportunities for

nutritious products, vitamins, mineral-enriched cereals, and dairy products targeting various groups such as weight loss, bodybuilders, and breastfeeding mothers. Products such as coffee, ready-to-drink tea, fruit and vegetable juices, and sports/energy drinks are also experiencing rapid sales growth.

Based on the current situation in the processed food industry, it can be concluded that, first, the processed food industry in Indonesia tends to be more established than other industrial sectors in the country. Second, the number of MSMEs in the food industry is the largest. This study focuses on examining the processed food industry, given its significant influence on Indonesian society in general and on processed food MSMEs in particular.

1.1.3 Bandung Regency: A Center of MSME Concentration

Bandung Regency is one of the regencies located in the West Java Province, Indonesia. The capital of Bandung Regency is the Soreang subdistrict. In 2021, the population of Bandung Regency amounted to 3,633,437 people, with a density of 2,062 people/km² (Dinas Kependudukan dan Pencatatan Sipil, 2021). Bandung Regency serves as the "parent" to the Bandung Raya region, which later split into the regions of Bandung, Cimahi City, and West Bandung. The region is characterized by cool mountainous areas, making it rich in diverse natural attractions. Bandung Raya is a major tourist destination in Indonesia, offering easy access and various attractions, including natural, culinary, fashion, and cultural attractions. Their popularity is evidenced by the high number of tourists visiting this region.

According to a survey from the Central Statistics Agency (BPS), West Java has the most MSMEs in the food and beverage industry, with 791,435. East Java comes in

second, with 746,732 MSMEs in the food and beverage sector. Central Java is ranked third, with 569,896 MSMEs. North Sumatra and Banten ranked fourth and fifth, with 222,832 and 167,155 MSMEs, respectively (Rizaty, 2021).

One of the regions in West Java with the largest number of MSMEs is Bandung Regency. The data show an increase in the number of MSMEs in almost every sector each year, except for 2018 and 2019, when sectors such as education, information technology, automotive, and agribusiness did not experience growth and tended to stagnate. However, in 2020, there was an increase in the number of MSMEs in all sectors compared with 2019. Two sectors recorded a significant number of MSMEs: the culinary, food and beverage, and clothing sectors (Bappeda Kabupaten Bandung, 2022). According to data from the website of the Department of Cooperatives and MSMEs of Bandung Regency (2022), there are 17,606 MSMEs in this region, and nearly 54% of them are engaged in the food and beverage sector, including processed foods (Dinas Koperasi Usaha Kecil dan Menengah, 2022).

The large number of MSMEs in Bandung Regency becomes one of the driving forces behind the local economy. Demographic circumstances of the population in Bandung Regency, where the majority have only completed elementary education with an average duration of 9.08 years, partially impact a large number of MSME owners (Badan Pusat Statistik, 2022). These data indicate that the average education level in the Bandung community is at the junior to senior high school level, without progressing to higher education. A low level of education makes it difficult for them to meet the minimum standards in finding decent work (Maulana, 2020), so the easiest solution to earn income is to become an entrepreneur. Sonfield and Lussier (2014) stated that low education can affect entrepreneurs' mindset, skills, and insights in

developing their businesses. This demographic situation makes Bandung Regency one of the areas with the largest MSME populations in Indonesia. Although Bandung Regency does not explicitly represent other regions in Indonesia from a demographic perspective, its relatively low education level (high school) reflects the overall education level in other regions of Indonesia. On the other hand, the high ratio of MSMEs in Bandung Regency, which is among the largest, makes it a relevant case study for this research.

1.1.4 Key Issues Affecting Processed Food MSMEs in Bandung Regency

Despite its significant contribution to the nation's and region's economic growth and job creation, the MSME sector still faces many obstacles. Based on previous research, the obstacles faced by MSMEs come from outside and within the company itself (Cantera et al., 2020; Ocloo et al., 2021; Suhendah et al., 2022). External challenges are related to the high intensity of competition within an industry. The large number of entrepreneurs in the processed food sector makes business ecosystems increasingly competitive. The competition faced by small-scale industries was competition due to overcrowding (Sharma, 2011).

The intensity of competition is not only among MSMEs themselves but also occurs between MSMEs and larger, more established food entrepreneurs. Additionally, global brands have entered the same market. MSMEs face market challenges from competitors offering imported goods or large companies that can provide better prices to customers (Iliev, 2024). In this regard, Hartono and Hartomo (2016) also stated that one of the biggest challenges for MSMEs today is their low competitiveness in facing competition. Despite their limitations, this situation requires

MSMEs to improve their business performance and to adopt strategic measures to enhance their competitiveness. According to Nahak and Ellitan (2022), competitiveness is the ability of a business to provide added value to its products compared to its competitors, and this value indeed benefits customers.

Previous research has stated that design can serve as a tool to enhance a company's competitiveness through innovation and brand strengthening. Regarding innovation, several studies have highlighted the link between innovation and MSME performance. According to Ahlström-Söderling (2003), innovation in MSMEs is associated with how they seize business opportunities through product development, market expansion, and organizational growth. Antonioli et al. (2011) further state that the level of innovation in a business encompasses the development of promotional strategies and the introduction of new products to the market.

In general, "innovation" is defined as the successful development and application of new knowledge to a product or service. However, in this study, innovation is understood to be more than just the novelty of a product or service. As explained by Edquist (2004), innovation is not limited to goods and services but also includes processes such as technological advancements and organizational improvements. Innovation leads to the development of novel products and services, hence raising the MSMEs' competitiveness (Risal et al., 2024). Furthermore, innovation is quite essential for MSMEs since it enables them to increase their competitive advantage by generating novelty that provide more value to customers.

Although there have been many studies and recommendations on the importance of innovation, these concepts are often only theoretical and not effectively implemented. The implementation of innovation among MSMEs remains far from

ideal. Some MSMEs have attempted to differentiate processed food products. However, these innovations are often limited to modifications of the taste, shape, or size of the product. The broader concept of innovation has not yet been fully understood by MSMEs. MSMEs still need guidance on which direction to apply innovation according to the needs of their business development.

According to previous research, the problems faced by MSMEs are diverse. However, the issue emphasized in this study is directly related to increasing MSMEs competitiveness. Apart from innovation, the next issue for MSMEs is the lack of understanding of the importance of building a brand. Kennedy and Wright (2016) stated that MSMEs do not yet possess sufficient knowledge of marketing and appropriate business branding strategies to develop product/service sales, including attractive products. In another study, Inskip (2004) mentioned that many micro and small businesses have limited awareness and understanding of effective branding strategies. This challenge is compounded by a lack of expertise in developing and maintaining a strong brand identity, which is essential for a competitive market.

The majority of MSME are still focused on trading and overlooking branding (Dzogbenuku & Keelson, 2019; Sya'banniah et al., 2024). Sumartik and Larassaty (2016) stated that small businesses still have minimal awareness of branding and rely solely on loyal customers and distributors to sell their products. Aristawidia (2020) also stated that the main challenge for MSMEs is their lack of awareness of branding's role in business growth. Many have yet to integrate branding into their strategy, focusing solely on profit rather than consumer perception (Sharma et al., 2019). As a result, MSME products struggle to gain market recognition and recall. Small business owners' orientation tends to be short-term and the role of branding in maintaining

business sustainability is not fully understood. The lack of a strong brand could result in stagnation, as businesses struggle to differentiate themselves from competitors (Setiawan, 2021). Building a brand is not only about making MSME products known or enticing customers to make purchases. Building a brand means building trust with customers, which plays a role in the company's sustainability (Mckinney & Benson, 2013).

1.1.5 Design as a Strategic Tool for Innovation and Branding

Mozota (2003) states that design is closely related to innovation and branding. Design is an inseparable part of innovation because it is not only about aesthetics, but also about solving a problem, improving functionality, and creating new value. Design can trigger innovation by identifying users' needs while translating innovative ideas into real products or services. From a branding aspect, good design can be a tool in building and communicating the value of a brand to consumers so that it looks different from competitors and is easily remembered visually.

Other research, Best (2015) and Lockwood (2009) explains in more detail that design creates value by reinforcing innovation, improving functionality, visual differentiation, brand strengthening, and creating customer experience. Therefore, design plays a crucial role in organizations, including MSMEs. Ideally, an MSME can strengthen its competitiveness by focusing on innovation, reinforcing its identity and differentiation, and effectively conveying the value of its products to customers (Acklin, 2010; Brazier, 2010).

Design has the potential to significantly increase the competitiveness of MSMEs, but internal challenges such as limited capital and inadequate design

expertise often hinder its effective implementation. MSMEs have limited financial resources, which limits their ability to invest in high-quality design services and tools. These financial constraints limit their ability to compete with large companies able to provide elaborate design solutions (Fonseca Braga & Zurlo, 2018; Zahra & Suharto, 2024). Yuliana et al. (2022) additionally clarify this by saying that the lack of qualified labor in MSMEs increases their difficulties as they can lack access to experienced designers capable of producing innovative and competitive designs.

Limited knowledge in the field of design and the absence of funding cause design practices to be very limited and do not produce optimal results. This has a direct impact on the functional and aesthetic aspects of the produced design artifacts. Cadavid and Maya (2024) stated that designers lacking knowledge could find it difficult to use accepted aesthetic heuristics, which might result in less creative work. One of the most fundamental design artifacts as a brand representation is the logo. A logo communicates the quality and character of a brand visually (Stoimenova, 2017). Therefore, an aesthetically good logo is important in the branding process. However, in practice, MSMEs still experience obstacles in producing logos that have characteristics and are able to differentiate themselves from competitors. This is in accordance with research Talakua and Sitaniapessy (2024), who explain that the problem often faced by MSMEs is the lack of understanding regarding the use of logos in marketing and promoting products, making it difficult to compete in marketing products in a wider market area. Apart from information, the lack of expertise in creating designs is an aesthetic issue. Aini et al. (2025) study raises similar issue as almost all MSMEs lack the ability to design interesting logos and packaging that accurately represent their brand identity.

Besides logos, one example of artifact design, which is the primary medium for MSMEs, particularly in the food industry, is packaging. Maschaolah et al. (2024) claim that many MSMEs struggle with basic, unappealing package designs, thus limiting their market reach. Suherlan and Widiyanti (2021) also mentioned this, underlining that Micro, Small, and Medium Enterprises (MSMEs) still struggle with packaging as they lack knowledge of the importance of image, quality, and visual appeal in packaging.

Several large companies, such as Apple, Samsung, Google, Nike, and other major corporations, have successfully implemented the use of design in business processes up to the strategic level (Mozota, 2003). The integration of design in large-scale companies has proven to be effective. However, a different scenario may occur when the design is used by small-scale companies such as MSMEs. Small-scale companies undoubtedly face several challenges in their implementation. Therefore, it is necessary to investigate the extent to which small-scale companies can strategically apply design.

One approach to elevating design to a strategic level within a company is to use a design strategy framework. Brigitte Borja de Mozota (2003) emphasized that design's contribution to strategy formulation involves ensuring its role in shaping corporate culture, identifying opportunities for design innovation, and implementing corporate identity through design. Similarly, Best (2015) notes that a design strategy outlines how an organization decides to utilize design and how design processes are leveraged for operational needs.

The design strategy framework begins with an analysis of both the internal and external environments, providing a holistic understanding that forms the basis for

determining the design outputs required by MSMEs. Each stage in the design strategy framework ensures that no variables are overlooked, which could affect potential design opportunities. In conclusion, the design strategy framework is expected to produce practical design decisions for MSMEs to enhance competitiveness, considering their existing challenges and limitations.

Numerous studies have been conducted outside Indonesia to examine the role of design in business growth. Most of these studies have focused on large companies with high design capabilities. However, research examining MSMEs as small-scale companies remains limited. Previous studies have examined the implementation of the design strategy process in MSMEs in several developed countries, but research discussing this practice in developing countries such as Indonesia is very rare.

Although design is recognized as an important factor in increasing competitiveness through strengthening innovation brands, many MSMEs in Indonesia have not optimally utilized design in their business strategies. There are quite a lot of studies discussing design solutions for MSMEs. Susanto et al. (2024) discuss the crucial role of effective branding and the lack of visual aspects for MSMEs to differentiate themselves in the competitive market. Madyoratri and Sari (2024) examine the influence of design on packaging that improves the visual appearance and marketability of MSME products. This study also examined the importance of innovation and product differentiation. Many more studies have been conducted on the influence of design on MSMEs in Indonesia. However, of all the published studies, almost all articles discuss design from an operational aspect that is a partial solution, and almost no studies have been found that discussed design solutions in a structured

and holistic manner at the strategic level for MSMEs in Indonesia. **This is the first research gap identified in this study (RG1).**

1.1.6 Pentahelix as a Holistic Approach in Empowering MSMEs

In addressing the complexity of the problems faced by MSMEs, the single-actor approach has proven inadequate. MSME problems are multidimensional issues that require collaborative involvement of various stakeholders. MSME empowerment cannot be achieved by relying solely on governmental, academic, or community initiatives. Each party has its own role and contribution, which can complement each other in creating a positive ecosystem for MSME growth. Therefore, through support from all parties, MSMEs can gain wider access to resources, knowledge, innovation, and markets; thus, they are expected to be able to increase their competitiveness.

Pentahelix is one of the collaboration models between stakeholders that emphasizes synergy between government, academics, industry, society and media (Hoerniasih et al., 2022). This concept evolved from the Triple Helix, which was first introduced by Leydesdorff and Etzkowitz (1998). It acknowledges the significance of collaboration among universities, industry, and government in the development of innovation. Then, the pentahelix model adds elements of the community and media as complementary elements. Closed development that focuses solely on internal MSMEs is difficult to implement; therefore, the pentahelix approach is considered more appropriate for increasing sustainable competitiveness. Pentahelix applies an open concept that maximizes the innovation potential of each stakeholder Susanti et al. (2021). Furthermore, according to Hoerniasih et al. (2022), the pentahelix approach

can effectively improve entrepreneurial skills, knowledge, and strategies through a collaborative process.

The pentahelix model, commonly used and socialized by the Indonesian government, is known by the acronym ABCGM: Academics, Business, Community, Government, and Media. The Indonesian government encourages the ABCGM model because it is considered more adaptive and in accordance with Indonesia's social, economic, and cultural contexts (Subagyo, 2021). The role of each element in the ABCGM model is studied in the research (Wadu & Nopiyanti, 2021), which explains that academics play a role in providing education about relevant knowledge and preparing skilled workers; the business world and society support the existence of MSMEs; the government plays a role in creating a conducive business environment through policies; and the media plays a role as a means of promotion.

Given the complexity of MSME empowerment, increasing competitiveness, which focuses only on MSME internal solutions, is not optimal. The potential of each stakeholder in pentahelix ABCGM must be actively involved in every design opportunity that arises. Involving all parties, the design solutions recommended in this study are expected to be more applicable, comprehensive, and relevant to the real needs of MSMEs. This multi-party involvement ensures that design solutions are not only conceptually innovative but also economically feasible, socially acceptable, and supported by appropriate policies so that they can provide significant and sustainable positive impacts.

The Indonesian government has used the pentahelix model to resolve various societal issues (Medlimo, 2022). The hope is that, in the process of reviewing and outputting solutions offered, all stakeholders will be involved. However, in reality, its

implementation in the field still faces various obstacles. Trisnantari et al. 2023), in their research, explained that many MSME developments do not involve appropriate collaboration between stakeholders in the pentahelix, resulting in less effective results. The important role and support of the government in facilitating this is not functioning (Sultan & Sultan, 2020). This research highlighted the minimal involvement and role of academics in increasing MSME knowledge. Many MSMEs still do not understand the opportunities for visibility through the media (Hafidz et al., 2023). The lack of coordination and communication between stakeholders causes the solutions offered to be partial and unsustainable. Therefore, a guide that provides direction and views for stakeholders regarding their role in empowering MSMEs is needed.

Previous studies that examine design in MSMEs have been numerous, but these studies only focused on what MSMEs should do individually. (Maulana et al., 2024) mention the importance of the role of each actor in pentahelix in increasing the competitiveness of MSMEs. Therefore, in this case, solving MSME problems requires a more collaborative solution involving all parties, not just individual solutions alone. Research on MSME empowerment in Indonesia within the scope of design science that involves pentahelix elements as collaborative solutions is very rare and difficult to find. **Thus, this is the second research gap identified in this study (RG2).** Based on this gap, studies examining collaborative design solutions to increase the competitiveness of MSMEs are urgently needed.

1.2 Problem Statement

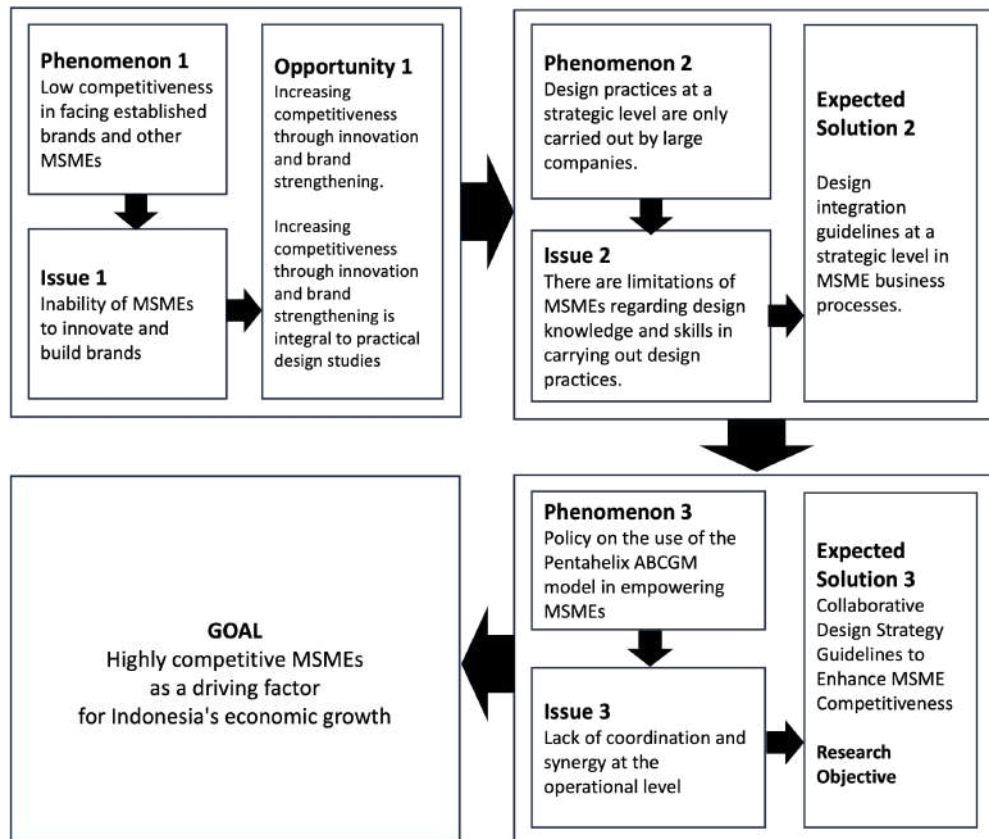


Figure 1.2 Research Problem Statements

The first issue is the processed food industry's intense competitiveness in Indonesia, particularly in Bandung Regency. Ranging from small-scale enterprises to large, more established brands, this competitive market is filled with many different brands. MSME brands have to be able to compete with other brands if they are to have more market access. However, in reality, most are not yet sufficiently competitive to be accepted by the market. One way to penetrate the market is for MSMEs to be able to innovate and strengthen their brand in order to differentiate their identity from competitors. Furthermore, MSMEs must be more creative in communicating the uniqueness of products offered to their customers.

One of the keys to success can be a thorough awareness of significant values and consumer behavior, which supports the requirement of innovation and positioning in MSME businesses. By emphasizing user requirements and market expectations, design thinking encourages creativity, which results in effective product creation and distinction (Pamfilie & Croitoru, 2018). Moreover, design is essential in conveying brand identity and shapes customer impressions and emotional ties. In short, effective design can increase brand engagement by creating products that meet consumers' desires and hedonistic experiences (Hemonnet-Goujot & Manceau, 2016). It can be concluded that mastery of design practices impacts innovation capabilities and brand enhancement opportunities for MSMEs. Unfortunately, most MSMEs do not accomplish this in practice. Previous research indicates that the failure of design practice in MSMEs are caused by two factors. First, MSMEs lack design knowledge and expertise. Second, there is a lack of funding for financial design practices within the company. **Thus, in this research it is important to understand to what extent MSMEs have implemented design practices in their activities, as well as their potential and capability for such implementation.**

The basis of thinking in this research is as follows: When design practices can be implemented effectively through innovation and brand strengthening, they are expected to indirectly provide MSMEs with greater competitiveness, allowing them to compete more successfully with other, more established brands. Therefore, it is important for MSMEs to optimally utilize designs for every business activity.

The second issue in this research is the low capabilities of MSMEs in implementing design practices in their business processes. This issue is related to the opportunity to bring MSMEs into the use of design at a more strategic level, not only

at the operational level. Optimizing the role of design in its business integration is expected to provide more structured and systematic steps for design practice. Previous studies have discussed the effective use of design in established companies in various countries. However, the situation is difficult for small companies in developing countries. Bringing design to a strategic level in small-scale companies such as MSMEs is obviously different from when it is done in large corporations with abundant resources.

The importance of design in generating innovation and as part of the branding process requires MSMEs to conduct more mature and strategic planning. Each stage in the design strategy framework used in this study provides a comprehensive understanding of the design opportunities (external indicators) that can be utilized by MSMEs by considering their capabilities (internal indicators). Unfortunately, the desire and ability of MSMEs to identify design opportunities in the market are very low.

MSMEs often view design as an expensive luxury rather than a necessity. This perception is caused by a lack of understanding of how design can drive innovation and improve market performance (Brazier, 2010). Another reason is that many MSMEs still have difficulty with uneven education regarding design opportunities. This lack of access makes it impossible for them to make maximum use of design for design outputs such as branding and digital marketing (Zahra & Suharto, 2024). According to Resti et al. (2023), MSME empowerment training programs often do not emphasize the importance of design and branding, resulting in a lack of awareness of how these elements can increase the uniqueness and competitiveness of products in the global market. **Therefore, a guideline that can provide information on market**

opportunities that can be exploited through design practices can be of great benefit to them.

Solutions for empowering MSMEs must be comprehensive, not partial, collaborative, and sustainable. There are still many obstacles to implementing the pentahelix ABCGM model in MSME empowerment programs in Indonesia, which can be a lesson for this study. This is the **third issue** that must be considered in the research process. Therefore, the role of each stakeholder must be clearly stated in their involvement in each MSME empowerment program. **In turn, the recommended guidelines in this research involve the role of each stakeholder in their involvement in increasing MSME competitiveness through design integration in MSME business processes.** Ultimately, it is hoped that the recommended guidelines can contribute to increasing MSME competitiveness and their role in national economic growth.

Therefore, the problem statements for this research are:

Problem Statement 1 (PS1). Design can increase the potential for innovation and brand strengthening; however, most MSMEs have not succeeded in practice.

Problem Statement 2 (PS2). Design as part of a strategy can increase business growth through competitiveness, but it is difficult to do so in small-scale businesses such as MSMEs.

Problem Statement 3 (PS3). Pentahelix ABCGM provides a collaborative solution approach; however, its implementation remains sectoral.

1.3 Purpose of the Study

Lack of understanding of design can significantly hinder competitiveness by preventing companies from effectively leveraging design as a strategic tool for innovation and market differentiation. Companies who do not integrate design into their business processes indicate this issue especially as they lose chances for product innovation and competitive advantage. MSMEs often lack the necessary design knowledge and skills. This limits their ability to effectively implement design practices to meet market needs and adapt to customer preferences (Sevcikova & Knoskova, 2022). This is one of the reasons why MSMEs find it difficult to compete in a competitive market.

In a competitive industry, every design decision is influenced by many elements, one of which is the dynamic external environment outside the company. External factors provide information on opportunities and threats to a company. With the design thinking paradigm, every piece of information can be sorted into opportunities for design to contribute positively to the company's design strategy. This was studied by Panchal et al. (2017), who stated that design decisions are influenced by the strategies and actions of competitors, as well as other factors outside the company. Understanding these dynamics through guide and experiments can provide insight into effective design strategies.

Any information obtained from the external environment must be responded to internally to produce design decisions, projects, or design practices that must be carried out or prioritized. No matter how strong the positive signal becomes as a design opportunity, it will not be effective if the company does not have the knowledge and ability to implement it. Unfortunately, this often occurs in MSMEs. The general lack

of education among MSME operators makes it difficult to understand and apply design practices (Mehta, 2014). Therefore, understanding the ability of MSMEs to carry out design practices is very important, as is determining what solutions must be taken to improve design practices in MSMEs.

The resulting solution cannot only focus on developing design knowledge and skills because in its implementation, design practices require funds. When large companies that have large funds use the services of professional designers, the reality is different from MSMEs, which have limited funds. For this reason, the solutions offered must involve all parties involved in empowering MSMEs. In the ABCGM pentahelix, it has been mapped out who are indeed stated to have the competence and resources to empower MSMEs: Academics, business ecosystems, communities, government, and the media. Finally, it is hoped that they each have their own roles in empowering MSMEs through design integration.

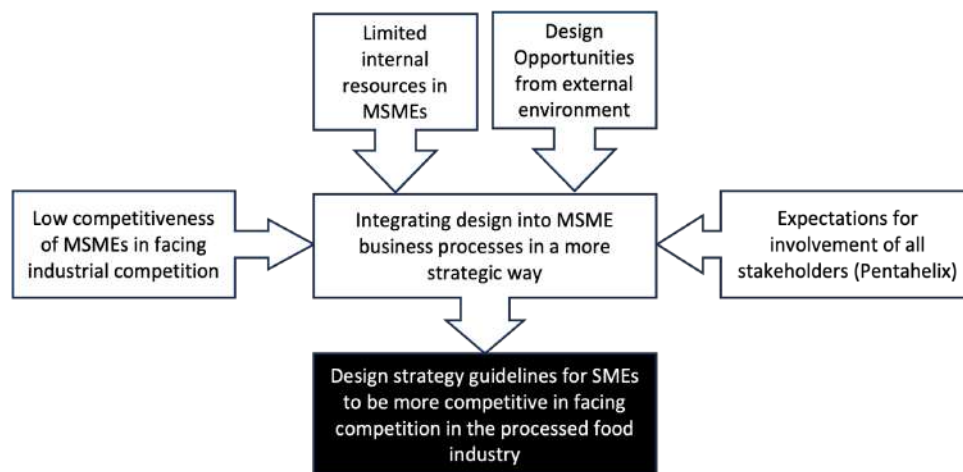


Figure 1.3 Purpose of the Study

Understanding the importance of design has begun to be understood by MSMEs through the many trainings they have completed. Unfortunately, this is still

partial, and MSMEs only understand a small part of design practices in their business processes. What is needed for them is a more holistic understanding of how each design practice interacts with every business activity. For this reason, design needs to be brought to a strategic level, where understanding design becomes an inseparable part of every step of business growth. Sevcikova and Knoskova (2022) mentioned that companies that do not have design skills struggle to integrate design into their business processes, limiting their ability to leverage design as a strategic asset. Therefore, a guideline is needed that can be a direction for every step of MSMEs in carrying out design practices in every business activity. Thus, this study aimed to formulate a guideline design strategy that can play a role in increasing competitiveness in the competitive processed food industry.

1.4 Research Question

The research questions in this study were formulated based on the existing research gap (RG), identified problem statement (PS), and purpose of the study. The aim of this study was to ensure that the findings were consistent and structured.

MSMEs play an important role in driving economic growth and supporting the livelihoods of local communities, especially in Bandung Regency. MSMEs in the processed food industry faced developing intense competition and changing customer tastes; so, more competitiveness is needed. Design may become more important as a strategic tool in reaction to these issues as it may encourage innovation and raise product value, brand image, user experience, and overall business performance.

Though sometimes because of lack of resources and capability, the incorporation of design into MSME business processes is still underused despite the