DESIGN VALUES WITH CULTURAL AND AESTHETICAL FRAMEWORK FOR MARKETABILITY OF THE LINXIA TRADITIONAL HANDICRAFT PRODUCT IN CHINA

By

JIN DOUWENKUN

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirement of the Degree of Doctor of Philosophy

November 2024

FRSB 2024 19

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the Degree of Doctor of Philosophy

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November 2024

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Traditional handicraft products have reflected to the culture and heritage of the region from which they originate. These products are typically unique, exhibiting the artisan's skill and creativity. Ensuring consistent quality can be difficult due to the handmade nature of products that leading to variability that might not meet consumer expectations and successful in the market. For it successful, innovation is always referred for business success and survive in the global as well as competitiveness. Through innovation in traditional handicraft product development, it can lead to a new breath and sustainable in the market. An integrating with the design elements able to create the products appeal to contemporary tastes. However, the development a new innovative traditional handicraft product always lacks innovation strategy. Hence, the research aims to develop a new framework that integrate the design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft product in China. To provide the background and critical issue, the comprehensive literature review was conducted with emphasis on design value, cultural, and aesthetical of the

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product. Furthermore, the empirical investigation also conducted involved with the design experts and experienced product users through Sampling Product Analysis of Brick Carving of Linxia attempt to recognise the valuable product elements. The result found and recognised 29 design value with cultural and aesthetical elements that significantly contribute for marketability. In addition, a new framework namely Design Value Product Cultural Aesthetical (DVPCA) was developed as become a guidance for designers and craft practitioners in the design and development of a new Linxia traditional handicraft product in China.

Keyword: Chinese Culture, Innovation Strategy and Product Development, Traditional Handicraft Product.

SDG: GOAL8: Decent Work and Economic Growth, GOAL9: Industry, Innovation, and Infrastructure

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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

KERANGKA KERJA NILAI REKA BENTUK DENGAN BUDAYA DAN ESTETIKA UNTUK KEBOLEHPASARAN PRODUK KRAFTANGAN TRADISIONAL LINXIA DI CHINA

Oleh

JIN DOUWENKUN

November 2024

Pengerusi : Profesor Madya Ts. Hassan bin Hj. Alli, PhD
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Produk kraftangan traditional telah mencerminkan budaya dan warisan wilayah asalnya. Produk ini biasanya unik, mempamerkan kemahiran dan kreativiti tukang. Memastikan kualiti yang konsisten boleh menjadi sukar kerana sifat buatan tangan produk membawa kepada kebolehubahan yang mungkin tidak memenuhi jangkaan pengguna dan berjaya dalam pasaran. Untuk kejayaannya, inovasi sentiasa dirujuk untuk kejayaan perniagaan dan bertahan di peringkat global serta berdaya saing. Melalui inovasi dalam pembangunan produk kraftangan tradisional, ia boleh membawa kepada nafas baharu dan mampan dalam pasaran. Penyatupaduan elemen reka bentuk mampu menghasilkan produk yang menarik citarasa kontempori. Walaubagaimanapun, pembangunan produk kraftangan tradisional yang inovatif sentiasa kekurangan strategi inovasi. Oleh itu, penyelidikan ini bertujuan membangunkan kerangka kerja baharu nilai reka bentuk dengan unsur budaya dan estetika untuk kebolehpasaran produk kraftangan traditional Linxia di China. Untuk memberikan latar belakang dan isu kritikal, kajian literatur secara komprehensif telah

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dijalankan dengan memberikan penekanan kepada nilai reka bentuk, budaya dan estetika produk. Selain itu, kajian empirikal turut dijalankan melibatkan pakar reka bentuk dan pengguna produk berpengalaman melalui Persampelan Analisis Produk ukiran bata linxia bagi mengenalpasti eleman produk yang bernilai. Hasilnya mendapati dan meniktiraf 29 nilai reka bentuk berkaitan budaya dan estetika yang menyumbang secara signifikan kepada kebolehpasaran produk. Selain itu, kerangka kerja baharu iaitu *Design Value Product Cultural Aesthetical (DVPCA)* telah dibangunkan sebagai panduan kepada pereka bentuk dan pengamal kraf dalam mereka bentuk dan membangunankan kebolehpasaran produk kraftangan traditional Linxia baharu di China.

Kata kunci: Budaya Cina, Produk Kraftangan Tradisional, Strategi Inovasi Dan Pembangunan Produk.

SDG: MATLAMAT 8: Pekerjaan Sesuai dan Pembangunan Ekonomi, MATLAMAT 9: Industri, Inovasi, dan Infrastruktur

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ACKNOWLEDGEMENTS

I would like to express my deep and sincere gratitude to my research supervisor Associate Professor Ts. Dr. Hassan Hj. Alli from the Department of Industrial Design, Faculty of Design and Architecture, Universiti Putra Malaysia for allowing me to do research and providing invaluable guidance throughout this research. His dynamism, vision, sincerity, and motivation have deeply inspired me. He has taught me the methodology to carry out the research and to present the research works as clearly as possible. It was a great privilege and honour to work and study under his guidance. I would also like to thank Dr. Irwan Syah Md. Yusoff for co-assisting me with research work and thesis preparation.

I am extremely grateful to my parents for their love, prayers, caring, and sacrifices in educating and preparing me for my future. Also, I would like to say thanks to my friends for their support throughout this research work. I thank the management of the Faculty of Design and Architecture, Universiti Putra Malaysia for their support in doing this work.

Finally, my thanks go to all the people who have supported me to complete the research work directly or indirectly.

Respectful yours with sincere gratitude

Jin Douwenkun
January 2025

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TABLE OF CONTENTS

		Page
ABSTRACT		i
ABSTRAK		iii
ACKNOWLEDGEMENTS		v
APPROVAL		vi
DECLARATION		viii
LIST OF TABLES		xiv
LIST OF FIGURES		xvi
LIST OF ABBREVIATIONS		xx
CHAPTER		
1	**INTRODUCTION**	1
	1.1 Introduction	1
	1.2 Research Background	1
	1.2.1 Statement of Issue	8
	1.3 Aim	11
	1.3.1 Research Questions	12
	1.3.2 Research Objectives	12
	1.4 Scope and Area of Research	13
	1.5 Significance of Research	16
	1.6 Thesis Outline	16
2	**LITERATURE REVIEW**	19
	2.1 Introduction	19
	2.2 Chinese Traditional and Culture Handicraft Products	20
	2.2.1 Definition and Concept of Handicraft Products	22
	2.2.2 Traditional and Cultural Handicraft Products	25
	2.2.3 The Development of Chinese Traditional and Cultural Handicraft Products	26
	2.2.4 Issue and Challenge of Chinese Traditional and Cultural Handicraft Products	29
	2.2.5 The Future of Chinese Traditional and Cultural Handicraft Products	32
	2.3 Traditional Cultural Handicraft Products in Gansu Province	34
	2.3.1 Linxia of Hetaomin Region	37
	2.3.2 The Development of Handicraft Industry in Linxia	39
	2.3.3 The Development of Linxia Traditional Handicraft Products	41
	2.3.4 Linxia Traditional Handicraft Products	42
	2.4 Strategic for Design Innovation of Traditional Handicraft Products	57
	2.4.1 Definition and Concept of Innovation	59
	2.4.2 Traditional Cultural Handicraft Versus Modern Design	60
	2.4.3 Design Value of Traditional Handicraft Products	64

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2.4.4 Collaborative Design in Traditional Handicraft Products 66
2.4.5 Innovation Design for Traditional Handicraft Products 68
2.4.6 Design and Development for Traditional Handicraft Products 69
2.5 Aesthetical Innovation for Product Development 73
2.5.1 Aesthetical Attributes Properties 75
2.5.2 Aesthetical Gene for Product Character 81
2.5.3 Product DNA of Aesthetical Design Method 85
2.5.4 Product DNA With Aesthetical Elements 88
2.6 Marketability for Traditional Handicraft Products 91
2.6.1 Market Value of Traditional Handicraft Products 92
2.6.2 Product Marketability 99
2.6.3 Product Innovation and Marketability 101
2.6.4 Product Innovation Knowledge for Marketability 102
2.6.5 Product Innovation Process for Marketability 104
2.7 New Development of Linxia Traditional Handicraft Products 107
2.7.1 Gap and Strategy for New Traditional Handicraft Products 108
2.8 Conclusion 110

3 RESEARCH METHOD 112
3.1 Introduction 112
3.2 Research Strategy 112
3.2.1 Research Method 115
3.2.2 Source of Data 119
3.3 Data Collection 121
3.3.1 Data Collection and Procedure 123
3.3.2 Empirical Research 127
3.3.3 Research Sampling 132
3.4 Development of A New Framework 134
3.4.1 Validation of A New Framework 135
3.5 Data Analysis and Results 136
3.5.1 Quality of the Research Instrument 137
3.6 Conclusion 138

4 DATA ANALYSIS AND RESULTS 140
4.1 Introduction 140
4.2 Data Analysis and Results of Design Experts 140
4.2.1 Reliability of the Research Instrument 140
4.2.2 Characteristics of Design Expert 141
4.2.3 Main Issue of Linxia Traditional Handicraft Products 144
4.2.4 The Important of Design for Linxia Traditional Handicraft Products 145
4.2.5 The Importance of Design Features for Linxia Traditional Handicraft Products 146
4.2.6 The Important to Integrate Design Value for Linxia Traditional Handicraft Products 148
4.2.7 The Design Value for Linxia Traditional Handicraft Products for Marketability 149

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4.2.8 Design Knowledge for Marketability of Linxia Traditional Handicraft Products 151
4.2.9 Marketability Factors to Enhance Design Value of Linxia Traditional Handicraft Products 153
4.2.10 The Benefits of Design Value for Linxia Traditional Handicraft Products Toward Marketability 155
4.2.11 Cultural Elements for Marketability for Linxia Traditional Handicraft Products 158
4.2.12 Aesthetical Element for Marketability for Linxia Traditional Handicraft Products 160
4.2.13 The Role Cultural Elements for Marketability of Linxia Traditional Handicraft Products 163
4.2.14 The Role Aesthetical Elements for Marketability of Linxia Traditional Handicraft Products 165
4.2.15 Factors to Enhance the Development of Linxia Traditional Handicraft Products with Cultural and Aesthetical Elements 167
4.2.16 Integration Factors with Cultural and Aesthetical Elements for Marketability the Linxia Traditional Handicraft Products 168
4.3 Data Analysis and Results of Experienced Product Users 168
4.3.1 Reliability of the Research Instrument 168
4.3.2 Characteristics of Experienced Product Users 169
4.3.3 The Awareness of Linxia Traditional Handicraft Products 172
4.3.4 The Purchased Rate of Linxia Traditional Handicraft Products 173
4.3.5 Frequency Purchased of Linxia Traditional Handicraft Products 173
4.3.6 The Linxia Traditional Handicraft Product Purchased Types 174
4.3.7 Reasons for Purchased the Linxia Traditional Handicraft Products 174
4.3.8 The Main Issue of the Linxia Traditional Handicraft Products 175
4.3.9 Users' Attitude to Purchase the Good Design of Linxia Traditional Handicraft Products 176
4.3.10 Design Factors Influenced the Product Users Purchase Decision 176
4.3.11 Users Evaluation of Design Value Elements of Linxia Traditional Handicraft Products 177
4.3.12 Cultural Elements Significantly Can Improve the Marketability of Linxia Traditional Handicraft Products 179
4.3.13 Aesthetical Elements Significantly Can Improve the Marketability of Linxia Traditional Handicraft Products 180
4.3.14 Culture Elements for Linxia Traditional Handicraft Products 180

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4.3.15 Cultural Elements of Linxia Traditional Handicraft Products – Sampling Product Analysis of Brick Carving 182
4.3.16 Aesthetical Element of Linxia Traditional Handicraft Products – Sampling Product Analysis of Brick Carving 193
4.4 Conclusion 195

5 DEVELOPMENT OF A NEW FRAMEWORK 198
5.1 Introduction 198
5.2 Discussion of Finding 198
5.2.1 The Importance of Design Value for Marketability the Linxia Traditional Handicraft Products in China 199
5.2.2 Design Value with Cultural and Aesthetical Elements for Marketability the Linxia Traditional Handicraft Products in China 201
5.2.3 Linxia Traditional Handicraft Products for Marketability 215
5.2.4 Summary of Finding 217
5.3 The Development of New Framework 218
5.3.1 The Development of New Framework Based on Design Value with Cultural and Aesthetical Elements 221
5.3.2 The Codding Process and Detailed Step of DVPCA Framework 224
5.3.3 Level Assessment for Marketability of Variable 226
5.4 Validation and Verification of DVPCA Framework by Conjoint Analysis Method through Sampling Product Analysis 227
5.4.1 Sampling Product Analysis by Conjoint Analysis 228
5.4.2 Reliability of the Research Instrument 235
5.4.3 Characteristics of Brick Carving Purchasers 235
5.4.4 Evaluation of Brick Carving Products based on DVPCA Framework 238
5.4.5 Highest Marketability of Brick Carving Product (Wonderful Hezhou) 242
5.4.6 Summary of Validation 244
5.5 Conclusion 245

6 CONCLUSION AND RECOMMENDATION 247
6.1 Introduction 247
6.2 Conclusion 247
6.3 Research Contribution to Knowledge 250
6.3.1 Novelty of the Study 251
6.4 Limitations of Research 253
6.5 Recommendations for Future Research 253

REFERENCES 254
APPENDICES 278
BIODATA OF STUDENT 302
LIST OF PUBLICATIONS 303

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LIST OF TABLES

Table		Page
2.1	Artistic value and aesthetical value	77
2.2	Aesthetical adjective properties	79
2.3	Classification of creative industries	93
2.4	Crafts in manufacturing and industrial economic activities	94
2.5	Product market value	95
3.1	The relation of research question and research method	118
3.2	Requirements for the questionnaire	124
3.3	Characters of design experts	129
3.4	Character of experienced product users	130
3.5	Cronbach's alpha by Lee Cronbach	138
4.1	Reliability of research instrument statistic for experts' survey	141
4.2	The importance of design features for Linxia traditional handicraft products	146
4.3	The design value for Linxia traditional handicraft products for marketability	149
4.4	Design knowledge for marketability of Linxia traditional handicraft products	151
4.5	Marketability factors to enhance the design value of Linxia traditional culture handicraft products	153
4.6	The benefits of design value for Linxia traditional culture handicraft products toward marketability	155
4.7	Cultural elements for Linxia traditional handicraft products	158
4.8	Aesthetical element for Linxia traditional handicraft products	161
4.9	The roles cultural elements for marketability of Linxia traditional handicraft products	163
4.10	The roles aesthetical elements for marketability of Linxia traditional handicraft products	165

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4.11	Reliability of research instrument statistic for User survey	169
4.12	The age of experienced product users	170
4.13	The income of experienced product users	171
4.14	Type of product purchased	174
4.15	The reason for purchase the Linxia traditional handicraft products	174
4.16	User's evaluation of Linxia traditional handicraft product design value elements	177
4.17	Cultural elements for Linxia traditional handicraft products	180
4.18	Cultural elements of sampling product analysis 1	183
4.19	Cultural elements of sampling product analysis 2	185
4.20	Cultural elements of sampling product analysis 3	187
4.21	Cultural elements of sampling product analysis 4	189
4.22	Cultural elements of sampling product analysis 5	191
4.23	Aesthetical element for Linxia traditional culture handicraft products	193
5.1	Pattern case of cultural elements for Linxia traditional handicraft products	210
5.2	The aesthetical elements of Linxia traditional handicraft products	213
5.3	The variable for marketability	224
5.4	Level Assessment for Marketability	234
5.5	Reliability of research instrument statistic for expert validation survey	235
5.6	Purchasing time of brick carving product	236
5.7	Age and education background	237
5.8	The income of purchaser	237
5.9	Marketability Cultural Product Requirements (MCPR) for brick carving products	241

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LIST OF FIGURES

Figure		Page
1.1	Gansu Province in China	14
1.2	Linxia City in Gansu	15
1.3	Research process associated with thesis chapters	18
2.1	Research conceptual framework	19
2.2	The caves of the Thousand Buddhas at Dunhuang	35
2.3	Linxia in Gansu province	39
2.4	Linxia copper art	44
2.5	Linxia brick carving of building eaves	47
2.6	Linxia wood carving	49
2.7	Linxia embroidery and knitting	52
2.8	Linxia paper cutting	53
2.9	Linxia gourd carving	55
2.10	The framework of innovation	60
2.11	Design family tree	61
2.12	Innovation in design value	64
2.13	Design value framework	65
2.14	Cultural design model	71
2.15	The aesthetic attributes of products	80
2.16	Five research directions of aesthetical characteristics in product design	81
2.17	The pattern of cultural development	84
2.18	The DNA for the product includes the recessive and Dominant Elements	87
2.19	Process of culture product innovation	91
2.20	Knowledge transfer through design intervention.	103

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2.21	Six aspects of innovation in the field of handicrafts	105
2.22	Process model of creativity and innovation in the handicraft sector	106
2.23	Research gap and strategy framework	109
3.1	Research methodology framework	114
4.1	The gender of design experts	142
4.2	The education background of design experts	142
4.3	The age of design experts	142
4.4	The year experience of design experts	143
4.5	The designation of design experts	143
4.6	Types of products making by the design experts	144
4.7	Main issue of Linxia traditional handicraft products	144
4.8	The important of design for Linxia traditional handicraft products	145
4.9	The important of design for Linxia traditional handicraft products according to the design experts experience	146
4.10	The importance of design features for Linxia traditional handicraft products form product groups	147
4.11	Important to integrate design value for Linxia traditional handicraft products	148
4.12	Important to integrate the design value for Linxia traditional handicraft products from the design experts experience	148
4.13	The design value for Linxia traditional handicraft products for marketability from product groups	150
4.14	Design knowledge for marketability of Linxia traditional handicraft products from product groups	152
4.15	Marketability factors to enhance the design value of Linxia traditional handicraft products from product groups	154
4.16	The benefit of design value for Linxia traditional culture handicraft products for marketability from product groups	156
4.17	Cultural elements for marketability the Linxia traditional handicraft products	158
4.18	Cultural elements for Linxia traditional handicraft Products from product group	159

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4.19	Aesthetical elements for marketability for Linxia traditional handicraft products	160
4.20	Aesthetical elements for Linxia traditional handicraft Products from product group	162
4.21	The roles cultural elements toward marketability of Linxia traditional handicraft products from product groups	164
4.22	The roles aesthetical elements for marketability of Linxia traditional handicraft products from product groups	166
4.23	Factors to enhance the development of Linxia traditional handicraft products with cultural and aesthetical elements	167
4.24	Integration factors with cultural and aesthetical elements integration for marketability the Linxia traditional handicraft products	168
4.25	The experienced product users of gender	169
4.26	The education of experienced product users	170
4.27	Occupation of experienced product users	171
4.28	The awareness of Linxia traditional handicraft product	172
4.29	The purchased rate of Linxia traditional handicraft products	173
4.30	The frequency purchase of Linxia traditional handicraft products	173
4.31	Main issue of the Linxia traditional culture handicraft products	175
4.32	Users' attitude towards spending high prices to buy well-designed handicraft products in Linxia	176
4.33	Design factors influenced the experienced product users purchase decision	176
4.34	The elements of design value of Linxia traditional handicraft products based on Likert scale	178
4.35	The significant of culture elements can improve the marketability of Linxia traditional handicraft products	179
4.36	The significant of aesthetical elements can improve the marketability of Linxia traditional handicraft products	180
4.37	Cultural elements for Linxia traditional handicraft products based on Likert scale	181
4.38	Pine cranes always young	183
4.39	Cultural elements for Linxia traditional handicraft products (Pine cranes always Young)	184

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4.40	Roll out felt tablets	185
4.41	Cultural elements for Linxia traditional handicraft products (Roll out felt tablets)	186
4.42	Pottery	187
4.43	Cultural elements for Linxia traditional handicraft products (Pottery)	188
4.44	Bo Gu Shelf	189
4.45	Cultural elements for Linxia traditional handicraft products (Bo Gu Shelf)	190
4.46	Silk Road - Lanzhou	191
4.47	Cultural elements for Linxia handicraft products (Silk Road-Lanzhou)	192
4.48	Aesthetical element for Linxia traditional handicraft products	194
5.1	Design Value Product Cultural Aesthetical (DVPCA) for marketability	222
5.2	Design Value Product Cultural Aesthetical (DVPCA) framework	223
5.3	Product Cultural Design Specification (PCDS)	225
5.4	Level Assessment for Marketability (LAfM) of variable	227
5.5	Brick carving product types and sales	229
5.6	Brick carving in modern fusion series sales	230
5.7	Brick carving product (Wonderful Hezhou)	231
5.8	Brick carving product (Charming Linxia)	232
5.9	Brick carving product (Mount Wutai)	233
5.10	Gender of purchasers	236
5.11	Design Value Characteristics of brick carving products	238
5.12	Product Cultural Element (PCE) of brick carving products	239
5.13	Product Aesthetical Element (PAE) of brick carving products	240
5.14	Sampling product A (Wonderful Hezhou) for marketability	243
6.1	Design Value Product Cultural Aesthetical (DVPCA) framework	252

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LIST OF ABBREVIATIONS

AAO	Artisan Assistance Organization
DVPCA	Design Value Product Cultural Aesthetical
ISIC	International Standard Industrial Classification
ITC	International Trade Center
ITC	International Trade Center
LAfM	Level Assessment for Marketability
MCPR	Marketability Cultural Product Requirements
PAE	Product Aesthetical Elements
PCDS	Product Cultural Design Specification
PCDS	Product Cultural Design Specification
PCE	Product Cultural Elements
PDC	Product Design Characteristics
Symbols	Full Name
UAL	University of the Arts London
UAL	University of the Arts London
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UNSD	United Nations Statistics Division

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The introduction chapter discussed and summarised the issues of the topic under investigation to establish the direction and the need for further research. The chapters also highlighted the research aim, research questions, research objectives, scope and area of study, and the significance of the research. Finally, the structure of the thesis is presented at the end of chapter.

1.2 Research Background

Culture plays a significant role in recent development efforts across various domains, including technology, business, and social progress. Culture is a powerful force for sustainable development, shaping values, knowledge systems, community dynamics, behaviour, creativity, and collaboration. Recognising and leveraging cultural assets and perspectives are essential for designing effective, inclusive, and contextually relevant sustainable development strategies that address the complex interconnected challenges facing humanity. According to Frantzeskaki et al., (2012); United Nations Educational, Scientific and Cultural Organisation (2016), (hereinafter referred to as UNESCO) culture is an all-embracing concept that refers to the way of life of individuals in a particular society. The concept of culture has been embedded in, and enhancing, the paradigm of society of values and the very concept of sustainable

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development (Bervar & Trnavčevič, 2019). Culture is learned, not inherited and it derives from one's social environment, not from one's genes (Naibei, 2014). In addition, culture is an important aspect of sustainable development, as it refers to how we understand and appreciate natural resources and each other. Culture also can offer answers to global challenges of today's world (Bervar & Trnavčevič, 2019). Recently, culture has been regarded as one part of sustainable social and economic development.

China is one of the world's ancient civilisations and has a long history of cultural forms (Pan & Rafeah, 2022). Chinese traditional culture is rich and diverse, spanning thousands of years of history and encompassing various aspects of life including philosophy, art, language, cuisine, customs, and social practices. According to Zhang and Liu (2020), Chinese traditional culture has a long history and contains various cultural wealth, reflecting various cultural achievements of the Chinese nation's humanistic characteristics and folk customs. The development of Chinese traditional culture spans thousands of years and has been shaped by various historical, social, political, and philosophical influences. Recently, Chinese traditional culture has been identified as an essential component of sustainable social and economic development in China. Despite modernisation and globalisation, Chinese traditional culture continues to thrive and evolve, influencing contemporary Chinese society, art, philosophy, and worldview. However, balancing economic development with cultural preservation remains a significant challenge for China. Efforts to preserve and promote traditional cultural heritage remain an integral part of China's cultural policy and national identity.

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Traditional handicraft products are items created by skilled artisans using traditional techniques, materials, and designs that are reflective of a particular culture's heritage, aesthetics, and values. These products often carry historical significance, embodying the cultural identity and craftsmanship of a community or region. Chinese cultural handicraft products have a long history, dating back to 500,000 years ago. From the Shang Dynasty to the Spring and Autumn Period and the Warring States Period, the handicraft industry began to develop on a large scale (Zibing, 2010). During this period, many bronzes, jade, ceramics, lacquer, and printed handicrafts were widely produced and applied, and there appeared the earliest aesthetic theory record of handicraft products production in China (Clunas, 1997). According to Qin et al., (2019), traditional handicraft products with elements derived from that are obtaining increasing attention. For centuries, handicraft has matched the rhythms of daily life by virtue of its wealthy materiality, deep rooted culture characteristics, and the intrinsic values of high-quality works and culture expressions (Guo & Ahn, 2021). Traditional handicraft product are consumer goods that reconnect consumers with the culture and tradition. Besides that, the traditional handicraft products are not only a practical object but also a carrier of cultural inheritance that played an important role in culture sustainable development (Guo & Ahn 2021).

Traditional handicraft products serve as tangible expressions of cultural identity and creativity but also contribute to local economies, sustainable development, and the preservation of traditional knowledge and skills. In recent years, China's cultural handicraft industry has developed rapidly and has a good development trend (He et al., 2019). Traditional handicraft products become mature gradually with the development of human beings and the characteristics of handcraft can be summarised as: the

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peculiarity of handcraft, the beauty of handcraft, and the emotion of handcraft (Fu, 2015). In addition, it means that the appeal of design can be pleasing to the eye, while the beautiful items are to be practical, and the beautiful meaning affects the heart. However, due to the transformation and technology development, the culture handicraft product is gradually being forgotten and disappearing from our world today. By recognising the importance of traditional culture and handicraft products in shaping Chinese identity and society, China can ensure its cultural heritage continues to thrive in the modern world. In addition, by supporting artisans and promoting cultural heritage, communities can ensure the continued vitality and appreciation of their traditional handicraft products for future generations.

Every evolution has promoted the development of design (Zhang & Chu, 2020). The concept of culture and creative industry is relatively broad, and the design of culture and creative products in recent years is one of them. For traditional handicraft products to be preserved in this modern era, its values and meanings must be promoted, understood, recognised, and appreciated by the wider society (McIntyre, 2010; Fillis 2012). Therefore, it is important to find ways of enabling society to understand and appreciate the cultural values of craft and craftsmanship, and why things made in this way have greater significance. According to McIntyre (2010), a growing appreciation and understanding of traditional culture handicraft products values would increase the demand. With the advent of design in the handicraft industry recently, people's design aesthetics and artistic concepts have evolved and updated (Lou, 2022). Every handicraft product can bring messages to the market in several ways where the aesthetic appearance of the product is just one of these ways to satisfy customers' needs (Dell'Era & Verganti, 2007). Several factors contribute to increasing the

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demand for traditional culture handicraft products and their perceived value. Aesthetical appearance of the product through design is valued as one of the ways to differentiate the offerings of the company (Ravasi & Lojacono, 2005). Aesthetical is referring to the pretty things or the pleasing qualities in a product through such as colour, pattern, balance, scale, shape, movement, and weight. Recently, aesthetics has always been an important whereas it is delivering the product impact of beauty appreciation and value. According to Postrel (2003), aesthetical has become an important criterion by which consumers evaluate and differentiate between product and service offerings to make purchasing decisions. As two important concepts, aesthetical value and artistic value not only have important significance in theory, but also have significant different values in market and product practice. Aesthetical value focuses on sensory experience and emotional resonance, which is widely reflected in product design, brand image and consumer experience. While, the artistic value, on the other hand, focuses on the creation background and cultural significance, which is mainly reflected in the value enhancement of artworks and artistic cooperative products (Beardsley, 1982, Harris,1990, Sennett, 2008). Aesthetical value promotes the wide spread of traditional handicrafts in the market, and makes them not only daily objects, but also objects of artistic appreciation by enhancing the visual appeal, emotional resonance and consumer experience of products (Beardsley, 1982). By emphasising cultural inheritance, innovative creation and uniqueness, injects profound cultural connotation and historical value into traditional handicrafts, making them gain higher recognition and positioning in the art market (Harris,1990, Sennett, 2008). In marketing, both can play an important role by enhancing consumers' emotional identity and cultural connection. Traditional handicraft has important cultural and historical value in the world. It not only carries the history and cultural inheritance of

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the nation, but also gradually presents the dual influence of aesthetical value and artistic value in the revival of contemporary society. In the development of traditional handicraft, aesthetical value and artistic value complement each other and promote each other.

Innovation and creativity are necessary to remain the product demand. Innovations and creativity are similar in the way of new thinking (Tienken, 2013). In addition, innovation is a possible outcome from creativity. According to Wang et al., (2024), innovation and creativity are fostered by the modern design and traditional craftsmanship, which encourages the artisans to experiment with such as the new materials, techniques, and forms. Creativity is something unique and new and creates innovation and entrepreneurship in countries. Innovation is also associated to problem solving, it is either a solution to a new problem or a novel solution to an old problem. To be innovative is to think in problem-solving ways, to utilise new resources or use the existing resources in a more efficient way. To be problem-solving in nature often leads to innovation and new thinking (Huebner & Fitchel, 2015). Innovation and product are always interrelation each other. Product innovation involves with an introducing a new or significant improvement in existing products (Yang & Shafi, 2020). In the perspective of handicraft, innovation oftens create and adds value to the products, changes in size, colour, design, shape, and design uniqueness. It becomes essential factor for handicraft firms' growth a sustainable in the marketplace. However, a crucial part of innovation is innovative thinking process. Thinking is an introspective innovation factor, which is procedural and systematic, flexible, and individual, and varies from person to person. Internally, innovative thinking is related to the innovative subject's cognitive factors, knowledge background, habits, personality, and motivation

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(Zhang & Liu, 2020). Innovation thinking process is a strategy to bring the valuable and marketability a product. Innovation strategy is based on the research on consumer's latent demand or aspiration which could emerge in future society, this whole innovation process is quite challenging and risky for firms to some extent (Verganti, 2009).

The sales ability and market acceptance of traditional handicraft products in the market show the marketability of the product. In today's globalisation and increasingly fierce market competition, the development of traditional handicraft products takes the marketability of products as an important goal. Product marketability involves the whole process from the initial stage of product design to the actual sale of the product, and also includes the market demand and design demand of the product. There are many factors affecting the marketability of traditional handicraft products, including product value perception, product aesthetical, brand image, innovation mode, cultural value, market trend, consumer preference and so on. A product with a high degree of marketability usually means a high market demand and a good product image. The improvement of marketability optimises the market share of products, improves product design and competitiveness, enhances supply chain management, encourages more innovation, and promotes the long-term development of the industry. To enhance the marketability of traditional handicraft products, the key is to maintain its cultural uniqueness and handicraft craft value, while adapting to the needs and changes of the modern market. Therefore, enterprises also need to pay great attention to the marketability of traditional handicraft products to ensure that they can adapt to changes in the modern market and innovate.

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1.2.1 Statement of Issue

The culture and creative industry are booming around the world. It is very important to establish national economic development and national image. Traditional handicraft products need to be inspired by cultural connotation, break through, break through the simple reproduction of the cultural, inspire people to find the cultural gene behind the products, and finally achieve the purpose of educating people with culture (Zhang & Chu, 2020). The modernisation of traditional handicraft products is not only for the development of traditional handicrafts but also for the benefit of mankind (Lou, 2022). According to He et al., (2019), the design of regional ethnic cultural and traditional handicraft products helps to increase the added value of products. Many researchers have investigated and analysed minority group-specific craft traditions and their practices. While the definition of culture, traditional handicraft product and national culture changes over time and constantly changes and develops constantly. These national cultures and the impact of characteristics on product design and how they change over time should be studied more extensively and in depth. However, lacked the expertise to design innovative and references to the re-innovative cause of handicraft product unable create the marketable product. With the change of social and economic structure, the traditional handicraft industry has been greatly impacted, folk arts and crafts in the modern society gradually away from people's vision, and folk art is facing a no one situation (Weiguo, 2019). For instance, Linxia embroidery is gorgeous and rough, and the brick carvings are elegant and elegant, which clearly expresses the beautiful soul and aesthetic characteristics of the people of all nationalities, however it cannot meet the needs of modern people's life, and gradually lose the interest of life.

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Today, industrial design is an important part of the development of competitive products. This importance becomes apparent in competitive markets where everything that can provide a positive experience toward a company is central for management (Arroyo & Bravo, 2020). However, before the design begins, it is necessary to identify consumer groups, conduct target positioning and market analysis as well the need to combine current design trends and aesthetical perspectives, dig deeply into the history, national traditions, and local folk customs resources in the ethnic regions (He et al., 2019). Aesthetics involves the evaluation and appreciation of the beauty and design of objects, people, or consumption environments (Patrick & Peracchio, 2010). For instance, that aesthetics is a potent marketing tool, and that attractive design can enhance product liking (Hoegg et al., 2010; Reimann et al., 2010), inform inferences of value (Sevilla & Kahn 2014), luxury (Hagtvedt et al., 2008), and usability (Kurosou & Kashimura 1995), as well as convey product and firm value (Brasel & Gips 2014; Townsend & Shu 2010). Further, the power of aesthetics goes beyond visual appeal and can effectively connote brand meaning (Sundar & Noseworthy 2016).

Given the lack of cultural originality in contemporary product design in China, and the potential of the Chinese consumer market, designers are seeking to move away from western consumption to embrace a style with more Chinese elements. In addition, the need to change tastes and demands away from Western ideology to those that embrace Chinese designs with embedded culture value is a difficult and long one and our current interpretation of contemporary product design is not seen to be mature, but it lacks inclusion of original culture within the design. Innovation is significant to change the design of a new traditional handicraft products. Innovation is considered a critical factor for competitive advantage and growth of firms in the creative industry; the

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handicraft sector is not without exception (Marques et al., 2019). According to Cheng et al., (2023), the critical process of creating a culture and creative product is the translation of culture elements to fit the modern context, in terms of product functions and aesthetical standards. Recently, design is recognised as a strategic resource for the company, since customers are increasingly paying attention to the design language, i.e., the combination of aesthetic, symbolic and emotional value of the product (Farhana & Bimenyimana, 2015). However, demonstrating the connotation of the product is not an easy task, and it is even tougher in the design of the cultural and creative product, for understanding the broad and diverse Chinese culture correctly is rather difficult for today's designers who grew up in an era significantly influenced by western-styled culture (Cheng et al., 2023).

With the change of people's modern lifestyle, the traditional handicraft products located in the ethnic areas show the loss of ethnic cultural characteristics, and the renewal of technology and culture is slow, leading to the gradual contraction of the market. Thus, the culture forms of traditional handicraft product development need to innovate, and the unchanged traditional product forms and sales concepts must be upgraded to meet new cultural needs (Arroyo & Bravo, 2020). The aesthetical understanding of traditional designs, products and practices is less understood by society (Fillis, 2012). According to Patrick et al., (2019), aesthetical serves as a powerful tool that allows marketers to shape choice, engender loyalty, foster brand attachment, generate positive word of mouth, and promote greater willingness to pay premium prices. According to Buechel and Townsend (2018), with a focus on understanding how aesthetical and design can impact day-to-day life.

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Sustaining the local design of traditional handicraft products has become challenging. To develop today is, develop Chinese traditional handicraft products, it is necessary to adopt the new situation, target new needs, and use new technologies (Yuan, 2022). Hence, this research is valuable to further investigate the design value and factors that bring the innovation as a strategic and analyse it for competitive advantage and marketability in the business world. An integration of Chinese traditional cultural elements into product design also has become the future trend in the development of handicraft products. For that, in this research, the investigation will be more specific and focus to find out the design value related to cultural and aesthetical for marketability of traditional handicraft products. Design value can be referred to as an identity innovation for the users remember identifiable attributes that appeared on the products. For marketability, the traditional handicraft product enterprises need to understand the perceptions and attitudes of consumers about innovation in handicraft products to identify ways of improving competitiveness and profitability. Meanwhile, the focus of designing a cultural product is the form of the product because it is related with the meanings. Thus, in the innovative development of traditional handicrafts products, the combination of these two (2) namely design and cultural can generate economic value and promote the sustainable development and economic growth of cultural heritage.

1.3 Aim

This research aims to develop a new Design Value Product Cultural Aesthetical (DVPCA) Framework for Linxia traditional handicraft products in Hetaomin, China that integrated the design value with cultural value and aesthetical elements. The

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framework develops as a guideline for designer or craft practitioner during the development of a new Linxia traditional handicraft product for marketability.

1.3.1 Research Questions

Based on problem statement above, there are three (3) research questions were highlighted to be answered:

RQ1 What is the importance of design value for marketability the Linxia traditional handicraft products in China?

RQ2 What are the design value with cultural and aesthetical for marketability for Linxia traditional handicraft products in China?

RQ3 How to develop a new framework that integrates design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China.

1.3.2 Research Objectives

To attain the aim of the research, there are three (3) research objectives were defined as follows: -

RO1 To identify the importance of design value for marketability the Linxia traditional handicraft products in China.

RO2 To examine the design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China.

RO3 To develop a new framework that integrates design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China.

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1.4 Scope and Area of Research

Design reflects and reinforces culture identity by incorporating symbols, motifs, materials, and aesthetical that are specific to a particular culture or community. Culture identity is an essential aspect of individual and collective belonging, expression, and heritage. Besides that, design plays a role in the preservation, revitalisation, and adaptation of traditional cultural practices, crafts, and heritage sites. In addition, interventions that integrate traditional knowledge, skills, and materials with contemporary design principles help safeguard cultural heritage while ensuring its relevance and viability in a changing world. Recognising the significance of culture in design underscores the importance of culture sensitivity, inclusivity, and authenticity in creating meaningful and impactful design solutions that resonate with people's lived experiences and culture identities.

The objective of this research is to identify the significance cultural and design value as well as examine the elements for marketability of traditional handicraft products. The research specifically focuses on the Chinese traditional handicraft products of Linxia in Hetaomin, Gansu Province, China. Gansu Province is located in north-western China with a population of 26 million people and home of 44 minority ethnic groups. Gansu province is lies between 32°11′ - 42 °57 ′of north latitude and 92 °13 ′- 108 ° 46′of east longitude.

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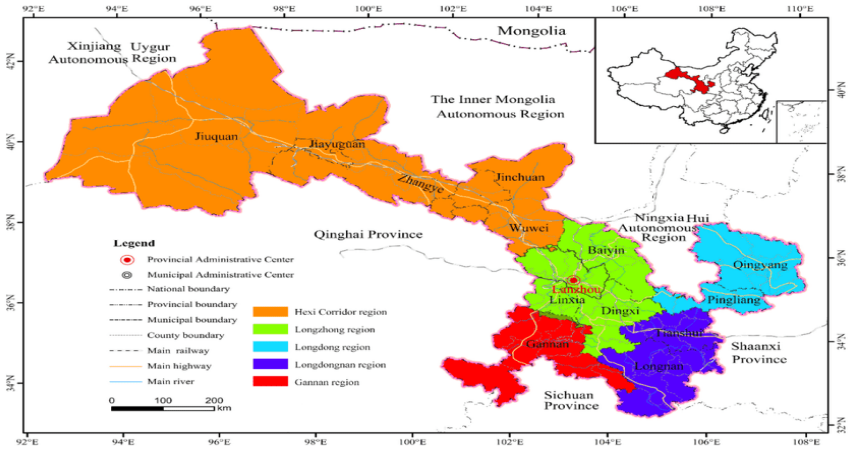


Figure 1.1: Gansu Province in China
(Source by author)

Lanzhou is an administrative center of Gansu province, located in the heart of China (see Figure 1.1). The city itself lies on the Huang He riverside, surrounded by high mountains. In old times, Lanzhou became an important strategic and trade center on the Great Silk Road. Lanzhou was the only large city on the vast 1,600-km section of the Silk Road. In ancient times the city was known for its market, one of the largest in China where goods from all over the world could be found. Everyday dozens of caravans carrying silk, precious stones, greenstones, gunpowder, and paper crossed the city. The Lanzhou history is associated with the history of the Great Silk Road. About 130 kilometres southwest of Lanzhou lies the famous, ancient county of Linxia, the "Land Port of Gansu". Linxia stands on the bank of the lower reaches of the Daxia River, since the river is its neighbour, the town is called lin (neighbour) to the xia which refers to the Daxia River. Linxia was formerly known as Han and was later changed to Daohe and then Hezhou. Since the founding of administrative divisions during the Qin Dynasty (221BC-206BC), it has always been a link between western and central China. Linxia was a vital passage in the ancient Silk Road, Tang-Tibet, and Gansu-Sichuan ancient roads, and was praised as the 'dock on land in West China'.

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The city was established in 1956, being one of the only two autonomous prefectures of the Hui ethnic minority. Other, ethnic groups living here are Han, Dongxiang, Bao'an, Salar, Tu, Tibetan, and Mongolian.



Figure 1.2: Linxia City in Gansu
(Source by author)

Hetaomin region refers to the ancient areas of Hezhou, Taozhou and Minzhou areas, now refers to the whole territory of Linxia Hui Autonomous Prefecture in Gansu Province (see Figure 1.2). While other regions such as Lintan and Zhuoni are in the southeast of Gannan Tibetan Autonomous Prefecture, and Lintao, Minxian, Minxian, Zhangxian and other areas (Ning, 2013). Hetaomin is one of the most important stations on the Tang-Tibet Road and the ancient Silk Road, is in the northeast of the Qinghai-Tibetan Plateau. Hetaomin also has convenient transportation and relatively low elevation (Zhao et al., 2013). According to Ning (2013), Heaotamin is one of the main birthplaces of Chinese civilisation and an important basis for the formation, inheritance, and development of Chinese civilisation. As a result, they are forming the unique and colourful local folk culture too.

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1.5 Significance of Research

Design value with cultural and aesthetical has been proposed to be a further investigation attempt to acknowledge its contribution for marketability. Through the research, it can be addressed from both theory and practice benefits.

a. Acknowledged the importance of design value with cultural and aesthetical elements for Linxia traditional handicraft products in Hetaomin for marketability.

b. Recognised the design value with cultural and aesthetical elements for a new development of Linxia traditional handicraft products in Heteomin for marketability.

c. Introduced a new framework namely Design Value Product Cultural Aesthetical (DVPCA) framework as a guideline for designers or craft practitioners of Linxia traditional handicraft product in Hetaomin that integrate the design value, cultural, and aesthetical for marketability.

d. Increase the marketability of Linxia traditional handicraft products in Hetaomin through the innovation framework at the beginning of a new Linxia traditional handicraft products design and development process.

e. Promote resilient innovation and prevention, the Linxia traditional handicraft products in Hetaomin has become a national and heritage handicraft product in China.

1.6 Thesis Outline

This thesis is divided into six (6) chapters and each chapter is associated with each stage of the research process, as illustrated in Figure 1.2 below.

Chapter 1 Introduction - an overview of the topic and indicate necessary background or information followed by explanation of the aims, research questions and research objectives. It also highlighted the scope and area of research, research significant and the thesis outline.

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Chapter 2 Literature Review - a review of significant issues undertaking the research. The review focused on the significance and contribution of design value with cultural and aesthetical elements for Linxia traditional handicraft products in Hetaomin, Gansu Province for marketability. At the end of this chapter, the research gaps are identified, and a new strategy is proposed.

Chapter 3 Research Method – an explanation of research plan, method selection and process attempt to answer the issue under investigation. The research method including research approach, participants, instruments, data analysis, procedure, design, and quality are discussed in this chapter.

Chapter 4 Data Analysis and Results - analysis the raw data obtained from research fieldwork, present, and discuss the results accordingly to answer the research questions.

Chapter 5 Development of the New Framework - The framework namely Design Value Product Cultural Aesthetical (DVPCA) Framework has become a guideline for designers or craft practitioners during the development of a new Linxia traditional handicraft product in Hetaomin, Gansu Province for marketability. The validation conducted to prove the value and it is significant as a strategic product innovation for marketability.

Chapter 6 Conclusion and Recommendation - conclude and summaries the valuable finding and describe the research novelty. It also proposed a research recommendation for the future.

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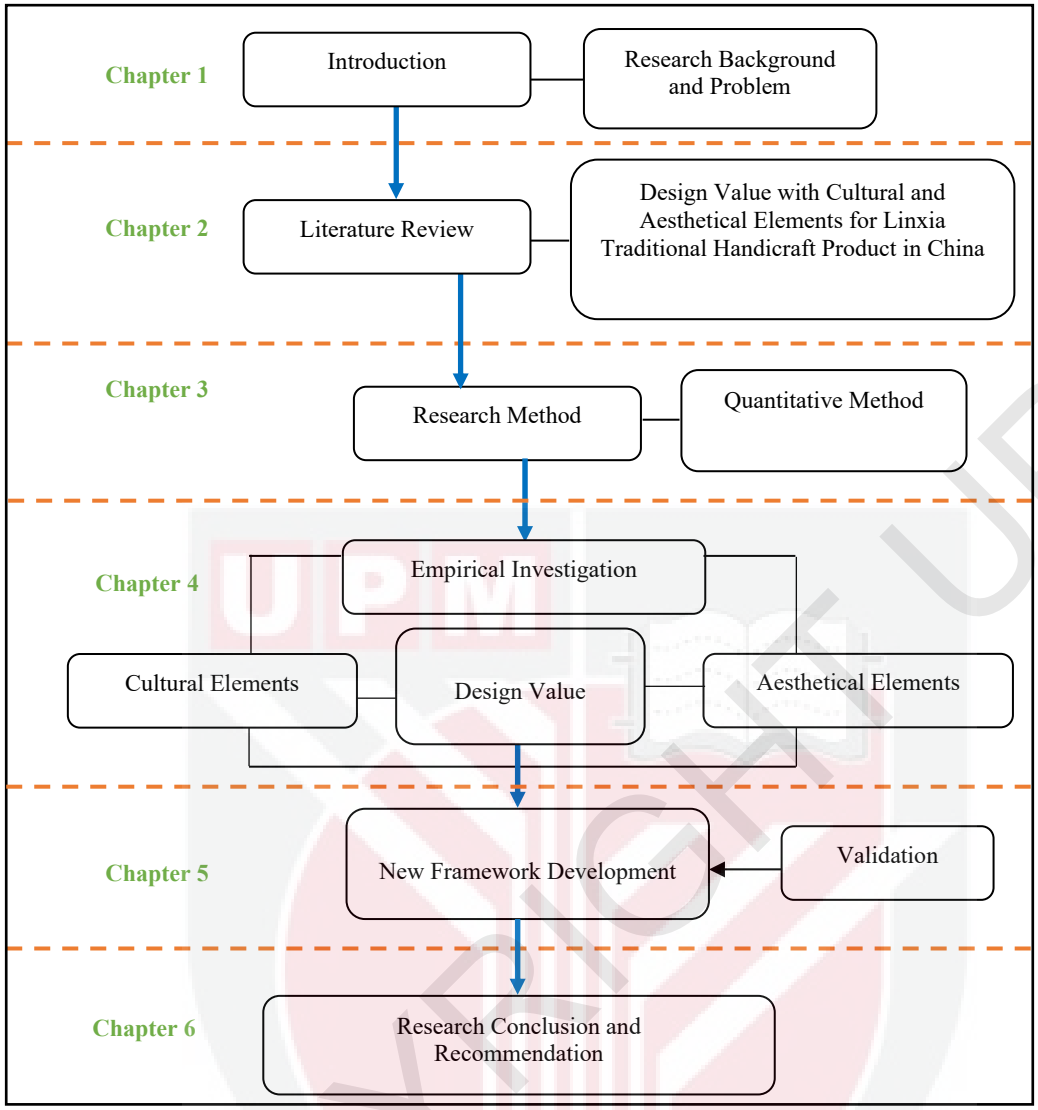


Figure 1.3: Research process associated with thesis chapters
(Source by author)

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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The literature reviews of this thesis are structured as follows; the chapter begins with an outline of the start of the art in Chinese traditional handicraft products specifically on Linxia traditional handicraft products in Hetaomin, Gansu Province. In addition, the topic is also discussing the Linxia traditional handicraft products from the perspective of cultural, aesthetical and design innovate specifically on value, followed by the topic of issue for product marketability.

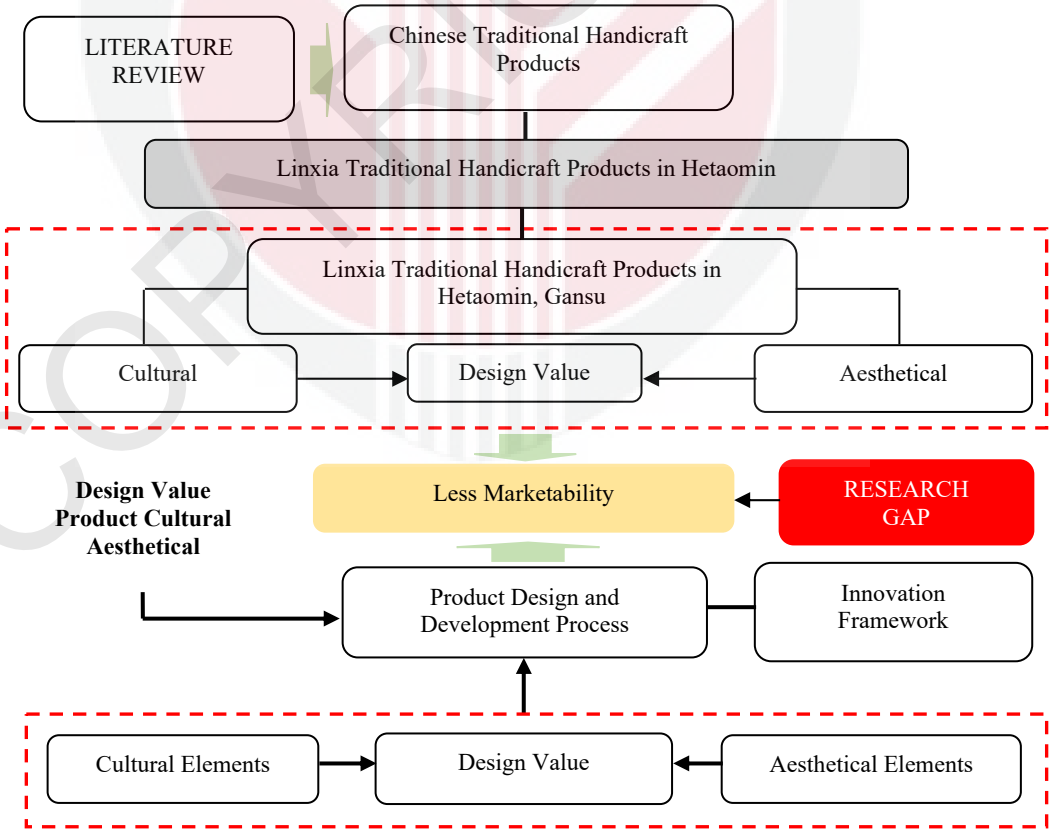


Figure 2.1: Research conceptual framework
(Source by author)

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Figure 2.1 illustrates the conceptual framework of the research topic under investigation. All areas of the theory are described in the following sections. The theories are also described in detail in the sub-section of the following main sections, and it is significant to identify any factors that were contributed for marketability the Linxia traditional handicraft products through strategic innovation in the development of a new product. At the end of this chapter, the research GAP is highlighted, and a new strategy is proposed.

2.2 Chinese Traditional and Culture Handicraft Products

Handicraft production plays a vital role in China's economy, providing employment opportunities and income for millions of artisans and craftsmen across the country. Handicrafts contribute to local economies, particularly in rural areas where traditional craft-making is a primary source of livelihood. Ernst and Young (2012), China is one of the leading handicraft producers with around 30.0 percent share of world trade. A report published by the United Nations Educational, Scientific and Cultural Organisation (referred as UNSECO) in 2016, the growth rate of China's exports of 'cultural goods of visual arts and crafts' between 2004 and 2013 was 73.5 percent, five times greater than her runner-up state, the USA. Chinese traditional and cultural handicraft products encompass a wide range of products that are traditionally made by hand using various materials and techniques that have been passed down through generations. Chinese traditional and cultural handicraft products have unique cultural connotations and exquisite craftsmanship and high global reputation (Wang et al., 2024). Chinese traditional and culture handicraft products also as a traditional product that reflected the country's rich cultural heritage, craftsmanship, and artistic traditions artistic creativity as well as the skill of the craftsmanship.

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Chinese traditional and cultural handicraft products play an important role in Chinese history and culture as well as contribute to the country's cultural heritage. Chinese handicrafts have served as custodians of cultural heritage, preserving traditional skills, techniques, and knowledge for future generations. According to Xue et al., (2022), China has a long handicraft history and culture, but this cultural heritage has not been fully transformed into productivity. The traditional handicraft industry is under considerable pressure from modern mass producers (Fan & Feng, 2019), the premium price of products and lack of competitiveness and sustainable management (Sehnem et al., 2020). In many developing countries, the handicraft industry is the second most key source of income, after the agriculture sector (Paige, 2009). However, this sector has been disadvantaged due to lack of availability of sufficient facts and figures (Noëlla, 2007). The handicraft product industry is considered as a low technology sector which involves traditional methods of production and designs (Yang et al., 2018). As modernisation progresses, there is a risk of culture handicraft products skills being lost or diminished. For instance, the younger generations may be less interested in pursuing traditional crafts as career paths, leading to a decline in skilled artisans. Furthermore, due to the shifts in consumer preferences towards mass-produced, standardised goods can impact the demand for culture handicrafts. In addition, they are also becoming more conscious of the stories behind the products they purchase.

In recent years, tremendous reform has taken place in China's handicraft industry. The Chinese government has recognised the importance of preserving and promoting culture handicraft products and has implemented various policies and initiatives to support the industry. Efforts to raise awareness about the importance of preserving cultural handicraft products and to cultivate appreciation for handmade goods can also

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help sustain these valuable aspects of China's cultural heritage. The preservation of handicraft traditions has contributed to the resilience and vitality of Chinese culture over millennia.

2.2.1 Definition and Concept of Handicraft Products

Handicrafts are part of the art of intangible cultural heritage that is a symbol and identity of a nation and reflect the intellectual values of previous societies inherited. Handicraft products such as pottery, weaving, and woodworking are not just forms of art but access to a community's history. The terms "handicraft" and "craft" are often used interchangeably, but there are subtle differences between them. Handicrafts specifically refer to items that are made by hand using traditional methods, while crafts encompass a wider range of handmade and machine-made products. Handicrafts often emphasise skilled craftsmanship and cultural authenticity, while crafts may include both artisanal and commercial goods.

When discussing research into craft, people often enquire about the meaning of craft and handicraft. According to Oxford English Dictionary (2019), “craft” has different meanings in different contexts. In the context of this research, craft and handicraft are mentioned in terms of skill, art, product, knowledge, trade, professional work, or occupation, making and workmanship. While “handicraft" is defined more specifically as “manual skill or skilled work with the hands”. ‘Craft’, as a noun, means an activity involving skill in making things by hand. In the plural, ‘crafts’ refer to objects or artifacts. As a verb, ‘to craft’ means making or processing something by hand (Oxford Dictionaries, 2012).

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a) Handicraft verse Craft

The term 'handicraft' has a similar meaning to craft(s); however, it is mostly used to refer to 'decorative / beautiful' objects (Macmillan Dictionary, 2009; Oxford Dictionaries, 2012). UNESCO provides a definition of 'handicrafts' as follows: "These can be defined as products, which are produced either completely by hand or with the help of tools. Mechanical tools may be used if the direct manual contribution of the artisan remains the most substantial component of the finished product. Handicrafts are made from raw materials and can be produced in unlimited numbers. Such products can be utilitarian, aesthetic, artistic, creative, culturally attached, decorative, functional, traditional, religiously, and socially symbolic and significant" (UNESCO, 2001).

Craft is one of the most basic forms of labour and way of life of human beings, and it is the activity of making things that satisfy their material and spiritual needs through their hands and with the help of certain tools and materials. Craft is both material and spiritual, technical, and artistic, historical, and realistic. It belongs to the category of handicrafts in the social division of labour and economic system, and can be called handicrafts, handmade technology, traditional crafts, traditional handicrafts, etc. These titles are used in different occasions and have slightly different meanings (Hua et al., 2014).

In the end of the nineteenth century the term 'craft' began to be widely used to refer to handmade decorative arts; the Arts and Crafts movement and the writing of John Ruskin and William Morris, which critiqued the consequences of industrialisation, were especially influential in these years (Press & Alfoldy, 2007). Over the centuries,

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craft has been defined many times (Niedderer & Townsend, 2010) in association with ways of living and social, and especially as a means of changing the condition of society (Lucie-Smith, 1981). In addition, the role of craftspeople within society and attitudes towards craft and craftspeople. The end of the nineteenth century, the term “craft” began to be widely used for "handmade decorative arts”, influenced by John Ruskin and William Morris in their writings and the foundation of the Arts and Crafts movement (Press & Alfoldy, 2007) to distinguish handmade products from m machine-made goods and industrialisation. Craft as a process and concerned with small-scale production (Adamson, 2010) that embraces thinking, skill, attitude, and material experience (Adamson, 2007). The craft process is a wide range of activities including architecture, painting, printing, sculpture, designing prototypes, digital rendering, routines of maintenance and repair, couture, gardening, cookery, factory work, construction work and more (Adamson, 2010).

Handicraft products are items made by hand using skills and techniques passed down through generations within a particular culture or community. The concept of handicraft product in general refers to the types of arts and crafts that are mainly processed by hand, with morphological attributes as a means, process, and result as well related to the traditions of local cultures. In addition, it also revolves around the creation of items by skilled artisans using traditional techniques, often with a focus on craftsmanship, quality, and cultural significance. Handicraft products often carry significant historical and cultural meaning and represent the identity as well as heritage of the community through incorporated symbols, patterns, and motifs that hold specific meanings and convey cultural stories or beliefs. It also used the traditional materials commonly, such as natural fibres, wood, clay, metals, and dyes, which are often

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sourced locally. According to Yi-yi, (2011), handicraft product is the process and its result of changing the form of a material (or materials) by applying a certain means (or means) to it in the form of manual labour, which was formed in the course of history. In terms of aesthetical, handicrafts are a manifestation of creativity that bring a unique aesthetic and technical richness that reflect the diversity and complexity of different cultures. Furthermore, it is also often valued for their beauty and the intricate craftsmanship that goes into making each piece unique as well as having practical uses in daily life.

2.2.2 Traditional and Cultural Handicraft Products

Handicraft requires specialised and traditional techniques, skills and knowledge that are often of considerable antiquity and transmitted from generation to generation. Handicrafts are a symbol of expression of the culture and traditions of a particular community. Handicrafts are sometimes referred to as artisanal products, craft products, traditional creative crafts or works of artistic or traditional craftsmanship. Traditional handicraft not only represent the skills and experiences of the past, but also convey our cultural memories and emotions (Wang et al., 2024).

The terms "traditional" and "culture" can both refer to aspects of products. Traditional products are those that adhere to established customs and practices passed down through generations while the cultural products are those that express the identity and values of a culture. Meanwhile, cultural products are those that are imbued with the cultural identity, symbolism, and meaning of a particular society or community. These products often reflect the history, heritage, and worldview of the culture from which

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they originate while, the traditional products are those that adhere to established customs, techniques, or styles that have been preserved over time. These products often reflect a sense of continuity with the past and are valued for their authenticity and historical significance. Both culture and tradition are interconnected and may overlap in the context of products, culture refers to the broader social context and identity from which products emerge, while tradition emphasises the historical continuity and preservation of customs, practices, and products within a culture.

In recent decades, the contents of the term 'cultural heritage' has been changed considerably, it does not end at built heritage such as monuments and collections of objects but includes knowledge, traditions or living expressions inherited from the ancestors and passed to the next generation (Yang et al., 2018). In addition, cultural heritage embodied in traditional crafts is an integral part of any nation which reflects the culture and tradition of a particular region. According to Fang and Zhang (2022) culture and creative products rely on modern science and technology, cultural connotation, and creative design, and have the characteristics of aesthetic, functional and cultural connotation.

2.2.3 The Development of Chinese Traditional and Cultural Handicraft Products

The existence of Chinese traditional culture handicraft products can be traced to primitive society. People process and transform materials obtained from the outdoor by imitating certain shapes or functions of the natural world (Guo & Ahn, 2021). This kind of awareness is developed in specific contexts with locally relevant materials and resources to meet local human needs. At the beginning of the founding of the People's

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Republic of China, due to the weak social foundation and to realise industrialised production as soon as possible, traditional handicraft production, as an important force for exporting foreign exchange, laid the initial capital for the development of industrialisation after the founding of the People's Republic of China. In this process, the fate of traditional handicraft products was chosen. Some handicrafts with high production efficiency and high economic value were given a new lease of life due to government support. On the other hand, traditional culture handicraft products with low economic production value faced an existential crisis. This choice for the purpose of exporting foreign exchange has also directly caused the severance of traditional handicrafts from the daily lives of local people.

With the rise of the market economy after the reform and opening, the arts and crafts industry based on traditional/ culture handicraft products has ushered in opportunities for development, and exports have continued to grow. However, with the deepening of modernised production, the development of traditional culture handicraft products has been greatly impacted, and the mainstay of foreign exchange generation has gradually been replaced by new industrialised production. The drastic loss of talents in traditional and handicraft products and the time-consuming and labour-intensive nature of handmade products with poor economic efficiency have been magnified in the context of market economy. The state-run arts and crafts factories established at the beginning of the founding of the People's Republic of China to speed up the transformation of industry and handicrafts were also disbanded one after another at this time, and arts and crafts production returned to the era of individual and private production. Since then, traditional, and cultural handicraft products still participated in the market economy, but due to changes in their organisational forms and production

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mechanisms, the objects and aesthetic interests of traditional handicraft production shifted towards "fine arts". As more and more traditional handicrafts participated in market competition, the economic law of survival of the fittest further screened them out. Due to the change of traditional lifestyles, traditional or culture handicraft products have gradually shown dismal development under the cruel laws of the market.

The gradual disappearance of traditional and cultural handicraft products also reflects the situation of traditional culture in the process of China's social transformation and development. Starting from the 1980s, local cultural departments and academics began to collect and organise local traditional art resources under the guidance of the State's protection of national and folk cultural heritage. Since then, the Chinese Traditional Arts and Crafts Research Association has been established, the compilation of the Complete Collection of Traditional Arts and Crafts of China has been carried out, and the State Council promulgated the Regulations on the Protection of Traditional Arts and Crafts in 1997, etc. In the face of the difficulties in the development of traditional arts and crafts, these exploratory attempts and positive practices have made a great contribution to the rescue and preservation of the traditional culture of the national folk community (Hua, 2022).

Within the scope of protection of the Convention on Intangible Cultural Heritage, traditional handicraft products have become an important element of protection. Since then, traditional culture handicraft products have received unprecedented attention from the government, academia, and the public (Bardhan & Bhattacharya,2022). The Intangible Cultural Heritage Law of the People's Republic of China, which came into effect on June 1, 2011, and the Outline of the Cultural Reform and Development Plan

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for the Twelfth Five-Year Plan Period, published in 2012, further emphasize the importance of "intangible cultural heritage" as an integral part of the cultural heritage. The Law of the People's Republic of China on Intangible Cultural Heritage, which came into force on June 1, 2011, and the Outline of the Cultural Reform and Development Plan for the Twelfth Five-Year Plan Period, which was released in 2012, have incorporated the protection of intangible cultural heritage into the national development system, opening a new situation for the protection, inheritance, and development and utilisation of China's traditional handicraft products.

2.2.4 Issue and Challenge of Chinese Traditional and Cultural Handicraft Products

At the beginning of the 21st century, against the background that the international community in general began to consciously protect traditional cultures that have lasted throughout the history of mankind, the International Convention for the Safeguarding of the Intangible Cultural Heritage was adopted by the 32nd session of the UNESCO General Conference on October 17, 2003; and at the beginning of 2004, the Ministry of Culture initiated the protection project for Chinese folk cultural relics and included traditional handicrafts in the long-term development plan, providing a good opportunity for the development of traditional handicrafts. In early 2004, the Ministry of Culture launched the Protection Project for Chinese National Folk Cultural Relics, and traditional handicrafts were included in the long-term development plan, opening up new horizons for the comprehensive protection and research of traditional handicrafts; in August 2004, the eleventh meeting of the Standing Committee of the tenth session of the National People's Congress approved China's accession to the Convention for the Safeguarding of the Intangible Cultural Heritage, making China

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one of the earliest States Parties. In March 2005, the General Office of the State Council issued the Opinions on Strengthening the Safeguarding of China's Intangible Cultural Heritage and the Interim Measures for the Declaration and Evaluation of Masterpieces of the Intangible Cultural Heritage at the National Level, formally launching the construction of a list of masterpieces of the intangible cultural heritage at the national level.

Along with the process of industrialisation, the traditional social life, which was mainly based on farming, underwent a morphological transformation, and the Chinese traditional/ culture handicraft products were also undergoing a continuous transformation of form and function during the century. With the rapid development of modern society, the competitiveness of the traditional culture handicraft products market has gradually declined. According to Guo and Ahn (2021), numerous traditional art forms have disappeared continuously from people's lives, and it is facing difficulties in sustaining due to the rapid industrialisation and urbanisation. Besides that, it is also due to backward technology, limited materials, technical traditions, and other reasons have gradually been forgotten and replaced. Small and medium-sized handicraft enterprises are faced with the problems of limited investment funds, high quality and low price of raw materials, technology, human resources, production, marketing and so on (Patimah, & Maulana. 2023). Ghaisani et al., (2019) argued that the handicraftsman masses had a low level of education and did not have corresponding skills training support. At the same time, the development of traditional culture handicraft products is limited by funds or funds, and it cannot be a broad market. Support is needed through the provision of training as well as facilities and special funding.

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Marketing determines the survival and success of any business and necessary for realisation of organisational objectives, however, without a well-structured marketing network to the supply of handicraft products as per the demands in local and international markets will be disappointed (Dash & Mishra, 2021). Many artisans producing traditional handicraft products, especially those in rural or remote areas, face challenges in accessing markets and marketing their products effectively. Limited infrastructure, distribution networks, and marketing channels can hinder their ability to reach a wider audience and sell their products at fair prices. Hermawan (2021) internet media, as an effective marketing medium for product sales such as social media and websites, has not been widely used in handicraft products, and handicraft still generally relies on traditional and old-fashioned sales methods. The decline of handicrafts in many areas is due to the absence of more advanced manufacturing processes to protect them (Shivaraju, 2019). In addition, at the same time, there is scarcity of working capital, insufficient supply of raw materials, shortage of skilled labour, inadequate technology, and various factors. Marketing problems, lack of design innovation, and market dependence relationship exist in the current development of handicrafts. Handicrafts have a huge contribution to poverty alleviation and sustainable economic development. But it did not receive strong support. Shafi et al., (2022) traditional culture handicraft products, however, lack innovation and need to integrate artistic aesthetics, scientific aesthetics, and technical aesthetics. Traditional culture handicraft products are the most tangible manifestation of intangible cultural heritage (Bardhan & Bhattacharya,2022). However, the management of the handicraft sector is faced with many problems, including lack of database; Coding products; and appropriate marketing policies (Fu, 2023).

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In the whole development process of Chinese history, traditional handicraft, as an important part of Chinese traditional culture, has an indispensable historical position (Fang & Zhang 2022). Throughout the development of traditional handicraft products, the exquisite handicrafts of different periods show the social forms and humanistic atmosphere of different dynasties. dynasties (Zhang & Zhao, 2016). With increased globalisation, however, traditional handicraft products are becoming more and more commoditised, and artisans find their products competing with goods from all over the world (Mahgoub & Alsoud, 2015). In addition, it is no longer possible to look at traditional artisan communities and their products in isolation from global market trends and competition. Moreover, in 2017 the government released a 'Plan to Revitalise the Traditional Crafts', which aimed to "further promote traditional Chinese crafts" and "inject momentum into the protection of Chinese culture and heritage" (Hu, 2017). The plan address to the multifaceted approach that involves support from government policies, investment in artisan training and education, promotion of cultural tourism, development of sustainable business models, and collaboration between stakeholders in the cultural and creative industries.

2.2.5 The Future of Chinese Traditional and Cultural Handicraft Products

The value of handicrafts is appreciated mainly due to the quality of handmade products and the consumption habits of customers (Mazur-Włodarczyk & Karaś, 2021). Although there are some problems in the development of Chinese traditional handicraft, the Chinese government has realised the necessity to enhance cultural conservation and to rejuvenate traditional handicraft in the face of growing international competition which is critical to a construction of a sustainable system of

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Chinese traditional culture (Guo & Ahn, 2021). In recent years, China's economy has been in a period of transition from rapid growth to steady development, with traditional large-scale industrialised production gradually being replaced by intelligent production led by high technology. The revival of traditional culture has become the main theme of cultural development, and the cultural significance of traditional handicrafts, as an important part of China's traditional culture, has gradually been recognised and explored.

Under the development of cultural industry, traditional handicraft products as an important cultural resource has been endowed with new demands of the times and economic and cultural values and social significance, China has successively issued the Guiding Opinions on Promoting the Development of Industry and Culture, the Revitalisation Plan of Chinese Traditional Crafts, and the Regulations on the Protection of Non-Heritage Crafts, which, without exception, encourage the revival and development of traditional culture handicrafts and arts and crafts and the main task of the development of traditional crafts and the regulations for the protection of traditional crafts and arts and crafts. main tasks and specific measures for the development of traditional arts and crafts are clearly required (Chen, 2019). Silverman and Blumenfield (2013) showed that in China, the protection and incentivisation of intangible cultural heritage in the form of intangible cultural heritage has become a national strategy. The 18th National Congress proposed to promote the creative transformation and innovative development of Chinese outstanding traditional culture. The Outline of the National Cultural Development Plan for the 13th Five-Year Plan Period also states that it is necessary to promote the "productive protection of intangible cultural heritage". For intangible cultural heritage items with market

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potential and development value, it is necessary to adopt an industrialized development model while preserving their traditional characteristics. At the same time, the production of traditional handicrafts is a process of transforming forms from the heart to the hand and from the inside out. Therefore, taking the reproduction and new design of traditional handicrafts as an opportunity to promote the current culture, economy, and society is a mode of production that can be explored and practiced (Shafi et al, 2015).

2.3 Traditional Cultural Handicraft Products in Gansu Province

The following review and discussion in research will use 'Traditional culture handicraft products" as refer to the traditional and culture handicraft products. According to Fu (2023), the traditional handicrafts and historical relics are in the same lineage, when it comes to the continuation of the traditional national culture and history. In addition, they are used as symbols of national culture, representing the image of the nation and the country in the international arena (Wang, 2022). Traditional handicraft products are defined as products that are handmade using skills, techniques, and materials passed down through generations within a particular culture as well as reflected to the cultural heritage, artistic expressions, and identity of the communities that create the traditional handicraft products. Handmade is often described as a product that was created by skilled artisans using traditional methods without the use of any of modern machinery.

Due to the rapid development through modern science and technology as well as globalisation, the traditional handicraft products are facing increasingly serious

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challenges, and many traditional skills are gradually being marginalised and even on the verge of being lost (Liu et al., 2024). Globalisation not only involves economic issues, political issues, and ecological issues, but also has a profound impact on cultural production (Li, 2023). A reference to the whole of China, the handicraft industry is Gansu province also facing various challenges and difficulties. Most entrepreneurs in handicraft enterprises face difficulties in financing, lack of education and training, competition from cheap products, and insufficient raw materials, which limit handicraft craftsmen due to lose organisation, lack of education, and less access to new technologies. Furthermore, with the development of the economy and society, traditional folk culture has been greatly impacted. Folk arts and crafts have lost their essential innocence in the commercial society, and their original cultural and artistic value has been gradually lost (Weiguo, 2019).



Figure 2.2: The caves of the Thousand Buddhas at Dunhuang
(Source by author)

Gansu Province of China, which is rich in resources and material culture. For centuries Gansu was the vital corridor between China and Central Asia: there passed as almost 1600-kilometre section of the Silk Road and was considered the “gold sector” of that international route. There are numerous ancient monuments scattered along the entire

Silk Road such as temples, monasteries, pagodas, towers, and ancient palaces. According to Huimin (2016), Gansu is one of the Birthplaces of Chinese civilisations, the Cradle of Chinese Myths and Fables, the hometown of Fuxi Nuwa, the Human Ancestor of the Chinese nation, the Birthplace of Emperor Yan, the Hometown of the Western Queen Mother, the Birthplace of Zhou, and Qin Ancestors, and the Residence of Ancient Peoples Such as Rong, Di, Qiang, Hun, Tufan.

Gansu folk art has a long history. According to Weiguo (2019), with the unique national culture, Gansu's multi-ethnic culture has bred a rich and colourful culture. After The Cultural Industry Revitalisation Plan was introduced, the cultural industry has gradually become a strategic industry in China. Based on a report on the 19th National People's Congress of CPC, it was pointed out that we are going to build a socialist cultural power, and Gansu Province focuses on the development of the cultural industry in recent years (Gao & Guo, 2019). Recently, the protection, inheritance, and development of handicraft products are very conducive to local cultural inheritance and economic development as well as enhancing the cultural confidence of local people. However, the local handicraft industry still faces problems such as insufficient resource development, difficulties in entrepreneurship and employment, and insufficient innovation (Shafi et al., 2022). By understanding and promoting the value of traditional culture handicraft products, it can help to preserve all the important aspects of cultural heritage while supporting the livelihoods of artisans around the world.

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2.3.1 Linxia of Hetaomin Region

Hetaomian (Hezheng County) in Gansu Province is a region with a rich cultural and historical background. Its diverse population, significant archaeological sites, and scenic landscapes make it an interesting and valuable part of China's cultural heritage. Hetaomin region is refer to the Ancient Hezhou, Taozhou and Minzhou. Its area is roughly equivalent to all Tanchang Counties of Linxia Hui Autonomous Prefecture, Gannan Tibetan Autonomous Prefecture of Gansu Province, Minxian County of Dingxi City and Longnan City. Among them, Gannan Tibetan Autonomous Prefecture is the core region in the Master Plan of Tibetan-Qiang Yi Cultural Industry Corridor, while Linxia Hui Autonomous Prefecture and Longnan City are the expansion areas. Hetaomin area has a unique geographical location and abundant human resources. The region is connected to the Tibetan Plateau by the Jishi Mountain in the west, the Min Mountain, and the Songfan Plateau adjacent in the south, the West Qinling mountain in the east and the loess Plateau in the north. It is the intersection of the loess Plateau, the West Qinling mountain and the Tibetan Plateau in our country. The river valley formed by tributaries of the Yangtze River and Yellow River, such as Taohe River, Daxia River, Minjiang River, Bailong River and Heihe River, across the two major water systems, has become a natural channel for ethnic groups from different regions in western China to communicate with each other. It is also the north extension part of the "Tibetan Yi Corridor" known in ethnology. Some people also call it the "National Cross Corridor" in western China (Fei, 1983).

The area to the north of Hetaomin is the range of activities of the Mongolian Plateau nationality and the Western Regions nationality. To its west and south is the vast

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Qinghai-Tibet Plateau where the Tibetan nationality has lived for generations. To its east is the traditional area of the Han nationality. The farming area of the Central Plains. Because of the geographical location of the ethnic corridor in western China, Hetaomin area has been a place where ethnic groups and cultures of different regions are inter-distributed since ancient times. In the historical period, Hetaomin area once gave birth to many plateau nationalities such as Qiang, Minority, Sou, Dangxiang and Tubo, and in different historical periods accommodated many ethnic groups such as Han, Yuezhi, Xianbei, Mongolian and Uighur. Living Han, Tibetan, Hui, Dongxiang, Salah, Bao 'an, Tu, Mongolia and other more than 20 ethnic people. On the formation and evolution of ancient folklore from the archaeological remains in he tao and ming area (Ning, 2020).

"Hezhou" is the ancient name of Linxia Hui Autonomous Prefecture, located in the center of the ancient Silk Road fortress and Chamaiwu. Linxia is in the southern part of Gansu Province, with a landscape characterised by mountains and river valleys (see Figure 2.3). The economy of Linxia is based on agriculture, trade, and handicrafts. In addition, they are also known for producing traditional Chinese medicines, textiles, and other local goods. In addition, the economy is also based on the frequent commodity trade and cultural exchange where it has derived a rich and diversified folk handicraft art form. The folk art of brick carving has been thriving there, boosting the local economy. The folk arts and crafts in Linxia began in the 1980s that focused on the brick carving art. With a history of over 120 years, the handicraft of brick carving has been passed to its fifth generation. In addition, the “Northwest folk silhouette” gave an earlier introduction to the brick carving art theme, production technology of the Linxia Dagongbei mosque.

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Figure 2.3: Linxia in Gansu province
(Source by author)

2.3.2 The Development of Handicraft Industry in Linxia

Globalisation is a major trend in cultural exchanges (Jameson & Miyoshi,1998). In addition, the modernisation process of human society fundamentally reflects the expansion of capitalism, and this alienated value system has also brought about global natural and social crises. Handicrafts are part of the art of intangible cultural heritage that is a symbol of nation identity, ideas, and creativity (Ferreira et al. 2019; Mokhtar 2018). China's cultural products showed a characteristic of wavy change, increasing from 107.08 billion US dollars in 2013 to 155.81 billion US dollars in 2021 and the exports were the core driving force for the increase in the indicator, with an increase of 54.96 percent in 2021 compared to 2013 (Chen, 2024). The implementation of the rural revitalisation strategy can effectively inherit the excellent traditional Chinese culture and facilitate the comprehensive development of the cultural industry (Wu et al., 2023). According to Ministry of Culture and Finance issued Master Plan for Tibetan-Qiang Yi Cultural Industry Corridor (2014), the development goals of the Master Plan of Tibetan Qiang Yi Cultural Industry Corridor focusing on (1) rationally

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utilise local and ethnic cultural resources, realise effective inheritance and protection of ethnic culture in combination with industry and market, and cultivate distinctive ethnic cultural industry brands; (2) improve people's livelihood as the starting point, speed up the development of cultural industries with characteristics, (3) to achieve cultural enrichment of the people; (4) promote the integrated development of culture, ecology, and tourism, and build the Tibetan-qiang Yi cultural industry Corridor into a world-class cultural tourism destination. In addition, the cultural industry has plan to become a pillar industry of the regional economy and provide a strong driving force for the revitalisation and prosperity of the western region and ethnic minority areas.

Wang (2023), most of the early Chinese traditional handicrafts were mainly handicraft workshops, and they were divided into folk handicrafts and government handicrafts. The folk handicraft industry was mainly composed of families and the products were circulated in the market, while the government handicraft industry was hereditary, and the products were not circulated in the market. The handicraft industry in Linxia, a city in the Linxia Hui Autonomous Prefecture of Gansu Province, China, reflects its rich cultural heritage and diverse ethnic composition. Linxia, often called "Little Mecca" due to its significant Hui Muslim population, has leveraged its unique cultural assets to foster economic growth and tourism. The development of the cultural industry in Linxia involves a comprehensive approach that integrates historical preservation, cultural promotion, economic development, and community engagement. Linxia has successfully created a sustainable cultural industry that not only boosts the local economy but also enhances its cultural identity. By leveraging its unique cultural and historical resources, Linxia can create sustainable economic opportunities, enhance cultural pride, and attract tourists, contributing to the overall development and prosperity of the region.

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2.3.3 The Development of Linxia Traditional Handicraft Products

The various ethnic groups in Linxia have merged and developed in the long history, forming a colourful folk arts and crafts. With the impact of economic globalisation, Gansu folk arts and crafts lost their original innocence in the commodity society under the market economy. Linxia Folk Art Rich, has a strong rustic flavour, is the local national traditional culture, customs, and other image reflection (Weiguo, 2019). The cultural resources of Linxia are rich in variety but lack top-level ones which have certain influences in the whole country and even in the world. Moreover, the resources advantages have not yet been translated into industrial advantages and market advantages.

Linxia, not only is the important city of Gansu province, also the river Tao Min area is very representative of the city. According to the record as early as five thousand years ago, because of the special geographical environment it became a political, economic, and cultural hub, such as the Silk Road, Tangfan Road, Ganchuan Road and so on in this intersection, a prosperous scene. On the one hand, due to market demand, large and small craft workshops and stores gradually emerged. With the rise of the local economy, various kinds of processing industries like fur processing, handicrafts, etc. In the 1940s, regarding the history of the development of Linxia Prefecture and the trade activities during this period, these documents became the facts proving that Linxia served as a center of all kinds of commerce and trade in the ancient times; on the other hand, on the way of spreading the religious culture of the Tibetans to Linxia and other regions in the past, Linxia became a necessary place to be passed through, and was gradually influenced by the culture of the Tibetans. The influence of Tibetan

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culture was gradually spread to Linxia and other areas. Therefore, it can be interpreted in this way that the special geographic environment created the production of national cultural products in different times.

Historically, the Silk Road culture, Longyou culture and Hehuang culture formed the regional characteristics of Linxia traditional handicraft culture and gave birth to its cultural space. The ancient tea-horse road and ethnic corridors were enriched by the migration of ethnic groups, commercial trade, and cultural mobility, which constructed Linxia's cultural landscape and its living space. In this process, the dialogue of civilizations, cultural change, multicultural interaction and in this process, civilisation dialogue, cultural change, multicultural interaction, and fusion form its multiple cultural relations, constituting the grand and heavy life vein of Linxia folk handicrafts. The traditional culture handicraft products in Linxia are not crafts and trades developed in isolation from each other, but are cultural ecosystems closely related to history, culture, productivity level, material needs and social structure, and their development has always sustained the organic relationship of survival and emotional ties between multiple ethnic groups and groups and is the cultural outcome of multi-ethnic interaction and exchange, with outstanding symbiosis and co-creativity.

2.3.4 Linxia Traditional Handicraft Products

Traditional handicraft products are decorative arts that people use directly for production and life, and they embody the spiritual feelings of working people. In recent years, with the implementation and promotion of national policies such as the revitalisation of traditional crafts, poverty alleviation policy on intangible cultural

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heritage, and cultural and creative strategy, China's cultural and creative industry has become increasingly powerful (Huang, 2019) and has become an important pillar of national economic development (Zhang et al., 2020). Linxia has a variety of folk culture and art. In terms of art and culture form, Linxia's traditional culture handicraft products are diversified and rich, which is not only the material production from the needs of life, but also the cultural production of multi-ethnic integration and coexistence. Among them the more famous traditional handicraft products in Linxia are copper art, brick carving, wood carving, embroidery and knitting, paper cutting, and gourd carving

a) Copper Art

China has a long history of bronze ware. Chinese bronze ware has a high use value and artistic value. Chinese bronze culture reached its peak in the Shang and Zhou Dynasties and was endowed with strong religious and political characteristics. From the Tang Dynasty to the present, in most areas of Qinghai Province, Gannan Tibetan Autonomous Prefecture of Gansu Province, and Linxia Hui Autonomous Prefecture, copper objects still occupy the local people's production and life as religious articles and daily articles. As a traditional national handicraft in the Hehuang area, people in the area advocated copper products in history, especially rich families pursuing the original precious materials and hand-made texture of copper. Therefore, bronze ware is also a special symbol of value in the folk culture of Linxia. During this long historical development, the handicraft in the Linxia area gradually developed, and many villages and professional workshops specialized in making copper ware were formed. Among them, "Wang's copper casting technique" in Tongjiang Village of Oakham Town in Linxia City and "Gou Ji copper art" in Hougucheng village in Linxia

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City are the most prominent. The inheritance method of Linxia copper art still adopts the way of family inheritance and master and apprentice inheritance, and the inheritance method of "passing down from generation to generation" has continued and enriched the traditional copper making skills of Linxia for a long time. This kind of inheritance has a strong concentration, and the craftsmen are characterised by blood relationship and mentoring relationship, working together, and sharing income.



Figure 2.4: Linxia copper art
(Source by author)

Copper ware is made of a wide range of materials, including red copper, brass, white copper, bronze, etc. The highest usage rate in the Linxia area is red copper and brass. This is not only because of the high ductility and plasticity of brass and red copper, but also because of the Tibetan, Hui, and Bao'an ethnic groups in the region. The production process of handmade copper ware in the Linxia area can be divided into two kinds, one is casting, the other is hammering. "Gouji Copper Art" of Jieqiao Village, Jieqiao Town, East of Linxia City, mainly adopts traditional hammering techniques in the production of hand-made copper ware, copper POTS, copper POTS and other common daily necessities of local people. Gou's copper art was entered into the fourth batch of municipal intangible cultural heritage list of Linxia City in 2016. The Coppersmith Village in Oakham Town on the western outskirts of Linxia City

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used to be a handicraft village where coppersmiths gathered in the Hezhou area to cast Buddha statues for Tibetan temples. To this day, the "Wang coppersmith" of Coppersmith Village is still famous for its exquisite coppersmith skills in the Gansu region. "Wang's copper casting technology" to produce Tibetan Buddhist monasteries in the Linxia area casting Buddha statues, Tibetan life bronze. The Wang family enjoys a high reputation for cast iron craftsmanship. The ancestors of the Wang family are the foundry family of Baitoupo Village, Hongdong County, Shanxi Province in the Yuan Dynasty. They immigrated to the Hehuang area in the Ming Dynasty, and the cast iron technology has been passed down by the family for nearly 20 generations. At first, the Wangs made ploughshares, farm implements, waterwheels, watermills, and wheelbarrows. In modern times, the main forging bell, Serang, iron lion, iron ox, incense burner, thousand Buddhist pagoda, cymbals, cauldron and so on. At present, Wang's cast iron products have been widely sold in various religious and folk cultural places in Northwest China, and its casting process has entered the national intangible cultural heritage list because of its distinctive local craft characteristics.

b) Brick Carving

Linxia brick carving is the most representative form of ethnic handicraft in Gansu and Qing areas. It is also a national intangible cultural heritage well-known at home and abroad. It is famous for its exquisite carving skills and multi-cultural connotation. From the end of the 19th century to the middle of the 20th century was the formation period of Linxia brick carving. Brick carving began to break away from the brick and tile industry and became an independent handicraft group. There emerged several famous Hui brick carving masters, whose systematic inheritance laid the foundation for contemporary Linxia brick carving. The end of the 20th century has been the

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transformation period of Linxia brick carving. Its outstanding feature is the diversity of the ethnic composition of the practitioners, the formation of a large-scale industry, and the level of skills and crafts has been greatly improved. In the long-term development, highly realistic plants, flowers, ancient folk patterns have become the outstanding cultural characteristics of Linxia brick carving, but also the breakthrough and improvement of its artistic realm based on integrating various ethnic cultures, showing the love of life, refined romance.

Brick carving is an art form based on architecture and its development Under the double restriction of economic base and social and cultural environment, from Historically, the strict housing grade standards of the Ming Dynasty made the early period Brick carving, often used in mausoleum decoration, popularised, and adapted. The two aspects of art and cultural connotation have been improved and developed. This After the Qing Dynasty, due to the rapid development of national industry and commerce as well as citizens. The confluence of culture and elite culture, this understated and luxurious dress Decorative form in mainland China taxi business culture circle has been widely. Pro Lai thus formed an auspicious culture as the theme to literati elegant interest as the connotation of folk-art form. Judging from the architectural style and the shape of the brick carving components, Popular in Shanshan, Huizhou, Suzhou, and Hangzhou area of the brick carving is no doubt Xia brick carving of the main origin, and in the interior of the Islamic religious building Built on the application of a long time. During the Ming and Qing Dynasties, brick carving culture followed the immigration and trade into Hehuang area, relative to the original ecology of Hehuang area. The rough culture of the interior brick carving presents a long period of being influenced by Han Chinese businessmen.

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Figure 2.5: Linxia brick carving of building eaves
(Source by author)

The quality and elegance of cultural edification soon became popular among the people, Brick carving as a skill, trade, and even cultural symbol since then Root in Hehuang region. It should be noted that early Linxia brick carving Strong Islamic cultural characteristics (no sculpting of human figures) to, and a specific inheritance group (Hui) can attest to its relationship with Islam Orchid culture is closely related. Linxia brick carvings have long been known as Hui brick carvings Profound reasons, according to the brick carver's oral narrative, until at the end of the 20th century, the Hui people were still the main body of the brick industry. In addition, although Linxia brick carving obviously continued the Han Auspicious culture, Confucian and Taoist culture patterns and themes, but its Special connotation, over-elaborate decorative style, taboo figure shapes. The customs of the elephant are clearly different from the traditions of the Han culture.

c) Wood Carving

Wood carving, with different kinds of wood as raw materials, pure hand-carved works of various processes, is an important category of traditional carving technology in China. As a national intangible cultural heritage project, the traditional wood carving

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technique is exquisite in shape and has a long history. The Linxia area of Gansu Province has been affected by the integration of multi-cultures since ancient times, and the handicraft forms are rich and diverse. Wood carving in the Linxia area is also commonly known as Hezhou wood carving. The wood carving in this area has its unique local characteristics. The wood carving in Hezhou was famous in the "XiJin" period. The wood structure carving in the famous Bingling Temple grottoes is a typical example. "Ming Qing Dynasties:" period, Hezhou wood carving has developed into a special craft, the category is extremely rich, widely spread. Hezhou wood carving is very particular about the selection of materials, both ordinary pine wood, elm trees, walnut trees, willow trees, etc., there are also valuable mahogany, yellow pear trees, etc., Hezhou wood carving style is diverse, skilfully integrates calligraphy, painting and carving art, adding many ethereal and beautiful features. Its carving uses a wide range, rich themes, carving techniques have different carving techniques such as relief, transparent carving, line carving, round carving, and peace carving, using the corresponding wood to express the theme. Hezhou wood carving technique pays special attention to the main line, secondary line, and sub-line of carving. The three lines are clear and distinct, and the depth and height are scattered, which makes the works more three-dimensional.

Hezhou wood carving skills are mainly used in the traditional architecture of Linxia, Linxia is in the transition area between the Qinghai-Tibet Plateau and the Loess Plateau. The integration of wood carving and architecture in Hezhou mainly serves religious buildings, and a small part is for general residents' houses and other living places. In these wood-based buildings, the wood carving decoration area is mainly concentrated on the wooden parts and accessories of the building, such as eaves, doors

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and Windows, beams, plaques, and other areas. The bottom is the most visible part of the building, so it must be decorated. For example, "carving" can be called a typical decorative technique of architectural wood carving in Hezhou. Typical carving process, the focus is to use many woods carving, rich, fine flowers to do decoration, carving requirements are very high, the effect of lifelike image, rich layers, to highlight its visual effects and decorative effects. In addition to flowers, there are many patterns that also express the architectural style of the Linxia area and the aesthetic perception of the owners. Influenced by factors such as regional economy and natural strip shape, Gansu traditional wooden buildings have simple and rough appearance, and wooden buildings are decorated with wood carvings. Carved beautifully and finely, in sharp contrast to other buildings, the overall architectural beautification plays a finishing touch.



Figure 2.6: Linxia wood carving
(Source by author)

In addition to large areas of architectural decoration, Hezhou wood carving is also often used in furniture, religious crafts, and home decoration. Such as closets, screens, beds, antique shelves, piano tables, and all kinds of art. In these ornaments, the patterns are rich and diverse, and contain meaning. For example, pine is often used as a symbol

of peace, good luck, auspicious and other themes, such as peony means wealth, chrysanthemum means longevity, lotus means noble and so on; It is also decorated with auspicious animals such as dragon and phoenix, double lions and so on. Some religious buildings are decorated with lotus flowers, Buddha eight treasures, Sanskrit six characters, Buddha hands and other patterns.

d) Embroidery and Knitting

Embroidery is one of the traditional Chinese crafts, needle, and thread on the fabric embroidery of a variety of decorative patterns of the general term, usually with the needle thread or other fibres, yarns in a certain pattern and colour on the embroidery material puncture, to embroider the decorative fabric of the pattern. Embroidery is one of the traditional folk crafts in China. There are four main categories of Chinese embroidery: Suzhou embroidery, Hunan embroidery, Sichuan embroidery and Guangdong embroidery. Embroidery in the Linxia area is a unique folk embroidery in ethnic areas. Since the Han Dynasty, Linxia area silk embroidery crafts were exported to Europe and Asia along the Silk Road. With the development of The Times, it has formed a strong national characteristic, integrated regional characteristics, and strong characteristics of The Times. Linxia embroidery also has high artistic value, practical value, and economic value. In 2009, Linxia folk embroidery was listed as the second batch of state-level intangible cultural heritage protection projects in Linxia area, and the project protection units include Kangle County Cultural Center, Hezheng County Cultural Center, Jishishan County Cultural Center, and Linxia County Cultural Center.

There are many handicraft products of Linxia embroidery including clothing matching and home decoration, which are exquisite works of art. The characteristics of Linxia

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folk embroidery are: (1) colour: Most of the colours of Linxia embroidery are black, white, green, brown, bordeaux, yellow and green. Usually, craftsmen like to use black, white, navy blue and deep purple as the base colour, and red, yellow, blue, and green as the colour, forming a strong colour contrast and heavy texture style. (2) Pattern: Hezhou embroidery is good at flowers and flower patterns and geometric patterns, obviously absorbing the foreign style of Central Asia on the Silk Road and the influence of Linxia's multi-ethnic culture. (3) Methods: Linxia embroidery methods are diverse, in addition to the basic embroidery methods of traditional embroidery, there are special methods of integrating other nationalities such as chop embroidery, Baoan needle embroidery, etc., to maintain the original nature and uniqueness of Linxia embroidery (4) Linxia embroidery as a folk art, in terms of function, on the one hand, it is a gift to link people's emotional transmission. On the other hand, as daily necessities, it can be seen everywhere in clothes and home decoration. Linxia folk embroidery is the product of historical inheritance, passed down by women, generally the female inheritance of mother's art, mother-in-law, and daughter-in-law from generation to generation, generation to generation. In contemporary Linxia embroidery protection and inheritance is increasingly perfect. Ma Zhaoyi and Ma Xiulan, a couple in the Linxia area, excavated 58 folk embroidery artists and carefully compiled the Basic Course of Folk Embroidery in Hezhou, introducing the art and techniques of folk embroidery in Hezhou in graphic ways.

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Figure 2.7: Linxia embroidery and knitting
(Source by author)

In 2000, Ma Xiulan, a non-genetic successor, devoted herself to the traditional ethnic embroidery handicraft industry, taught local women embroidery skills, excavated, researched, and developed ethnic embroidery products, and the business became more and more prosperous. Since 2003, Ma Zhaoyi and his wife from Yinji Town, Linxia County, have established the Hezhou Folk Embroidery Training Center, which has held more than 30 training sessions and trained more than 3,000 embroidery personnel. At present, every 5 families in Yinji town in the Linxia area have an average of one family in embroidery, and we have also established more than 100 family demonstration households. Embroidery, now a cultural industry in the county, has also become an important source of household income for local farm women. In 2012, Yinji Town won the title of Hometown of folk embroidery art in Gansu Province. Kangle County Rouge Dream "Women's poverty alleviation workshop" give full play to the advantages of enterprises in marketing and other aspects, research and development and production of antique health pillows, enamel painting, silk embroidery scarves, cashmere shawls, silk embroidery pillow and other embroidery products, not only to achieve their own income, but also in embroidery training many local poor women, to achieve more than 100 poor women stable employment. In some areas of Linxia, a "women's poverty alleviation workshop" has been established to give full play to the

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advantages of enterprises in marketing and other aspects, and develop new embroidery products, such as embroidered scarves, shawls, etc., to achieve the combination of traditional technology and modern products. Improved product innovation increased regional incomes and stable employment of poor women.

e) Paper Cutting

Chinese paper cutting is a kind of folk art that uses scissors or carving knives to cut patterns on paper, which is used to decorate life or cooperate with other folk activities. In China, papercutting has a broad mass base, blending into the social life of people of all ethnic groups, and is an important part of various folk activities. Its continuous visual image and shape format contain rich cultural and historical information, express the social cognition, moral concept, practical experience, life ideal and aesthetic taste of the public, and have multiple social values such as cognition, education, expression, lyricism, entertainment, and communication (Zhao, 2012). On May 20, 2006, the paper-cutting art heritage was approved by The State Council to be included in the first batch of national intangible cultural heritage list.2009 UNESCO Conference on Safeguarding Intangible Cultural Heritage, Chinese paper-cut project was selected into the "Representative List of the Intangible Cultural Heritage of Humanity".



Figure 2.8: Linxia paper cutting
(Source by author)

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The paper-cut style in the Linxia area is closely related to the local landscape and culture. It not only inherits the style of the traditional values of the Central Plains, but also integrates the unique cultural elements of Linxia, especially the integration and mutual penetration of Islamic culture and Han culture, resulting in a novel characteristic art. Linxia papercut is influenced by religious beliefs and living customs, and its works clearly show religious characteristics. The decorative patterns of Islamic style are prominent, and geometric patterns, plant patterns and text decorative patterns are used. It embodies the aesthetic concept and lifestyle of the people in the Linxia area.

f) Gourd Carving

Gourd, homophonic "Fu Lu" meaning happiness, happiness. The shape is soft and round, the upper and lower spheres are formed by nature, with a distinctive harmonious image, which is in line with people's good wishes for happiness, luck and harmony and the pursuit of harmonious and complete life. The profound cultural connotation is endowed with the human meaning of peace, good luck, and harmony. It is the most original auspicious item in China and one of the most important national totems of the Chinese nation. Gourds also represent a very typical auspicious culture in traditional Chinese culture. At the same time, the gourd contains rich practical value, artistic value, and cultural value, and has played an important role in different historical development stages of human society. Therefore, for thousands of years, gourds have been loved and treasured by people as a kind of mascot and ornamental goods.

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Figure 2.9: Linxia gourd carving
(Source by author)

Linxia carved gourd is one of the provincial intangible cultural heritages of Gansu Province, and it is also a famous folk skill in China and even the world. Gansu carved gourd planting is mainly distributed in Lanzhou and Linxia. The main varieties of gourd are big gourd, egg gourd, knobbly gourd, waist gourd, flat gourd, and long-shank gourd. There are display tables with bases, and some are suspended inside with silk wires. After scraping, drying, and polishing, the selected gourd surface is smooth, the colour is yellow and white, and the appearance is beautiful. According to its natural form, design conception. Through needle, knife, and other tools on the surface of the gourd line carving, the traditional Chinese painting landscape, flowers and birds, figures and calligraphy, birds and animals, Tang poetry and Song Ci carved into the picture for people to enjoy. In terms of aesthetics, Linxia calabash carving integrates calligraphy, painting and seal cutting. At the same time, based on Chinese painting line drawing, the composition adopts the scatter perspective method of Chinese painting, and the ink is painted to make the carving lines clear.

With the continuous development and innovation of highly skilled folk artists of all dynasties, carved gourds have formed their own unique style and become works of art

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for appreciation and collection. Calabash carving, Linxia brick carving and Linxia painted pottery in Linxia are known as the "three wonders of Hezhou". The expression techniques of the gourd are varied, and the expression techniques of the Gansu gourd use sculpture, scissors, painting, ironing, and other techniques to complete the expression of the "gourd art" painting. Different from the calabash carving in other areas, Linxia calabash carving embodies the characteristics of multi-ethnic cultural integration in form, content, and skills. It shows the mark of the integration of Islamic culture and Chinese, Mongolian, and Turkish cultures in Gansu Province, and reflects the regional characteristics of the integration of diverse cultures in Gansu Province.

Weiguo (2019), the culture connotation value contained in folk craft art works with national characteristics has not been well inherited and developed such as Linxia brick carving art and it will loss of its essential significance if there are not serious actions taken to preserve it. Traditional handicraft products reflect the intellectual values of previous societies inherited by today's generation (Ariffin et al., 2023), it needs to be preserved sustainably and innovations can help in preserving the heritage of traditional handicrafts, and even expand it to a broader market as well as improve the quality of handicrafts (Mokhtar 2018; Romana 2018). Without innovation, the traditional culture handicraft products will tend to die out due to lack of demand due to competition with modern goods and even make it less attractive for the younger generation to become consumers or operators of traditional culture handicrafts (Ariffin et al., 2023). Besides that, improving product quality and design, promoting traditional crafts through tourism, and providing support and training for artists, it is possible to restore and preserve this important cultural asset (Tapfuma et al., 2024).

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2.4 Strategic for Design Innovation of Traditional Handicraft Products

Handicraft industry is extensively growing throughout the world. Handicraft industry plays an important role in both cultural and artistic as well as economic development (Yadav et al., 2022). Recently, industrial production rapidly introduces new products in the market, and due to dynamic capacity and cost-effectiveness, machine-made products are quickly capturing the handicraft market. As a result, innovation is regarded as an essential factor for competitive advantage (Shafi et al., 2019). Also, it is an important growth factor for handicraft firms (Shafi et al., 2019; Yang & Shafi, 2020). Innovation is usually considered imperative for every company to survive and sustain competitiveness in the market (Damanpour & Schneider, 2006; Goldsby et al., 2018).

Traditional culture has been regarded as one part of sustainable social and economic development (He et al., 2019). Culturally products with elements derived from that are obtaining increasing attention (Qin et al., 2019). Chinese traditional handicraft products have developed rapidly and have a good development trend. The production of traditional handicraft products is not only a creative artistic activity, but also a social and economic activity and an important part of traditional culture. However, as the main mode of production in the pre-industrial era, the handicraft industry carries abundant information about traditional cultural norms and embodies the unique cultural connotation as well as value of traditional culture. For many countries, traditional handicraft products are still important to the country's unique cultural heritage. Traditional handicraft products face various challenges in remaining relevant. Innovation in traditional handicraft products have proven that there is a diversity of

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innovations that have been done and become very significant to maintain the heritage of this handicraft (Ariffin et al., 2023). The innovation based on design not only provides designers with more effective, more diverse, more scientific, and practical methods, but also plays an important role in the inheritance and development of traditional handicraft products for marketability.

Innovation is a key driver of business in sustainable processes in a competitive business. Innovation conveys new ideas for the industry and realises sustainable development in the future (Cillo, et al., 2019). Innovation is usually considered imperative for every company to survive and sustain competitiveness in the market (Damanpour & Schneider, 2006; Goldsby et al., 2018). Innovation is essential in preserving traditional handicrafts because it can renew and improve the quality of handicrafts and aims to ensure that the handicraft remains relevant and can survive in the market (Ariffin et al., 2023). Innovation is the lifeblood of successful businesses" (Brown & Teisberg, 2003), without innovation, traditional handicrafts will tend to die out due to lack of demand due to competition with modern goods and even make it less attractive for the younger generation to become consumers or operators of traditional handicrafts (Ariffin et al., 2023). Innovation in traditional handicrafts is considered both crucial and controversial (Alonso & Bressan, 2014; Shafi et al., 2019) and culture traditions are often considered as a barrier to innovation (Yang & Shafi, 2020).

Design innovation is vital for the development of handicraft products as it enhances cultural preservation, market competitiveness, economic viability, and sustainability. Recently, an increasing number of design researchers are looking at the relationship

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between design for the revitalisation of traditional handicraft products. Design innovations play a pivotal role in enhancing the sustainability and marketability of these handicrafts, contributing to their preservation and growth in the global market. Through design innovations, it can enhance the sustainability and marketability of traditional culture handicraft products, contributing to its preservation and growth in the global market as well helps meet these preferences and aligning traditional crafts with current market trends. The importance of design innovations in sustainable handicrafts is evident from various scholarly studies. By integrating culture with modern design principles, the handicraft products can achieve a harmonious balance between heritage and contemporary appeal as well as ensuring their relevance and high demand in today's market.

2.4.1 Definition and Concept of Innovation

Innovation generally means the “successful introduction of something new and useful” (Fagerberg, 2004), involves something new or significant changes aimed to help firms survive and compete in the market (Silvestre & Ţîrcă, 2019; Wijngaarden et al., 2019). Innovation is the production or adoption, absorption, and utilisation of value-added novelty in the economic and social sphere through process and a result (1) renewal and expansion of products, services, and markets, (2) develop new production methods; and (3) establish a new management system. According to Nedović, et al., (2019) innovation includes both original invention and creative use. In the case of culture creative industries, Wijngaarden et al., (2019) defined that innovation is based on three distinct patterns: “innovation as something completely new, in-novation with a social impact and innovation as a continuous process of renewal.

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Baregheh et al., (2009) "Innovation is a multi-stage process in which organisations transform ideas into new/improved products, services, or processes in order to successfully advance, compete, and stand out in the marketplace". Henderson and Clark (1990) propose a framework on innovation (see Figure 2.10). They categorise an innovation into four (4) types: Radical innovation: "Establishing a new core design concept, linked in a new architecture." Progressive innovation: "Improve, enrich, expand the existing design, the core design concept remains unchanged." Architectural innovation: "This kind of innovation only changes the relationship between parts. Modular innovation: "This innovation changes the core design concept. The integration of Chinese traditional handicraft products with modern design cultural is both the inheritance and innovation of traditional culture and the enrichment of the development of modern design.

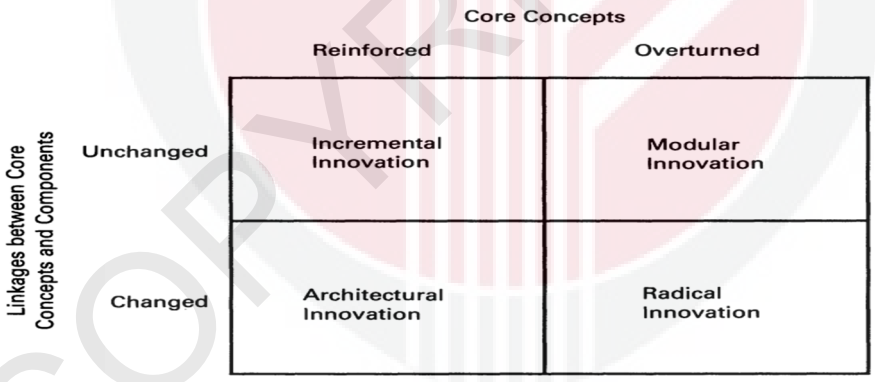


Figure 2.10: The framework of innovation
(Source by Henderson & Clark, 1990)

2.4.2 Traditional Cultural Handicraft Versus Modern Design

In modern culture, the traditional handicraft products are marginalised due to technology and societal lifestyle. Modern culture design plays a pivotal role in

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reshaping and revitalising the Chinese traditional handicrafts products and building a bridge between tradition and modern aesthetical (Wang, Alli & Ishak, 2024). Traditional handicraft products and modern design are the different existence of an organism in different historical stages. However, to combine the traditional handicraft products with modern design art, innovate and develop new forms and functions, and make it more close to the life of today's people has always been the focus of many countries and regions in the east and west (Chen, 2019). Modern design culture, as a dynamic and evolving field, reflects the evolving aesthetical preferences, technological advances, and social values of contemporary society. It not only influences mere aesthetic concepts, but also shapes lifestyles and consumption patterns (Wang, Alli & Ishak, 2024). Modern design forms for traditional Chinese handicraft products often involve the fusion of traditional techniques, materials, and aesthetics with contemporary design principles (Youjian & Ghani 2023).

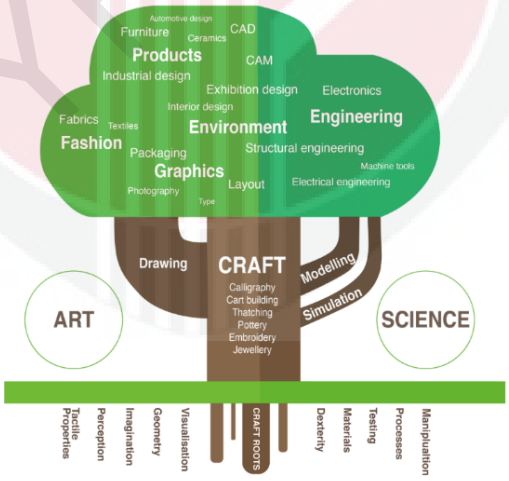


Figure 2.11: Design family tree
(Source by Walker, 1989)

The development of traditional handicraft products is somewhere between art and design (Harrod 1997; Alfoldy, 2007). In an ever-changing world, there are two

potentially enduring directions for traditional craft, namely 'industrial design' and 'fine arts' - hence the emergence of' craft design 'and' arts and crafts' in recent decades (Zhang & Hong, 2023). The four (4) factors that bring these directions together are hand, material, mastery, and use (Dorie, 2008). The use (the function of an object, how the object serves the user) is a common area of industrial design and craftsmanship - more specifically, the physiological needs of sitting, eating, dressing, heating, and decorating. In addition, artisans who incorporate designs into their making process often refer to themselves as "designer artisans" or "designer makers". Such artisans also tend to focus on exploring specific areas of materials, whereas traditional industrial designers consider any number of materials to solve problems (Dorie, 2008). As shown in the design family tree drawn by Walker in 1989 (see Figure 2.11). Products become the crown of the Design Family Tree through industrial definition, and the crown includes various modern outcomes that meet the material and spiritual needs of human beings, such as image, industry, fashion, architecture, and engineering.

'Design', as a noun, has various meanings: a drawing that shows what something will look like when it is made; a process of deciding how something will be made, will work, and look like; a pattern that decorates something; a plan or idea; the study of how to make things, especially for shape and appearance (Oxford Dictionaries, 2012). As a verb, 'to design' means: to decide upon the appearance and function of a thing by making a detailed drawing of it. Design practitioners generally describe 'design' as an idea and a process of how we think about users' needs and wants that will become tangible - a concrete expression of design outcomes (Ardatürk, 2022) in various forms, e.g., packaging, home furnishings, websites, and street furniture. In relation to crafts, this paper will use the term 'design' specifically to refer to the areas of industrial design or product design and design management.

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Design is an important tool for driving product differentiation, creating value for consumers and companies, driving consumer preferences, and creating sustainable competitive advantage (Kumar et al., 2015). Design can contribute to products as a strategic tool for building sustainable long-term relationships with consumers. Traditional elements of handicraft play a key role in creative and cultural industries in enhancing market novelty. Changing traditional elements to meet contemporary needs (Petruzzelli & Albino, 2012). These elements must be redesigned into new products consistent with current socio-cultural trends to meet contemporary standards of performance and utility (Petruzzelli & Savino, 2015). At a time when traditional crafts containing multiple elements are declining, design can breathe life into the continued future of handicrafts. Craft and design can influence social change either directly or indirectly, for example, through the creation and use of objects (Angat & Hassan, 2023). Therefore, traditional handicraft products innovation based on design can not only provide designers with more effective, more diverse, more scientific, and practical methods, but also play an important role in the inheritance and development of handicraft products and value innovation. According to Wang et al., (2024), studying the impact of modern design culture on traditional handicraft products from the perspective of design industry and market dynamics can assert that cultural and creative handicraft products have grown into a huge industry and market segment. However, this growth has intensified competition among designers and brands as well as highlighting the needs for innovation and differentiation in the market (Banerjee & Mazzarella, 2022).

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2.4.3 Design Value of Traditional Handicraft Products

The design value of handicrafts covers various aspects such as cultural significance, sustainability, consumer experience, and regional uniqueness. The study emphasises the importance of incorporating design elements that reflect regional ethnic culture (Mochammad et al., 2018). In addition, the design of small and micro crafts focuses on functionality, uniqueness, ease of use and other aspects to meet market demand and enhance product attractiveness.

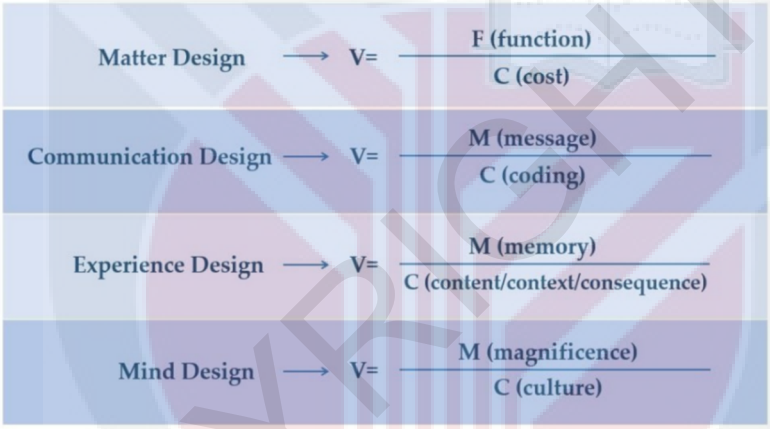


Figure 2.12: Innovation in design value
(Source by Ho & Yang, 2019)

According to Ho and Yang (2019) the value paradigm can be divided into four (4) forms of design. The first is the value of the material, where value and price complement each other, while cost and function are the strategies that influence its development (see Figure 2.12). The second is the value of communication. In the era of symbol consumption, brand is composed of symbol meaning and symbol consumption value. Its value lies in the information transmission process of encoding and decoding, which conveys its own identity and enhances its value. The third is the

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experience value that people need under the experience economy, which refers to the creation of scenes and the shaping of memories. The fourth is the value of spiritual design, which refers to the comfort, harmony and feeling created by culture and creativity.

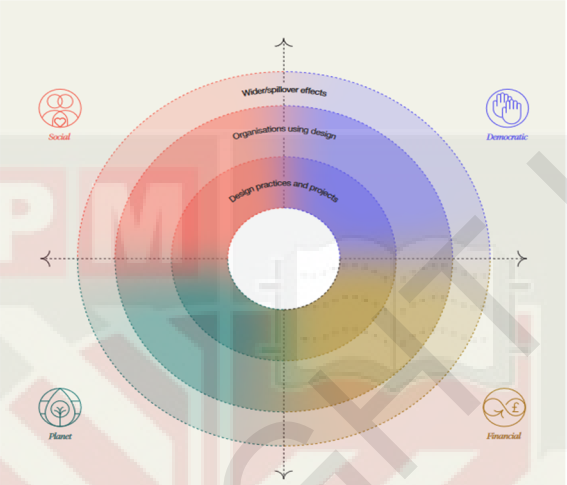


Figure 2.13: Design value framework
(Source by BOP Consulting and the School of Social Design (SDI) at the University of the Arts London (UAL)

Furthermore, BOP Consulting and the School of Social Design (SDI) at the University of the Arts London (UAL) developed the Design Value Framework in 2022. The Design Value framework helps measure design metrics and importance, while assessing design value in four interrelated areas: sociocultural, environmental, democratic, and financial economics (see Figure 2.13). Founder Sadies Morgan 2020 said: "Design needs to take a broader perspective on the traditional definition of value. The value of design should be reflected in how it has a positive impact on society by promoting environmental awareness, social care, and the individual.

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2.4.4 Collaborative Design in Traditional Handicraft Products

Globalisation is a major trend in cultural exchanges, however with only standing still is not a favourable choice for Chinese traditional culture to stick to its true nature and only by conforming to the general trend and finding new meanings under a new reference system is a more scientific approach to inheritance. (Li, 2023). The development of the international cultural and creative industries has created more job opportunities and its contribution to the economy has been increasingly recognised and many Chinese scholars believe that the 'Belt and Road Initiative' is good for the development of cultural and creative industries (Li, 2018) and has become an important pillar of national economic development. As time passes, handicrafts face various challenges in remaining relevant. Factors such as rising prices and difficulty obtaining high-quality raw materials cause handicrafts to become less popular (Ghouse, 2012; Akhir et al., 2015). Innovations can help in preserving the heritage of traditional handicrafts, and even expand it to a broader market (Mokhtar 2018; Romana 2018).

Handicrafts also experience a process of innovation in terms of use (Nuryakin 2018; Harwiki et al., 2018). Innovation is usually considered imperative for every company to survive and sustain competitiveness in the market (Damanpour & Schneider, 2006). Innovation can also enable companies to reap their rewards in terms of higher sales, profits, market share, and business growth (Yang & Shafi, 2020). In addition, the quality and added value of traditional handicrafts can be improved by introducing modern design concepts and methods (Cheng & De Bont, 2022). Innovation and creativity are fostered by the intersection of modern design and traditional

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craftsmanship, which encourages artisans to experiment with the new materials, techniques, and forms, and pushing the boundaries of Chinese traditional craftsmanship (Wang et al., 2024). To study the inheritance of traditional culture handicraft products innovation is not only to inherit technology but also to continuously innovate and develop the technology on the original basis, to make the product level rise to a higher level and improve the artistic grade, artistic value, and artistic appeal. product designers need to collect and excavate regional cultural materials, refine the design elements of cultural prototypes, and express design ideas through techniques (He et al., 2019). In addition, before the design, it is necessary to identify consumer groups, conduct targets positioning and market analysis. In the design, designers should combine current design trends and aesthetic perspectives as well as deeply into the history, national traditions, and local folk customs resources in the ethnic regions.

Recently, traditional handicraft products are not marketable, and the value is not appealing as required. One of the reasons is that most craftsmanship skills are lacking in innovation and creativity (Guo & Ahn, 2021). The development of traditional handicraft products should comprehensively utilise spiritual elements of traditional culture, knowledge elements of advanced technology, and technical elements such as capital and manufacturing (He et al., 2019). Furthermore, the collaborations between traditional handicraft, design, science, and technology are restricted and underutilised. Developing cultural and creative products with regional cultural characteristics, endowing them with new cultural vitality through product design, and constructing an innovative product with cultural significance, not only conforms to people's aesthetic concepts, but also makes cultural and creative products more connotative (Walker et al., 2019; Fang & Zhang, 2022).

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2.4.5 Innovation Design for Traditional Handicraft Products

Handicraft products represent the place, population, and culture to which they belong (Igwe et al., 2018). According to Mevhibe and Ozdemir (2012) for centuries, craft has echoed the rhythms of everyday life with its rich materiality, deep-rooted cultural identity, and intrinsic value of quality work and cultural expression (Lucie-Smith, 1981; Risatti, 2007; Sennett, 2008; Adamson, 2010; Hang & Guo, 2012; Niedderer & Townsend, 2014). The inheritance and development of handicraft products have activated their practicability to serve social life, their cultural character bearing the historical and humanistic way of living, and their national character as the unique wealth of all nationalities. Then from the cultivation of national creativity and people's craftsman spirit, promote national equality, autonomy, and unity, promote sustainable development 2023, show its contemporary value in the construction of economic livelihood, shaping people's collective spirit, the development of civilisation and other aspects (Zhong et al., 2023).

Traditional handicraft products are an important part of the intangible cultural heritage (hereinafter referred to as ICH), which is the behaviour mode, technology and related products formed and passed down by the people of all nationalities in the long-term practice of social life. Traditional handicraft products were originally produced to meet the needs of the local population (Zhong et al., 2023). Mevhibe and Ozdemir (2012) argue that handicrafts reflect the natural and historical character of a region and society. Culture is the whole way of life (Freccero, 1999), which is called "the whole way of life of society" (Ho, 1996; Leong & Clark, 2003). It generally refers to the patterns of human activity and the symbolic structures that give meaning to such activity and

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reflects the different criteria for assessing human activity or the theoretical basis for understanding through various definitions. In fact, culture is described as the result of the process of dealing with the evolution of human civilisation, a process involving language, customs, religion, art, thought and behaviour, based on sociological research, anthropology, and linguistics (Lin, 2007). Culture is an implicit and explicit dynamic structure that ensures the survival of a group, involving norms, values, behaviours, attitudes, and beliefs (Matsumoto & Juang, 2012). One of the major design trends in the global market is the incorporation of 'culture' into modern products (Lin, 2007).

2.4.6 Design and Development for Traditional Handicraft Products

Design plays an important role in incorporating cultural factors into products and enhancing their value in a highly competitive global market (Lin et.al, 2009). Therefore, the design of products with local culture becomes a key issue in product design to highlight its cultural value (Halskov & Christensen, 2018; Ma & Liu, 2023). Due to the influence of economic globalisation, the development of product design is confronted with the conflict between localisation and globalisation (Huang et al., 2011). Razzaghi and Ramirez (2005) identify five main reasons why manufacturers are reluctant to use cultural factors in the product development process: the additional cost of cultural studies, the gap in manufacturer knowledge, the lack of knowledge of industrial designers in cultural design, the globalisation of products and the preference of both designers and manufacturers to work on technical cases.

Designers should provide a different way of thinking about the interactive experience between cultural attributes and product characteristics, that is, the importance of

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products with cultural attributes for improving product value and meeting user needs (Yang, 2022). One of the most important solutions affecting product success is to consider cultural characteristics in addition to technical solutions (Portigal, 1997). However, cultural constraints such as behaviours, beliefs and attitudes cannot be ignored (Ros et al., 2001). In fact, the meaning of products comes from culture, providing the ritual of using artifacts and the values often reflected in their form and function (Press & Cooper, 2017). In this way, the goal of cultural respect can be achieved by incorporating users' historical and aesthetic values into the product design process, which challenges designers to understand what cultural norms and values can be integrated into product design and how (Popovic et al., 2008). Modern product developers try to redesign products according to the cultural needs of different regions (Shuzhen & Qin, 2009).

In this way, cultural factors and cultural needs of regional customers are decoded for designers who need to extract user cultural factors (Shuzhen & Qin, 2009), and appropriate regional cultural factors are applied to new products. It is particularly important for modern design to inherit excellent traditional culture and make "cultural consciousness" reflected in life and behaviour (Yu & Lu, 2006). Modern product developers try to redesign products according to the cultural needs of different regions (Shuzhen & Qin, 2009). In this way, cultural factors and regional customers' cultural needs are decoded, and regional cultural factors suitable for new products are provided for designers who need to extract users' cultural factors (Shuzhen & Qin, 2009). It is very important for modern design to inherit excellent traditional culture and show "cultural consciousness" in life and behaviour (Qing, 2015). The demand for culture products depends on many factors, including price, income level, public cultural

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quality, cultural infrastructure, people's leisure time, etc., (Shuzhen & Qin, 2009). Moalosi et al., (2008) attempted to express the basis of embedding cultural factors into the design process in their research. Through the analysis of cultural factors and the discussion of related social and cultural factors, the theoretical framework of the influence on design is established. He claims that this will help designers develop their understanding of users' cultural needs and discover strategies for how designers can use culture as a source in the product design process. The culture-oriented product design process proposed by Moalosi et al., (2008) has three (3) domains: the user field, designer field and product field.

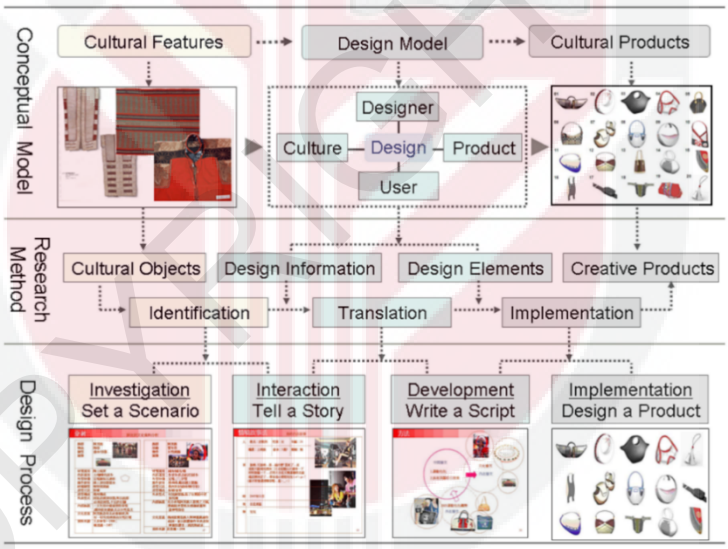


Figure 2.14: Cultural design model
(Source by Lin et al., 2007)

Lin et al., (2007) proposed a model of transforming cultural factors in modern products into design elements to enhance their design value (see Figure 2.14). She said that the process of cultural product design is formed in the examination of cultural factors. In the next steps, define the design process for satisfying the customer through culture. The model he proposed consists of three main parts: conceptual model, research

method and design process (Lin et al., 2007). Firstly, a cultural design model should look for cultural factors from cultural objects. The next step is to discover the cultural context based on user observations. The next step involves exploring the interaction between culture and technology and understanding users' needs through conversations between users and designers. The next step is to develop conceptual sketches and hieroglyphics through access to the scene. In fact, the demand of consumers and the design of products to meet the needs of users are provided in this process (Lin et al., 2007). Hsu et al., (2011) proposed the ten-step, four-stage design of cultural product design are (1) Discussion conditions: Identify cultural products, (2) Identify trends: Observe, compare, and integrate related topics such as technology application, economic development, and social trends, (3) Target consumers: explore customer needs and define products according to cultural characteristics, (4) Describe the scenario: Designers should describe the user's attitude towards their preferences and recognise the meaning, category, characteristics, and appropriateness of the product, and (5) Determine the direction: determine the target group, objectives, limitations, and functions of the design, and formulate the design specification.

As noted by Makhmudova (2022), culture is a social heritage composed of ideas that may have developed long before we were born. In this case, it is interpreted as a process of meaning formation: "We think of culture as a process. This happens when people understand their own lives and the actions of others with whom they must deal" (Shepherd, 2014). For example, personal values and beliefs are different. As Schabracq, (2007) says, a nation's culture is never a single homogeneous thing, culture is the result of a historical, self-organising development (Guiso et al., 2006). Here, we define culture as those traditional beliefs and values that ethnic, religious, and social

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groups transmit largely unchanged through changing generations (Zhong et al., 2023). Culture consciousness and national rejuvenation, the common development of human civilisation. However, with the trend of globalisation and the accelerating process of modernization, the living ecology and consumption ecology of human beings have undergone great changes. Because the traditional technology is replaced by the original practicability, it meets many new problems in survival, protection, and development. So, they face a tough succession situation. Some crafts that rely on oral and behavioural inheritance are on the verge of extinction, while over-exploitation for conservation, inheritance, and revitalisation often occurs. Therefore, scientific, and effective models are urgently needed to promote the contemporary inheritance of traditional handicraft products (Zhong et al., 2023). Economic motives are mostly less important to artisans. Some studies of artisan entrepreneurs have found that non-financial motivations are important, e.g., personal well-being, independence (Bell, 2022; Hung, 2023), the value of craft traditions or the desire to strengthen the cultural identity of the surrounding region (Vitasurya, 2016). Most artisans work in rural areas and their products reflect the culture of the surrounding area (Gobattoni et al., 2015).

2.5 Aesthetical Innovation for Product Development

Aesthetics are crucial in product design, serving as a key factor in attracting consumer interest, building emotional bonds, and influencing buying choices. Aesthetic innovation goes beyond superficial beauty; it encompasses the overall sensory experience of a product, including its visual appeal, tactile qualities, and emotional resonance. Aesthetic innovation refers to the process of pushing the boundaries of design and visual expression to create new, distinctive, and impactful aesthetics. This

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involves experimenting with novel concepts, techniques, materials, and forms to achieve a fresh and unique visual identity. aesthetics is related to both what the product presents to the senses (especially vision) and the process of regarding an object (Crilly et al., 2004). In contrast, functionality indicates how a product can serve its goal (Homburg et al., 2005) by ensuring a set of required mechanical/technical properties, under specific constraints (Furferi & Buonamici, 2023).

Carlucci and Schiuma (2018), state that aesthetics comprises the basic aspects that form and describe the aesthetic sensation of art. The term "aesthetic" was first used in the eighteenth century by the philosopher Alexander Baumgarten to refer to cognition through the senses, sense knowledge. He later began to use it to refer to the perception of beauty by the senses, especially in art. Kant drew on this usage and applied the term to judgments of art and natural beauty. Later, the concept was continually applied in various fields. It now refers not only to itself, but also applies to attributes, attitudes, experiences, pleasures, or values (Goldman, 2005). Aesthetics plays a vital role in the field of handicrafts, where the integration of artistic value and function is essential. Crafts are not only functional, but also have an aesthetic appeal that appeals to consumers looking for an emotional connection and a unique experience. Traditional crafts have significant value in modern times, bridging the gap between the rationality of industrial design and the emotional aesthetics of handmade creations. The attributes of aesthetics have a positive impact on product preference (Yamamoto & Lambert 1994).

The study of aesthetics in products usually involves two aspects: one is the act of creation, which embeds and integrates aesthetics in crafts, and the other is the form of

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aesthetics with an experiential sensibility based on the feelings of the creator, the consumer, and the use of creativity, intuition, recognition, and feeling. Zafarmand et al., (2003) further validated by clarifying the intrinsic relationship that also exists between product aesthetics and product sustainability. Aesthetics can emotionally influence users' new behaviours and attitudes toward products, the environment, and the marketplace. At the same time, aesthetic factors produce many properties of sustainable products including durability, upgradability, serviceability, reparability, regeneration, modularity, reuse, recyclability, etc., (Strati, 2000: Mahoney, 2002). Attention to the aesthetics of a product will pay off well for the product in terms of sales performance (Yamamoto & Lambert, 1994). Consumer purchasing preferences and choices depend on more than just the functionality and suitability of a product (Chuang et al., 2001).

2.5.1 Aesthetical Attributes Properties

Aesthetic or aesthetical comes from the Greek word aisth tikos, which means "to feel or perceive". "Concerned with beauty or the appreciation of beauty" (Oxford English Dictionary, 2024). Originally, it referred to experiences, emotional responses through the senses. Feel. It includes features related to aesthetics, aesthetic experience, and art appreciation. Artistic comes from the Latin artisticus, derived from ars, meaning "of or relating to art or artists" (Oxford English Dictionary, 2024). It mainly refers to the characteristics related to the creation of art, the artist's technique, and the work of art itself. It emphasises artistry, creativity and artistic practice. Aesthetical focuses more on aesthetical experience and perception, while artistic focuses more on the characteristics of artistic creation and artistic expression. As shown in Table 2.1, both

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artistic value and aesthetical value belong to the category of aesthetics, but they have significant differences in concept, concern, core, evaluation criteria and philosophical epistemology. Aesthetical Value focuses on the impact of a work on the senses and emotions, as well as the aesthetic experience and emotional response brought to the audience. It embodies the audience's aesthetic perception, emotional response and aesthetic judgment of the work. Artistic Value focuses on the creative, technical, innovative, artistic intent, historical and cultural background of the work. There is a certain amount of subjectivity, but it is often considered to be based on objective criteria of artistic creation (Levinson, 1987: Oxford English Dictionary, 2024).

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Table 2.1: Artistic value and aesthetical value

	Source	Focus	Core	Evaluation basis	Epistemology
Artistic Value	Artistic	Artistry, creativity and artist intent, historical and cultural context	The artistry, skill, innovation and historical status of the work	Based on objective criteria of artistic creation. (Practice)	There is a certain subjectivity
Aesthetical Value	Aesthetic	Aesthetics, aesthetic experience, characteristics, sensory and emotional influences associated with art appreciation	Aesthetic perception, emotional response and aesthetic judgment of works	Based on personal aesthetic experience. (feeling)	Highly subjective

(Source by Levinson, 1987; Oxford English Dictionary, 2024)

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Aesthetical can be seen as a form of knowledge that can focus on factors such as cultural values, identity, image, and style (Mangham & Overington 1987). For example, aesthetics as style is not only related to the inputs of the design process, but also to the inculcation and practice of creative, entrepreneurial forms of marketing based on artisanal intuition (Fillis & Rentschler, 2006). In addition to intuition, the aesthetical dimension includes cognitive and affective elements (Lyotard, 1994). The production, marketing and consumption of crafts involves aesthetic inputs, focusing on factors such as experience and sensation in addition to any tangible outcomes. Having a knowledge of aesthetics can lead to new insights and awareness, whether we are able to truly express our experiences (John, 2001). Viewing aesthetics from a cognitive perspective can stimulate perceptual activity and reveal certain truths about the world (Freeland, 1997). It also introduces an element of pleasure-seeking, which helps to understand the meaning of creativity. De Clercq (2008) sorted out related scholars' understanding of aesthetics, including adjectives and words describing in detail the information and feelings about aesthetical (see Table 2.2). Aesthetical forms of expression are like experiments that allow us to reconsider and challenge dominant categories and classifications. Innovative forms resist existing classifications altogether, compelling the creation of new categories, allowing new things to belong in new places (Taylor & Hansen, 2005).

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Table 2.2: Aesthetical adjective properties

Aesthetic Adjective Prosperities	Description Meaning
Aesthetic Concept	Unified, balanced, integrated, lifeless, serene, sombre, dynamic, powerful, vivid, delicate, moving, sentimental, tragic, graceful, dainty, handsome, comely, elegant, garish, melancholy, tightly knit, lovely, pretty, beautiful, flamboyant, majestic, grand, splendid, fiery, massive, flaccid, weakly, washed out, lanky, anaemic, wan, insipid, joyous, fiery, robust, strident, turbulent, gaudy, chaotic, strong, powerful, monotonous, forceful, gay, taut, solemn, ugly, exquisite, nice
Aesthetic and non-aesthetic	Graceful, dainty, garish, gaudy, balanced, moving, powerful, unified, sad, gay, sprightly, cheerful, solemn, majestic, pensive, serene
Aesthetic value, Aesthetic Aesthetics, and the Philosophy of Arts	Beautiful, ugly, sublime, dreary, balanced, graceful, concise, loosely woven, sad, angry, joyful, serene, powerful, stirring, amusing, hilarious, boring, sluggish, bouncy, jaunty, realistic, distorted, true to life, erroneous, vivid, dull, muted, steely, mellow, derivative, original, daring, bold, conservative
Hermerén	Garish, tense, graceful, harmonious, gay, nervous, sad, exciting, somber, serene, solemn, joyous, cheerful, bold, subline, monumental, coherent, picturesque, mysterious, beautiful, unified, melancholy, disorganised, clumsy, powerful, intriguing, moving
Philosophy of Art	Graceful, dark, brooding, somber, melancholic, gay, bold, stately, pompous, unified, balanced, tightly knit, chaotic, gaudy, vulgar, kitschy, garish, subline, beautiful, comic, suspenseful
Zangwill	Beautiful, ugly, dainty, dumpy, graceful, elegant, garish, delicate, balanced, warm, passionate, brooding, awkward, sad
Philosophical Aesthetics	Beautiful, ugly, subline, graceful, elegant, delicate, harmonious, balanced, unified, powerful, [having] drive, [having] elan, ebullient, witty, vehement, garish, gaudy, acerbic, anguished, sad, tranquil, cheerful, crude, serene, wiry, comical, flamboyant, languorous, melancholic, sentimental
Aesthetic Properties it	Balanced, unified, dynamic, fluid, impressionist, fauvist, cubist, futurist, beautiful, ugly, lovely, sexy, dumpy, tense, subline, tender, solicitous, mournful, lugubrious, cheerful, confident, good-hearted, graceful, garish

(Source by De Clercq, 2008)

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According to Zafarmand et al., (2003), the main of aesthetic attributes of a product were identified as (1) aesthetic durability, (2) local aesthetics and cultural identity, (3) individuality and diversity, (4) Logic and functionality, (5) Aesthetic upgradability and modularity, (6) Simplicity and minimalism, and (7) Natural forms and materials (see Figure 2.15).

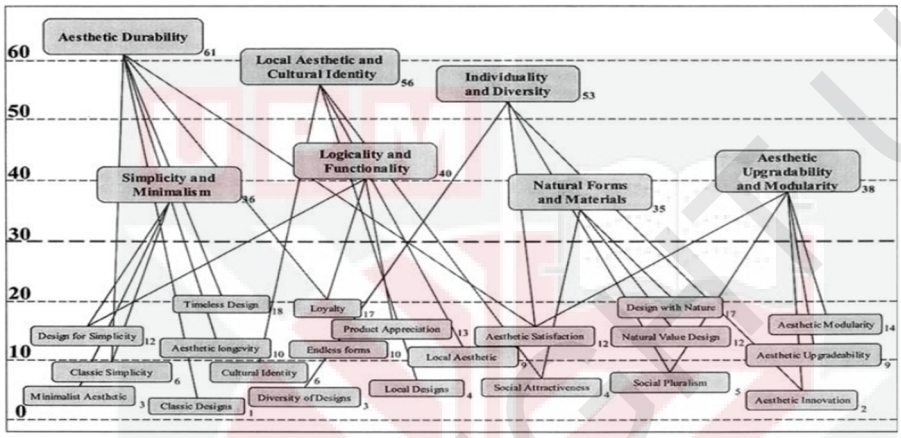


Figure 2.15: The aesthetic attributes of products
(Source by Zafarmand et al., 2003)

These aesthetical attributes are validated to play a key role in the design of products, and sustainable products. sustainable products play a key role. Zafarmand et al., (2003) believed that aesthetical characteristics should be studied from five aspects: attractiveness, satisfaction, behaviour, attitude, and culture (see Figure 2.16). First, to have attractiveness, at the initial stage of product purchase. Secondly, it is important to establish a good feeling and enhance the user to feel satisfied during the purchase process. Third, product aesthetics will make customers interact emotionally and behaviourally. Fourth, product aesthetics affects users' attitudes toward the product and its brand, environment, and market value. Fifth, product aesthetical conveys development concepts and values.

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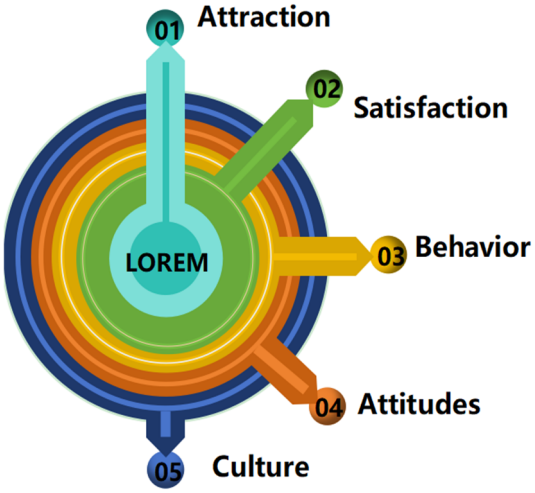


Figure 2.16: Five research directions of aesthetical characteristics in product design
(Adapted from Zafarmand et al., 2003)

2.5.2 Aesthetical Gene for Product Character

According to Tyler, T. (2011), the evolutionary process takes place not only in the biological domain, but also in the cultural domain. On the one hand, evolutionarily, the unit of replication is the gene. On the other hand, the units that spread and replicate in cultural evolution can be related to genes. Like the self-reproduction of genes, a process called reproduction, meme theory explains the development and evolution of culture. The process by which cultural elements (memes) are transmitted to other groups can be considered a kind of cultural transmission. In this sense, culture will always be in a state of development and change. Memetics is the common name for the study of memes, a term originally coined by Richard Dawkins to describe the small inherited elements of human culture. Memes are culturally equivalent to DNA genes, and memetics is culturally equivalent to genetics. Memes are important for understanding science, politics, religion, cause, propaganda, and popular culture. It provides insight into the rise of industry, technology, and machines. This is important

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for understanding technological change and the future of humanity (Tyler, 2011). In an era when cultural products are systematically produced and presented to an ever-expanding group of consumers, use genetics to understand how culture evolves into works under market pressures and how culture, technology and society interact (Shin & Park, 2019). Memes can be regarded as cultural DNA because they are units of cultural information, and their modes of propagation and replication are like genes in biological evolution. Therefore, considering memes as cultural DNA provides a framework for understanding how cultural elements spread and evolve, shaping the dynamics of human cultural activities and societies.

Design and the DNA significance provide a company with an opportunity to differentiate itself from others (Eves & Hewitt, 2009). In addition, all products need to carry a DNA, it provides a core thread linking a range together. Aesthetic character and expression are captured in a style of DNA. By understanding and articulating aesthetic DNA, it can create a powerful and recognisable visual identity that resonates deeply with users. DNA comes from biology and was discovered in 1869. It refers to the molecule that carries genetic information about the development and function of an organism. Biological DNA has two (2) major characteristics are heredity and variation. Heredity is the growth mode and development pathway formed according to the development experience of parents. Produce biological processes like those of parents; Variation is affected by gene control and growth environment during biological development, resulting in structural and functional differences between molecules. The concept of an "aesthetic gene" for product character refers to the idea of infusing specific, identifiable aesthetic elements into a product's design that communicate its character and appeal. These elements can be thought of as the "DNA"

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of the product's visual and sensory attributes, shaping how users perceive and interact with it. Aesthetic DNA is a concept that can refer to the inherent qualities, styles, and preferences that define the visual and sensory identity of a person, brand, or product. It encapsulates the core elements that consistently inform and shape the overall look, feel, and design language. According to Kang (2020), aesthetics is the art theory of beauty and the science of perceptual cognition proposed by German philosopher Baumgarten in 1750. Dictionary definitions of aesthetic include "relating to the beautiful as distinguished from the merely pleasing" and "relating to sensuous cognition" and as such emphasises the common understanding of aesthetical as having to do with visual appeal (Yadav et al., 2013).

Furthermore, the concept of aesthetic genes for product character is also about defining and consistently applying specific aesthetic principles that embody the brand and resonate with users. By understanding and leveraging these core design elements, companies can create products that not only meet functional requirements but also connect with users on an emotional level, reinforcing brand identity and fostering customer loyalty. Aesthetic gene of product comes from which it can be generally refers to the information knowledge contained in the product. Aesthetic gene is the carrier of product genetic information, and product identification features are stored in product DNA. According to Li and Zhao (2011) genes as the core and constant element of the product, can be applied to each generation of products through different coding combinations, which can make the characteristics of the product continue and innovate, and make the product have sustainable development. The extracted product DNA is a set of reusable modules that can be shared by a range of products. Generalisation, modularisation, and standardisation are the core of the product. By using the process

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of biological gene transfer to build DNA and verify products, we can create products that are more suitable for market, industry, and social design, to achieve sustainable development of product characteristic information transmission. Eves and Hewitt (2009) iconic products are generally the purest manifestation of a design language DNA, showing the core values in their rawest form. All products need to carry a DNA, it provides a core thread linking a range together. Cultural DNA is the basic factor that determines the inheritance and change of the cultural system (Wang, 2003). According to (Chen. 2019) DNA has dual attributes: materiality (way of being) and information (essential attribute). Moreover, patterns of cultural development, spread, and diversification have similar characteristics to biological evolution. Cultural DNA, like biological DNA, is at the heart of all development processes. It includes cultural elements, representative artifacts, and design process (see Figure 2.17).

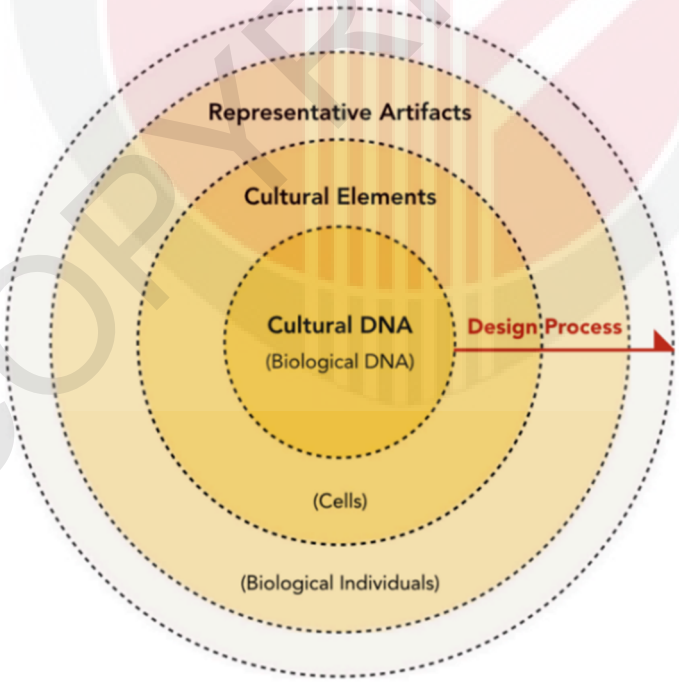


Figure 2.17: The pattern of cultural development
(Source by Chen, 2019)

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2.5.3 Product DNA of Aesthetical Design Method

Successful products have a strong continuity running through them, creating a complete experience (Eves & Hewitt, 2009). Design as an activity that requires creativity and imagination needs the support of aesthetic elements (Rizali, 2018). The creative process and implementation of art is based on aesthetic values and skills, selecting elements that meet their needs. Aesthetical elements are especially important in innovation. Fine art uses visual language as a two- and three-dimensional expression in terms of visual elements such as fonts, colours, shapes, and textures (Rizali, 2018). Aesthetical, on the other hand, is organised through the principles of unity, harmony, balance, rhythm, and proportion. This process makes aesthetics tangible and visual in the product. In the process of product development and design, all new products are related to the previous products, but not the same. In the past, design knowledge was mostly fragmented and scattered in various fields, and the expression method of design knowledge was mainly to classify these fragments, which often resulted in the separation, isolation, and limitation of design knowledge in their own scope, and the lack of coherence and organic connection.

Aesthetical character and expression are captured in a style DNA (Eves & Hewitt, 2009). The concept of combining product DNA with design is to solve these problems. The design method of product DNA is mainly based on the characteristics of product modelling, classification extraction, analysis, and study of its characteristics, which are mainly manifested in surface, line and details and other details. Based on the analysis of product DNA information characteristics of Caterpillar products, the family development trend of Caterpillar is analysed according to the characteristic elements

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of product DNA, such as surface, line and body, and the genetic changes of the characteristic surface, line, and body as well as the serialisation style form are summarized. Systematic continuation of DNA characteristic elements of products contributes to the family characteristics of Caterpillar products and enterprises and enhances the corporate brand image (Dutta Roy & Mishra, 2021). Similarities and inheritance between biological parents, namely the so-called genetic information, are stored in DNA molecules. Then, enterprise products should also be like organisms. Each generation of products has its similarity and inheritance. Meanwhile, the genetic information of products is also stored in the DNA of products, which not only maintains characteristics, but also has innovation (Li & Zhao, 2011). The former design director of Apple Computer, Bernard, believes that the best design will form a strong competitive edge if the unique elements of corporate culture "DNA" are applied to the design of various products. The correct design strategy is to find out the unique DNA and convert it into the styling features of products, which can be applied in product design and development (Li & Zhao, 2011).

MichaelPolanyi, a British scholar, divided knowledge into explicit knowledge and implicit knowledge according to whether knowledge can be expressed clearly and transferred effectively. Explicit knowledge generally refers to "knowledge that can be fully expressed by human beings in certain code systems (such as written words, diagrams and mathematical formulas)." At the other end of the scale is the "informal, unspoken" tacit knowledge that is embedded in thought, action, and experience with subjectivity, randomness, and ambiguity. Zhaolin et al., (2021) introduced the characteristics of biological DNA into product DNA and found that product DNA can also be studied in two aspects: dominant factor and recessive factor. The dominant

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factor of product DNA is like that of biological DNA, that is, the external image. The product identification features include external and internal identification features. The external identification features include recessive factors of product DNA, such as product lines, shapes, colours, materials, and structures. Recessive factors in product DNA are like those in biological DNA. They are deeper content and reflect personality traits. To establish the DNA of the product, it is necessary to understand the history and culture of the product, brand connotation, manufacturing process, technical characteristics, and other unique factors, as the recessive factors of the product DNA (Lu et al., 2010).

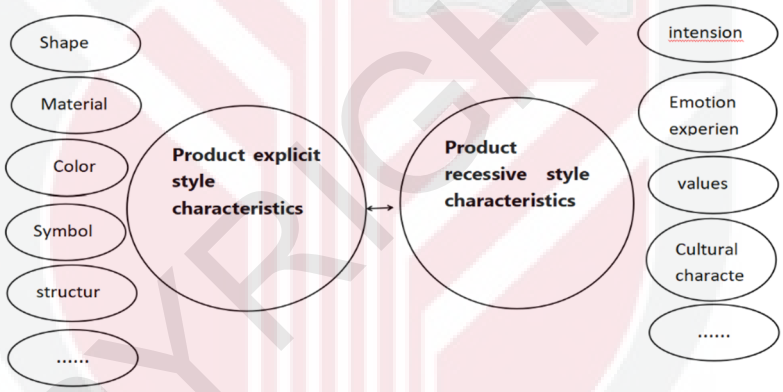


Figure 2.18: The DNA for the product includes the recessive and Dominant Elements
[Source by Zhaolin et al., (2021)]

The so-called product design DNA refers to introducing the concept of DNA similarity and inheritance into the inherent heredity and variation characteristics of product design. In the academic world, Korean scholar Koh believes that designers have more opportunities to apply their previous knowledge and experience than creativity when engaged in product design, and product design DNA can help designers to be timely, flexible, and flexible to deal with the new subject and retain the original design style

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and put forward the method of using product design DNA to construct intelligent product design. Nokia is the application model of enterprise design DNA, humanised user interface, intuitive and logical menu, easy to read fonts, artistic graphics, interesting animation, reasonable combination of functions, etc., these elements are called "Nokia design DNA" (Luo et al., 2008). Samsung set up a product design DNA research team to conduct product design DNA research for corporate culture and product brand. To enhance the characteristics of the enterprise brand culture, so that design as an important factor to improve the competitiveness of products. Karjalainen (2007); extracted the DNA of product design, and then applied it to the experiment of new product design. Analysed the products of several famous automobile brands, focusing on the connotation conveyed by the products and the significant visual identification features; Extract these brand elements and transform them into other product designs, such as MP3, watch, water cup, etc.; In the verification phase, experienced designers evaluate the results. This research aims to explore the inherent quality of the brand, which can even be developed into various products of different categories (Luo et al., 2008). In the field of industrial design, the main contents of product design DNA research are as follows as; (1) Extraction of product design DNA, (2) Coding of design DNA, and (3) Style cognition of DNA elements of product design.

2.5.4 Product DNA With Aesthetical Elements

Due to the continuous progress and development of science and technology, various disciplines cross each other and complement each other's strengths and weaknesses, showing a trend of high interdisciplinary integration. In this context, relevant researchers link craft elements with design as handicraft DNA in the hope that under

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the trend of increasing homogenization of products, they can give products a unique form and style image, so that the product style always maintains a certain inheritance, and on this basis, they can continue to innovate and build a brand (Luo et al., 2008). Due to the continuous progress and development of science and technology, various disciplines cross each other and learn from each other, showing a trend of highly interdisciplinary integration. In this context, relevant researchers link handicraft elements with design. As the DNA of handicraft, they hope to give products a unique form and style image under the trend of increasingly homogeneous products, so that product styles can always maintain a certain inheritance, and on this basis, constantly innovate and build brands (Luo et al., 2008).

Traditional and cultural influences play a significant role in shaping an individual's aesthetic preferences. In addition, Chinese scholars have made attempts about analysing and framing the DNA of the products (Zhu & Luo ,2007) and others analysed the shape elements, laws and style composition of Yunnan porphyry copper handicrafts and reproduced the style of the handicrafts used the method of shape tracing and derivation to reproduce the shapes of products with similar styles (Chunyu et al., 2017), extracted the elements of "Chinese DNA" from material, colour, decoration, shape and so on, searched for the matching points, and designed the "Chinese DNA". It extracts the elements of "Chinese DNA" from material, colour, decoration, and shape, find the matching points, and design the "Chinese DNA" elements and smart jewellery. Through the study of smart jewellery, the analysis and extraction of "Chinese DNA" elements can explore new design perspectives, give new value connotation to Chinese traditional crafts, and make them inherited. At the same time, the concept of cultural DNA has also been put forward by (Shi, 2002), who

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advocated the establishment of a cultural DNA bank in China, which is also known as the “Chinese cultural gene bank”. Zang (2008), the relationship between design and cultural DNA is discussed, and modelling design as the link between culture and creation is a bridge to build cultural DNA.

Lin (2007) established a cultural product design model supported by a case study on the transformation of Taiwan's aboriginal cultural characteristics into modern product design. It consists of three (3) main stages: conceptual modelling, research methodology and design process. Specifically, designing a cultural product requires four steps: investigation (setting the scene), interaction (storytelling), development (writing the script) and implementation (designing the product). Gou Bing Chen (Gou Bing Chen) of Northwestern Polytechnical University and others combined the cultural elements of the half-slope pottery with the genetic knowledge in biology and proposed the construction of the cultural gene pool of the half-slope pottery. Thus, it provides comprehensive and systematic useful information for the cultural product design of half slope pottery. Chen (2019) presents a specific flowchart of steps to utilise culture DNA, to design a new product: (1) selecting an appropriate cultural context for product identification, (2) the product was interpreted, which included the selection, analysis, and extraction of DNA elements, (3) a DNA library was created, where specific elements were included (colours, patterns, forms, materials, and (4) culture product innovation for a new product (see Figure 2.19).

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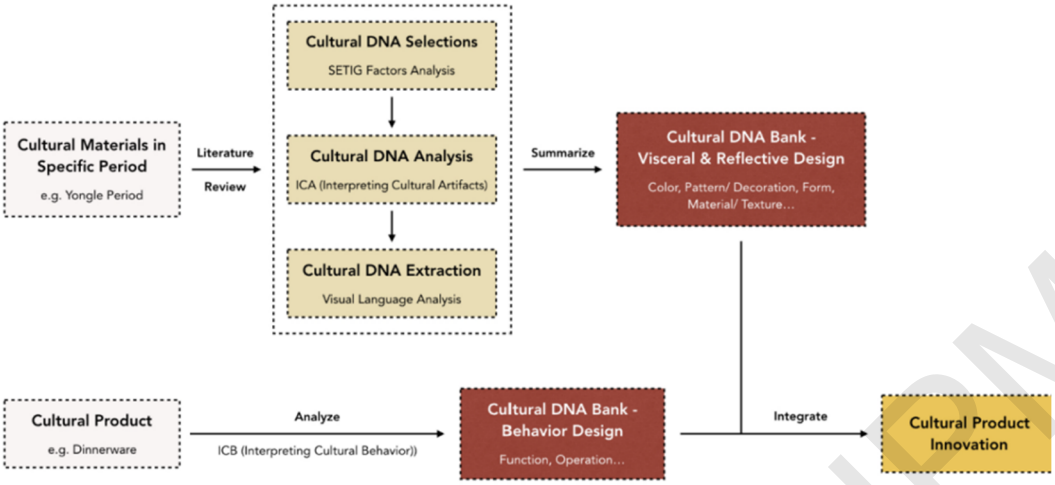


Figure 2.19: Process of culture product innovation
(Source by Chen, 2019)

2.6 Marketability for Traditional Handicraft Products

Creating a marketable product involves several steps, from ideation to launch, ensuring that the product meets market needs and stands out from the competition. Good design draws the user in, shapes user behaviour for the best performance, and prompts the user to interact with the product so the experience is enjoyable. Bad designs communicate confusion to the user, lack sensitivity to the user's physical and cognitive capabilities, and provoke non-intuitive experiences with both physical and software interfaces. As consumption and production continue to evolve, consumers are viewed as distinct groups pursuing different goals that can be better served by more differentiated and higher quality products. As a result, consumer demand has shifted from competing for products based solely on price and availability to competing for products through individuality, design value and aesthetic appeal. This shift has led to a production system that focuses on small batch, high quality products for niche markets (Creative and Cultural Skills, 2010).

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The growing demand in niche markets increases the opportunities for small businesses to supply an increasingly fragmented market. Based on this trend of consumer diversification, market opportunities for crafts are emerging and the traditional economic disadvantages of handicraft products are becoming advantages (Campbell, 2005; Traiyarach & Banjongprasert, 2022). The material and tactile qualities of handicraft products are popular in modern markets and can appeal to a wide range of markets (Kälviäinen, 2000). Traditional culture handicraft products are used to make products ranging from fashion accessories to home décor and other product categories. According to the British Crafts Council, traditional culture handicraft products have been identified as the industrial sector with the highest growth potential since 1998 (Schwarz & Yair, 2010). Traditional culture handicraft products can successfully increase market share through process, product, and marketing innovations (Celetti. 2020). Factors such as the skill level of artisans, government policies, access to raw materials, and market demand have a significant impact on the handicraft market in this region (Gautam, 2023). In addition, cultural embeddedness, cultural cluster creativity, innovation (Roy & Mohapatra, 2023). And competitiveness are the key factors affecting the marketability of products in different regions (Roostika et al., 2015).

2.6.1 Market Value of Traditional Handicraft Products

According to The United Nations Conference on Trade and Development (hereinafter referred to as UNCTAD) in 2001, John Howkins introduced the concept of the creative economy, arguing that creativity and creative assets can provide extraordinary value, economic development, and wealth. Creative industries are a foundation of the creative

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economy (UNCTAD, 2008). Many agents, including UNCTAD, have developed classification models of cultural and creative industries for measuring the creative economy. Handicraft and design are identified as part of the creative industries in the "heritage" and "functional creations" groups respectively (UNCTAD, 2008). In addition, heritage is the soul of cultural and creative industries, conveying folklore, traditional knowledge, and cultural expressions (of localities), e.g., in the form of craft traditions. Table 2.3 shows the qualification of creative industries based on creative industry.

Table 2.3: Classification of creative industries

Creative Industry	Description
Heritage	Traditional knowledge and cultural expressions: art crafts, festivals, and celebrations
	Cultural sites: archaeological sites, museums, libraries, exhibitions, etc
Arts	Visual arts: painting, sculpture, photography, and antiques.
	Performing arts: live music, theatre, dance, opera, circus, puppetry, etc
media	Publishing and printed media: books, press and other publications
	Audio-visuals: film, television, radio, and other broadcasting
Functional creations	Design: interior, graphic, fashion, jewellery, toys
	New media: architectural, advertising, cultural and recreational, creative research, and development (R&D), digital and other related creative services
	Creative services: architectural, advertising, cultural and recreational, creative research, and development (R&D), digital and other related creative services

(Source by UNCTAD, 2008)

Design for the preservation of handicraft as traditional knowledge and cultural resources, i.e., craft documentation (including motifs, designs, techniques) (Jangid, 2005). Handicraft documentation can be divided into (1) Record ways of making; (2) Enhance the development of handicrafts; (3) Address issues of international trade and the protection of Intellectual Property Rights (IPR) ownership, where craft as traditional knowledge is classified under Geographical Indications (Gl) ((Jangid, 2005). However, a lack of clear direction in product design is a root cause of poor

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customer (Punz et al., 2010). From a customer perspective, old-fashioned design, ubiquitous imitations, poor quality, impracticality, low price points and lack of creativity, uniqueness or identity can all contribute to a poor perception of crafts (OSMEP, 2010).

Table 2.4: Crafts in manufacturing and industrial economic activities

Main group (and number of sub-group) = 88 ·Agriculture, forestry, and fishing (3) ·Mining and quarrying (5) ·Manufacturing (24) ·Electricity, gas, steam and air conditioning supply (1) ·Water supply, sewerage, waste management and remediation activities (4) ·Construction (3) ·Wholesale and retail trade, repair of motor vehicles and motorcycles (3) ·Transportation and storage (5) ·Accommodation and food service activities (2) ·Information and communication (6) ·Financial and insurance activities (3 ·Real estate activities (1) ·Professional, scientific, and technical activities (7). ·Administrative and support service activities (6) ·Public administration and defence, compulsory social security (1) ·Education (1) ·Human health and social work activities (3) ·Arts, entertainment, and recreation (4) ·Other service activities (3) ·Activities of households as employers, undifferentiated goods- and services producing activities of households for own use (2) ·Activities of extraterritorial organizations and bodies (1)	Manufacture sub-groups· ·Textiles ·Apparel ·Leather and related products ·Wood, products of wood and cork (except furniture), articles made of straw and plaiting materials ·Paper and paper products ·Printing and reproduction of recorded media ·Rubber and plastic products ·Other non-metallic mineral products. Basic metals ·Fabricated metal products (except machinery and equipment) ·Furniture

(Source by UNSD, 2002)

The United Nations Statistics Division (2002) (hereinafter referred to as UNSD) identifies 88 classifications of industrial and economic activity, known as the "International Standard of Industrial Classification of All Economic Activities, Revision 4" (ISIC Rev.4). Figure 2.4show, some craft categories can be considered to belong to the manufacture group in ISIC. There are sub-groups within the manufacturing group and are craft related. This classification indicates that crafts, as

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materials and products, contribute to economic development. To improve the opportunities for enterprises to achieve upper-market value and/or increase their market share, they have been advised to compete on quality, not just on price, through product design (UNIDO, 2007; OSMEP, 2010; UNSD, 2022). UNSD (2022) has identified classifications of industry and economic activities, known as the International Standard for the Industrial Classification of All Economic Activities (hereinafter referred to as ISIC). Some process classes (as described above table) can be considered to belong to the manufacturing group of the ISIC. Within the manufacturing group there are subgroups, less than half of which are process related. This classification indicates that processes, as materials and products, contribute to the development of the economy.

Table 2.5: Product market value

Classification	Sales Channel	Yield
High-end market	Exhibited in museums and art galleries "or" purchased by collectors"	High-end crafts are high in value but low in yield
Medium-high market	Specialty stores, exhibition, and design centers	Mass production is possible if planned
Low-medium market	Exclusive stores, exhibitions, design centers, lifestyle stores, importers, tourist stores	It is designed for mass production

(Source by UNIDO, 2007)

The appearance of the product, its production and quality of the product are key in proving the value and type of crafts in the market (UNIDO, 2007). The relationship between crafts and markets is shown below. High-end market for traditional culture handicraft products can be defined as the handicrafts are an expression of national cultural heritage and are works of art; they are often high-end markets and traditional handicrafts, and they are “works of art”; they are usually one-of-a-kind or one-off pieces that may be “exhibited in museums and art galleries” or “purchased by

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collectors". High-end artifacts are highly valued but are produced in low volumes (UNIDO, 2007).

In the production of handicrafts, artisans 'may work with design consultants' so that 'their work [...] meets the needs of the market'. meet market] needs"; retain 'the ethnic look and historical context' using 'traditional elements'; and, if planned, mass production is possible, with distribution channels including specialty stores, exhibitions, and design centres (UNIDO, 2007). "Lower-middle market" and "commercial handicrafts": commercial handicrafts are produced traditionally with the support of mainstream buyers or designers but adapted to the preferences of the buyers; they can be produced in large quantities for the mass market; outlets include specialised stores, exhibitions, design centres, lifestyle centres and design centres, exhibitions, design centres, lifestyle stores, importers, tourist stores and mainstream buyers (UNIDO, 2007). "Lower middle market" and "manufactured/mass-produced crafts" crafts are designed for mass production, using machines or large networks of artisans; they reflect trends rather than traditions, although they may retain some ethnic appearance, for example through motifs; they are specifically designed for use in the production of goods and services with the Internet. They are specifically designed for distribution through channels such as tourist stores, mainstream buyers, and global chains (UNIDO, 2007).

Traditional handicraft products are of artistic value and economic value. This indicates that its production includes artistic creation activities as well as social and economic activities. With the development of industrial mass production, the traditional handicraft industry is facing a series of challenges. Combining the historical

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development and production experience of traditional handicraft products can promote the development of traditional handicrafts (Fan & Feng, 2019). Traditional handicraft products have enormous potential to play an effective role in developing the economy in general, and tourism, through job creation, economic growth, and poverty alleviation, and to play an important role in preserving local traditions. However, most of the traditional handicraft products require simple techniques, local raw materials, and low capital investment. Therefore, compared with other small and medium industries, the social cost of the handicraft industry is lower. This means that, if managed and developed properly, handicraft products can bring high returns. Furthermore, the traditional handicraft products are an important part of sustainable development policy.

Many countries have developed several strategies and policies to protect, develop and market this part of their heritage. In addition, international organisations such as the United Nations Educational, Scientific and Cultural Organisation (hereinafter referred to as UNESCO) and the International Trade Center (hereinafter referred to as an ITC) have initiated various conferences and seminars to improve and develop the handicrafts sector. To promote this sector in international trade, special priority is given to marketing. All this shows the great potential of the handicraft industry to improve and develop the economy. O'Connor (2006) demonstrated that traditional handicraft products can play an important role in economic development through job creation, economic growth, poverty alleviation, and reduction of rural-urban migration. In addition, the European Conference on Handicrafts and Small Enterprises (1994, 1997) and the UNCTAD (2008) fully recognise that traditional culture handicraft products are effective tools for sustainable development, as they provide

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employment opportunities, especially in rural communities, and contribute to economic growth and environmental management. Saha and Sen (2023); Bondyra et al., (2023) asserts that "the contribution of crafts to the economy and export markets is increasing in many developing countries as more and more new artisans, especially youth and women, are brought into the sector as a solution to rural and urban unemployment".

Several studies on handicraft industry confirm the importance of industry in the development of tourism. O'Connor (2006) confirms the natural link between handicrafts and tourism, that they are inextricably linked - with mutual advantages in building and promoting one sector to support the other. Moreover, Yavari (2006); ITC (2010) have recognised traditional culture handicraft products as one of the most effective factors in attracting tourists, as they demonstrate the historical, social, and cultural characteristics of a country. In addition, the United Nations World Tourism Organization, and the International Trade Center (2010) have also recognised that traditional culture handicraft products have significant economic impact when linked to tourism. According to Goni, et al., (2023); Putra et al., (2023), culture tourism has been promoted to highlight historical sites, archaeology, folk culture, handicrafts, praise all sectors of living treasures, performing arts, visual arts and literature, tourism services have been encouraged to employ local people, use local materials, and provide culture to visitors, Experience the traditions and lifestyles of the locals. Forero and Mejía (2023) argues that tourists are increasingly interested in appreciating traditional cultural expressions, such as handicrafts, and buying these items during their travels.

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2.6.2 Product Marketability

"Marketability" is a widely used concept in business and marketing, especially in the areas of product development, brand building, competitive strategy, etc. It is an economic term gradually formed with the development of market economy and business practice. The core concept of "Marketability" is about the marketability and liquidity of goods, services or assets in the market. It refers to the degree to which a product or service is successfully sold or marketed in a particular market. It focuses on the marketability of the product to market. The concept of "Marketability" relates to "Market Success". "Market Success" focuses on the acceptance or profitability of a product in the market, including market share, market sales data and other indicators. It focuses more on the results of products in the actual market (Oxford English Dictionary, Collins English Dictionary). The research on "Marketability" focuses on the early stage of products. As for "Market Success", it is more concerned about the later stage, from a certain point of view: ensuring the Marketability of the product is the basis for the product to achieve "Market Success". At the same time, whether the product is "Market Success" also verifies whether the product is marketable.

Traditional handicraft as an important part of modern craft products, the "marketability" of products can accurately meet the future market demand of products, which is particularly important for the market share of traditional craft products. Michael Porter proposed to understand the market demand, strengthen the competitiveness of products through differentiation strategy and cost leadership strategy, and enhance the market marketability of products (Porter, 1985; Armstrong & Kotler 2017). Philip Kotler mentioned in marketing theory that product development,

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market positioning, consumer demand and brand building are the key factors to enhance marketability (Kotler, Philip. 1986). Armstrong and Kotler provide a framework for how to improve the marketability of products through the theory of market segmentation and target market selection. They propose that enterprises need to identify target consumers through accurate market segmentation, so as to ensure that products can accurately meet market demand and improve market marketability (Armstrong & Kotler, 2015). Theodore Levitt emphasised that the improvement of market marketability depends on whether the product really meets the needs of consumers. Product production should be market-oriented and consumer-oriented, focusing on consumer needs, interests and purchasing behaviors. The reason why many enterprises fail in the market is that if they only pay attention to the products they produce instead of the needs of consumers, they will eventually lose their market share (Levitt,1960; Levitt, 1983). Aaker pointed out the relationship between marketability of products and consumers' emotional needs. Emotional connection is one of the key factors that determine the marketability of a brand. Consumers' emotional identification with a brand (such as love and loyalty to a brand) will directly affect their purchasing behavior. Jerome McCarthy developed the 4P marketing strategy and planning framework for improving marketability. The four (4) Ps stand for product, price, place, and promotion, which constitute the framework of the marketing mix (McCarthy,1960). The famous American marketer Philip Kotler added 2P to this: Henry Mintzberg's strategic management theory of Power and Public Relations further supplemented this view. He proposed the concept of strategy formation, emphasizing that enterprises should dynamically adjust strategies according to market feedback. To ensure the marketability of the product (Mintzberg, 1994). In today's market, the convergence of themes such as social media marketing,

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globalization and sustainability is also relevant to marketability (Kotler & Keller, 2016). As mentioned above, these are proven to be effective ways to improve the marketability of products. Together, these theories constitute a comprehensive understanding of market marketability and guide enterprises how to improve market marketability by adapting to market changes and flexibly adjusting strategies and products.

2.6.3 Product Innovation and Marketability

Product innovation and marketability are important aspects of modern business strategy. Innovative products play a crucial role in improving competitiveness and economic growth. Successful commercialisation requires a combination of creative thinking, technological knowledge, and other factors. Marketisation has expanded the field of commodities, and the evaluation of products through the market mechanism has had a significant impact on contemporary society. The goal of new product development is the commercialisation of the innovative product, emphasising the importance of bringing new products to market (Callon, 2017). Several studies have shown that product innovation plays a vital role in the development of craft SMEs (Abubakar et al., 2021). The positive impact of product innovation on the growth of handicrafts is highlighted. However, it is worth noting that product innovation in the context of handicrafts may present unique challenges (Aldina & Margunani, 2022). Combining the artistic, symbolic, and functional aspects of product innovation to enhance market competitiveness It can significantly increase the market reach and customer engagement of handicraft firms (Andayani & Maduwinarti, 2019). Designers are asked to bridge the gap between idea and practice, and to connect artistic and

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creative elements with practical and achievable results (Dodgson et al., 2005). As a result, organisations such as UNESCO, the World Crafts Council, and the Artisan Assistance Organization (hereinafter referred to as ATA) are all trying to bring traditional crafts into mainstream life.

The efforts include designers working with groups of artisans to develop new product lines for new markets. Designers carry out commercial activities and introduce innovation (i.e., design and craftsmanship) into production, while utilising endogenous materials, local culture, and traditional knowledge. These individuals seek not only to create their own innovations, but also to maintain their own culture and local traditions, thereby contributing to rural development by building networks with young local artisans (Marques et al., 2019). One of the core determinants of handicraft performance is the "level of innovation". Innovation in handicraft enterprises refers to the ability of entrepreneurs to introduce unique products to the market. Naidu et al., (2014) pointed out that "the uniqueness of handicrafts determines the ability of artisans to gain a competitive advantage in the market". Handicraft businesses also stand out for the high degree of manual skills, creativity and design required for their products, as well as their close ties to the historical and cultural traditions of a particular country (Storey, 2018).

2.6.4 Product Innovation Knowledge for Marketability

By integrating past knowledge into new products, it applies the concept of "traditional innovation" to create novel products that can inspire positive emotions among consumers and draw attention to innovative design features (Ryder, 2014). Since

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tradition plays an important role in generating innovation, especially in the reorganisation of old knowledge and elements, this reorganisation method provides a new strategy for the transition of enterprises to the present (Woolley, 2011). Figure 2.20 shows that knowledge creation and transfer are sources of innovation, which is a key factor in stimulating local development (Bathelt et al., 2004; Tung, 2012). Designers can also develop new concepts and create new opportunities for innovation based on previous experience in various fields. The results of this collaboration show that local handicrafts can be used as a target for importing knowledge from other industries or can be used as a source for exporting knowledge to other industries to complete the transfer of knowledge between local handicrafts and other industries and to develop all available resources.

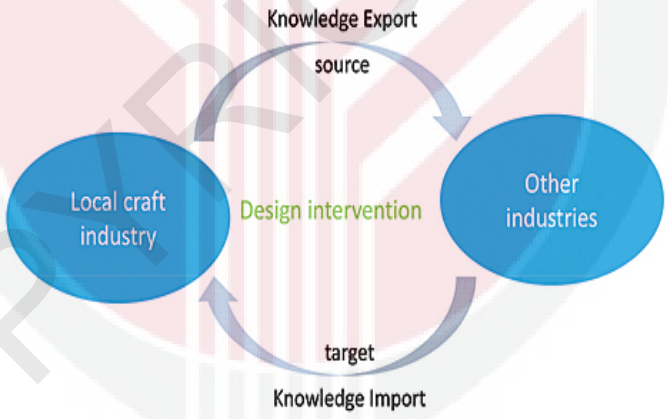


Figure 2.20: Knowledge transfer through design intervention.
(Source by Tung, 2012)

Innovation has always been a very important part of the handicraft sector and it is directly related to the ability of artisans/entrepreneurs to conceptualise and produce unique products for consumers. Naidu et al., (2014) emphasised that innovation is one of the main determinants of the performance of the handicraft sector. He also added that the uniqueness that comes from the individual talents of artisans helps them to

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gain a competitive advantage in the market. Although innovation should not be the main quality of cultural products such as handicrafts, the question remains why many types of handicrafts in the world have disappeared due to lack of innovation (Betjemann, 2008; Oakley, 2009). While consumer understanding may be another important factor influencing innovation in the cultural sector, including crafts, the relationship may be non-linear and much more complex (Gasparin & Quinn, 2021). This complexity arises because craft artisans are influenced by shared beliefs, meanings, and motivations developed in the local cultural and historical context (Fernandez-Esquinas et al., 2017). Shafi et al., (2019) discuss two (2) main types of innovations in the field of handicrafts: product innovation and process innovation.

2.6.5 Product Innovation Process for Marketability

Product innovation in handicrafts is associated with improvements in product attributes, changes in production quantities, and the speed at which the product is placed on the market (Mendoza-Ramírez & Toledo-Lopez, 2014). Thus, product innovation is related to modifications in product design, size, shape, colour, and texture (Naidu et al., 2014). Product innovations are mainly incremental changes because of demand-side trends (Mendoza-Ramírez & Toledo-Lopez, 2014). Process innovation in handicrafts involves the use of new materials and tools in craft manufacturing (Mendoza-Ramírez & Toledo-Lopez, 2014; Zhan & Walker, 2018). Process innovation may occur because of external forces, such as newer tools and technologies, or internal factors, such as the need to optimise resources (Jackson & Tomlinson, 2009). Shaffi et al., (2019) argued that both types of innovation add value to craft firms. While product and process innovation look at innovation at an aggregate level, there has been a great deal of research on aspects of innovation in the craft sector at the

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individual/firm level. Marques et al., (2019) identified six (6) factors of innovation in the handicraft sector based on a review of the literature; value-added products; new product development; design uniqueness; the artisan's experience; the artisan's ability; and cultural uniqueness (see Figure 2.21). Value-added products are incremental improvements in handicraft products and services (Hipp & Grupp, 2005).

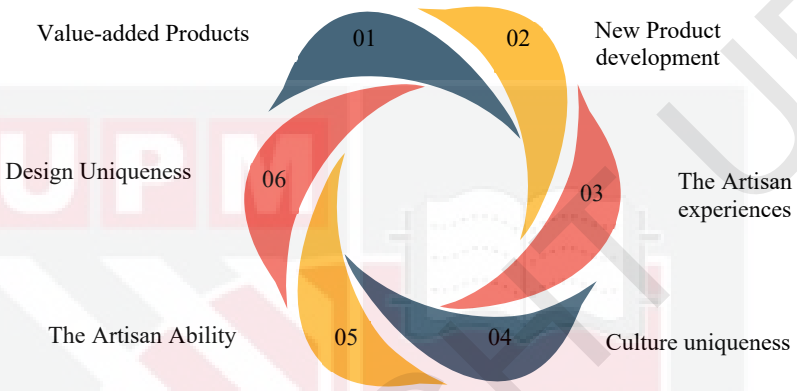


Figure 2.21: Six aspects of innovation in the field of handicrafts
(Source by Marques et al., 2019)

Major handicraft researchers have found that their designs lack differentiation and creativity, which may increase the value of traditional products (Nagori & Saxena, 2012; Grobar, 2017). In new product development, the concern is with the processes of planning, prototyping, and producing "new to the world" products (Pujari et al, 2003). Relatively less research into this area exists. Researchers have explored the role of new products in the handicraft industry in boosting artisanal entrepreneurship (Ciftci & Walker, 2017). Design uniqueness is concerned with the ability of the artisan to differentiate his/her offerings from those of competitors (Wu et al., 2017). This differentiation is possible through unique designs that are embedded in specific cultures (Hegarty & Prezezborska, 2005).

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In terms of the artisan's experience, the concern is with the effect of the experience of the artisan/entrepreneur on the design of the final product (Naidu et al., 2014). The artisan's ability is related to the skills that he/she uses and the speed at which he/she can adapt to consumer trends. Artisans who can quickly adapt to consumer needs and wants are more innovative and successful (Krasae-in, 2017). Finally, cultural uniqueness refers to the ability and skills of the artisan to encapsulate unique cultural facets in their handicrafts (Dasgupta & Chandra, 2016). Thus, researchers suggest the engagement of locals in the handicraft sector so that they may be able to capture the indigenous culture in the designs of the final products (Pritchard & Morgan, 2001; Torabian & Arai, 2016; Vitasurya, 2016). As expected, culture was found to be an important determinant of creativity for the artisans and a way of being. For the artisans, it was a part of their history, heritage, and the way they and their village have developed alongside the art form. The culture of the craft was found to influence the ways of life and in turn, were influenced by their ways of life. According to the FGDs, (see Figure 2.22) the art forms date back to historical or geographical traditions (Roy & Mohapatra, 2023). In addition, a model of the interaction and interconnection between culture, creativity and innovation in handicraft is established.

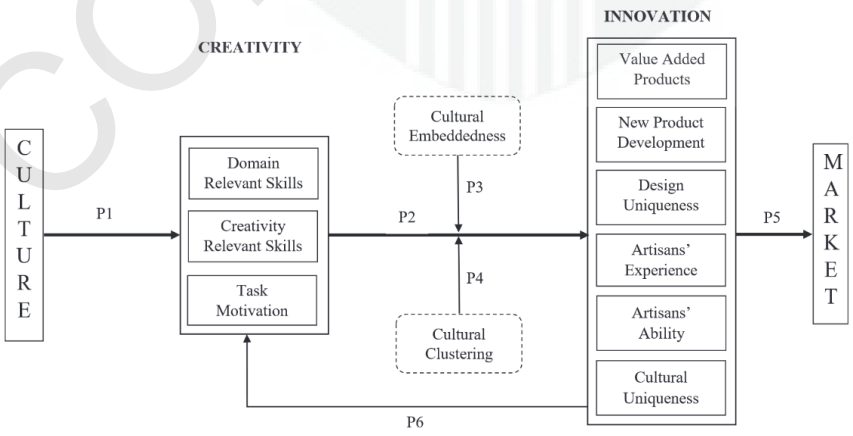


Figure 2.22: Process model of creativity and innovation in the handicraft sector (Source by Roy & Mohapatra, 2023)

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Instead of a rather narrow focus of the old dichotomies “tradition versus innovation”, some scholars address potential innovation and value creation through tradition (Kouhia, 2016; Holmquist et al., 2018). The development of new knowledge is largely dependent on a recombination of already-existing understandings, and similarly, innovation can be achieved through the development of traditional knowledge (Cohen & Levinthal, 1990; Henderson & Clark, 1990). This is evident in craft-related research. For example, six case studies of family-based craft businesses show that traditional knowledge, including the use of traditional materials, forms and shapes, or the continuity of traditional manufacturing and finishing methods, contribute to the generation of radically new meanings and values (De Massis et al., 2016). Kouhia (2016) also reveals how tradition can be used as a resource in creative craft- and design-making. In such research, tradition is positively understood as “interactive, creative, and adaptive processes”.

2.7 New Development of Linxia Traditional Handicraft Products

Recently, the traditional handicraft products have been identified as an essential component of sustainable social and economic development. However, the drastic decision should be made to preservation them due to (1) modernisation - the rise of mass production and industrialisation poses a threat to traditional culture handicraft products practices, as cheaper, machine-made alternatives become available, (2) culture erosion - Globalisation can lead to a loss of cultural identity and the erosion of traditional practices as younger generations might not learn the skills, and (3) preservation efforts - there are ongoing efforts to preserve and promote traditional handicrafts, including through cultural festivals, educational programs, and fair trade initiatives.

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Chinese traditional culture has a long history and contains various cultural wealth, reflecting various cultural achievements of the Chinese nation's humanistic characteristics and folk customs. In Linxia, Gansu Province, the traditional handicraft products are a vital part of culture heritage and identity. Traditional handicraft product are consumer goods that reconnect consumers with the culture and tradition. In addition, they showcase the ingenuity and creativity of artisans, preserving age-old techniques and stories through tangible creations. However, while facing modern challenges, the preservation and promotion of the traditional handicraft products are essential for maintaining culture diversity and supporting the livelihoods of artisans worldwide. Through this investigation, the author found that there are some problems in the design and marketability of traditional culture handicraft products. In addition, the value of traditional handicraft products is facing the crisis of being lost due to lack of successors. According to Datta and Bhattacharyya (2016), most of the handmade products are not circulated in the market, so they are not very popular among the public.

2.7.1 Gap and Strategy for New Traditional Handicraft Products

Today, industrial design is an important part of the development of competitive products and markets. Industrial designers must consider not only present and future design opportunities but also how to implement an innovation design strategy for a new product development for marketability. To transform traditional elements to meet contemporary needs, these elements must be redesigned into new products that meet current socio-cultural trends and contemporary performance and practicality standards (Chen et al., 2022). Many traditional handicrafts continue the old images of hundreds

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of years ago in terms of story themes and character design, and the cultural connotation remains unchanged for decades or even centuries, which retains the historical nature of handicrafts to a certain extent, but cannot be combined with current popular culture, making traditional handicrafts lose vitality (Fu, 2023).

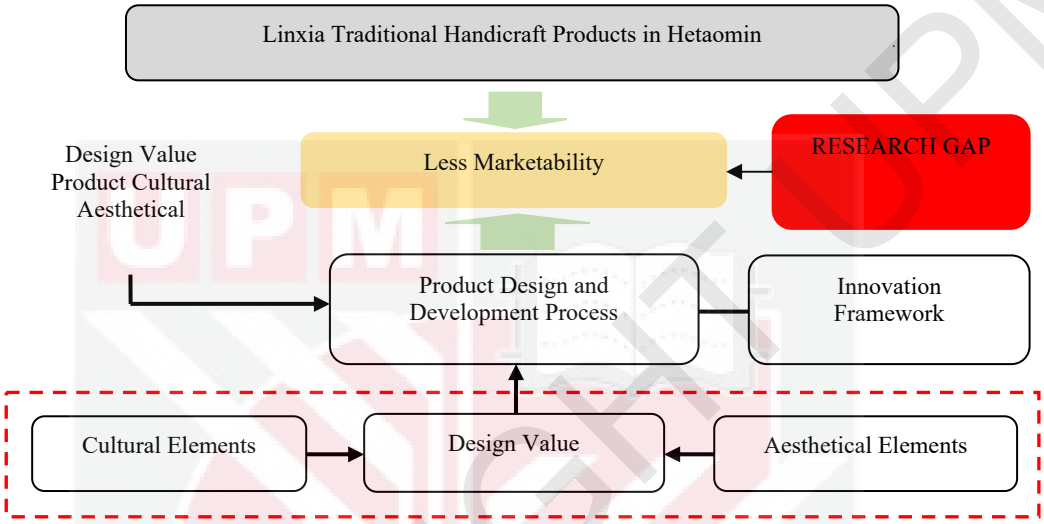


Figure 2.23: Research gap and strategy framework
(Source by author)

In today's competitive market, aesthetical innovation is a key differentiator, taking products from good to exceptional. Aesthetical innovation is about more than just creating visually appealing designs; it is about redefining possibilities and shaping the future of how we perceive and interact with the world. The innovation in traditional handicraft products is a critical way to bridge the gap between tradition and modernity. Therefore, through the literature analysis, traditional handicraft products need to be innovatively designed to improve the marketability of traditional handicraft products. Based on the literature review, the author would like to propose a new framework as a strategic innovation for Linxia traditional handicraft products for marketability (see Figure 2.23). The framework became a guideline for designers or craft practitioners to

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design and develop a new concept of Linxia traditional handicraft products that integrate the cultural value and aesthetical elements for marketable traditional handicraft products.

2.8 Conclusion

In this chapter, information has been collected about the innovative design of handicraft products and the marketability. The core of handicraft product innovation lies in product design, but what is the value of product design and how to improve the value of product design to promote product marketability. How to establish design norms for traditional handicraft products in the context of marketability with reference to design value? The literature provides the relationship between design and handicrafts, design and innovation, design norms and design value, and describes the research on the characteristics of design value and product design norms in the context of marketability.

The essence of improving the design value of traditional handicraft products lies in innovative design, and the design method based on the fusion of gene elements provides specific ideas, such elements include the mining, extraction, and fusion of invisible and explicit knowledge of traditional handicraft products. This is particularly important for how traditional handicraft products are translated into new products for marketability. In this chapter emphasised on cultural value and aesthetical elements for the establishment of a new Linxia traditional handicraft product for marketability. Integration is important for the enhancement of design value as well.

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At the same time, the literature found that there are many studies dedicated to improving the marketability of products, but they are limited to the overall product design industry process identification, ignoring the design value as the standard of specific design solutions, or based on the aesthetical elements database collection lack of marketability as the goal of cultural factors, aesthetical elements identification. In addition, insufficient understanding of the integration of these two (2) themes, and the steps of product design methodology is also a major problem faced. These are all relevant issues that need to be better addressed. Currently, there is no specific method to refer to, which can combine product design specification and product design value and improve its share in the market. Therefore, there is a need to improve the framework for designing the marketability of Linxia traditional handicraft products to have a better chance of product success in the market.

The next chapter will discuss the research methodology during the empirical investigation followed by the data analysis and results chapter, which attempts to further investigate the market value and product design norms of handicraft products, as well as the cultural and aesthetical elements that influence marketability to increase the marketability of Linxia traditional handicraft products.

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CHAPTER 3

RESEARCH METHOD

3.1 Introduction

The research methodology is properly planned to achieve the research objectives. The methodology describes how the research is performed. To start with, the research strategy and design are explained, including a section about the research execution. Lastly, the methodology for controlling the quality of the research is discussed.

3.2 Research Strategy

Research strategy refers to a general direction of research including the process in which research is carried out. Accurate research strategy must be selected based on research objectives and questions, the number of resources available and time, the philosophical foundations of the researcher, and the scope of existing knowledge about the studied area (Wedawatta et al., 2011). The strategy helps ensure that the research is conducted in a structured and methodical way, leading to reliable and valid results. By carefully developing a research strategy, researchers can ensure that their study is well-organised, scientifically rigorous, and capable of providing meaningful insights into the research question.

The research has been divided into two (2) parts, which are preliminary research and the main research. Preliminary research was conducted in the early stage of research

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work. It was derived from a literature review in chapter 2. Preliminary study is important to study the existing literature to become familiar with the body of knowledge in the research area. It also provides information about the subjects that are investigated. The literature review is a valuable source that provides justification and background to the research. It is important to understand the topic and identify earlier research that was carried out by other researchers. This study uses a systematic and comprehensive literature review approach to assess trends, identify gaps, and suggest future solutions.

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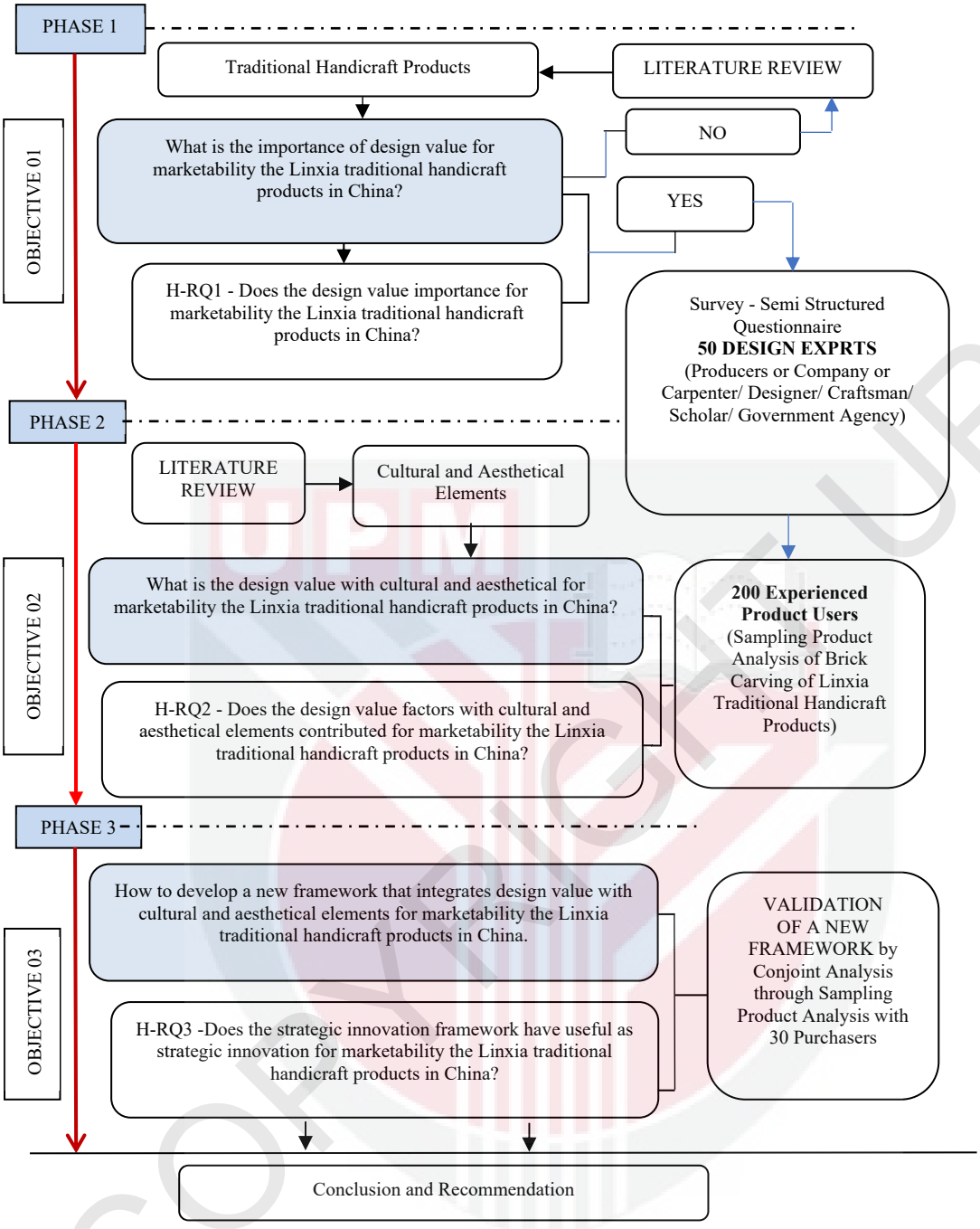


Figure 3.1: Research methodology framework
(Source by author)

The research methodology framework is presented in Figure 3.1 above. A research methodology framework is a structured outline that guides the research process, ensuring a systematic and organised approach to addressing the research question or problem. It includes the philosophical underpinnings, strategies, methods, and tools

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that a researcher will use throughout the study. Meanwhile, the research methodology framework covers all the processes conducted in this study to attempt to archive the research aimed. In the framework of the method, the first stage answer's objective 1 (RO1) and Hypothesis-RQ1, and the second stage answer's objective 2 (RO2) and Hypothesis-RO2. The information obtained in this study has been taken into consideration for the development of a new framework as mentioned in Objective 3 (RO3 and Hypothesis-RO3). The new framework is validated by using the Conjoint Analysis method through sampling product analysis. At the end of this thesis framework, the recommendation is highlighted.

3.2.1 Research Method

Research methods are the specific techniques and procedures used to collect and analyse data within a research study. They are chosen based on the research question, objectives, and the overall research design. A research method is a method of solving a problem or solving a research problem or achieving a goal. According to Anderson and Anderson (1998), research methods include many different stages, all of which are systematic, and they require data. Meanwhile, the choice of method is guided by the research questions and objectives (Saunders et al., 2016) and an understanding of the research method is a prerequisite for evaluating the validity of studies and their results (Mackey & Gass, 2022). It also can be supported by relevant justification, which gives strength to its direction of persuasion. The field of investigation during this research was divided into two (2) parts as referred to the research questions are.

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a) Empirical Research - this study identified the importance of design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China. Empirical research is a type of research that relies on observation, experience, and experimentation to collect and analyse data. It involves the use of empirical evidence data that is observed or experienced through the senses rather than relying solely on theoretical constructs or subjective judgments. Empirical research is based on direct measurement of phenomena. It involves collecting data through surveys. In this empirical, sampling product analysis is used to examine the design value with cultural and aesthetical elements of brick carving of Linxia traditional handicraft products.

b) Development of Design Value Product Cultural Aesthetical Framework - The development a new framework for Linxia traditional handicraft products attempt to address the research objective 3 of research that integrate the design value with cultural and aesthetical elements as becomes a guideline for designers or craft developer during the development of a new Linxia traditional handicraft product for marketability.

This research is based on quantitative research methods. It has become a fundamental approach to explore and provide a clear picture of the research issues and to utilise the data as a resource so some problems could be understood and tackled. Quantitative data is a sound research methodology that breaks down the research into smaller research objectives. According to Saunders et al., (2009), the quantitative approach is referring to the strategy that a research question is formulated. The method is useful for researchers to collect and analyse data such as interviews, questionnaires, or statistical methods. Quantitative data collection was used to gain an in-depth

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understanding of the issues and problems identified. The quantitative data are also strongly recommended to provide accurate statistical results during the research by using the survey (den Hertog & van Sluijs, 1995). Quantitative research begins with a problem statement and involves the formation of a hypothesis, a literature review, and a quantitative data analysis. Because to the samples are generally large and considered representative of the population, the results are taken as if they constituted a general and sufficiently comprehensive view of the entire population (Martin & Bridgmon, 2012). Quantitative research focuses on objectivity and is especially appropriate when there is the possibility of collecting quantifiable measures of variables and inferences from samples of a population. Quantitative research adopts structured procedures and formal instruments for data collection (Queirós et al., 2017).

Meanwhile, a descriptive research approach has been chosen to generate a theory in this research work. Descriptive research is a specific approach that provides an accurate situation (Saunders et al., 2009) and that presents data in the form of digital images and provides accurate descriptions and increases comprehensibility (Siedlecki, 2020). It was also intentionally conducted to increase the understanding by presenting a numerical picture and producing a set of categories. The content of the study influenced the choice of the research methodology, and the descriptive research method was chosen for this study. Descriptive research is a particular method. Theories are generated during the research process, and it is also intentionally used to increase understanding by presenting a digital image and generating a set of categories (Saunders et al., 2009), and that provides an accurate situation (Mahuika & Mahuika, 2020).

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Descriptive data refers to data that is used to describe the characteristics or features of a dataset or a phenomenon. It is typically collected through methods like surveys, observations, and experiments, and is used to provide a comprehensive summary of the information without making inferences or predictions. The data in descriptive research is derived from this investigation, in addition, the use of a systematic approach in conducting research work creates an acceptable research project (Aveyard & Sharp, 2011; Gough et al., 2012). This approach identifies the type of information collected at the beginning of the study and allows the researcher to combine data from respondents (Creswell & Clark, 2011).

Table 3.1: The relation of research question and research method

Research Questions (RQ)	Type of Research	Data Collection	Data Analysis and Tools
RQ1: What is the importance of design value for marketability the Linxia traditional culture handicraft products in China?	Quantitative Research	Survey	Semi-structured Questionnaire
RQ2: What is the design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China?	Quantitative Research	Survey with Sampling Product Analysis	Semi-structured Questionnaire
RQ3: How to develop a new framework that integrate the design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China?	Quantitative Research	Conjoint Analysis by Sampling Product Analysis	Semi-structured Questionnaire

(Source by author)

In this research, descriptive research was obtained using a survey. Using a systematic method during conducting a research work can create an acceptable research project (Aveyard & Sharp, 2011; Gough et. al., 2012). The method could identify the type of information that has been collected in the early stage of study to enable researchers to merge the data from respondents (Creswell & Clark, 2011). Table 3.1 shows the

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relation of research questions and research methods including the data collection, techniques, and analysis for the research fieldwork.

3.2.2 Source of Data

Descriptive data is crucial in many fields as it provides a clear and concise summary of the characteristics of the subject under study, enabling researchers and practitioners to make informed decisions and build upon foundational insights. Data refers to the collected information such as survey, observations, interview and generated during the research process. It serves as the foundational evidence that supports scientific inquiry, analysis, and conclusions. Data is crucial for validating findings, enabling replication of studies, and advancing knowledge in various fields. Proper management, storage, and sharing of research data are essential to ensure its integrity, accessibility, and usability for future research. According to Arikunto (2010), data must be supported by relevant justification, which gives strength to its direction and finding of research. In this research the source of data was collected based on the secondary and primary data.

a) Secondary Data

Secondary data is referred to as second hand information. Secondary data is information that was collected by someone else for a different purpose but is being utilised for a new research question or analysis. Secondary data may include data that has been previously gathered and is under consideration to be reused for new questions, for which the data gathered was not originally intended (Vartanian, 2010). This data is typically gathered from existing sources such as books, articles, government reports, organisational records, and databases. Secondary data normally include the literature

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such as books and articles with the experts' findings, analysis, and discussions on a certain topic. It is a valuable resource for researchers that, when properly evaluated and analysed, and can provide significant insights and support various types of studies without the need for extensive primary data collection. In this research, over 500 secondary data were used from academic journal papers, conference papers, books, and articles that related to the research under investigation.

b) Primary Data

According to Glass (1976) primary analysis is the original analysis of data in a research study. Primary data is crucial for research that requires specific, current, and directly relevant information. Primary data refers to information collected directly by the researcher for a specific research purpose. This data is gathered first hand and is tailored to address the research question or hypothesis. Primary data collection involves various methods, including surveys, interviews, observations, and experiments. Primary data is original and first collected by researchers for the study. To achieve primary data, different sources can be used such as experiments, surveys, interviews, and questionnaires (Taherdoost, 2021). Using primary sources can help to gain high-quality data that can improve results, and an opportunity to add further data when required during the research procedures (Taherdoost, 2021). In this research, the primary data are collected directly from participants (respondents) that address the specific question or hypothesis based on research questions. The primary data is derived from survey through questionnaire. According to Cerar et al., (2021) to achieve the primary data, different sources can be used such as experiments, surveys, interviews, and questionnaires.

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3.3 Data Collection

Data collection is one of the most important stages in conducting research. Data collection starts with asking questions such as what type of data is to be collected and what are the sources of collection. A suitable data collection method helps to plan good research, it cannot necessarily guarantee the overall success of the research (Olsen, 2011). In this study, a survey was mainly used to identify the variable data of marketability oriented the Linxia traditional handicraft products. Survey was considered as an appropriate method to measure opinions about individual behaviours and attributes as well as organisational practices and capabilities (Tabachnick & Fidell, 2007).

a) Survey by Questionnaire

The method used for data collection in this research is a survey. According to Tolmie et al., (2011), a survey is considered a predetermined instrument that produces statistical data. It is also the backbone of research data that can be used to collect information by asking a set of questions. Surveys are the most widely used form of quantitative research. Surveys are designed to record people's characteristics, opinions, attitudes, or past experiences. Such research asks questions of a particular group of people to obtain information, and then organises their responses in a structured and systematic order. Furthermore, the surveys are also an effective way to measure opinions about individual behaviours and attributes as well as organisational practices and capabilities (Tabaknik & Fidell, 2007).

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Questionnaires have been used as an instrument to collect primary data. The questionnaire is used because of many aspects such as ease for respondents to complete the questionnaire without taking a long time when compared with other data collection methods. Questionnaires are a good data collection technique and can provide better quantitative data (Heap & Waters 2019). The semi-structured questionnaires are used to obtain new knowledge from experts such as designers, industry, and professionals. According to Højholt and Kousholt (2014), semi-structured questionnaires allow for flexibility in the discussions, providing opportunities to explore unexpected topics and issues that arise during the conversation while ensuring that all the key topics are covered.

b) Sampling Product Analysis of Linxia Traditional Handicraft Products

Sampling is an essential part of any research and impactful. Generally, the sampling analysis of a product is used either for a new product introduction or the existing product. Sampling is a targeted defined by the underlying concept (Hein, 2009; Biswas et al., 2010) and gives prospective consumers an opportunity to experience a product prior to purchase and leading to repurchase in the future (Chandukala et al., 2017). Moreover, the sampling analysis enables the customer to share genuine feedback of product experience. This creates an opportunity to know more about the marketability and how the product can be improved to suit consumers' preferences. In this fieldwork, the Linxia brick carving traditional handicraft product is selected as a sampling product analysis. The survey involved experienced product users attempting to examine the cultural value and aesthetical elements for marketability.

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3.3.1 Data Collection and Procedure

Quantitative methods involve the collection and analysis of numerical data to identify patterns, relationships, or trends. They are often used to test hypotheses and make predictions. The primary data was collected through a survey with questionnaire distribution to the respondents by using the structured interview technique. In the data collection and procedure, it involves several steps to ensure the data gathered is reliable, valid, and reflective of the research objectives. This procedure will focus primarily on the design and execution of the questionnaire, followed by the pilot test.

a) Questionnaire Design

The systematic design of the research questions is an important aspect in providing quality and validity of the output (Taherdoost, 2019). Each questionnaire should have a clear instruction to be completed by the respondent. Questionnaires are good data collection techniques to present better quantitative data (Kuter & Yilmaz, 2001). The systematic design of research questions is an important aspect to provide the quality and validity of the output (Kumar, 2010). Every questionnaire should have a clear instruction to be completed by respondents (Rubin & Babbie, 2011). In addition, self-administered questionnaires should have basic instructions to be followed.

In this research, the questionnaire was designed based on information provided from source; (1) the literature and (2) several experts comprising academics and practitioners. Data collection questionnaire is a powerful tool, but to obtain valid information and data, the questionnaire should have the following conditions. The questionnaire is a flexible tool that enables the researchers to organise the questions

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and receive replies from respondents without needing to talk with each one separately (Brace, 2018). A good questionnaire should be evaluated for problem pretesting and pilot testing for each question in the questionnaire. To conduct the pre-testing, the first drafts of the three questionnaires were first sent to academics and design experts in the field for their comments on the content, validity, clarity, and scaling of the questionnaires. The questionnaires underwent several revisions to improve wording, grammar, and item-specific content before they were formally distributed. The Table 3.2 shows the requirement of the questionnaire.

Table 3.2: Requirements for the questionnaire

Questionnaire Design	Requirements
Requirements for the questionnaire	Respondents know what is expected of them
	Respondents are able and willing to provide information
	Questionnaire clearly defines target respondents
	The questionnaire provides quantitative data
	The questionnaire is easy to understand
	Questionnaire questions are clear and concise

(Source by author)

A semi-structured questionnaire is a data collection tool that combines both structured (closed-ended) and unstructured (open-ended) questions. A semi structured questionnaire is used to obtain the information form the respondents. According to Hojholt and Kousholt (2014), semi-structured questionnaires are more flexible in the discussion that can provide rich information about the research under investigation. The questionnaire design was divided into two (2) sections namely section A - respondents' background and section B - respondent knowledge related to the topic under investigation. Section A consist of several questions to collect demographic data from the respondents. The demographic data includes but is not limited to, the respondent's gender, age, profession, educational level, and years of experience. This

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information will help to understand the demographic factors that influenced on topic. According to Bryman and Bell (2015), demographic data are crucial as they can provide insights into the variability of responses and establish potential patterns or trends in the data. While Section B is designed to obtain the respondent's knowledge about the topic under investigation and provide answers based on the objectives of the research.

b) Pre-testing of Questions

According to Straub (1989), instrument validation consists of 3 fundamental sections, which are Content Validity (representation of the full content of a definition in a measure), Construct Validity (measurement for multiple indicators), and Reliability (evaluation of measurement accuracy). To improve instrument validity, a pre-test is used to technical assess construct validity and reliability. Pre-testing of the questionnaire provides not only a measure of the correctness and interpretation of the questionnaire but also an opportunity for discovering new aspects of the problem to be studied. Before finalising the questionnaire, a design trial of questionnaires was administered, and some modifications and additions were made.

In this research, the questionnaire was designed on the basic information provided from the source; (1) the literature and (2) several design experts comprising academics and practitioners. The questionnaire was sent in a thrilling attempt to certify the question and answer. The questionnaire was sent to two design experts, who are working as lecturers and design researchers at university and one practitioner, who is working in the design industry. They were asked to comment on the content, clarify, and scale the instruments. The questionnaire was designed and revised many times to

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ensure the content and the definitions were delivered in appropriate manner. The purpose of the pre-test is to determine if: (1) The questions are properly framed, (2) The questions will be worded to achieve the desired outcome, (3) The questions are in the best order, (4) The questions are understood by all categories of respondents, (5) Questions need to be added or specified, or some questions need to be eliminated, and (6) Instructions to the interviewer are sufficient (Roopa & Rani, 2012).

c) Pilot Test of Questionnaire

To further validate the instrument, a pilot test of randomly selected respondents was carried out. According to Wilson (2013), the questionnaire was pilot tested by experts from different areas aimed to improve the validity of the survey. The aim of pilot testing is to test the questionnaire with a small group of people to identify any issues with question clarity, flow, and length. Pilot testing of user questionnaires is conducted by sending the questionnaires to actual respondents to determine the content, design and usability, problems, etc. Conduct a pilot test attempt to enhance the survey and ensure it is understandable as well as ensure it is balanced and representative to avoid biased results. According to Muasya and Mulwa (2023). The purpose of a pilot study is to improve the success and validity of the questionnaire, and through the pilot study, the questionnaire can be modified before the actual questionnaires are distributed to many respondents. A minimum of ten (10) respondents per survey item should be involved in the pilot test to assess the validity of the survey content before the final questionnaire was distributed, some small changes were made (Rubin & Babbie, 2011).

In this study, the authors found fifteen craft users to pilot test the questionnaire and made several modifications to the questionnaire before sending the final questionnaire

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to a large number of respondents, such as (1) modifying the complex questions; to make the questions more concise and clearer, (2) adding knowledge related to the questionnaire to allow respondents to confirm the background of their knowledge of the questionnaire, and (3) adding the pictures of the Linxia traditional handicraft product to visualise the questions more clearly.

3.3.2 Empirical Research

Empirical research is a way of gaining knowledge by means of direct or indirect observation or experience. It is based on empirical evidence, which is evidence that can be observed or experimented upon. The empirical study provided new data and points of view for the research. It is valuable to answer several questions, which were highlighted in phase 1 and phase 2 in Figure 3.1. Hence, two (2) groups of respondents were selected and involved are (1) design expert, and (2) Experienced Product Users. Both groups of respondents were purposely used to answer all the questions in phase 1 - the Objective A and phase 2 - objective B as illustrated in Figure 3.1 above. Two (2) approaches were used to verify the variable items using a questionnaire; it was evaluated through pretesting the questionnaire and a pilot test.

a) Respondent 1: Design Experts

Design experts are essential for creating effective and appealing designs that meet user needs and business goals. The purpose of the expert survey was to (1) identify the importance of culture value and aesthetical elements for marketability the Linxia traditional handicraft products in China, and (2) to examine the cultural value and aesthetical elements for marketability the Linxia traditional handicraft products in

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China. The respondents who participated in this survey were selected based on their understanding and knowledge of Linxia traditional handicraft products. Therefore, the respondents of the survey were fully aware of the Linxia traditional handicraft products. The respondents were involved were designers, craftsmen, non-genetic inheritors, and scholars engaged in design and development activities or product development from representative design companies.

Respondents were selected based on the following criteria above (see Table 3.3) criteria and engaged in work related to product development, research and development, and research of Linxia traditional handicraft products; This questionnaire was conducted face-to-face, online, and by e-mail. Judgmental sampling method was used to obtain 30 respondents' information, and the number of respondents was increased by snowball sampling method. At the end of the survey, fifty (50) respondents were obtained. This number of respondents was adequate for analysis (Cohen, 1988; Mitra & Lankford, 1999; Howell, 2002; Nieswiadomy, 2008) and representation of the total population according to the scope and area of study. Besides that, many other researchers have also used smaller 40 sample sizes in this similar study such as Kuang and Jiang (2009); Yang and Shieh (2010).

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Table 3.3: Characters of design experts

Design Experts Characters	Description
Creativity	Ability to generate innovative ideas and think outside the box and strong sense of aesthetics and visual appeal
Technical Skills	Proficiency with design tools and software relevant to their field and understanding of production processes and material properties
Problem-Solving	Ability to identify problems and develop effective design solutions and user-centred approach to address user needs and improve experiences
Adaptability	Flexibility to adapt to new trends, technologies, and feedback and willingness to continuously learn and improve
Project Management	Ability to manage multiple projects, meet deadlines, and stay organised and understanding of project timelines, budgets, and client requirements
User Empathy	Complex Tasks: They perform more complex and sophisticated tasks compared to novice users
Feedback and Input	Deep understanding of user needs, behaviours, and preferences and commitment to creating designs that enhance user satisfaction and usability
Communication	Strong verbal and visual communication skills to convey ideas clearly and Ability to collaborate with clients, stakeholders, and team members

(Source by author)

b) Respondent 2: Experienced Product Users

The purpose of the experienced product users survey is to (1) identify the importance of cultural value and aesthetical elements for marketability the Linxia traditional handicraft products in China, and (2) to examine the cultural value and aesthetical elements for marketability the Linxia traditional culture handicraft products in China. A "user" typically refers to an individual or entity that interacts with a system, application, or service. The concept of a user is broad and can be categorised in various ways depending on the context. In this study, the user is defined as experienced product users. The experienced product users are defined as individuals or entities that utilise a product for its intended purpose. Experience product user also refers to an existing customer's overall insight when using a certain product. Factors influencing consumer acceptance of certain types of products is necessary to increase the demand and its marketability.

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Table 3.4: Character of experienced product users

Experienced Product Users Characters	Description
High Proficiency	Skills and Knowledge - have a deep understanding of the product's features, functionalities, and potential applications
	Efficiency - can perform tasks quickly and accurately due to their familiarity with the system
Expectations	Performance - expect high performance, reliability, and speed
	Advanced Features - look for advanced features and tools that can enhance their productivity
Advanced Requirements	Customisation Needs - often seek advanced customisation options to tailor the product to their specific workflow
	Complex Tasks - perform more complex and sophisticated tasks compared to novice users
Feedback and Input	Constructive Feedback - can provide valuable feedback and insights based on their extensive experience
	Active Participation - may participate actively in user communities, forums, and beta testing programs

(Source by author)

Experienced product users can be segmented into various categories based on several criteria such as their relationship with the product, their role in the product lifecycle, and their level of engagement. While an experienced user refers to an individual who has substantial familiarity and proficiency with a particular product, system, or domain. These experienced product users typically possess advanced skills and knowledge, allowing them to use the product or service efficiently and effectively. Understanding the characteristics and needs of experienced users is crucial for designing products that cater to their higher level of expertise and expectations. Hence, in this research the experienced product users are appropriately called as experienced product users. Experienced Product Users acknowledged as (see Table 3.4).

The author obtained the respondents and detailed information by field visits to several departments, including Lanzhou City Museum Cultural Creative Products Center in Gansu Province, Linxia Tourism Service Center in Gansu Province, Linxia Cultural Creative Products Center in Gansu Province, Linxia Brick Sculpture Museum in

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Gansu Province, and Nencheng Brick Sculpture Industry Division in Linxia, Gansu Province. The characteristics of the respondents were categorised as, (1) having purchased Linxia traditional culture handicraft products, (2) being familiar with Linxia traditional culture. Judgmental sampling method was used to obtain information from 200 respondents, and the questionnaire was administered face-to-face, online and by e-mail. By understanding and addressing the unique needs of experienced product users, designers and developers can create products that not only satisfy these users but also leverage their expertise to drive continuous improvement and innovation.

In social science surveys, a sample size of 200 is generally considered small, but it can yield a small standard error, thereby improving the accuracy of the results. The standard error reflects the variability of the sample statistics, and a smaller sample size can more accurately estimate the population mean (Creswell, 2014). In addition, a sample size of 200 can help obtain a more accurate confidence interval, which indicates the range in which the true population parameter is likely to decline (Elsahookie & Dawood, 2024). This sample size is used for effective representative sampling, thus ensuring that the characteristics of the entire population are accurately reflected (Bryman & Cramer, 2012). A sample size of 200 helps to improve data quality, which is crucial for the validity and reliability of survey results (Tull & Hawkins, 1993). Additionally, in a market study, researchers surveyed 200 consumers about their purchasing preferences, price sensitivity, and brand loyalty. Researchers select 200 samples to ensure the representativeness and cost of the samples, and ensure that the data can effectively reflect the real needs of consumers. (Hair, 2010). In another survey, researchers explored the impact of product features on consumers' purchasing decisions. A sample size of 200 is considered sufficient to capture

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differences in consumer responses to these features. It has been proved that 200 samples can often provide adequate representation, especially in the case of small product categories (Kotler & Keller, 2016). In the final analysis, compared with other modern products, the traditional handicraft brick carving products in the Linxia City have a smaller audience, and a sample size of 200 can effectively control the error. At the same time provide adequate representation (Creswell, 2014).

3.3.3 Research Sampling

Sampling refers to the selection of individuals from the population to be included during the primary data collection as the sources of insight. The identification and selection of samples of the population are essential elements in social research. As part of the research design, a sample of the population is defined and included as part of the study during the data collection process of the fieldwork stage. According to Hernández-Pardo (2012), to decide in selecting the sample of population, several characteristics need to be considered, such as sample size, availability of its members as well as the location where the research is conducted. Additionally, these characteristics are connected to the research resources, which comprise time horizon, cost, and mobility. Therefore, the decision is based on what is best for the research according to the availability of resources.

Therefore, the decision is based on what is best for the research according to the availability of resources. Berg (2009); Robson (2011); Saunders & Townsend (2016) present two categories of sampling methods; probability and non-probability (also known as non-random sampling). A probability sampling is a method of sampling that

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utilises some form of random selection where there is a possibility that every member of the population must be considered in the sample. In non-probability sampling, the members are selected non-randomly and therefore not every member of the population has a chance to be included in the study. Consequently, in this research, a non-probability sample has been selected. Non-probability samples are divided into dimensional (Robson, 2011), quota, convenience, purposive, and snowball (Berg, 2009; Robson, 2011). In this research, as it employs a flexible design approach, it was decided to do purposive and snowball sampling during the primary field research.

a) Purposive Sampling

The purposive sampling method is sometimes called judgemental sampling (Berg, 2009). This method opens the opportunity to the researcher, by using knowledge and expertise, to select informants who represent the population. Judgment sampling method is obtaining information that is required from very specific people who have the needed facts (Sekaran & Bougie, 2009) The sample selection from judgment sampling is appropriately selected base based on the research own knowledge from the population (Rubin & Babbie, 2011)

b) Snowball Sampling

Snowball sampling is one of the most popular methods of sampling in research, central to which are the characteristics of networking and referral. The researchers usually start with a small number of initial contacts (seeds), who fit the research criteria and are invited to become participants within the research. The agreeable participants are then asked to recommend other contacts who fit the research criteria and who

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potentially might also be willing participants, who then in turn recommend other potential participants, and so on. Sampling usually finishes once either a target sample size or saturation point has been reached. Snowball sampling is a technique for selecting the case in a network (Parker et al., 2019). The researcher collects data regarding limited members of the target population, by asking these individuals to provide the information needed. The sampling also is to locate other members of the limited population whom they know (Rubin & Babbie, 2011; Dragan & Isaic-Maniu, 2013).

3.4 Development of A New Framework

The data obtained from the empirical study have important reference value for developing new design methods and establishing new Linxia traditional handicraft products. Based on the obtained information, a new process design method is proposed. This method is beneficial to the designers and craft practitioners of Linxia traditional handicraft products and will become a valuable tool for them. The emphasis is on the marketability strategy innovation of traditional cultural handicraft products. In terms of design, the Linxia traditional handicraft has a profound historical and cultural background, showing unique value in forms, techniques, materials and crafts. These values are derived from Cultural, Social, Market, Sentimental, Artistic and Aesthetical, which are of great significance in product innovation and marketability. Secondly, with the diversification of consumer demand and the fierce market competition, consumers' purchase decision is greatly influenced by the emotional experience and cultural exchange brought by the product. On a cultural level, it specifically involves regional culture, National culture, Folk culture, Traditional culture, social culture and

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Religious in the context of multi-cultural exchange in Linxia culture, Pop culture and other cultural elements. It also includes many aesthetic elements such as Colour, Form, Structure, Style, Semantic and Pattern. These features fully focus on the modern handicraft market and tap the needs of the traditional handicraft market and design needs. The design framework of the Linxia traditional handicraft products is integrated with design value, product cultural elements and aesthetic elements. To provide a better reference for the development of traditional handicraft in this area. The framework is also an evaluation process for identifying and validating problems with existing design methods. The effectiveness of the new approach (framework) has been validated by case studies.

3.4.1 Validation of A New Framework

In this study, a framework for traditional culture handicraft products in Linxia was developed to address the research objective 3. Validating a new framework involves a systematic process to ensure it meets its intended purpose, is reliable, and performs well under various conditions. The validating a new framework for marketability of Linxia traditional handicraft products ensure that it not only functions correctly but also meet market needs and stands out among competitors. The validation conducted through conjoint analysis method through sampling product analysis. The reason to use the conjoint analysis is that through the respondent's survey, it can choose a conjoined product package with different attributes and levels.

Conjoint Analysis (CA) is a powerful statistical technique used to determine how people value different features that make up an individual product or service. It's

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particularly useful for understanding consumer preferences and predicting market acceptance. The objective of conjoint analysis is to determine which features or identify the key attributes of a product are most important to consumers. Conjoint Analysis is a statistical technique that uses a survey to determine consumer preferences before they make purchase decisions. By using the survey to the selected sample (sampling product analysis) can responses for statistical significance. The analysis will reveal the relative importance of each attribute and the preferred levels. It is important to highlight the most valued features for product marketability that can be used to attract and retain customers. An effective conjoint analysis can inform product development, pricing, and marketing strategies and enhance product's marketability. In this research, the objective of validation was to verify the marketability of Linxia traditional handicraft products based on the framework proposed as stated in the Research Objective 3. The validation involved a total of thirty (30) respondents participated in the survey. A set of questionnaires was distributed to investigate the design framework toward marketability of Linxia traditional handicraft products.

3.5 Data Analysis and Results

Data analysis included interpretation and critical analysis of the findings. Quantitative analysis was conducted considering the chosen research methodology and strategy. The primary goal of data analysis is to analyse and interpret the data in a manner that aligns with the research objectives. In this research, the data from the empirical investigation were analysed using the Statistical Package for Social Sciences (SPSS) version software for windows. The SPSS software is a major tool for data analysis in social sciences (Nachmias & Nachmiss, 1987). It is useful to process data from a questionnaire due to its flexibility and convenience of use (Piaw, 2012).

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Quantitative analysis involves the techniques by which data convert to numerical forms and subject to statistical analyses. According to Babbie (2010), the numerical representation and manipulation of observations to describe and explain the phenomena that observation reflects. The result in this thesis has presented the quantitative approach. In quantitative, there are two types of variables, numerical and categorical. It is important to distinguish between these two types of variables, as the analysis for each type is slightly different. The numerals are numbers that can be counted, while categorical is made up of a group of categories. Most of the results in this thesis were highlighted in the form of frequency and percentage.

3.5.1 Quality of the Research Instrument

The availability of validity and reliability of a research question is a quality criterion for quantitative research. Reliability refers to the accuracy or precision of the measurement of a research instrument (Heale & Twycross, 2015). It can reflect the stability and concentration of the data. It can be categorised into longitudinal reliability (e.g., consistency in the validity of results-the same person being asked the same question on multiple occasions) and cross-sectional reliability, which is the consistency of results for similar questions. On the other hand, validity refers to the ability of a measurement instrument to accurately measure the way things really are and can be categorised into correlational validity, the degree to which a given response can be used to predict other similar responses, and discriminant validity, the degree to which a given response can be used to distinguish between different attitudes. Therefore, before analysing the data, all questions were tested for reliability using SPSS. On the measure of the reliability coefficient, it is usually the case that the: If the

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value of the reliability coefficient is higher than 0.8, then the reliability is good; if the reliability coefficient is between 0.7 and 0.8; then the reliability is Acceptable; if the reliability coefficient is between 0.6 and 0.7; then the reliability is questionable; and if the reliability coefficient is less than 0.6; then the reliability is not good (see Table 3.5). The data from the empirical investigation were analysed using the SPSS.

Table 3.5: Cronbach's alpha by Lee Cronbach

Cronbach's Alpha	Correlation Strength
$\alpha > 0.9$	Excellent
$0.9 > \alpha > 0.8$	Good
$0.8 > \alpha > 0.7$	Acceptable
$0.7 > \alpha > 0.6$	Questionable
$0.6 > \alpha > 0.5$	Poor
$0.5 > \alpha$	Unacceptable

(Source by Piaw, 2012)

According to Piaw (2012); Hinton (2014), the SPSS is useful to process data from a questionnaire due to its flexibility and convenience of use. The statistical technique is also a major tool for data analysis in social sciences (Nachmias & Nachmias, 1987). To present the empirical results, the descriptive analysis such as frequencies, mode, median, mean, and standard deviations were shown in statistics as well as the percentage and relationship result of the subject.

3.6 Conclusion

This chapter describes the approach and methods used in this research. The chapter starts by presenting the approach of the framework to achieve the objective outlined in this research and continues by presenting the tools that are used in the research work. An appropriate research strategy was selected based on the questions and objectives

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of this research. The research design is determining how the author plans to answer the research questions and address the research objective through data sources from literature and fieldwork study by appropriate data collection tools and methods.

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CHAPTER 4

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter shows and explains the results of the subject under investigation. It presented to reach the research objective (RO1) to identify the importance of design value for marketability the Linxia traditional handicraft products in China, and (RO2) to examine the culture value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in China. An empirical investigation was involved with the design expert that acknowledged as designers, craftsman, manufacturer, government agency, inheritors of intangible, cultural heritage, design researcher and academician and users of traditional culture handicraft products in Linxia. The reliability of the research instrument is also verified for validation.

4.2 Data Analysis and Results of Design Experts

4.2.1 Reliability of the Research Instrument

A list of 64 items was used in this survey. To ensure the reliability of the instruments, all the questions were thoroughly tested in the reliability analysis by using the SPSS. The reliability of the instrument results will be valid if Cronbach's Alpha shows (α: .65 between .95).

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Table 4.1: Reliability of research instrument statistic for experts' survey

Cronbach's Alpha	N of Items
0.93	64

Table 4.1 shows the reliability of the research instrument statistic from design experts. The result presents that Cronbach's Alpha reliability coefficient is α: .93. The reliability of α: .93 percent consistency in the score produced by the instruments. Hence, the research instrument is satisfactory.

4.2.2 Characteristics of Design Expert

Respondents, particularly in the context of surveys, research, or data collection, are individuals who provide data or feedback. Understanding the characteristics of respondents is crucial for interpreting results accurately, improving survey design, and ensuring that the collected data is representative and reliable. By carefully considering and analysing the characteristics of respondents, researchers can enhance the quality and applicability of their findings, leading to better-informed decisions and strategies. This survey involved the design experts. Design experts are professionals with specialised skills and extensive knowledge in the field of design. They play a critical role in creating aesthetically pleasing, functional, and user-centred products, interfaces, environments, and experiences. Design experts can come from various domains, each with its own focus and expertise. This survey involved 50 design experts acknowledged as producers or Company or Carpenter/ Designer/ Craftsman/ Scholar/ Government Agency.

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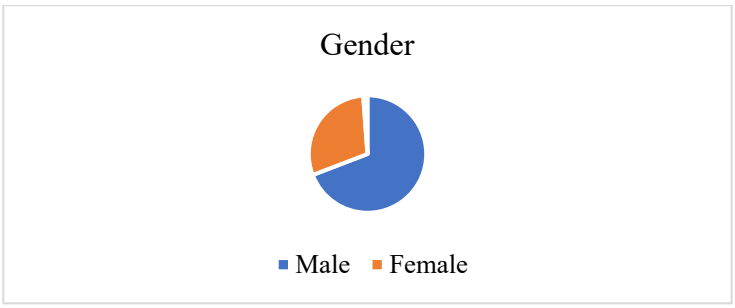


Figure 4.1: The gender of design experts

Figure 4.1 shows the respondents that were acknowledged as design experts of gender that took part in this survey. The results indicate N=35(70.0%) of the respondents is male and N=15(30.0%) female.

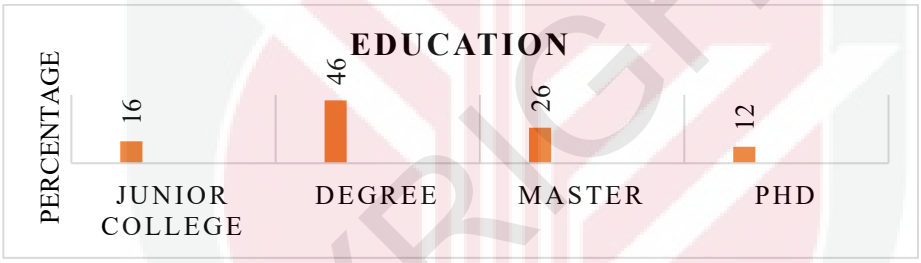


Figure 4.2: The education background of design experts

Figure 4.2 shows the design experts of education background. The results indicate N=23(46.0%) had a bachelor's degree followed by N=13(26.0%) master's degree, N=6(12.0%) PhD and N8(16.0%) had a junior college degree.

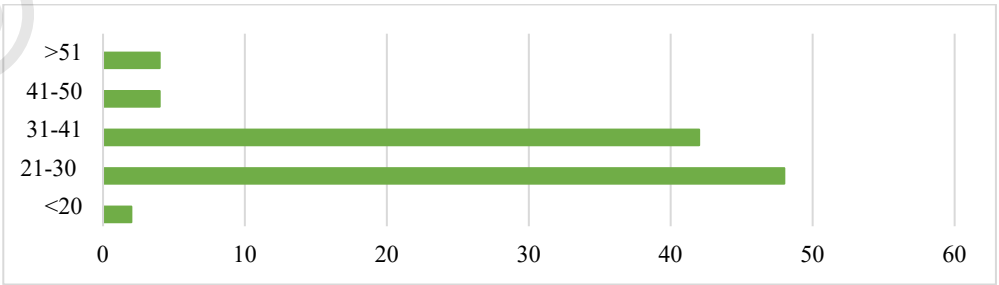


Figure 4.3: The age of design experts

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Figure 4.3 shows the age of design experts. Results indicated that N=24(48.0%) of the respondents age between 21-30 years, followed by N=21(42.0%) between 31-40 years, N=2(4.0%) between 41-50 years, and > 51 years, and N=2(4.0%) is less than 20 years.

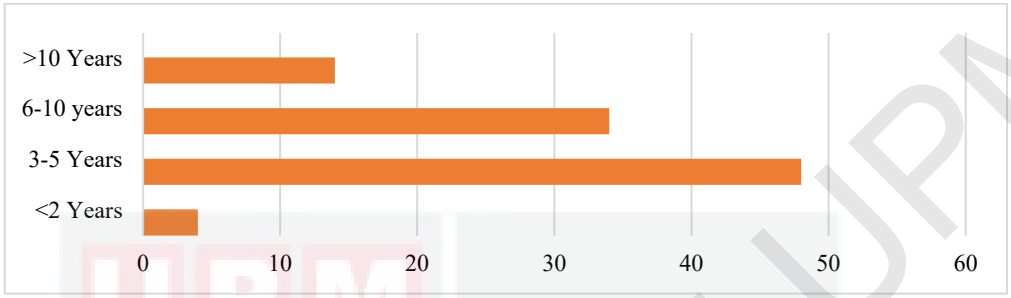
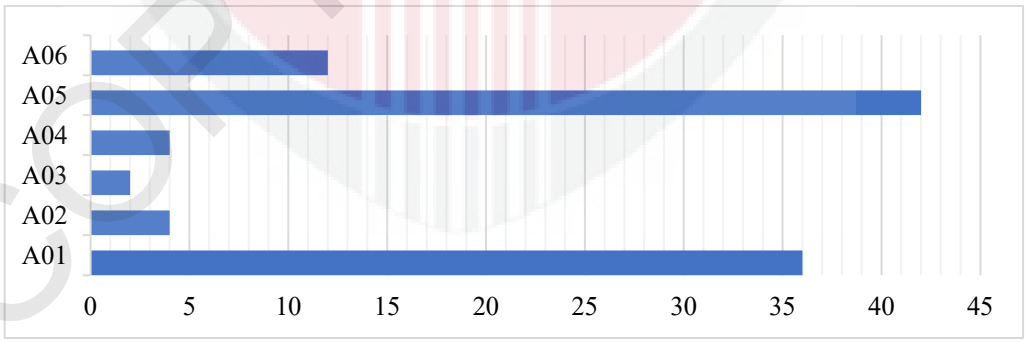


Figure 4.4: The year experience of design experts

Figure 4.4 shows the year experience of design experts. The results indicate N=24(48.0%) of the respondents have working experience between 3-5 years followed by N=17(34.0%) between 6-10 years, N=7(14.0%) more than 10 years and N=2(4.0%) less than 2 years.



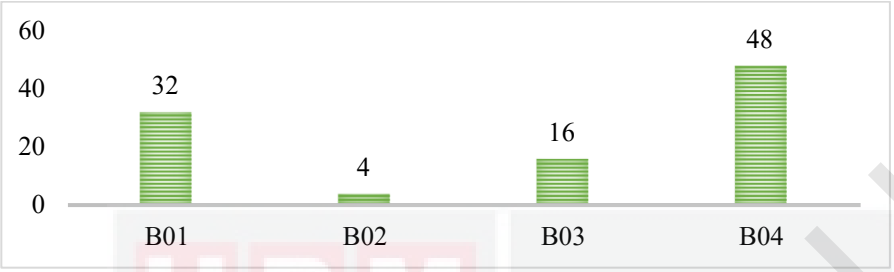
Note: A01-Designer; A02-Craftsman; A03-Manufacturer; A04-Government agency; A05-Inheritors of intangible cultural heritage; A06-Design researcher / scholar

Figure 4.5: The designation of design experts

Figure 4.5 shows the designation of the design experts. The results indicate that respondents consist of Inheritors of intangible cultural heritage with N=21(42.0%)

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followed by N=18(36.0%) Designer, N=6(12.0%) design researcher / scholar, N=2(4.0%) Craftsman Manufacturer/ Government Agency and N=1(2.0%) manufacturer.

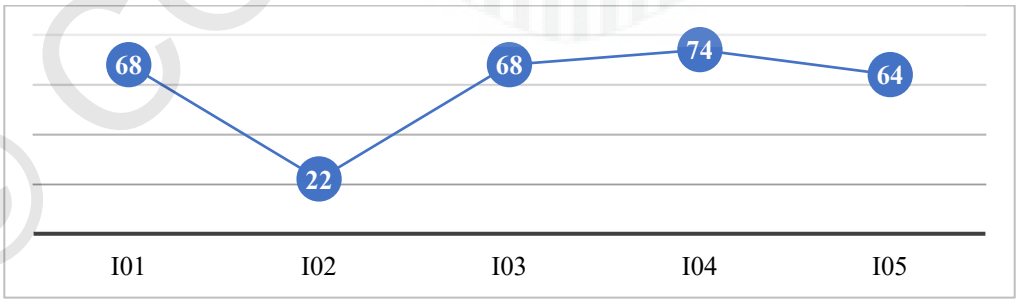


Note: B01-Brick carving; B02-Wood carving; B03-Copper art; B04-Embroidery knitting

Figure 4.6: Types of products making by the design experts

Figure 4.6 shows the types of products made by the design experts. The results indicate N=24(48.0%) of the respondents have making the embroidery and knitting (B01) followed by N=16(32.0%) brick carving (B02), N=8(16.0%) copper art (B03) and N=2(4.0%) wood carving (B04).

4.2.3 Main Issue of Linxia Traditional Handicraft Products



Note of Issue: I01 – Serious product homogeneity and lack of innovation; I02 – Inheritance difficulty; I03 – Less innovative on design; I04 – Low cultural integration; I05 – Low market share

Figure 4.7: Main issue of Linxia traditional handicraft products

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Figure 4.7 shows the main issue of Linxia traditional handicraft products. The results indicate that N=37(74.0%) of the respondents highlighted the low culture integration (I04) is the main issues of Linxia traditional handicraft products followed by N=34(68.0%) serious product homogeneity and lack of innovation (I01) and less innovative design (I03), N=32(64.0%) low market share (I05), and N=11(22.0%) is inheritance difficulty (I02).

4.2.4 The Important of Design for Linxia Traditional Handicraft Products

Design enhances the attractiveness, market competitiveness and sustainability of handicraft products. Innovative design attracts customers and drives economic growth across industries. The design of traditional handicraft can help handicraft products better adapt to the changes of the times and meet the needs of the times market. Protect and revitalize traditional handicrafts, so that traditional handicrafts can enter the modern industrial chain and participate in social cooperation to create opportunities.

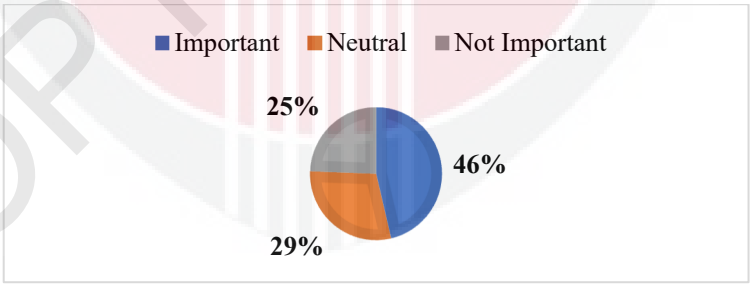


Figure 4.8: The important of design for Linxia traditional handicraft products

Figure 4.8 shows the importance of design for Linxia traditional handicraft products. The results indicate that 46.0 percent of the respondents have highlighted the design as important for Linxia traditional handicraft products followed by 29.0 percent neutral and 25.0 percent not important.

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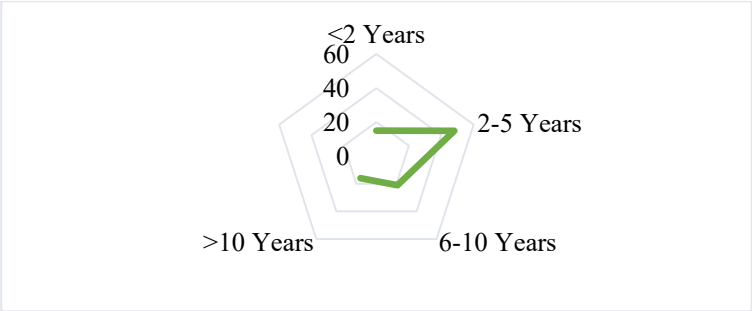


Figure 4.9: The important of design for Linxia traditional handicraft products according to the design experts experience

Figure 4.9 shows the importance of design based on the design experts experience for Linxia traditional handicraft products. The results indicate 48.0 percent of the respondents having experience between 2-5 years said that design is important for Linxia traditional handicraft products followed by 21.0 percent between 6-10 years, 15.0 percent more than 10 years and 15.0 percent of less than 2 years' experience.

4.2.5 The Importance of Design Features for Linxia Traditional Handicraft Products

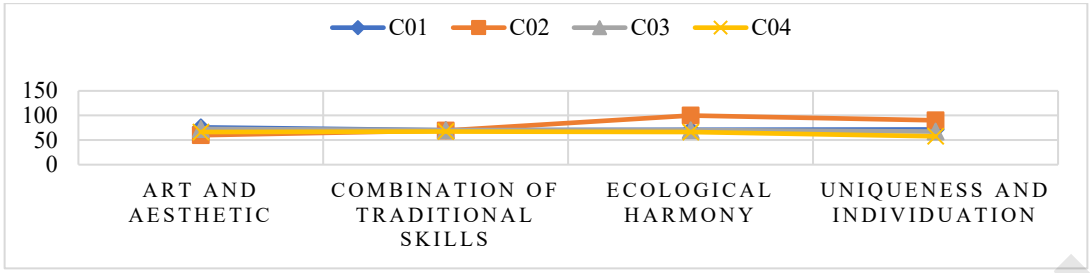
Table 4.2: The importance of design features for Linxia traditional handicraft products

Design Features	N	Median	Mode	Min	Max	Mean	Sum
Combination of traditional skills	50	4	3/5	1	5	3.44	172
Uniqueness and individuation	50	4	4	1	5	3.36	168
Art and aesthetics	50	4	4	1	5	3.58	179
Ecological harmony	50	4	4	1	5	3.52	176

Note: Art and aesthetic are the significant of culture value and aesthetic elements for Linxia traditional handicraft product

Table 4.2 shows the importance of design featured for Linxia traditional handicraft products. The results indicate the most significant of design features for Linxia traditional handicraft product is art and aesthetics (mean=3.58) followed by ecological harmony (mean=3.52), combination of traditional skills (mean=3.44), and uniqueness and individuation (mean=3.36).

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Note: C01-Art and Aesthetic; C02-Combination of Traditional Skills;
C03-Ecological harmony; C04-Uniqueness and Individuation

Figure 4.10: The importance of design features for Linxia traditional handicraft products form product groups

Figure 4.10 shows the four (4) product groups' ratings of the importance of design features for Linxia traditional handicraft products. The results show that 75.8 percent of the respondents in the Brick Sculpture product group highlighted that art and aesthetical are the most important design features followed by uniqueness and individuation (71.6%), Ecological harmony (70.8%), and Combination of traditional skills (70.0%). For the respondents in the copper art group, the importance of the design features for Linxia traditional culture handicraft products is ecological harmony (100.0%) followed by uniqueness and individuation (90.0%), combination of traditional skills (69.2%), and art and aesthetics (60.0%). Among the design features in the field of embroidery and knitting, the respondents emphasised that art and aesthetics (72.5%) is the important for Linxia traditional handicraft products followed by combination of traditional skills and ecological harmony (70.0%), and uniqueness and individuation (67.5%). In the field of wood carving, the respondents identified that combination of traditional skills (67.5%) is the most important design features for Linxia traditional culture handicraft products followed by art and aesthetics (66.2%), ecological harmony (66.2%), uniqueness and individuation (57.5%).

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4.2.6 The Important to Integrate Design Value for Linxia Traditional Handicraft Products

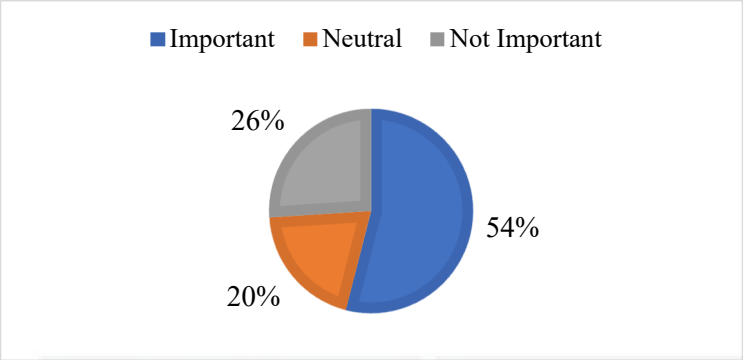


Figure 4.11: Important to integrate design value for Linxia traditional handicraft products

Figure 4.11 shows the importance of integrating design value for Linxia traditional handicraft products. The results present that 54.0 percent of the respondents believe that design value is necessary to integrate in the development of Linxia traditional handicraft products followed by 26.0 percent not important and 16.0 percent stated neutral.

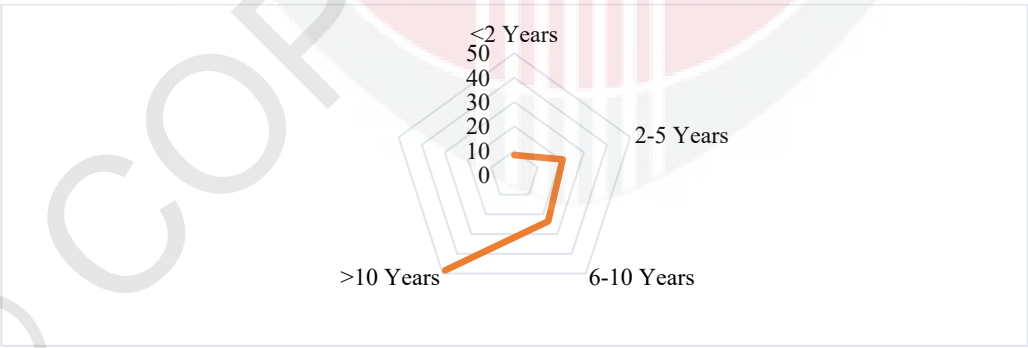


Figure 4.12: Important to integrate the design value for Linxia traditional handicraft products from the design experts experience

Figure 4.12 shows the importance of integrating the design value based on the design experts experience of Linxia traditional handicraft products. Among the experts with

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more than 10 years of experience indicated that 48.4 percent of them believe that design value should be integrated in the development of Linxia traditional handicraft products followed by 23.5 percent of respondents with 6-10 years of experience, 20.8 percent of respondents with 2-5 years of experience and only 8.2 percent of respondents with less than two years.

4.2.7 The Design Value for Linxia Traditional Handicraft Products for Marketability

Design value refers to the benefits and positive impacts that good design brings to products, services, businesses, and society as a whole. It encompasses a wide range of dimensions, including aesthetic appeal, functionality, usability, economic impact, and emotional resonance. By understanding and leveraging these dimensions of design value, organisations can create products and services that not only meet functional requirements but also enhance user satisfaction, drive economic growth, and contribute positively to society and the environment.

Table 4.3: The design value for Linxia traditional handicraft products for marketability

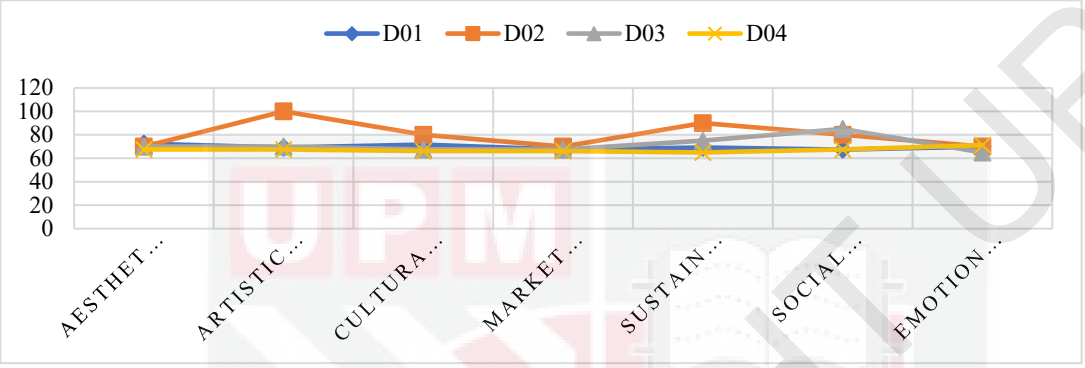
Design Value	N	Median	Mode	Min	Max	Mean	Sum
Cultural value	50	4.00	4	1	5	3.48	174
Social value	50	4.00	5	1	5	3.54	177
Market value	50	3.00	3	1	5	3.26	163
Sentimental value	50	4.00	5	1	5	3.48	174
Sustainable value	50	4.00	4	1	5	3.48	174
Aesthetic value	50	4.00	3	1	5	3.52	176
Artistic value	50	4.00	3	1	5	3.50	175

Note: Social value is the important design value for Linxia traditional culture handicraft products toward marketability

Table 4.3 shows the design value for Linxia traditional handicraft products toward marketability. The results indicate that the respondents emphasised on social value

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(mean=3.54) is become the crucial for Linxia traditional handicraft products toward marketability followed by aesthetic value (mean=3.52), artistic value (mean=3.50), cultural value, sentimental value, sustainable value (mean=3.48), and lastly is market value (mean=3.26).



Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.13: The design value for Linxia traditional handicraft products for marketability from product groups

Figure 4.13 show four (4) product groups that were evaluated the design value for Linxia traditional handicraft products toward marketability. The results states that in brick carving, the respondents believe that aesthetic value (72.5%) are the most important design value for Linxia traditional handicraft products for marketability followed by cultural value (71.6), emotional value (70.0%), artistic value (69.1%), sustainable value (69.1%), market value (67.5%), social value (67.5%). While the respondents in the field of copper art believe that artistic value (100%) the most crucial design value for Linxia traditional handicraft products for marketability followed by sustainable value (90.0%), cultural value (80.0%), social value (80.0%), aesthetic value, market value and emotional value (70.0%). In Embroidery and knitting, social value (85.0%) is the most imperative design value for Linxia traditional handicraft products for marketability followed by sustainable value (75.0%), aesthetic value

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(70.0%), artistic value (70.0%), cultural value (67.5%), emotional value (65.0%), market value (60.0%). In the field of wood carving, the respondents considered the most imperative design value is emotional value (71.2%) followed by aesthetic value (67.5%), artistic value (67.5%), social value (67.5%), cultural value (66.2%), sustainable value (65.0%), and market value (63.7%).

4.2.8 Design Knowledge for Marketability of Linxia Traditional Handicraft Products

Design knowledge plays an important role in product development. Design knowledge encompasses the principles, theories, skills, and best practices essential for creating effective, functional, and aesthetically pleasing designs. Furthermore, the design knowledge is dynamic and multifaceted, requiring a balance of creativity, technical skills, and user empathy. It involves continuous learning and adaptation to new trends, tools, and methodologies to create innovative and effective designs. Moreover, the design knowledge also plays a crucial role in enhancing the marketability of a product. By understanding and applying key design principles, methodologies, and elements, businesses can create products that not only meet user needs but also stand out in the marketplace.

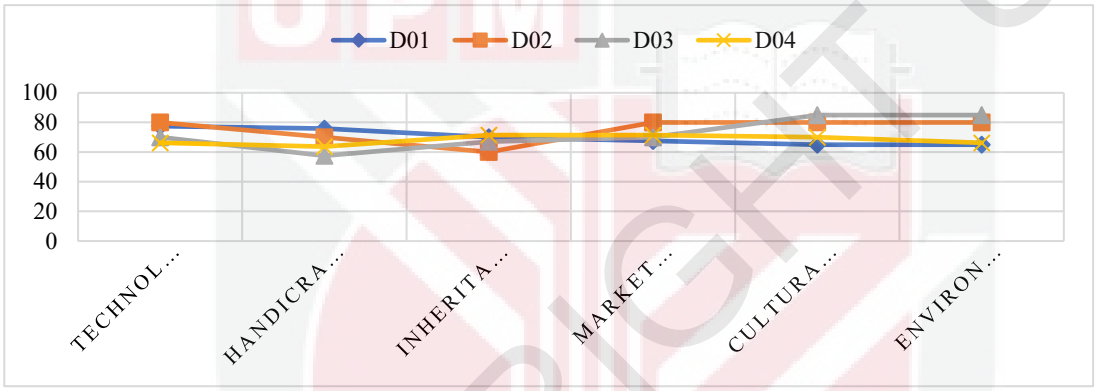
Table 4.4: Design knowledge for marketability of Linxia traditional handicraft products

Design Knowledge	N	Median	Mode	Min	Max	Mean	Sum
Handicraft Issue	50	4	3/4	1	5	3.54	177
Market Demand and Preference	50	4	3	1	5	3.48	174
Culture and Aesthetics	50	4	3	1	5	3.52	176
Inheritance and Innovation	50	4	3	1	5	3.48	174
Technology and Function	50	4	3	1	5	3.54	177
Environment and Sustainable Development	50	3	3	1	5	3.36	168

Note: Handicraft issue and technology function are the important design knowledge for marketability the Linxia traditional handicraft products

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Table 4.4 shows the design knowledge for marketability of traditional Linxia traditional handicraft products. The respondents believe that the handicraft issue and technology and function (mean=3.54) are become the most important design knowledge toward marketability of Linxia traditional handicraft products followed by cultural and aesthetical (mean=3.52), market demand and preference, inheritance, and innovation (mean=3.48), and finally the environment and sustainable development (mean=3.36).



Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.14: Design knowledge for marketability of Linxia traditional handicraft products from product groups

Figure 4.14 shows the four (4) product groups' evaluation of the design knowledge for marketability of Linxia traditional handicraft products. In the field of brick carving, the respondents agreed that technology and function (77.5%) is the rank for marketability of Linxia traditional handicraft products followed by handicraft issues (75.8%), inheritance and innovation (70.0%), market needs and preferences (67.5%), cultural aesthetics (65.0%), and environment and sustainable development (65.0%). While in the field of copper art, the respondents highlighted that technology and function, market needs and preferences, cultural aesthetics, and environment and

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sustainable development (80.0%) are the importance role for marketability of Linxia traditional handicraft products followed by handicraft issue (70.0%), and inheritance and innovation (60.0%). In embroidery and knitting, the respondents agreed that culture and aesthetics (85.0%) the crucial role for marketability of Linxia traditional culture handicraft products followed by market needs and preferences and handicraft issues (70.0%), inheritance and innovation (67.0%), and lastly technology and function (57.5%). In the field of wood carving, the respondents decided that inheritance and innovation, and market need, and preferences (71.5%) are the importance toward marketability of Linxia traditional handicraft products followed by culture and aesthetics (70.0%), handicraft issues (63.7%), environment and sustainable development (66.2%), and lastly technology and function (66.2%).

4.2.9 Marketability Factors to Enhance Design Value of Linxia Traditional Handicraft Products

Table 4.5: Marketability factors to enhance the design value of Linxia traditional culture handicraft products

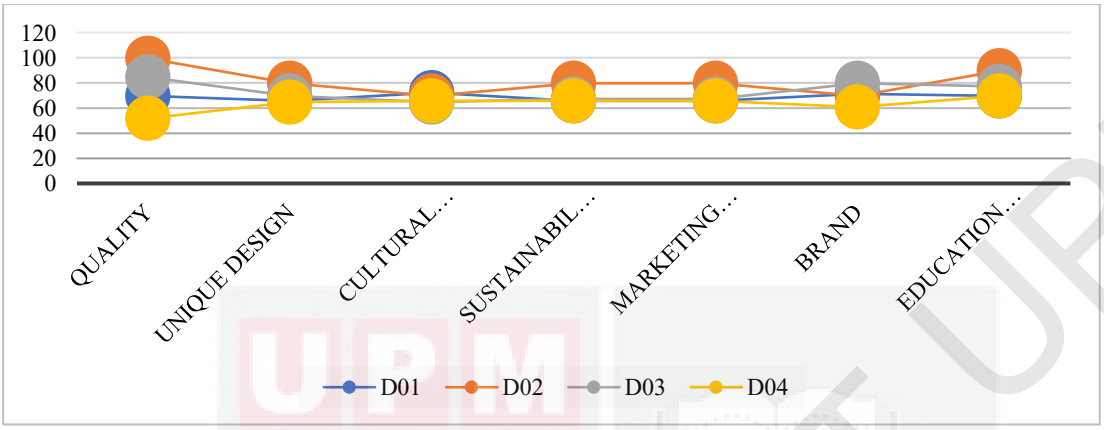
Marketability Factors to Enhance the Design Value	N	Median	Mode	Min	Max	Mean	Sum
Product Quality	50	4	4	1	5	3.40	170
Unique design	50	3	3	1	5	3.36	168
Cultural identity	50	4	4	1	5	3.46	173
Sustainability	50	4	4	1	5	3.36	168
Marketing Promotion	50	3	3	1	5	3.36	168
Product Brand	50	4	4	1	5	3.48	174
Education and Training	50	4	4	1	5	3.60	180

Note: Education and training as become the highest marketability factors of Linxia traditional handicraft products

Table 4.5 shows the marketability factors to enhance the design value for Linxia traditional handicraft products. The results show that seven (7) marketability factors for Linxia traditional handicraft products are education and training (mean=3.60), product brand (mean=3.48), cultural identity (mean=3.46), product quality

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(mean=3.40), and unique design, sustainability, marketing, and promotion (mean=3.36).



Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.15: Marketability factors to enhance the design value of Linxia traditional handicraft products from product groups

Figure 4.15 shows the evaluation of four (4) product groups on the important ways to enhance the marketability to enhance the design value of Linxia traditional handicrafts products. In the field of brick carving, the importance of marketability factors to enhance the design value of Linxia traditional handicrafts products are cultural identity (72.5%) followed by brand (71.6%), education and training and quality (70.0%), and lasty unique design, sustainability, marketing promotion (66.0%). While in the field of copper art, respondents highlighted that the most important marketability factors to enhance the design value of Linxia traditional handicraft products are quality (100%) followed by education and training (90.0%), unique design (80.0%), sustainability (80.0%), marketing (80.0%), and lastly brand, cultural identity (70.0%). In embroidery and knitting product, the respondents stated the most important marketability factors to enhance the design value of for Linxia traditional handicraft products are quality (85.0%) followed by brand (80.0%), education and training (77.5%), unique design

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(70.0%), marketing promotion, sustainability (67.5%) and lastly cultural identity (65.0%). In the field of woodcarving, the most important marketability factors to enhance the design value of Linxia traditional handicraft products are education and training (70.0%) followed by marketing promotion, sustainability, cultural identity (66.0%), unique design (65.0%), brand (61.0%) and lastly quality (52.0%).

4.2.10 The Benefits of Design Value for Linxia Traditional Handicraft Products Toward Marketability

Table 4.6: The benefits of design value for Linxia traditional culture handicraft products toward marketability

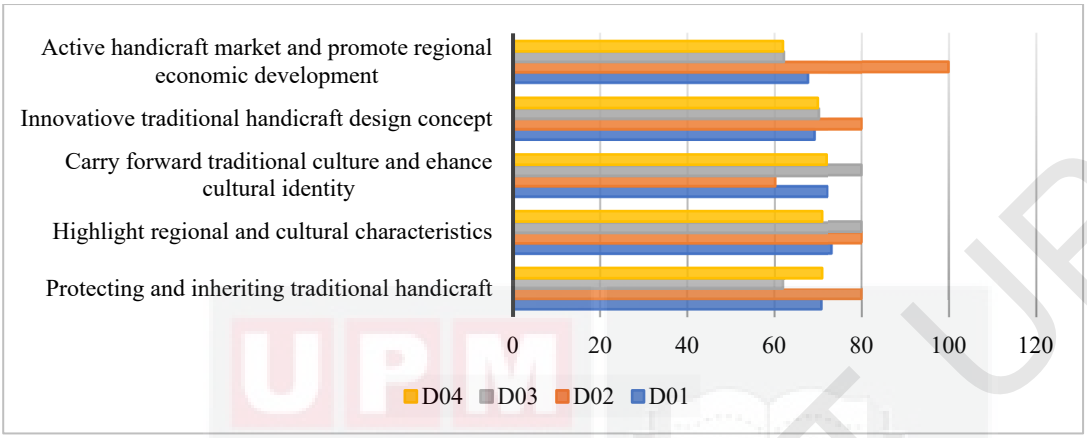
The Benefit Design Value	N	Median	Mode	Min	Max	Mean	Sum
Protecting and inheriting traditional handicrafts	50	4	5	1	5	3.50	175
Highlight regional and cultural characteristics	50	4	5	1	5	3.70	185
Carry forward traditional culture and enhance cultural identity	50	4	4	1	5	3.66	183
Innovative traditional handicraft design concept	50	4	5	1	5	3.46	173
Activate handicraft market and promote regional economic development	50	4	5	1	5	3.46	173

Note: Highlight regional and cultural characteristics is acknowledged as more benefited for Linxia traditional handicraft products for marketability

Table 4.6 shows several benefits of design value on the marketability of Linxia traditional handicrafts. Among these benefits, the most significant one is "Highlight regional and cultural characteristics" (average value =3.70). This was closely followed by "Carry forward traditional culture and enhance cultural identity" (average =3.66). In addition, "protecting and inheriting traditional handicrafts" (average value =3.50) also reflects that design value is beneficial to the marketability of Linxia traditional handicraft products. Finally, the innovation of traditional handicraft design concept (average value =3.46), activation of handicraft market, and promotion of regional economic development (average value =3.46) also demonstrated the benefits of design

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value on the marketability of Linxia traditional handicraft at the level of design and market economy.



Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.16: The benefit of design value for Linxia traditional culture handicraft products for marketability from product groups

Figure 4.16 shows four cases of different products, and respondents' evaluation of the marketability benefits of the design value of traditional handicraft products in Linxia. Overall, respondents generally agreed that design value is beneficial and plays an important role in improving product marketability. Specifically, in the field of brick carving products, the benefits of design value on marketability are significantly reflected in: Highlight regional and cultural characteristics (73.0%), Carry forward traditional culture and enhance culture identity (72.0%), Protecting and inheriting traditional handicraft (70.8%), Innovative traditional handicraft design concept (69.0 percent), Active handicraft market and promote regional economy development (67.5%) was also seen as having some impact. In the field of copper art products, respondents generally believe that the advantages of the design value of Linxia traditional handicraft products on marketization are mainly reflected in :Active handicraft market and promote regional economic development (100%); second,

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Highlight regional and cultural characteristics, Protecting and inheriting traditional handicraft, Innovative traditional handicraft design concept (80.0%) is also critical, Finally, Carry forward traditional culture and enhance cultural identity (60.0%). In the areas of Embroidery and Knitting, respondents believe that the advantages of the design value of Linxia traditional handicraft products on marketability are as follows: Carry forward traditional culture and enhance cultural identity, Highlight regional and cultural characteristics (80.0%), followed by Innovative traditional handicraft design concept (70.0%), and finally, Active handicraft market and promote regional economic development, Protecting and inheriting traditional handicraft (62.0%). In the wood carving group, the respondents believe that the benefits of the development of the design value of Linxia traditional handicraft products to the direction of marketization are as follows: Carry forward traditional culture and enhance cultural identity (72.0%), Highlight regional and cultural characteristics, Protecting and inheriting traditional handicraft (71.0%), Innovative traditional handicraft design concept (70.0%), The last was Active handicraft market and promote regional economic development (62.0 percent).To sum up, these data show that the design value of traditional handicraft products in Linxia has a multidimensional beneficial impact on the marketability of different product categories.

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4.2.11 Cultural Elements for Marketability for Linxia Traditional Handicraft Products

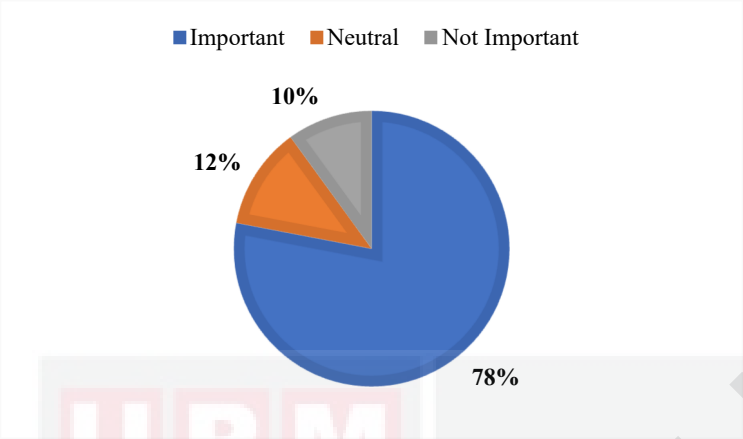


Figure 4.17: Cultural elements for marketability the Linxia traditional handicraft products

Figure 4.17 shows the importance of cultural elements for marketability of Linxia traditional handicraft products. The results indicate that 78.0 percent of the respondents considered the cultural elements significant for marketability the Linxia traditional handicraft products followed by 10.0 percent that were not important and 12 percent states neutral.

Table 4.7: Cultural elements for Linxia traditional handicraft products

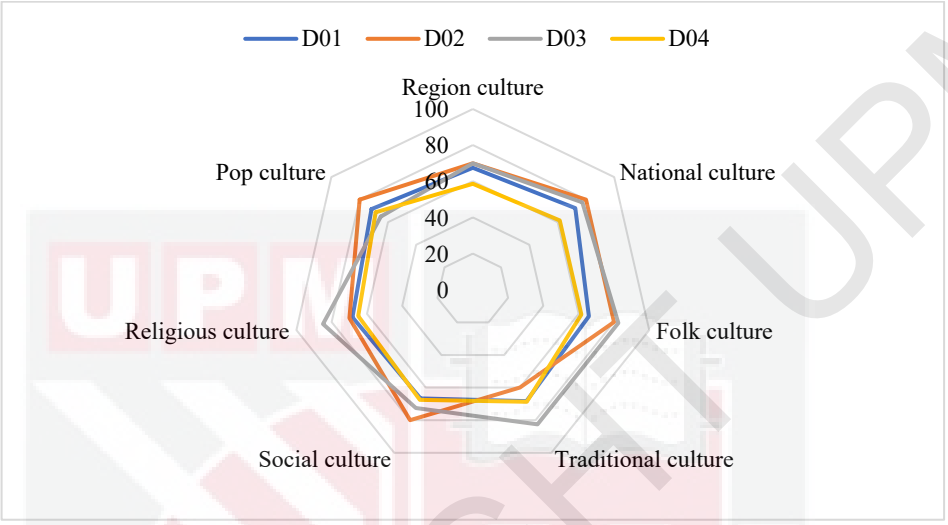
Culture Elements	N	Median	Mode	Min	Max	Mean	Sum
Region culture	50	3	3/4	1	5	3.26	163
National culture	50	4	5	1	5	3.50	175
Folk culture	50	4	5	1	5	3.38	169
Traditional culture	50	4	5	1	5	3.52	176
Social culture	50	4	3/5	1	5	3.42	171
Religious culture	50	3	3	1	5	3.50	175
Pop culture	50	4	5	1	5	3.50	175

Note: Traditional culture is the most significant cultural elements for Linxia traditional handicraft products

Table 4.7 shows the culture elements for Linxia traditional culture handicraft products. The results identified that traditional culture (mean=3.52) is the main culture elements

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for Linxia traditional culture handicraft products followed by national culture, religious culture, pop culture (mean=3.50), social culture (mean=3.42), folk culture (mean=3.38), and region culture (mean=3.26).



Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.18: Cultural elements for Linxia traditional handicraft Products from product group

Figure 4.18 shows the four (4) product groups that evaluated the culture elements of Linxia traditional handicraft products. In the field of brick carving, the respondents identified that national culture (72.5%) the main cultural elements for Linxia traditional handicraft products followed by pop culture (71.6%), traditional culture (68.3%), religious culture (68.3%), region culture (67.5), Social culture (66.6%) and lastly folk culture (65.8%). While in copper art, the respondents stated that social culture, national culture, pop culture and folk culture (80.0%) as the main culture elements for Linxia traditional handicraft products followed by region culture, religious culture (70.0%) and lastly traditional culture (60.0%). The respondents for embroidery and knitting product believed that religious culture (85.0%) is the main

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culture elements for Linxia traditional handicraft products followed by traditional culture, folk culture (82.5%), national culture (77.5%), social culture (72.5%), region culture (70%) and lastly pop culture (65.0%). In wood carving, the main culture elements for Linxia traditional handicraft products are traditional culture, pop culture and pop culture (68.7%) followed by social culture (67.5%), religious culture (65.0%), national culture, folk culture (61.5%) and lastly region culture (58.7%).

4.2.12 Aesthetical Element for Marketability for Linxia Traditional Handicraft Products

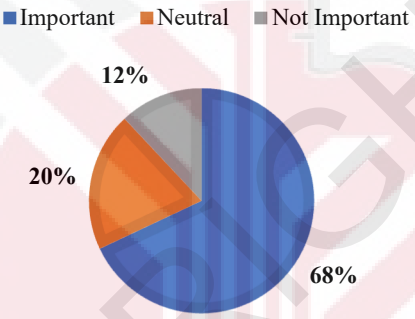


Figure 4.19: Aesthetical elements for marketability for Linxia traditional handicraft products

Figure 4.19 shows the aesthetical element for marketability of Linxia traditional handicraft products. The results express that 68.0 percent of the respondents considered the aesthetical elements significant for marketability the Linxia traditional handicraft products followed by 12.0 percent saying not important and 20 percent stated neutral.

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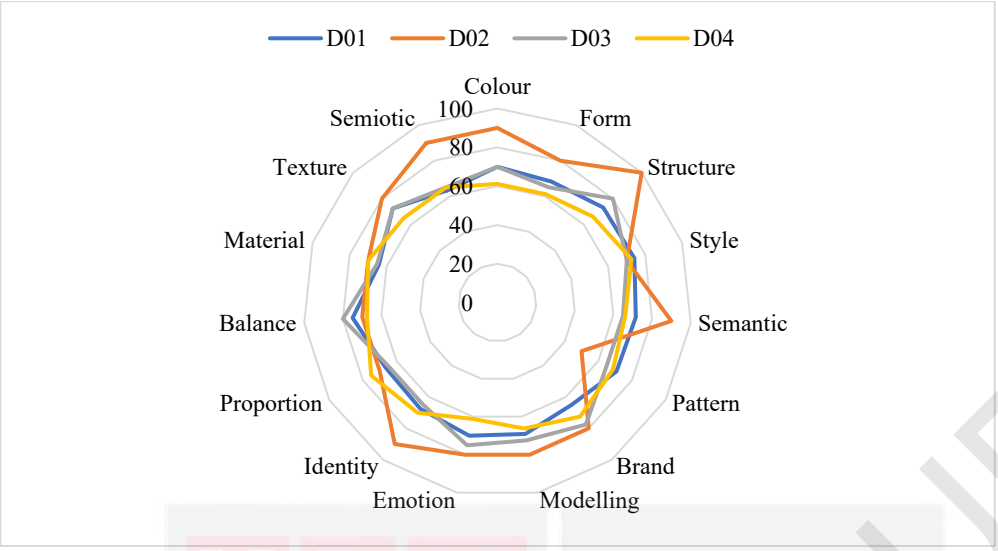
Table 4.8: Aesthetical element for Linxia traditional handicraft products

Aesthetical Elements	N	Median	Mode	Min	Max	Mean	Sum
Colour	50	4	4	1	5	3.46	173
Form	50	4	4	1	5	3.32	166
Structure	50	4	5	1	5	3.66	183
Style	50	4	4	1	5	3.64	182
Semantic	50	4	5	1	5	3.48	174
Pattern	50	4	4	1	5	3.52	176
Brand	50	4	4/5	1	5	3.48	174
Modelling	50	3	3	1	5	3.46	173
Emotion	50	4	¾	1	5	3.42	171
Identity	50	4	3	1	5	3.44	172
Proportion	50	4	4	1	5	3.66	183
Balance	50	4	5	1	5	3.66	183
Material	50	3	3	1	5	3.32	166
Texture	50	4	4	1	5	3.52	176
Semiotic	50	3	3	1	5	3.24	162

Note: Structure, proportion, and balance are the most value aesthetical elements for Linxia traditional handicraft products

The study found that aesthetical elements are important for Linxia traditional handicraft products, and respondents rated the characteristics contained in the aesthetical elements. Table 4.8 shows the aesthetical element for Linxia traditional handicraft products. The most important of Linxia aesthetical elements of traditional products are structure, balance, proportion (mean=3.66) followed by style (mean=3.64), pattern (mean=3.52), texture (mean=3.52), brand (mean=3.48), semantic (mean=3.48), colour (mean=3.46), modelling (mean=3.46), identity (mean=3.44), emotion (mean=3.42), Form (mean=3.32), material (mean=3.32), and semiotic (mean=3.24).

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Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.20: Aesthetical elements for Linxia traditional handicraft Products from product group

Figure 4.20 shows the four (4) product groups that evaluated the aesthetical elements of Linxia traditional handicraft products. The results indicated that respondents in the field of brick sculpture highlighted balance (75.0%) as the main aesthetical elements of Linxia cultural handicraft products followed by style (74.1%), structure (73.3%), texture (72.5%), semantic (71.6%), pattern (70.8%), colour, emotion (70%), modelling (69.1%), identity (67.5%), proportion (66.6%), brand (65.0%), material (64.1%), form (68.3%) and lastly semiotic (63.3%). In the field of copper art, the respondents chose pattern, structure (100%) as the aesthetical elements of Linxia traditional handicraft products followed by identity, form, semantic, semiotic (90.0%), texture, brand, emotion, modelling (80.0%), proportion, material, balance, form (70.0%) and lastly colour (50.0%). In the field of embroidery and weaving, the main aesthetical elements of Linxia traditional handicraft products are balance, structure (80.0%) followed by brand (77.5%), emotion (75.0%), texture, modelling (72.5%), style, colour (70.0%), identity, form, semantic, semiotic, proportion, material, pattern (65.0%). In the field

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of wood carving, the aesthetical elements of Linxia traditional handicraft products are proportion (75.0%) followed by style (72.5%), brand (71.25%), identity, material (70.0%), pattern (68.5%), balance (67.5%), structure, semantic, modelling (66.2%), semiotic, texture (65.0%), form, emotion (61.25%) and lastly colour (60.5%).

4.2.13 The Role Cultural Elements for Marketability of Linxia Traditional Handicraft Products

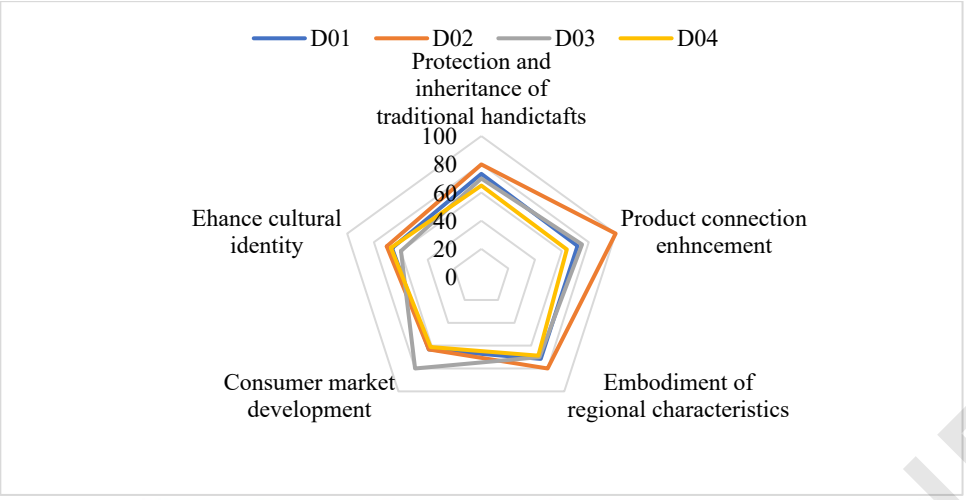
Table 4.9: The roles cultural elements for marketability of Linxia traditional handicraft products

The Role of Cultural Elements	N	Median	Mode	Min	Max	Mean	Sum
Protection and inheritance of traditional handicrafts	50	4	5	1	5	3.54	177
Product connotation enhancement	50	4	5	1	5	3.54	177
Embodiment of regional characteristics	50	3	3	1	5	3.54	177
Consumer market development	50	3	5	1	5	3.34	167
Enhance cultural identity	50	3	3	1	5	3.34	167

Note: Protection and inheritance of traditional handicrafts, product connotation enhancement, and embodiment of regional characteristics are the important role of aesthetical elements for Linxia traditional handicraft products for marketability

Table 4.9 shows the role of cultural elements as strategic innovation for Linxia traditional handicraft products. The results indicated that respondents agreed that the protection and inheritance of traditional handicrafts, product connotation enhancement, embodiment of regional characteristics (mean=3.54) are the important role as strategic innovation for Linxia traditional handicraft products followed by consumer market development and enhance cultural identity (mean=3.34).

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Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

Figure 4.21: The roles cultural elements toward marketability of Linxia traditional handicraft products from product groups

Figure 4.21 shows the four (4) product groups that evaluated the role cultural elements as strategic innovation for Linxia traditional handicraft products. The results indicated that in the field of brick carving the main role of cultural elements as strategic innovation for Linxia traditional handicraft products as protection and inheritance of traditional handicrafts (73.3%), followed by product connotation enhancement, embodiment of regional characteristics (71.6%), enhance cultural identity (66.6%) and lastly consumer market development (63.3%). While in the field of copper art, the respondents stated that product connotation enhancement (100%) as main the role culture elements as strategic innovation for Linxia traditional handicraft products followed by protection and inheritance of traditional handicrafts, embodiment of regional characteristics (80.0%), enhance cultural identity (70.6%) and lastly consumer market development (63.3%). Respondents in the field of embroidery and weaving highlighted the main role of cultural elements as strategic innovation for Linxia traditional handicraft products as consumer market development (80.0%) followed by product connotation enhancement (75.0%), protection and inheritance of

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traditional handicrafts, embodiment of regional characteristics (70.0%) and lastly enhance cultural identity (60.0%). In the field of wood carving, the respondents stated that the role of culture elements as strategic innovation for Linxia traditional handicraft products as embodiment of regional characteristics (68.75%) followed by enhance cultural identity (67.5%), protection and inheritance of traditional handicrafts (65.0%), product connotation enhancement (63.7%) and lastly consumer market development (61.2%).

4.2.14 The Role Aesthetical Elements for Marketability of Linxia Traditional Handicraft Products

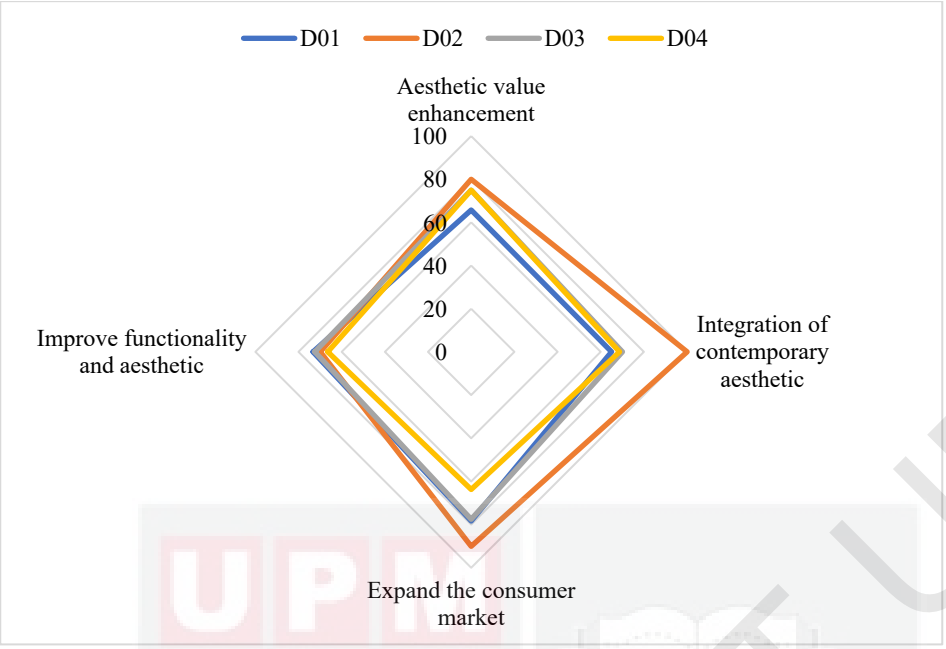
Table 4.10: The roles aesthetical elements for marketability of Linxia traditional handicraft products

Aesthetical Elements for Marketability	N	Median	Mode	Min	Max	Mean	Sum
Aesthetic value enhancement	50	3	3	1	5	3.48	174
Integration of contemporary aesthetics	50	4	4	1	5	3.44	172
Expand the consumer market	50	4	5	1	5	3.70	185
Improve functionality and aesthetics	50	4	4	1	5	3.54	177

Note: Expand the consumer market is the most valuable aesthetical elements for marketability of Linxia traditional handicraft products

Aesthetic elements have an important role in the strategic innovation of Linxia traditional handicrafts as well, and these roles were evaluated by the respondents. Table 4.10 shows the role of aesthetical elements as strategic innovation for the Linxia traditional handicraft products. The results indicated that the respondents much considered on expand the consumer market (mean=3.70) as the important role of aesthetical elements as strategic innovation for the Linxia traditional handicraft products followed by improve functionality and aesthetics (mean=3.54), aesthetic value enhancement (mean=3.48), and integration of contemporary aesthetics (mean=3.44).

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Note: D01-Brick Carving; D02-Cooper Art; D03-Embroidery and Knitting; D04-Wood carving

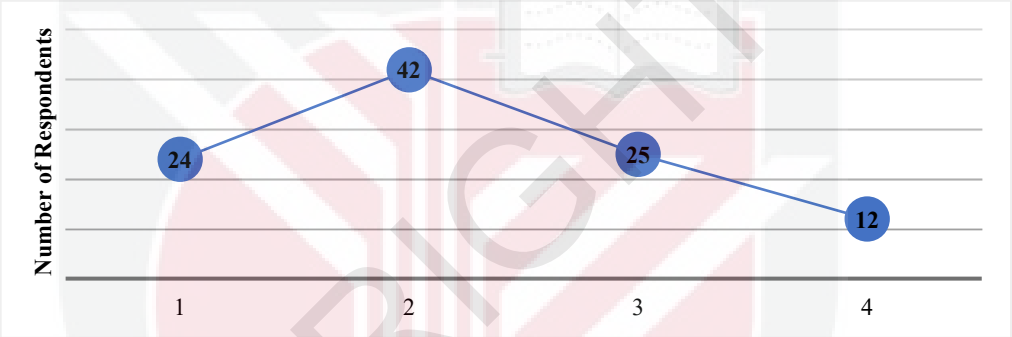
Figure 4.22: The roles aesthetical elements for marketability of Linxia traditional handicraft products from product groups

Figure 4.22 demonstrates that respondents from different product groups have different views on the importance of aesthetical elements for marketability the Linxia traditional handicraft products. The results states that the respondents in the field of brick carving, believe expand the consumer market (78.3%) is the important for marketability the Linxia traditional handicraft product followed by improve functionality and aesthetics (73.3%), aesthetic value enhancement (65.8%) and lastly integration of contemporary aesthetics (65.0%). While the respondents in the field of Copper Arts, considered that integration of contemporary aesthetics (100%) is the important for marketability the Linxia traditional handicraft product followed by expand the consumer market (90.0%), aesthetic value enhancement (80.0%) and lastly improve functionality and aesthetics (70.0%). Respondents in the field of embroidery and weaving, highlighted expand the consumer market (77.5%) is the important for marketability the Linxia traditional handicraft product followed by aesthetic value

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enhancement (75.0%), improve functionality and aesthetics (72.5%) and lastly integration of contemporary aesthetics (70.0%). Respondents in the field of wood carving, stated the most important of aesthetical elements for Linxia traditional handicraft products is aesthetic value enhancement (71.2%) followed by integration of contemporary aesthetics (68.7%), improve functionality and aesthetics (66.2%), and lastly expand the consumer market (63.7%).

4.2.15 Factors to Enhance the Development of Linxia Traditional Handicraft Products with Cultural and Aesthetical Elements



Note of ways:1- Innovative design,2-Elements integration ,3-Innovation strategy, 4-Product positioning and brand building

Figure 4.23: Factors to enhance the development of Linxia traditional handicraft products with cultural and aesthetical elements

Figure 4.23 shows the factors to enhance the development of Linxia traditional handicraft products with cultural and aesthetical elements. The results show that N=42(84.0%) of the respondents emphasised that elements integration is mostly valuable factors that can enhancement the development of Linxia traditional handicraft products with cultural and aesthetical elements followed by N=24(48.0%) innovative strategy, N=25(50.0%) innovative design and lastly N=12(24.0%) is product positioning and brand building.

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4.2.16 Integration Factors with Cultural and Aesthetical Elements for Marketability the Linxia Traditional Handicraft Products

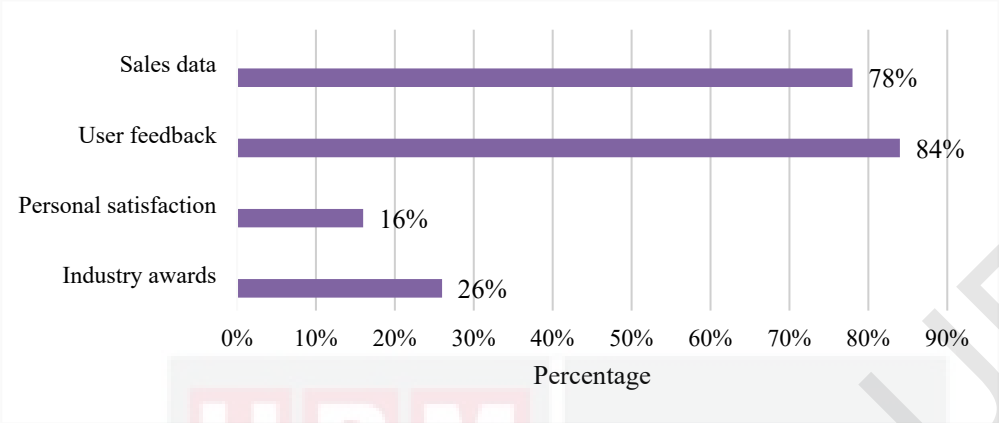


Figure 4.24: Integration factors with cultural and aesthetical elements integration for marketability the Linxia traditional handicraft products

Figure 4.24 shows the integration factors related cultural and aesthetical elements integration for marketability the Linxia traditional handicraft products. The results shows that the integration factors with cultural and aesthetical elements for marketability the Linxia traditional handicraft products can be evaluated based on N=42(84%) user feedback followed by N=39(78%) sales data, N=13(26.0%) industry awards and N=8(16.0%) personal satisfaction.

4.3 Data Analysis and Results of Experienced Product Users

4.3.1 Reliability of the Research Instrument

A list of 64 items was used in this survey. To ensure the reliability of the instruments, all the questions were thoroughly tested in the reliability analysis by using the SPSS. The reliability of the instrument results will be valid if Cronbach's Alpha shows (α: .65 between .95).

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Table 4.11: Reliability of research instrument statistic for User survey

Cronbach's Alpha	N of Items
0.94	64

Table 4.11 shows the reliability of the research instrument statistic from design experts. The result presents that Cronbach's Alpha reliability coefficient is α: .94. The reliability of α: .94 percent consistency in the score produced by the instruments. Hence, the research instrument is satisfactory.

4.3.2 Characteristics of Experienced Product Users

Experienced product users are individuals who have extensive familiarity and proficiency with a particular product or type of product. These users possess advanced skills and deep knowledge, enabling them to use the product efficiently and effectively. Understanding the characteristics and needs of experienced product users is crucial for designers and developers who aim to create products that meet the expectations of these advanced users. There are 200 respondents involved in this survey acknowledged as Experienced Product Users.

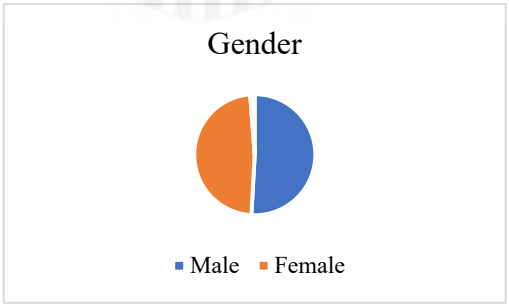


Figure 4.25: The experienced product users of gender

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Figure 4.25 shows the gender of experienced product users that took part in the survey. The results indicate N=103(51.5%) of the respondents is male and N=97(48.5%) female.

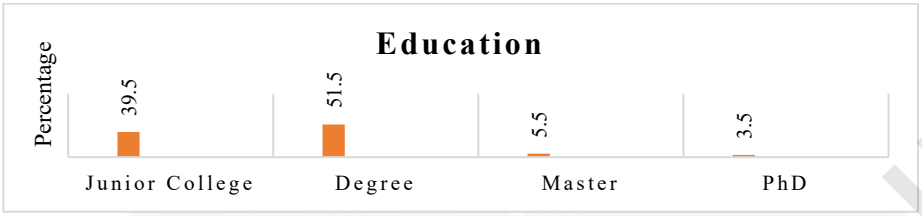


Figure 4.26: The education of experienced product users

Figure 4.26 shows the education level of the experienced product users. The results indicate that N=79(39.5%) of the respondents had a junior college degree, followed by N=103(51.5%) had a bachelor's degree, N=11(5.5%) master's degree and N=7(3.5%) PhD.

Table 4.12: The age of experienced product users

Age	Frequency N	Percentage (%)
＜20 years	13	6.5
21-30 years	55	27.5
31-40 years	65	32.5
41-50 years	50	25.0
>50 years	17	8.5
Total	200	100

Table 4.12 shows the age of the respondents. Results indicated that N=65(32.5%) of the respondents are age between 31-40 years, followed by N=55(27.5.0%) between 21-30 years, N=50(25.0%) between 41-50 years, N=17(8.5%) >50 years, and N=13(6.5%) is less than 20 years.

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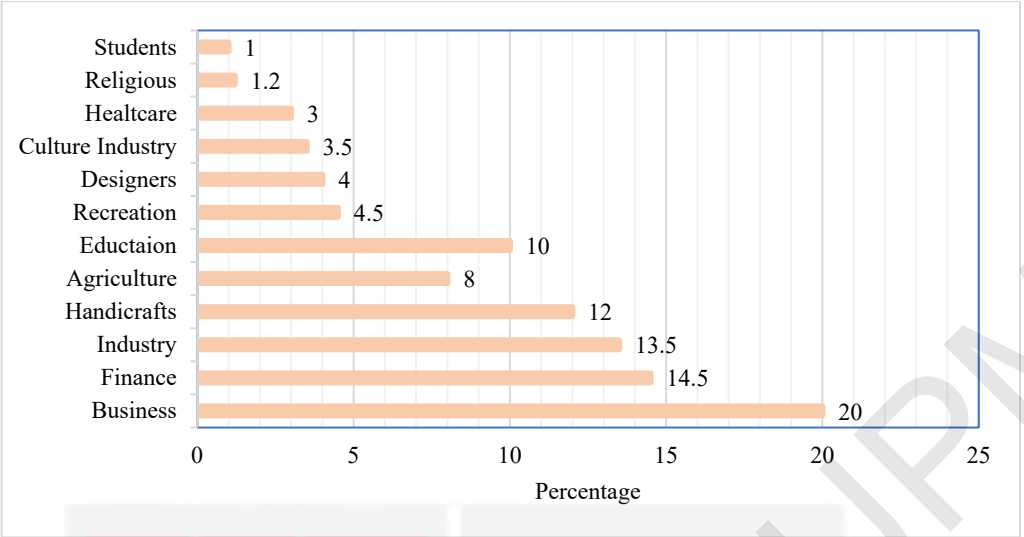


Figure 4.27: Occupation of experienced product users

Figure 4.27 shows the occupations of the 200 of experienced product users. The result shows that the highest number of respondents are engaged in industries are business N=40(20.0%) followed by finance N=29(14.5%), industry N=27(13.5%), handicrafts N=24(12.0%), education N=20(10.0%), agriculture N=16(8.0%), recreation N=9(4.5%), designers N=8 (4.0%), cultural industry N=7 (3.5%), healthcare N=6(3.0%), religious N=3(1.2%), and lastly students N=2(1.0%).

Table 4.13: The income of experienced product users

Income	Frequency N	Percentage (%)
＞15000 RMB	8	4.0
10000 -15000 RMB	30	15.0
5000 – 9999 RMB	85	42.5
2000 – 4999 RMB	47	23.5
＜2000 RMB	27	13.5
No revenue	3	1.5
Total	200	100

Table 4.13 shows the income level of experienced product users. The results show that the group with the highest income of 5000-9999 RMB with N=85(42.5%) followed by 2000-4999 RMB with N=47(23.5%), 10,000-15,000 RMB with N=30 (15.0%), Less

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than 2,000 RMB with N=27(13.5%), Greater than15000 RMB with N=8 (4.0%) and no income N=3(1.5%).

4.3.3 The Awareness of Linxia Traditional Handicraft Products

Linxia is rich with the culture heritage, which includes a variety of traditional culture handicraft products. These handicrafts reflect the region's diverse ethnic backgrounds, including Han Chinese, Hui Muslims, and Tibetans. Promoting awareness of Linxia traditional handicraft products involves targeted strategies that highlight the uniqueness and culture significance. By highlighting the unique culture significance and artistic value of these traditional handicraft products, it can help to preserve the Linxia's rich culture heritage and support the artisans who keep these traditions alive.

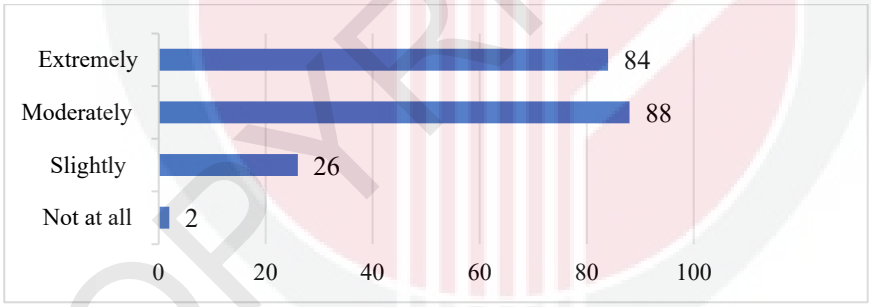


Figure 4.28: The awareness of Linxia traditional handicraft product

Figure 4.28 shows the awareness of experienced product users about the Linxia traditional handicraft products. The results indicate that the respondents are moderately aware of the Linxia traditional handicraft products with N=88(44.0%) followed by extremely aware N=84(42.0%), slightly aware N=26(13.0%) and not aware N=2(1%).

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4.3.4 The Purchased Rate of Linxia Traditional Handicraft Products



Figure 4.29: The purchased rate of Linxia traditional handicraft products

Figure 4.29 shows the experienced product users purchased rate of Linxia traditional handicraft products. The results show that N=179(89.5%) respondents regularly purchased the Linxia traditional handicraft product and only N=21(10.5%) have not purchased.

4.3.5 Frequency Purchased of Linxia Traditional Handicraft Products

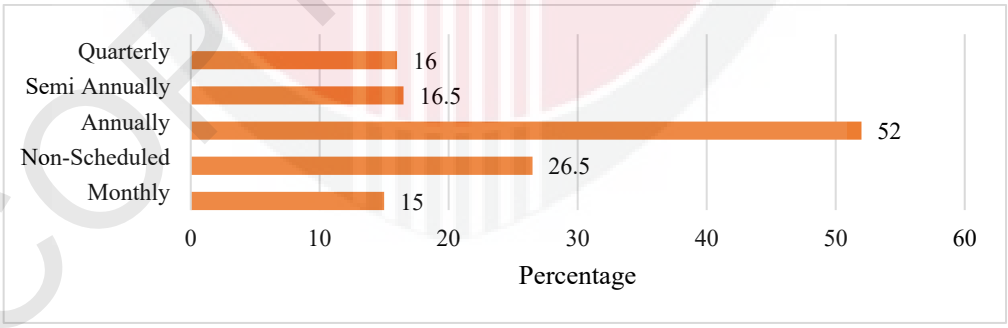


Figure 4.30: The frequency purchase of Linxia traditional handicraft products

Figure 4.30 shows the frequency purchase of Linxia traditional handicraft products by the experienced product users. The results show that the frequency purchase of Linxia traditional handicraft products is annual purchase with N=52(26.0%) followed by non-

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scheduled purchase with N=53(26.5%), semi-annually with N=33(16.5%), quarterly purchase with N=32(16.0%), and monthly purchase with N=30(15.0%).

4.3.6 The Linxia Traditional Handicraft Product Purchased Types

Table 4.14: Type of product purchased

Product Type	Frequency N	Percentage (%)
Brick carving	157	23.3
Wood carving	118	17.5
Copper art	147	21.8
Embroidery and knitting	94	13.9
paper-cutting	96	14.2
Gourd carving	62	9.2
Total	200	100

Table 4.14 shows the experienced product users of Linxia traditional handicraft products purchased type. The results show that N=157(23.3%) of the respondents purchased the brick carving N=147(21.8%) is the most popular product types followed by copper art with N=118(17.5%), wood carving with N=96(14.2%), paper-cutting with N=94(13.9%) weaving and embroidery, and with N=62(9.2%) gourd carving.

4.3.7 Reasons for Purchased the Linxia Traditional Handicraft Products

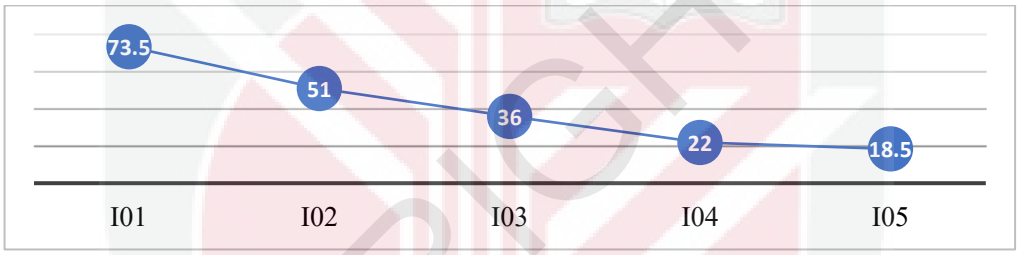
Table 4.15: The reason for purchase the Linxia traditional handicraft products

Reasons for Purchase	Frequency N	Percentage (%)
To others as a special gift	104/200	52.0
Used for decoration and beautification	166/200	83.0
Collection value	180/200	90.0
Support the development of local handicrafts	80/200	40.0
Interested in the craft of handicraft products	127/200	63.5
It integrates the diverse cultures of the Linxia region	61/200	30.5

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Table 4.15: shows the main reasons for the experienced product users to purchase the Linxia traditional handicraft products. The results show that, N=180(90.0%) of the respondents purchased the Linxia traditional handicraft products because of collection followed by used for decoration and beautification with N=166(83.0%), interested in the craft of handicraft products with N=127(63.5%), to others as a special gift with N=104(52.0%), support the development of local handicrafts with N=80(40.0%) and it integrates the diverse cultures with N=61(30.5).

4.3.8 The Main Issue of the Linxia Traditional Handicraft Products



Note: 101-Design with a high similarity degree; 102-Lack of innovation; 103-The product lacks modernity; 104-Inheritance difficulty; 105-Low cultural integration

Figure 4.31: Main issue of the Linxia traditional culture handicraft products

Figure 4.31 shows the main issue of the Linxia traditional handicraft products was highlighted by the experienced product users. The results show that N=147(73.5%) of the respondents stressed that the main issue of Linxia traditional handicraft products is high similarity of design followed by N=102(51.0%) inheritance difficulty, N=72(36.0%) low cultural integration, N=44(22.0%) lack of innovation, and N=37(18.5%) lacks modernity.

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4.3.9 Users' Attitude to Purchase the Good Design of Linxia Traditional Handicraft Products

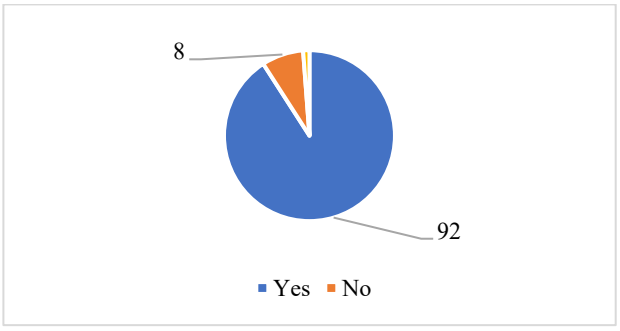
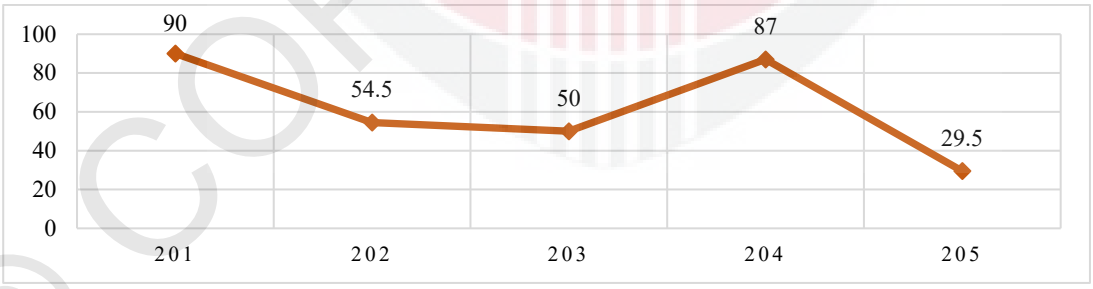


Figure 4.32: Users' attitude towards spending high prices to buy well-designed handicraft products in Linxia

Figure 4.32 shows the users' attitude towards spending high prices to buy well-designed handicraft products in Linxia. The results showed that N=184(92.0%) respondents were willing to pay high prices for Linxia traditional handicraft products with good design, while N=16(8.0%) respondents were not willing.

4.3.10 Design Factors Influenced the Product Users Purchase Decision



Note: 201-Inheritance and innovation of materials and technology; 202-Combination of tradition and modernity; 203-Designer/ craftsman background and highlights; 204-Uniqueness and innovation; 205-Design style and concept

Figure 4.33: Design factors influenced the experienced product users purchase decision

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Figure 4.33 shows the respondents' evaluation of these aspects. The results highlighted N=180(90.0%) of the respondents preferred the inheritance and innovation of materials and technology is the design factors that influenced the purchase decision followed by uniqueness and innovation with N=174(87.0%), combination of tradition and modernity with N=109(54.5%), designer/ craftsman background and highlights with N=100(50.0%) and design style and concept with N=59(29.5%).

4.3.11 Users Evaluation of Design Value Elements of Linxia Traditional Handicraft Products

Table 4.16: User's evaluation of Linxia traditional handicraft product design value elements

Design Value Elements	N	Median	Mode	Min	Max	Mean	Sum
Culture value	200	4	4	1	5	3.71	742
Aesthetic value	200	4	4	1	5	3.61	721
Market value	200	4	4	1	5	3.71	742
Emotional value	200	4	5	1	5	3.71	742
Social value	200	4	4	1	5	3.57	714
Sustainable value	200	4	4	1	5	3.67	734
Artistic value	200	4	4/5	1	5	3.70	740

Note: Culture value, market value and emotional value are represented as design value elements of Linxia traditional handicraft products

Users' evaluation of the design value elements of Linxia traditional handicraft products is shown in Table 4.16. The results show that the most important design values are market value (mean =3.71), cultural value (mean =3.71), and emotional value (mean =3.71). This was followed by artistic value (mean =3.70), sustainable value (mean =3.67), aesthetic value (mean =3.61) and social value (mean =3.57). On the whole, the mean value difference of each design value element is small, and the evaluation of users is more balanced.

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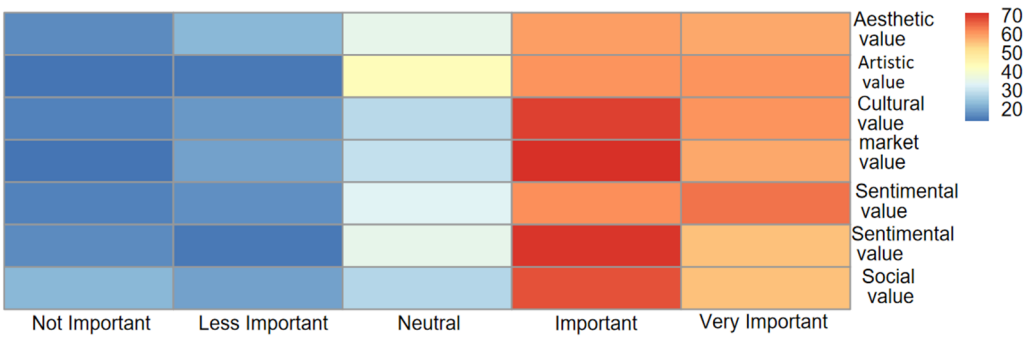


Figure 4.34: The elements of design value of Linxia traditional handicraft products based on Likert scale

Figure 4.34 shows in detailed of importance level of design value elements of Linxia traditional handicraft products. The results shows that market value is the most valuable design value elements for Linxia traditional handicraft products. The level of the important of market value are graded as important N=73(36.5%) followed by very important N=60(30.0%), neutral N=31(15.5%), less important N=21(10.5%) and not important N=15(7.5%). The evaluation of the importance for emotional value as the design value elements of Linxia traditional handicraft products are very important N=66(33.0%) followed by important N=63(31.5%), neutral N=35(17.5%), less important N=19(9.5%) and not important N=17(8.5%). Furthermore, the degree of importance of the cultural value as become the design value elements of Linxia traditional handicraft products as important N=71(35.5%) followed by very important N=62(31.0%), neutral N=30(15.0%), less important N=20(10.0%) and not important N=17(8.5%). Then, the artistic value for design value elements of Linxia traditional handicraft products was evaluated as important N=62(31.0%) followed by very important N=62(31.0%), neutral N=45(22.5%), less important N=16(8.0%) and not important N=15(7.5%). For the sustainable value of design value elements of Linxia traditional handicraft products are important N=72(36.0%) followed by very important N=57(28.5%), neutral N=37(18.5%), not important N=18(9.0%), less important

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N=16(8.0%), not important N=15(7.5%) and important: N=16(8.0%). The importance of aesthetic value as design value elements of Linxia traditional handicraft product are important N=61(30.5%) followed by very important N=60(30.0%), neutral N=37(18.5%), less important N=24(12.0%), and finally not important N=18(9.0%). Lastly, the significantly of social value as design value elements of Linxia traditional handicraft products are important N=69(34.5%) followed by very important N=57(28.5%), neutral N=29(14.5%), less important N=21(10.5%) and not important N=24(12.0%).

4.3.12 Cultural Elements Significantly Can Improve the Marketability of Linxia Traditional Handicraft Products

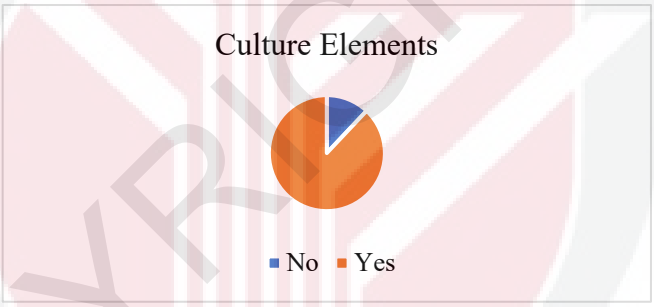


Figure 4.35: The significant of culture elements can improve the marketability of Linxia traditional handicraft products

Culture elements have an impact on traditional handicraft products. Figure 4.35 shows that N=176(88.0%) of the respondents believe that the cultural elements significantly can improve the marketability of Linxia traditional handicraft products and N=24(12.0%) are against it.

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4.3.13 Aesthetical Elements Significantly Can Improve the Marketability of Linxia Traditional Handicraft Products

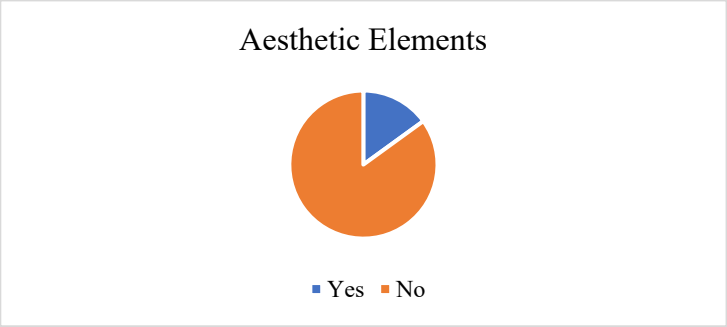


Figure 4.36: The significant of aesthetical elements can improve the marketability of Linxia traditional handicraft products

Aesthetic elements have an impact on traditional handicraft products. Figure 4.36 shows that N=170(85.0%) of the respondents agreed that aesthetical elements significantly can improve the marketability of Linxia traditional handicraft products, and only N=30(15.0%) are opposed to the idea.

4.3.14 Culture Elements for Linxia Traditional Handicraft Products

Table 4.17: Cultural elements for Linxia traditional handicraft products

Cultural Elements	N	Median	Mode	Min	Max	Mean	Sum
Region culture	200	4	4	1	5	3.55	710
National culture	200	4	4	1	5	3.48	696
Folk culture	200	4	4	1	5	3.53	706
Traditional culture	200	4	5	1	5	3.60	720
Social culture	200	4	5	1	5	3.58	716
Religious culture	200	4	4	1	5	3.55	709
pop culture	200	4	4	1	5	3.54	707

Note: Traditional culture is the highest rank for Linxia traditional handicraft products

Table 4.17 shows the cultural elements for Linxia traditional handicraft products. The results identified that the traditional culture (mean=3.60) is the main culture elements for the Linxia traditional handicraft products followed by social culture (mean=3.58),

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pop culture (mean=3.54), region culture (mean=3.55), religious culture (mean=3.55), folk culture (mean=3.53), and national culture (mean=3.48).

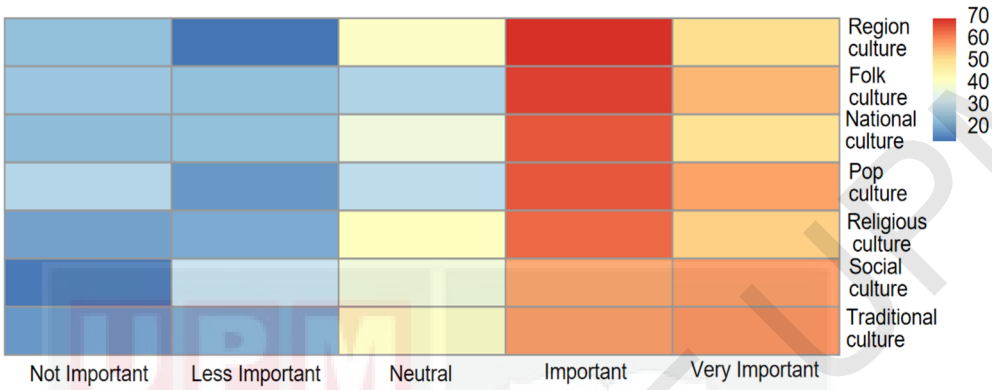


Figure 4.37: Cultural elements for Linxia traditional handicraft products based on Likert scale

Figure 4.37 shows degree of an importance of cultural element of Linxia traditional handicraft products. The results identified that of the traditional culture as become most significant cultural elements of Linxia traditional handicraft products as important N=59(29.5%) followed by very important N=59 (29.5%), neutral N=41(20.5%), less important N=21(10.5%) and not important N=19(9.5%). For socio-cultural, the important graded as important N=58(29.0%), very important N=59(29.5%), neutral N=38(19.0%), less important N=30(15.0%) and not important N=15(7.5%). Then, for the pop culture evaluated as important N=66(33.0%) followed by very important N=58(29.0%), neutral N=29(14.5%), not important N=28(14.0%) and less important N=19(9.5%). The important of regional cultural as cultural elements for Linxia traditional handicraft products is important N=70(35.0%) followed by very important N=51(25.5%), neutral N=41(20.5%), less important N=14(7.0%) and not important N=24(12.0%). For religious culture as cultural elements of Linxia traditional handicraft products shows that important N=64(32.0%) is the highest mentioned

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followed by very important N=53(26.5%), neutral N=42 (21%), less important N=21(10.5%) and not important N=20(10.0%), While, the importance of folk culture as cultural elements of Linxia traditional handicraft product is graded as important N=68(34.0%) followed by very important N=56(28.0%), neutral N=27(13.5%), not important N=25(12.5%), less important N=24 (12.0%) and not important N=20(10.0%). Finally, the degree important of national culture as cultural elements of Linxia traditional handicraft products is important N=66(33.0%) followed by very important N=50(25.0%), neutral N=37(18.5%), less important N=24(12.0%) and not important N=23(11.5%).

4.3.15 Cultural Elements of Linxia Traditional Handicraft Products – Sampling Product Analysis of Brick Carving

Cultural elements refer to the components that make up the culture of a society or group and include a wide range of human activities and creations. Understanding these elements can help in studying and appreciating the diversity and complexity of different cultures around the world. In this study, the culture elements are very important for Linxia traditional handicraft products. Five (5) different types of brick carving products were selected as a sampling product analysis attempt to evaluate it as significant to cultural elements of Linxia traditional handicraft products. Sampling product analysis is the structured approach to make informed decisions and improve product success in the market.

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a) Sampling Product 1



Figure 4.38: Pine cranes always young

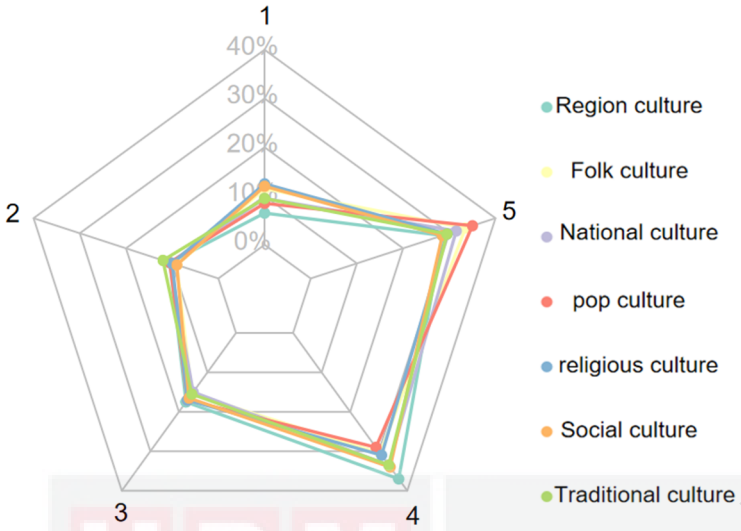
Table 4.18: Cultural elements of sampling product analysis 1

Cultural elements of Sampling Product 1	N	Median	Mode	Min	Max	Mean	Sum
Region culture	200	4	4	1	5	3.71	741
National culture	200	4	4	1	5	3.67	734
Folk culture	200	4	5	1	5	3.66	731
Traditional culture	200	4	4	1	5	3.62	723
Social culture	200	4	4	1	5	3.58	716
Religious culture	200	4	4	1	5	3.55	710
Pop culture	200	4	5	1	5	3.72	743

Note: Pop culture is the highest rank for brick carving of Linxia traditional handicraft products

Table 4.18 shows the cultural elements of sampling product analysis 1. The results shows that respondents believe the cultural elements mostly refer to pop culture (mean=3.72) of sampling product analysis 1 (Pine cranes always young) followed by region culture (mean=3.71), national culture (mean=3.67), folk culture (mean=3.66), traditional culture (mean=3.62), social culture (mean=3.58) and religious culture (mean=3.55).

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Note: 1-Not at All; 2-Little; 3- Average; 4-much； 5-Very much

Figure 4.39: Cultural elements for Linxia traditional handicraft products (Pine cranes always Young)

Figure 4.39 illustrates the respondents' evaluation of the seven (7) cultural elements according to sampling product 1 (Pine cranes always Young). The results indicates that in region culture is rank as much N=74(37.0%) followed by very much N=57(28.5%), average N=35(17.5%), little N=21(10.5%), and not at all N=13(6.5%). The national culture is rank as much N=67(33.5%) followed by very much N=63(31.5%), average N=30(15%), little N=21(10.5%), and not at all N=19(9.5%). While the folk culture is rank as much N=67(33.5%) followed by much N=61(30.5%), average N=31(15.5%), not at all N=23(11.5%) and little N=18(9.0%). For the traditional culture is rank as much N=67(33.5%) followed by very much N=59(29.5%) followed by average N=31(15.5%), little N=24(12.0%) and not at all N=19(9.5%). In social culture is rank as much N=68(34.0%) followed by very much N=57(28.5%), average N=33(16.5%), little N=18(9.0%), not at all N=24(12.0%). In religious culture is rank as much N=62(31.0%) followed by very much N=59(29.5%), average N=34(17.0%), not at all N=25(12.5%), little N=20(10.0%). Lastly, in pop culture is

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rank as very much N=70(35.0%) followed by much N=58(29.0%), average N=34(17.0%), little N=21(10.5%), and not at all N=17(8.5%).

b) Sampling Product 2



Figure 4.40: Roll out felt tablets

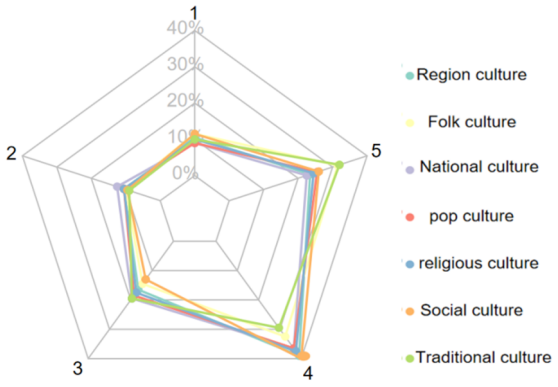
Table 4.19: Cultural elements of sampling product analysis 2

Cultural Elements of Sampling Product 2	N	Median	Mode	Min	Max	Mean	Sum
Region culture	200	4	4	1	5	3.55	709
National culture	200	4	4	1	5	3.51	702
Folk culture	200	4	4	1	5	3.63	725
Traditional culture	200	4	5	1	5	3.65	729
Social culture	200	4	4	1	5	3.60	719
Religious culture	200	4	4	1	5	3.56	712
Pop culture	200	4	4	1	5	3.59	718

Note: Traditional cultural is the highest rank for brick carving of Linxia traditional handicraft products

Table 4.19 shows the cultural elements of sampling product analysis 2. The results indicates that respondents choose the traditional culture (mean=3.65) is the highest rank of sampling product analysis 2 (roll out felt tablets) followed by folk culture (mean=3.63), social culture (mean=3.65), pop culture (mean=3.59), religious culture (mean=3.56), regional culture (mean=3.55), and national culture (mean=3.51).

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Note: 1-Not at All; 2-Little; 3- Average; 4-much; 5-Very much

Figure 4.41: Cultural elements for Linxia traditional handicraft products (Roll out felt tablets)

Figure 4.41 illustrates the respondents' evaluation of the seven cultural elements of the sampling product 2 (roll out felt tablets). The results identified that region culture is rank as much N=78(39.0%) followed by very much N=47(23.5%), average N=33(16.5%), little N=21(10.5%), and not at all N=21(10.5%). The national culture is rank as much N=73(36.5%) followed by very much N=45 (22.5%), average N=39(19.5%), little N=25(12.5%), and not at all N=18 (9%). In folk culture is rank as very much N=63(31.5%) followed by much N=65(32.5%), average N=29(14.5%), not at all N=23(11.5%), and little N=20(10.0%). In traditional culture is rank as very much N=64(32.0%) followed by much N=59(29.5%), average N=39(19.5%), not at all N=20(10.0%) and little N=18(9.0%). In social culture is rank as much N=80(40.0%) followed by very much N=52(26.0%), average N=26(13.0%), not at all N=23(11.5%), and little N=19(9.5%). Then religious culture is rank as much N=75(37.5%) followed by very much N=49(24.5%), average N=35(17.5%), little N=21 (10.5%), and not at all N=20(10.0%). Lastly, pop culture is rank as much N=73(36.5%) followed by very much N=51(25.5%), average N=37(18.5%), little N=21(10.5%) and not at all N=18 (9%).

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c) Sampling Product 3



Figure 4.42: Pottery

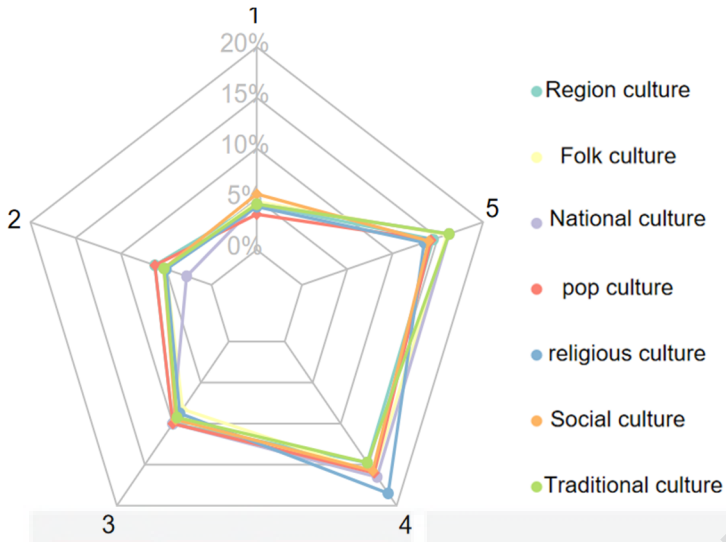
Table 4.20: Cultural elements of sampling product analysis 3

Cultural Elements of Sampling Product 3	N	Median	Mode	Min	Max	Mean	Sum
Region culture	200	4	4	1	5	3.57	714
National culture	200	4	4	1	5	3.75	749
Folk culture	200	4	4/5	1	5	3.67	734
Traditional culture	200	4	4	1	5	3.66	732
Social culture	200	4	4	1	5	3.55	710
Religious culture	200	4	4	1	5	3.64	728
Pop culture	200	4	4	1	5	3.63	725

Note: National culture is the highest rank for brick carving of Linxia traditional handicraft products

Table 4.20 shows the cultural elements of sampling product analysis 3. The results indicates that respondents choose the national culture (mean=3.75) is the highest rank of sampling product analysis 3 (pottery) followed by folk culture (mean=3.67), religious culture (mean=3.64), pop culture (mean=3.63), region culture (mean=3.57), and social culture (mean=3.55).

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Note: 1-Not at All; 2-Little; 3- Average; 4-much; 5-Very much

Figure 4.43: Cultural elements for Linxia traditional handicraft products (Pottery)

Figure 4.43 Illustrates the respondents' evaluation of the seven cultural elements of product sampling 3 (pottery). The results indicates that region culture is rank as much N=59(29.5%) followed by very much N=58(29.0%), average N=40(20.0%), little N=25(12.5%) and not at all N=18(9.0%). In national culture, it ranks as much N=66(33.0%) followed by very much N=65(32.5%), average N=40(20%), not at all N=18(9.0%), and little N=11(5.5%). While in folk culture is rank as much N=64(32.0%) followed by very Much N=64(32.0%), average N=33(16.5%), little N=20(10.0%) and not at all N=19(9.5%). In traditional culture, it ranks as very much N=65(32.5%) followed by much N=59(29.5%), average N=37(18.5%), little N=21(10.5%) and not at all N=18(9.0%). In social culture is rank as much N=63(31.5%) followed by very much N=56(28.0%), average N=38(19.0%), not at all N=22(11.0%) and little N=2(10.5%). Then, the religious culture is rank as much N=74(37.0%) followed by very much N=54(27.0%), average N=35(17.5%), little N=20 (10.0%) and not at all N=17(8.5%). Lastly, in pop culture is rank as much

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N=64(32.0%) followed by very much N=57(28.5%), average N=40(20.0%), little N=25(12.5%) and not at all N=14(7.0%).

d) Sampling Product 4



Figure 4.44: Bo Gu Shelf

Table 4.21: Cultural elements of sampling product analysis 4

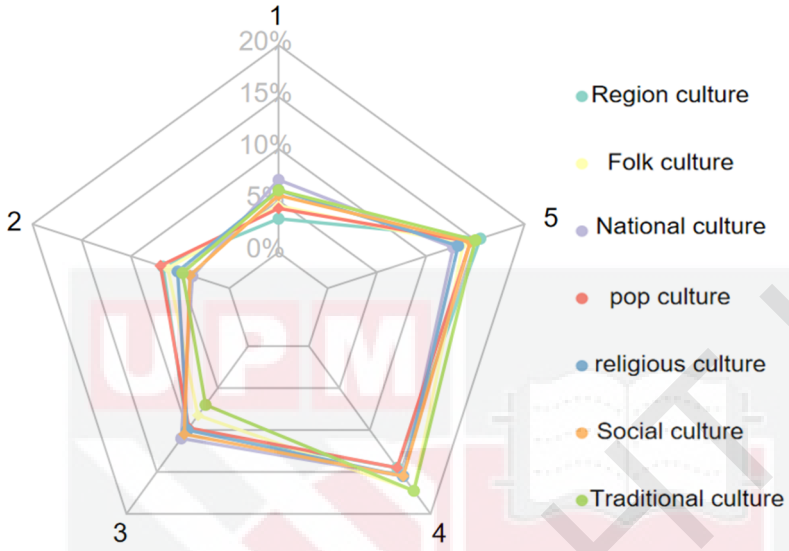
Cultural Elements of Sampling Product 4	N	Median	Mode	Min	Max	Mean	Sum
Region culture	200	4	5	1	5	3.65	729
National culture	200	4	4	1	5	3.47	693
Folk culture	200	4	4	1	5	3.59	718
Traditional culture	200	4	4	1	5	3.61	722
Social culture	200	4	4	1	5	3.59	718
Religious culture	200	4	4	1	5	3.50	699
Pop culture	200	4	4/5	1	5	3.56	712

Note: Region culture is the highest rank for brick carving of Linxia traditional handicraft products

Table 4.21 shows the cultural elements of sampling product analysis 4. The results indicates that respondents choose the region culture (mean=3.65) is the highest rank of sampling product analysis 4 (Bo Gu Shelf) followed by traditional culture

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(mean=3.61), folk culture and social culture (mean=3.59), pop culture (mean=3.56), religious culture (mean=3.50), and national culture (mean=3.47).



Note: 1-Not at All; 2-Little; 3- Average; 4-much; 5-Very much

Figure 4.45: Cultural elements for Linxia traditional handicraft products (Bo Gu Shelf)

Figure 4.45 illustrates the respondents' evaluation of the seven cultural elements of sampling product 4 (Bo Gu Shelf). The results identified that in region culture is rank as very much N=62(31.0%) followed by much N=58(29.0%), average N=40(20.0%), little N=27(13.5%) and not at all N=13(6.5%). In national culture is rank as much N=62(31.0%) followed by very much N=51(25.5%), average N=44(22.0%), not at all N=28(14.0%) and little N=15(7.5%). In folk culture is rank as much N=69(34.5%) followed by very much N=55(27.5%), average N=33(16.5%), little N=25(12.5%) and not at all N=18(9.0%). The traditional culture is rank as much N=69(34.5%) followed by very much N=60(30.0%), average N=28(14.0%), not at all N=24(12.0%) and little N=19(9.5%). Then the social culture is rank as much N=62(31.0%) followed by very much N=58(29.0%), average N=42(21.0%), not at all N=22(11.0%) and little

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N=16(8.0%). In religious culture is rank as much N=62(31.0%) followed by very much N=53(26.5%), average N=40(20.0%), not at all N=24(12.0%), and little N=21(10.5%). Lastly, in pop culture is rank as much N=58(29.0%) followed by very much N=58(29.0%), average N=39(19.5%), little N=28(14.0%) and not at all N=17(8.5%).

e) Sampling Product 5



Figure 4.46: Silk Road - Lanzhou

Table 4.22: Cultural elements of sampling product analysis 5

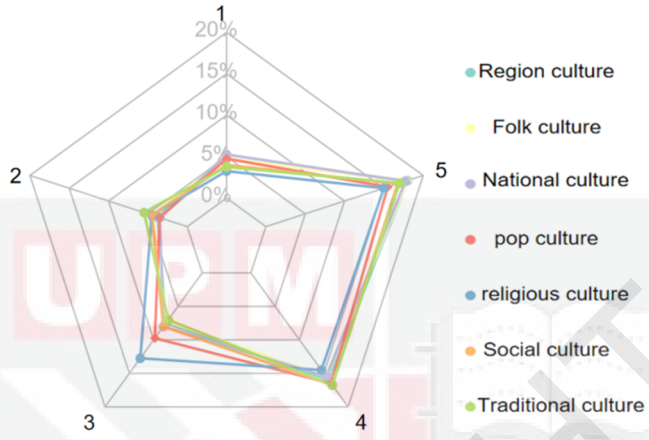
Cultural Elements of Sampling Product 5	N	Median	Mode	Min	Max	Mean	Sum
Region culture	200	4	5	1	5	3.78	755
National culture	200	4	5	1	5	3.74	748
Folk culture	200	4	5	1	5	3.75	750
Traditional culture	200	4	5	1	5	3.76	751
Social culture	200	4	4/5	1	5	3.76	751
Religious culture	200	4	5	1	5	3.67	734
Pop culture	200	4	4	1	5	3.69	738

Note: Region culture is the highest rank for brick carving of Linxia traditional handicraft products

Table 4.22: Cultural elements of sampling product analysis 5. The results indicates that respondents choose the region culture (mean=3.78) is the highest rank of sampling

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product analysis 5 (Silk Road-Lanzhou) followed by traditional culture and social culture (mean=3.76), folk culture (mean=3.75), national culture (mean=3.74), pop culture (mean=3.69) and religious culture (mean=3.67).



Note: 1-Not at All; 2-Little; 3- Average; 4-much; 5-Very much

Figure 4.47: Cultural elements for Linxia handicraft products (Silk Road-Lanzhou)

Figure 4.47 illustrates the respondents' evaluation of the seven cultural elements of sampling product 5 (Silk Road-Lanzhou). The results states that in traditional culture is rank as very much N=68(34.0%) followed by much N=67(33.5%), average N=28(14%), little N=22(11.0%), and not at all N=15(7.5%). In national culture is rank as very much N=71(35.5%) followed by much N=62(31.0%), average N=32(16.0%), little N=14(7.0%) and not at all N=21(10.5%). In region culture is rank as very much N=72(36.0%) followed by much N=64(32.0%), average N=30(15%), little N=15(7.5%) and not at all N=19(9.5%). Social culture is rank as very much N=67(33.5%) followed by very much N=67(33.5%), average N=32(16.0%), little N=18(9.0%) and not at all N=16(8.0%). In pop culture is rank as much N=66(33.0%) followed by very much N=62(31.0%), average N=39(19.5%), not at all N=19(9.5%)

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and little N=14(7.0%). Then folk culture is rank as much N=72(36.0%) followed by much N=62(31.0%), average N=29(14.5%), little N=18(9.0%) and not at all N=19(9.5%). Lastly, the religious culture is rank as very much N=60(30.0%) followed by much N=58(29.0%), average N=51(25.5%), little N=18(9.0%) and not at all N=13(6.5%).

4.3.16 Aesthetical Element of Linxia Traditional Handicraft Products – Sampling Product Analysis of Brick Carving

Table 4.23: Aesthetical element for Linxia traditional culture handicraft products

Aesthetical Elements	N	Median	Mode	Min	Max	Mean	Sum
Modelling	200	4	5	1	5	3.50	700
Colour	200	4	4	1	5	3.61	722
Structure	200	4	5	1	5	3.56	712
Balance	200	4	4	1	5	3.56	712
Brand	200	4	5	1	5	3.76	751
Material	200	4	4	1	5	3.61	722
Shape	200	4	4	1	5	3.73	745
Texture	200	4	5	1	5	3.57	714
Style	200	4	4	1	5	3.54	707
Emotion	200	4	5	1	5	3.60	719
Proportion	200	4	4	1	5	3.56	711
Semiotic	200	4	4	1	5	3.50	700
Identity	200	4	4	1	5	3.66	732
Semantic	200	4	4	1	5	3.64	728
Pattern	200	4	5	1	5	3.60	720

Note: The brand is the highest rank for brick carving aesthetical elements of Linxia traditional handicraft products

Table 4.23 shows the aesthetical element for Linxia traditional handicraft products. The results found that brand (mean=3.76) is significant aesthetical elements of Linxia traditional handicraft products shape (mean=3.73), identity (mean=3.66), semantic (mean=3.64), colour and material (mean=3.61), pattern and emotion (mean=3.60), texture (mean=3.57), balance, proportion, and structure (mean=3.56), style (mean=3.54), modelling and semiotic (mean=3.50).

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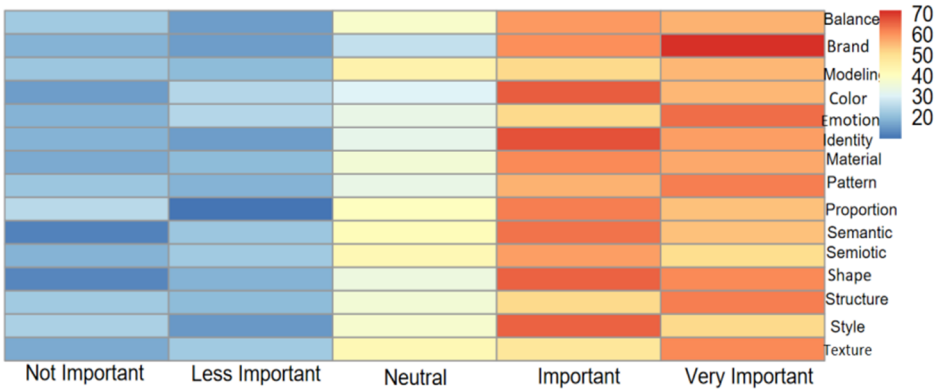


Figure 4.48: Aesthetical element for Linxia traditional handicraft products

Figure 4.48: Aesthetical element for Linxia traditional handicraft products. The result identified that in modelling is rank as very important N=57(28.5%) followed by important N=53(26.5%), neutral N=46(23.0%), less important N=21(10.5%) and not important N=23(11.5%). In colour is rank as important N=68(34.0%) followed by very important N=57(28.5%), neutral N=32(16.0%), less important N=26(13.0%) and not important N=17(8.5%). In structure is rank as very important N=64(32.0%) followed by important N=53(26.5%), neutral N=38(19.0%), not important N=24(12.0%) and less important N=21(10.5%). In balance is rank as important N=61(30.5%) followed by very important N=58(29.0%), neutral N=40(20.0%), not important N=24(12.0%) and less important N=17(8.5%). In brand is rank as very important N=73(36.5%) followed by important N=62(31.0%), neutral N=28(14.0%), not important N=20(10.0%) and less important N=17(8.5%). Then in material is rank as important N=63(31.5%) followed by very important N=59(29.5%), neutral N=38(19.0%), less important N=21(10.5%), and not important N=19 (9.5%). In shape is rank as important N=67(33.5%) followed by very important N=63(31.5%), neutral N=36(18.0%), less important N=20(10.0%), and not important N=14(7.0%). In texture is rank as very important N=63(31.5%) followed by important N=50(25.0%), neutral N=44(22.0%), less important N=24(12.0%), and not important N=19(9.5%). In style is rank as

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important N=67(33.5%) followed by very important N=53(26.5%), neutral N=39(19.5%), not important N=25(12.5%) and less important N=16 (8.0%). In emotion is rank as very important N=66(33.0%), important N=53(26.5%), neutral N=35(17.5%), less important N=26(13.0%) and not important N=20(10.0%). In proportion is rank as important N=64(32.0%) followed by very important N=56(28.0%), neutral N=42(21.0%), not important N=27(13.5%) and less important N=11(5.5%). In semiotic is rank as important N=60(30.0%) followed by very important N=52(26.0%), neutral N=44(22.0%), less important N=24(12.0%) and not important N=20(10.0%). In identity is rank as important N=69(34.5%) followed by very important N=60(30.0%), neutral N=34(17.0%), not important N=20(10.0%), and less important N=17(8.5%). In semantic is rank as important N=65(32.5%) followed by very important N=56(28.0%), neutral N=43(21.5%), not important N=13(6.5%), and less important N=23(11.5%). Lastly, pattern is rank as very important N=64(32.0%) followed by important N=58(29.0%), neutral N=35(17.5%), not important N=23(11.5%) and less important N=20(10.0%).

4.4 Conclusion

Culture plays a significant role in recent development efforts across various domains, including technology, business, and social progress. Culture is a powerful force for sustainable development, shaping values, knowledge systems, community dynamics, behaviour, creativity, and collaboration. Recognising and leveraging cultural assets and perspectives are essential for designing effective, inclusive, and contextually relevant sustainable development strategies that address the complex interconnected challenges facing humanity. Gansu province is rich in cultural heritage, especially art

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and craft. It depends not only on tangible heritage but also intangible heritage. The traditional handicraft products of Gansu can be reflected on ideas, principles, and culture. Gansu's intangible cultural heritage is rich in resources, deep in deposits, with many remains and unique characteristics. Furthermore, the regional culture in Linxia, Gansu is an important part of national traditional culture and has important cultural heritage value. However, due to the progress of the times and social changes, some regional cultures have been lost in people's memory. Globalisation is a major trend in cultural exchanges. With the development of urbanisation, people's demand for products extends outward and they begin to have higher requirements especially for some creative products with local characteristics. With the advance of globalisation and the continuous innovation of technology, intangible cultural heritage is facing difficulties in survival. The most important thing to improve the marketability of traditional handicraft products is to enhance the value of product design, and the design of marketable handicraft products requires the integration of cultural and aesthetical elements in the design process.

In this empirical study, design experts and experienced product users acknowledged valuable information related to the traditional handicraft products' attempt to enhance the design values for marketability. Design value refers to the aspects of a product that add worth or significance from a user or market perspective including functionality, aesthetical, usability, and overall user experience. Besides that, it is also about creating products that meet or exceed customer expectations and deliver value in terms of utility, appearance, and emotional appeal. The result indicated there are seven (7) design values that were identified, namely cultural value, aesthetic value, market value, social value, sustainable value, and artistic value. Furthermore, there are two (2) significant

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characteristics of Linxia: traditional handicraft products are also identified based on sampling product analysis of brick carving are cultural value and aesthetical elements whereas they can bring more marketability of traditional handicraft products. The results identified culture value as refers to the region culture, national culture, folk culture, traditional culture, social culture, religious culture, pop culture, while the aesthetic elements acknowledged as modelling, colour, structure, balance, brand, material, shape, texture, style, emotion, proportion, semiotic, identity, and semantic. Both are important parts of product characteristics and need to be considered when designing new products at the development stage of handicraft products. stage of designing a new product these elements need to be considered. By integrating cultural values and aesthetic elements thoughtfully, businesses can create products and services that not only meet functional needs but also resonate deeply with consumers' identities and preferences, enhancing overall marketability.

However, all the variables need to be integrated for better product and marketability. The next chapter will discuss the variables and develop a new framework that integrates them for marketability. The framework wants to be developed as a guideline for designer or craft developer during the development purposely for a new Linxia traditional handicraft product for marketability.

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CHAPTER 5

DEVELOPMENT OF A NEW FRAMEWORK

5.1 Introduction

In this chapter, the results of the previous study in Chapter 4 will be further discussed. The discussion in this chapter also includes an interpretation of the preliminary findings based on literature review, conceptual framework, and questionnaire results. Furthermore, the research focuses on developing a framework as highlighted in the Research Objectives 3 in the early chapter. The development of a new framework namely, Design Value Product Cultural Aesthetical (DVPCA) integrated the design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products in Hetaomin and has become a guideline for designers or craft practitioners. The end of the chapter was conducted validation of a new framework that attempted to prove it novelty and valuable for use as well as guideline for designer or craft practitioner in Linxia.

5.2 Discussion of Finding

The research shows that Linxia traditional handicrafts, as a unique and typical product, show great advantages in cultural significance, commercial value, and market potential. There are several factors that affect the marketability of Linxia traditional handicraft products include design value, cultural factors, and aesthetical factors. Products that allow consumers to express their cultural identity can be highly marketable. Products

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that reflect the cultural heritage, traditions, or values of a target market can create a strong emotional connection. For example, incorporating traditional patterns, motifs, or symbols can make a product more appealing to consumers who identify with those cultural elements. Designs are considered as the specific needs and preferences of a cultural that can be contributed to more successful handicraft products. By optimising these factors, it can improve the commercial value and market value of traditional handicraft products and promote the development of Linxia traditional handicraft products. Highlighting how a product fits into the local context or lifestyle can enhance its relevance. This can be particularly effective in markets where local identity is strong. Thus, to create a high market share of handicraft products, improve the inheritance and development of Linxia traditional handicrafts products.

5.2.1 The Importance of Design Value for Marketability the Linxia Traditional Handicraft Products in China

The core of traditional handicraft products represents national culture and local spirit. Under the tide of globalisation, culture has gradually shown a trend of convergence for a long time. In recent years, with the guidance of the values of cultural confidence and national confidence, people begin to pay attention to national culture and local culture. Under this background, the total demand for traditional handicraft products shows a significant growth trend, especially among young people, the interest and demand for traditional handicraft products are rising. Consumers are more likely to buy locally crafted products with good design. Through good design to show the connotation of the product, product design value determines the external expression of the product, is the external manifestation of the product content.

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Linxia traditional handicraft products are a vital part of the region's cultural identity and heritage. The traditional handicraft products in Linxia plays an important role for society development. It is not only an important cultural heritage of a country but also contributes to the economy growth and employment opportunities. Since several years ago, there are increasingly more discussions on traditional handicraft products where more Chinese designers or craftsmen are involved in the transformation and innovation process such as the design and development of a new handicraft product that integrated with local culture in China. To fully appreciate and promote the traditional handicraft products, it is important to delve into their cultural significance, aesthetical elements, and the challenges faced in preserving and marketing them. Transforming and innovating traditional cultural of handicraft products through design and development processes can help preserve cultural heritage while making these handicrafts more appealing to modern consumers. This approach can involve blending traditional techniques with contemporary design, introducing new materials, and creating functional products that fit into modern lifestyles.

Through analysing the literature and conducting an in-depth survey from the design experts and experienced product users, this study identified that the design value related cultural and aesthetical elements significantly contribute for marketability the Linxia traditional handicraft products. Design values related to cultural and aesthetical elements are crucial in various fields including product design. These values not only influence the visual and functional aspects of a design but also affect how it is perceived, accepted, and used by different communities. Design that aligns with the cultural values, traditions, and practices of a target audience is more likely to be accepted and appreciated. Furthermore, the aesthetic that pleasing the design can

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evoke positive emotions and create a sense of attachment and satisfaction among users. Thus, by embedding culture and aesthetic elements into product development, the products not only become more appealing and relevant to their target audience but also contribute to the preservation and celebration of cultural heritage.

Designing for culture products involves creating products, services, or experiences that reflect, respect, and celebrate the cultural contexts and values of the target audience. This approach goes beyond mere functionality or aesthetical; it aims to foster a deeper connection between the product and the consumer by embedding cultural significance and meaning into the design. In conclusion, design values are fundamental principles that guide the design process, influencing the aesthetical, functionality, ethical considerations, and overall impact of the final product. By prioritising and integrating these values, designers can create more meaningful, effective, and responsible designs that resonate with users and contribute positively to society and the environment. Incorporating them into traditional culture handicraft products is essential for creating meaningful, relevant, and marketability. In addition, it also enhances customer satisfaction, fosters emotional connections, respects cultural diversity, and promotes ethical design practices.

5.2.2 Design Value with Cultural and Aesthetical Elements for Marketability the Linxia Traditional Handicraft Products in China

Linxia traditional handicraft products showcase the rich cultural tapestry of the region, where different ethnic groups have coexisted and influenced each other's art forms. Each traditional culture handicraft products piece is a unique work of art, showcasing the creativity and skill of Linxia's designer or craft practitioner. The traditional

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handicraft products in Linxia have been passed down through generations, serving as a link between the past and present, and embodying the history and traditions of people. Meanwhile, the production of these handicrafts supports local designer or craft practitioner, communities, providing livelihoods and sustaining traditional skills and knowledge. Recently, the production of Linxia traditional handicraft products is a labour-intensive and skilful process that combines cultural heritage, artistic expression, and meticulous craftsmanship.

Based on the previous chapter, it acknowledged several characteristics of design value with cultural and aesthetical elements for Linxia traditional handicraft products. Design values serve as a compass for designers and craft practitioners, guiding them choices and actions throughout the design process. The design value with to cultural and aesthetical elements is directly affected to the market and generated as an important feature to promote the marketisation of products. The results of empirical research acknowledged seven (7) design value characteristics for Linxia traditional handicraft products are cultural value, aesthetical value, market value, emotional value, social value, sustainable value, and artistic value.

a) Cultural Value: Handicraft products are the carrier of culture, which contains profound cultural connotation and is an important part of traditional culture. Through handicraft products, it can better understand and inherit traditional culture and promote the national spirit. Handicraft's intangible cultural heritage is our precious spiritual wealth, it carries the nation's historical memory and creativity. The synergy between design and local culture can create sustainable innovative products with sustainable traditions. As a result, it protects traditional cultural heritage and promotes cultural

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transmission and identity within the region. Embodies the important cultural value of product design. According to Margolin and Margolin (2002), cultural value is reflected in the influence and contribution of design to cultural inheritance, cultural expression, cultural identity, and cultural development.

b) Aesthetical Value: Design is an aesthetical means and an aesthetical form. People through the sense organs receive a variety of information, feel the object appearance, and then integrate the information obtained, give the object meaning, to obtain aesthetical enjoyment. The aesthetic value of Linxia traditional handicraft products is mainly embodied in the following aspects:

(i) Functional Beauty - the functional beauty of design art is mainly manifested in the three aspects of application, economy, and aesthetics. Handicraft design must have the practical use to meet people's needs, but also to provide people with a good way of use and use of the environment, so that people are convenient, comfortable, and safe.

(ii) The Beauty of the Form - the form is the way of existence of the content of the work of art, that is, the internal connection of the handicraft products and the external appearance of the expression of the form.

Integrating aesthetical value is the significance of the form of traditional handicraft products. The aesthetical value contains the beauty of the mood and interest revealed in the product design. According to Weggeman et al., (2007), the concept of aesthetic value is multifaceted, encompassing aspects such as beauty, functionality, and cultural significance.

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c) Market Value: Design is not just about meeting functional needs, it is also about communicating a value, an expression of a lifestyle. The design of handicraft products, as a strategic part of the product, determines whether the product will gain greater success from the market. The market value of Linxia handicraft product design is reflected in the improvement of competitiveness of optimised design products, the reduction of product costs, the enhancement of product brand image, and the improvement of customer satisfaction. Market value refers to the estimated amount for which an asset or a company could be sold in the marketplace at a given point in time. It is a critical concept in finance, real estate, and business, reflecting the true worth of an asset as determined by supply and demand dynamics. Market value can be highly volatile, especially in financial markets where prices can change rapidly due to news, economic indicators, and investor sentiment. It also became as a fundamental concept across various fields, providing a realistic measure of what an asset or entity is worth in the current market conditions. According to Withanage et.al (2011), market value reflects the importance and influence of products in the business environment, and the market value of product design is related to many factors such as product performance, economy, and technology.

d) Emotional Value: when the basic needs of users are satisfied, the provision of emotional value becomes particularly important. Contemporary consumers are not only concerned about the functional value of products, but also look forward to the emotional value brought by products or consumption scenes. The texture, temperature, and emotion unique to handicrafts cannot be replaced by mechanical production. The design of Linxia handicraft products can establish emotional connection through material, graphics, texture, and other elements, thus enhancing the user experience.

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Make the user feel positive emotions when using the product, thus establishing an emotional connection with the product. Provide emotional comfort and spiritual support: this emotional connection is not just about pleasure, but also includes a sense of security, identity, belonging and self-realisation. Emotional value is a powerful driver of consumer behaviour and brand loyalty. By understanding and leveraging the emotional responses of their customers, businesses can create deeper connections, differentiate themselves in the market, and enhance their overall value proposition. Investing in strategies that foster positive emotions can lead to long-term success and customer satisfaction. According to Alnawas and Hemsley-Brown (2018), the emotional experience and emotional connection of the product, service, or experience.

e) Social Value: It showcases the craftsmanship and skill of the product itself, the design of handicrafts has an important social value, Linxia handicraft pairs because they represent the culture, heritage, and tradition of a region. Linxia handicraft products provide many employment opportunities in addition to demonstrating unique artistic skills. Design and enhance brand awareness, promote the visibility and recognition of the Linxia region, and push the development of the cultural tourism industry. Social value refers to the positive impact that an organisation, product, or service has on society and communities. It encompasses the broader contributions to social well-being, ethical practices, and community development beyond just economic gains. Social value is a critical aspect of modern business strategy, reflecting an organisation's commitment to making a positive impact on society and the environment. By integrating social value into their operations, businesses can enhance their reputation, foster employee engagement, achieve competitive advantage, and contribute to sustainable development. Measuring and reporting social value ensures

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transparency and accountability, helping organisations demonstrate their contributions to the broader community. According to Dorst and Dijkhuis (1995), the impact or significance of the product on society or community includes social responsibility, sustainability, public welfare, and environment-related content.

f) Sustainable Value: The sustainable value of handicraft design requires balanced consideration of economic, environmental, ethical, and social issues. This design value concept can not only help us to protect the environment of the Linxia region, but also create healthier, more efficient, and more humanised products to enhance the consumer experience. The sustainable design value of Linxia handicrafts is reflected in its impact on the environment: to promote the harmonious development of people, society, and nature in the Linxia region; and its impact on the society: to "pull" product innovation with social innovation, to be more effective in design strategy, and to be able to proactively link the concept of sustainability with the way of life of the public in the Linxia region. Sustainable value refers to the long-term benefits that an organisation, product, or service generates by balancing economic growth, environmental stewardship, and social well-being. It emphasises creating value not just for shareholders, but for all stakeholders, including the community, environment, employees, and customers. By integrating sustainability into their core strategies, organisations can create enduring value that benefits all stakeholders. Measuring and reporting on sustainable value ensures transparency and accountability, helping businesses to track progress and continuously improve their impact. Emphasise achieving a harmonious balance between society, environment, and economy in both design and innovation. According to Bocken et al., (2016), this value ensures that prevailing and future needs are addressed in a way that is sustainable and beneficial for all.

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g) Artistic Value: Linxia handicraft products have a high degree of originality and uniqueness, which gives them a high artistic value. The Linxia region is in a unique geographic environment during historical changes, in which multicultural exchanges, the renewal of production methods, and socio-political changes have had a greater impact on the artistic forms of these products. Artistic value refers to the worth or significance of an artwork, performance, or any creative endeavour, as determined by its ability to evoke emotional, intellectual, or aesthetic responses from its audience. It encompasses various aspects, including beauty, creativity, innovation, cultural significance, and technical skill. Artistic value is the perceived worth of an artwork or creative piece, which can be subjective and influenced by cultural, social, and personal factors. It often includes aesthetic appeal, emotional impact, technical proficiency, originality, and cultural relevance. By pursuing excellence, fostering emotional connections, and ensuring cultural relevance, artists can create works that hold lasting artistic value. Measuring this value involves critical acclaim, audience reception, market value, and the enduring influence of the artwork. According to Rao and Gopi (2016) artisan value is related to beauty, creativity, and aesthetics, it emphasizes the artistic and visual appeal of the design.

Recent market trends and consumer preferences are crucial to identify potential gaps and opportunities. In addition, an understanding of modern consumers' preference for traditional culture handicraft products, such as sustainability, authenticity, and unique designs also significantly contributed to marketability. By considering these factors, the traditional handicraft products of Linxia can be transformed and innovated to appeal to modern consumers while preserving and promoting the rich cultural heritage they represent. The result of empirical research identified various aspects that

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influenced the traditional cultural handicraft products in Linxia. The results from empirical investigation in Chapter 4 also shows that there are two (2) significant aspects that should be take into consideration during the design and development of a new Linxia's traditional handicraft product for marketability acknowledged as cultural elements and aesthetical elements. Understanding and highlighting these two (2) aspects can greatly enhance their appeal and marketability of Linxia traditional culture handicraft products.

a) Cultural Elements – Cultural elements are the core of traditional handicraft products. The cultural elements of traditional handicraft products are immense, as these items serve as tangible representations of a community's heritage, history, and identity. The use of locally sourced materials ties the crafts to a specific geographical region, showcasing the natural resources and environment of that area. In addition, traditional handicraft products hold immense cultural value, serving as custodians of heritage, identity, and community. They are also playing a critical role in preserving historical continuity, expressing cultural identity, fostering social bonds, supporting economic sustainability, and encouraging innovation and adaptation.

Cultural elements play an important role in shaping traditional handicrafts, influencing their design, production, and overall appeal to consumers. The study emphasises the importance of integrating regional cultural characteristics into traditional handicrafts to enhance their authenticity and value. By integrating local cultural elements, such as materials, techniques and design motifs, artisans can create products that reflect the traditions and identity of a particular region and appeal to tourists and consumers interested in cultural authenticity. In addition, synergies between crafts and design can

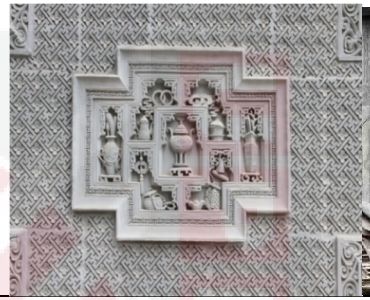
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facilitate the development of innovative products that not only preserve traditional practices, but also contribute to the economic and social well-being of indigenous communities and promote sustainable development and cultural preservation. In addition, combining traditional crafts with modern design methods can generate cultural and creative products that meet contemporary aesthetic and practical needs, thus contributing to the transmission and evolution of traditional crafts.

Cultural elements in the development of traditional andicraft products can increase product demand, increase product brand value, enhance customer communication and product functions. At the same time, the mining and transformation of cultural value is an important way to distinguish the similarity between products and products, and it is also a specific expression to reflect the uniqueness and innovation of the traditional handicraft products. Empirical research shows that users are very concerned about whether traditional handicraft products integrate local culture, and users expect to complete cultural transmission and identification along with the sale, circulation, and collection of handicraft products. This is the most fundamental internal factor to enhance the marketability of products. These cultural include regional culture, national culture, folk culture, traditional culture, social culture, religious culture, and pop culture (see Table 5.1). Recognising and promoting the cultural elements of traditional handicraft products is essential for their preservation and continued relevance in a rapidly changing world. Appreciating them not only for their aesthetical appeal but also for their cultural significance, it can ensure that the rich traditions and skills they embody are passed onto future generations.

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Table 5.1: Pattern case of cultural elements for Linxia traditional handicraft products

  A. Region Culture	  B. National culture
  C. Folk culture	  D. Traditional culture
  E. Social culture	  F. Religious culture G. Pop culture

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Table 5.1: Continued

Cultural Element	Content Description	Conversion Method	Converted Symbol	Symbolise
A. Region Culture	Yellow River culture, Silk Road culture	Metaphor Double meaning Symbolise Homophony Symbol extraction	Pottery patterns, City pattern	Colour pottery pattern, The Silk Road has a national style
B. National Culture	Islam, Buddhism, Taoism, Christianity		National symbols, National Words,	An Islamic decorative pattern (It embodies the cosmic view of infinite repetition and connection in Islamic culture) Arabia Character calligraphy
C. Folk Culture	folk belief (Guandi Temple, City God Temple, River Temple, Dragon King Temple, Sea Temple)		Folk patterns, Folk symbols	Confucius teaching 24 Filial Piety Map (Carp out of water)
D. Traditional Culture	Confucian culture, Han culture		Auspicious pattern, Auspicious plant, Auspicious pattern, Traditional totem	"Magpie" symbolises good things Plum, orchid, bamboo and chrysanthemum symbolize literati spirit (noble quality) Traditional patterns "+pattern", grass pattern
E. Social Culture	Social life, Daily life		Living utensil, Life scene narrative	Pine and cypress symbolise peace
F. Religious Culture	Hui nationality, Dongxiang nationality, Baoan nationality, Sala nationality, Tu nationality, Han nationality, Tibetan		Ethnic totem, Ethnic symbol	Han nationality traditional totem: The Chinese character "Xi" symbolises happiness. Tibetan belief: Buddhist Bodhisattva
G. Pop Culture	Contemporary and popular		Fashion pattern	The modern urban sculpture (Yellow River Mother) symbolises the Yellow River and the city

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b) Aesthetical Elements - are central to the allure of traditional handicraft products, enhancing their visual appeal and cultural significance. Traditional handicrafts are imbued with a rich tapestry of aesthetical elements that evoke cultural heritage, artistic expression, and craftsmanship. From intricate patterns and vibrant colours to symbolic motifs and artisanal techniques, these aesthetical elements captivate the senses and tell stories of tradition, identity, and creativity. By appreciating and preserving these aesthetical traditions, it honours the cultural legacies of past generations and enriches our lives with the beauty and meaning of traditional handicrafts. Products through aesthetical to establish brand image, convey brand feelings and lead the trend to achieve product differentiation, improve market share and establish contact with users is one of the most effective ways. Compared with cultural communication, aesthetic elements can more directly and quickly convey product information and establish the relationship between products and markets.

The term "aesthetics" usually covers two different concepts: one derived from the aesthetical of the product itself, and one derived from the aesthetical feelings of the product. Product aesthetical relates to the appearance of a product, such as attributes such as form, shape, colour, texture, material, and graphics. Aesthetical feeling reflects the interactive relationship between product and user perception, such as emotion, identity, semantics, and other attributes. The aesthetical element of the product is the most fundamental external expression to enhance the marketability of the product. The aesthetical elements of product design connect the user to the product in an intuitive form. Products through aesthetical to establish brand image, convey brand feelings and lead the trend to achieve product differentiation, improve market share and establish contact with users is one of the most effective ways. Compared with cultural

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communication, aesthetic elements can more directly and quickly convey product information and establish the relationship between products and markets.

Table 5.2: The aesthetical elements of Linxia traditional handicraft products

Aesthetical Elements	Description
Modelling	It involves the creation of spatial forms and the integration of three-dimensional elements to enhance aesthetics and function. Modelling in product design is a crucial step that allows designers to visualise, test, and refine their ideas before moving to production. This process is especially important for traditional cultural handicraft products to ensure they meet aesthetic, functional, and cultural criteria.
Colour	Visual perceptual property of product. Colours for product design is a critical aspect that influences consumer perception, brand identity, and marketability. Colours can evoke emotions, convey messages, and symbolise cultural meanings, making them an integral part of the design process, especially for traditional cultural handicraft products
Structure	The organisation and arrangement of visual elements in the work, the formal composition that underpins the work. The structure of a product design refers to its overall framework and the way its components are organized and assembled. For traditional cultural handicraft products, the structure is crucial not only for ensuring functionality and durability but also for maintaining cultural authenticity and enhancing marketability
Balance	Distribution of visual weight in the composition, ensuring that elements are harmoniously aligned to create a sense of balance and stability. Balance in product design refers to the distribution of visual and physical weight within a product, creating a sense of harmony and stability. Achieving balance is crucial for making traditional cultural handicraft products aesthetically pleasing and functionally effective
Brand	Brand is a name, term, logo, symbol, design, or combination in a business activity used to identify and distinguish a particular product. It can shape its image, attract its customers, and increase its sales volume. Creating a strong brand for a traditional cultural handicraft product involves blending cultural authenticity with modern branding strategies to resonate with contemporary consumers. A successful brand will convey the product's heritage, craftsmanship, and unique value proposition
Material	Concerned with physical product property to show the product character. Material is crucial for ensuring its authenticity, durability, and market appeal including the cultural significance, aesthetic appeal, functional requirements, sustainability, and user preferences
Shape	Refers to the internal and external contours, form, and appearance of an object. Can be two or three dimensional. The shape of a product is a fundamental aspect of its design, influencing not only its aesthetic appeal but also its functionality, user interaction, and cultural significance. For traditional cultural handicraft products, shape plays a crucial role in conveying cultural heritage and ensuring usability
Texture	Surface realism or tactile sensation presented in the artwork and not only influences the tactile experience but also enhances the visual appeal and cultural authenticity of the product. Integrating the right textures can convey quality, craftsmanship, and cultural significance, ultimately impacting the marketability of the product.
Style	A form of appearance, which is something expressed or performed and considered as part of its intrinsic content, meaning and characteristics. Style in product design is a crucial aspect that defines the visual and aesthetic appeal of a product. For traditional cultural handicraft products, the style should reflect cultural heritage while appealing to contemporary tastes.

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Table 5.2: Continued

Emotion	Communicate through the product to establish a relationship between the object and the person. Leads to an emotional experience, an emotional response from the user. Emotion in product design plays a pivotal role in creating meaningful and memorable experiences for users. For traditional cultural handicraft products, evoking emotion can enhance their appeal, cultural significance, and marketability.
Proportion	Determines the size relationships between elements and the overall balance of the design. Proportion in product design refers to the relationship between various elements of a product, including its overall size, dimensions, and the ratio of its parts. It plays a crucial role in determining the aesthetic appeal, functionality, and usability of a product
Semiotic	The use of symbols, signs, icons, and other symbolic elements to convey a specific meaning or message. Semiotics in product design refers to the study and use of signs, symbols, and visual cues to communicate meaning, evoke emotions, and convey messages to users. It involves understanding how people interpret and assign meaning to signs within cultural and social contexts
Identity	Identity involves products, styles of art, cultural, social, and period contexts. Identity in product design refers to the distinctive characteristics, values, and personality that a product embodies, reflecting both the brand and its intended user experience. In addition, it can establish a distinctive identity that strengthens brand loyalty, attracts new customers, and sustains long-term success in the marketplace.
Semantic	The use of symbols, images to convey, metaphorize, and symbolise specific meanings or messages. Semantic considerations in product design refer to how meaning is conveyed through the design elements, features, and attributes of a product. It involves understanding how users interpret and understand the product's functionality, usability, and overall message through its visual and sensory cues.
Pattern	Expressed as a combination of elements, patterns, colours, or shapes paired together. Can create rhythm and aesthetics and convey a theme or style. Pattern in product design refers to the repetition of elements such as shapes, colours, textures, or motifs in a structured and intentional manner. Patterns play a significant role in enhancing the aesthetic appeal, functionality, and user experience of products

(Source by author)

This study found that the aesthetical elements of craftsmanship contain a set of characteristics that combine the skill and value of handcrafting, often with both commercial value and visual purpose. These elements effectively enrich the uniqueness and typicality of Linxia traditional handicraft products. The innovative development of traditional handicraft products in Linxia is the process of optimising aesthetic elements. It embodies the aesthetic expression between the reconstruction of domestic and foreign handicraft tradition and innovation, and the integration of philosophy and national spirit in handicraft design. The aesthetic elements of Linxia

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traditional handicraft products are not only an aesthetical choice, but also an intuitive embedding of cultural narrative. Promote the development and innovation of process products, promote the change of regional industrial structure to drive economic development, and form the sustainable development of the industry and society. Overall, the aesthetic elements of handicraft reflect the fusion of tradition, creativity, and cultural significance, helping to enhance the appeal and value of handicraft products.

5.2.3 Linxia Traditional Handicraft Products for Marketability

Marketability of Linxia traditional handicraft products depends on various factors, including their unique cultural value, aesthetical appeal, and the strategies employed to promote them. Highlighting the cultural stories and traditional craftsmanship behind each product can attract consumers looking for genuine and meaningful items. The marketability of Linxia traditional handicraft products can be significantly enhanced by leveraging their cultural value, aesthetical appeal, and unique craftsmanship. By employing strategic marketing, embracing digital tools, and fostering consumer engagement, these handicrafts can reach a wider audience and achieve greater commercial success. Additionally, emphasising sustainability and ethical production practices will not only attract modern consumers but also ensure the long-term viability and preservation of Linxia's rich artisanal heritage.

Design value in business strategy might refer to the integration of design thinking into business practices to create innovative solutions, improve customer satisfaction, and drive competitive advantage. It emphasises the strategic role of design in creating

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value for the company and its stakeholders. Recent studies have shown that there is a growing trend in the total demand for traditional handicraft products among the Linxia handicraft consumers, especially in the younger age groups, indicating a growing interest in and demand for traditional handicraft products. Consumers are now more inclined to purchase traditional crafts with local characteristics and cultural connotations rather than focusing only on cheaper alternatives, indicating the important role those cultural elements play in the commercial and market value of traditional crafts in contemporary design. This shift towards valuing culture heritage and authenticity over mass-produced commodities is essential for the preservation and promotion of traditional crafts and emphasises the emotional connection and unique qualities that crafts offer in the market for handmade goods.

The design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products are crucial. These factors not only enhance the appeal of these products but also contribute to their uniqueness and authenticity, which are key selling points in both local and global markets. By emphasising authenticity, unique culture heritage, and exquisite craftsmanship, these products can stand out in a competitive market. Furthermore, effective storytelling, quality assurance, targeted marketing, and innovative collaborations can further boost their appeal, ensuring that Linxia's rich cultural traditions continue to thrive and attract appreciation from a global audience. However, due to lack of detailed references and guideline such as documented cultural and aesthetical elements, and the historical significance of Linxia's traditional handicraft products as well as unknowing specific design value with cultural and aesthetical elements it become difficulties for designer or craft practitioner to implement them during the development of Linxia traditional handicraft products.

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5.2.4 Summary of Finding

Linxia traditional handicraft products are a vital part of the region's cultural identity and heritage, embodying the artistic expressions and historical narratives of its diverse communities. By addressing the challenges of awareness, documentation, and modernisation, and by leveraging strategies such as education, storytelling, digital marketing, and collaborations, it is possible to enhance the marketability of these unique traditional handicraft products. This not only helps preserve the rich traditions of Linxia but also supports the artisans who keep these crafts alive, ensuring their legacy for future generations. In addition, encourage designers or craft practitioners to adapt traditional designs to contemporary products, making them more appealing to modern consumers while retaining their cultural essence.

Collaborations between cultural and modern elements can create unique, culturally rich products that cater to a broader market. In addition, it can make the products more relevant to modern consumers while preserving their traditional essence. As referred to in Chapter 4, the design experts and users are significantly contributed to the product development and process of a new product. Incorporating knowledge from design experts and user feedback significantly contributes to product development and enhances marketability. In addition, this collaborative can create products that are not only aesthetically pleasing and functional but also highly marketable and aligned with user needs and cultural values. An integrating design value with cultural and aesthetical elements in the development of Linxia traditional handicraft products significantly contribute for marketability.

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5.3 The Development of New Framework

Linxia traditional handicraft products contain rich historical, unique cultural heritage and craftsmanship skills. Product development is a complex process that may be very challenging to manage without a methodical approach and greater understanding. According to Shin (2022), new product development has a high failure rate since it is a challenging and complex process. Designers and users need to be working together during the product development process, particularly during the product definition phase, to create a new product that not only meets user needs and wants but also makes it more marketable. Alli (2020), understanding user needs and wants and incorporating them into the New Product Design (NPD) process is crucial to the development of new products. The early stages of the product development process are critical to its success (Alli, 2015; Alli, 2018; Alli 2020). In addition, product definition is the initial step of the product design and development phase. During this phase, all information pertaining to the development of new products will be assessed and taken into consideration during the design process (Alli, 2018). This phase also includes the initial pre-product development efforts, which involve the thoughtful synthesis of design considerations and market requirements (Marques et al., 2019).

Linxia traditional handicraft products created both beautiful and practical products. Introduce modern adaptations of traditional products to cater to contemporary tastes. Collaboration between users and product designers plays a key role in fostering innovation and creating breakthrough products. By integrating users directly into the design process, products can be tailored more precisely to their needs and preferences. This synergy not only enhances the relevance of the product to the target audience, but

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also increases its market potential. Building a new product design framework requires this collaborative approach. However, according to study there was never a single, set process that could be applied to ascertain the needs for traditional handicraft products for marketability. The systematic procedure and appropriate methods are always required to facilitate the designers and craft practitioners to develop new marketability of traditional handicraft products based on design value with cultural and aesthetical elements factors.

On this basis, a new process design method is proposed. It provides ideas for designers and craft practitioners of traditional handicraft products in Linxia. Designers can better understand and integrate traditional cultural and aesthetical elements to create products that meet the modern market demand and are rich in regional culture. Design value plays a crucial role in the marketability of handicraft products, which can directly affect consumers' purchasing decisions and product recognition. Design value promotes product strategic innovation. Handicraft design value in Linxia area is reflected in Cultural, Aesthetic, Market, Sentimental, Social, Sustainable and Artistic aspects. Promoting traditional handicraft products can gain higher attention and sales in the market, and promote the sustainable development of the entire handicraft industry. Product design value also points out the practice path for product design specifications. Research on market demand proves that product design specifications should take into account the common needs of designers and consumers, and enhance the added value of products from the cultural and aesthetic attributes. From the perspective of cultural attributes: Linxia traditional handicraft products have a profound historical and cultural background. Under the background of multi-ethnic integration for a long time, the culture of Linxia area presents pluralism and typicality, and the handicraft products in this area embody this characteristic incisively and

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vividly. Craft products in the form, technology, materials and other aspects and unique performance, show its irreplaceable value. This makes traditional handicrafts in the Linxia area not only practical daily objects, but also carriers of local culture and art, carrying history, national identity and artisan spirit. Therefore, in product design, in addition to paying attention to appearance and function, we should also pay attention to how to effectively convey cultural elements representing the cultural and historical values of the region to consumers. The research shows seven cultural forms unique to Linxia region: Region culture, National culture, Folk culture, Traditional culture, Social culture, Religious culture, Pop culture. From the perspective of aesthetic attributes, aesthetics is not only the design of product appearance, but also the fusion expression of culture, emotion and values. The long-term multi-cultural integration has formed the unique aesthetic taste of Linxia area, and the traditional handicraft products of Linxia area is the external embodiment of the spiritual core of Linxia area. The aesthetical elements of Linxia traditional handicraft products involve Modelling, Colour, Structure, Balance, Brand, Material, Shape, Texture, Style, Emotion, Proportion, Semiotic, Identity and Se mantic has a significant influence on consumers' purchasing decisions by enhancing product attraction, conveying culture and emotion, shaping brand image, and meeting consumers' individual needs. In the competitive market environment, paying attention to the aesthetical design of handicrafts can effectively improve the market recognition and added value, enhance the market competitiveness of the brand. In short, aesthetical is not only the external expression of handicrafts, it has become a key factor to promote product sales and enhance the marketability of products. This new design method emphasises the balance between market adaptability and inheritance development of traditional handicrafts. It helps designers to maintain the original appearance of handicrafts on the basis of flexible use of modern design concepts and craft skills, continuous innovation and optimisation, to enhance the market appeal of products. At the same time, this method

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also promotes the sustainable development of Linxia traditional handicraft products, so that it can still maintain its uniqueness and competitiveness in the tide of globalisation and modernisation.

5.3.1 The Development of New Framework Based on Design Value with Cultural and Aesthetical Elements

Developing a new framework attempt to address the Research Objective 3 (RQ3) that was highlighted in the previous chapters. The framework is acknowledged as Design Value Product Cultural Aesthetical (DVPCA). The process to develop a new framework is through integrating the Design Value Characters (DVC) with the Product Cultural Elements (PCE) and Product Aesthetical Elements (PAE) as shown in the equation below.

$$DVC + PCDS\ [PCE + PAE] = MCPR$$

Design Value Characteristic + Product Cultural Design Specification [Product Cultural Elements + Product Aesthetical Elements] =

Marketability Cultural Product Requirement

Figure 5.1 shows an integrating of design value with cultural and aesthetical elements for marketability. The result of an integrating acknowledged as Design Value Product Cultural Aesthetical (DVPCA) framework for a new development of Linxia traditional handicraft product in Hetaomin for marketability. An integrating variable in this framework based on several elements.

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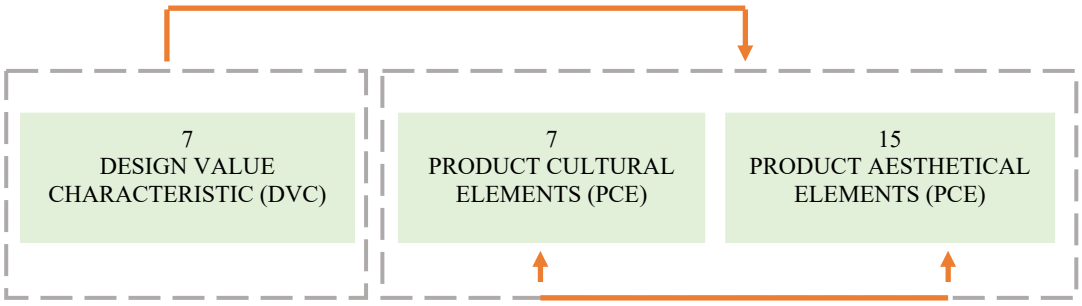
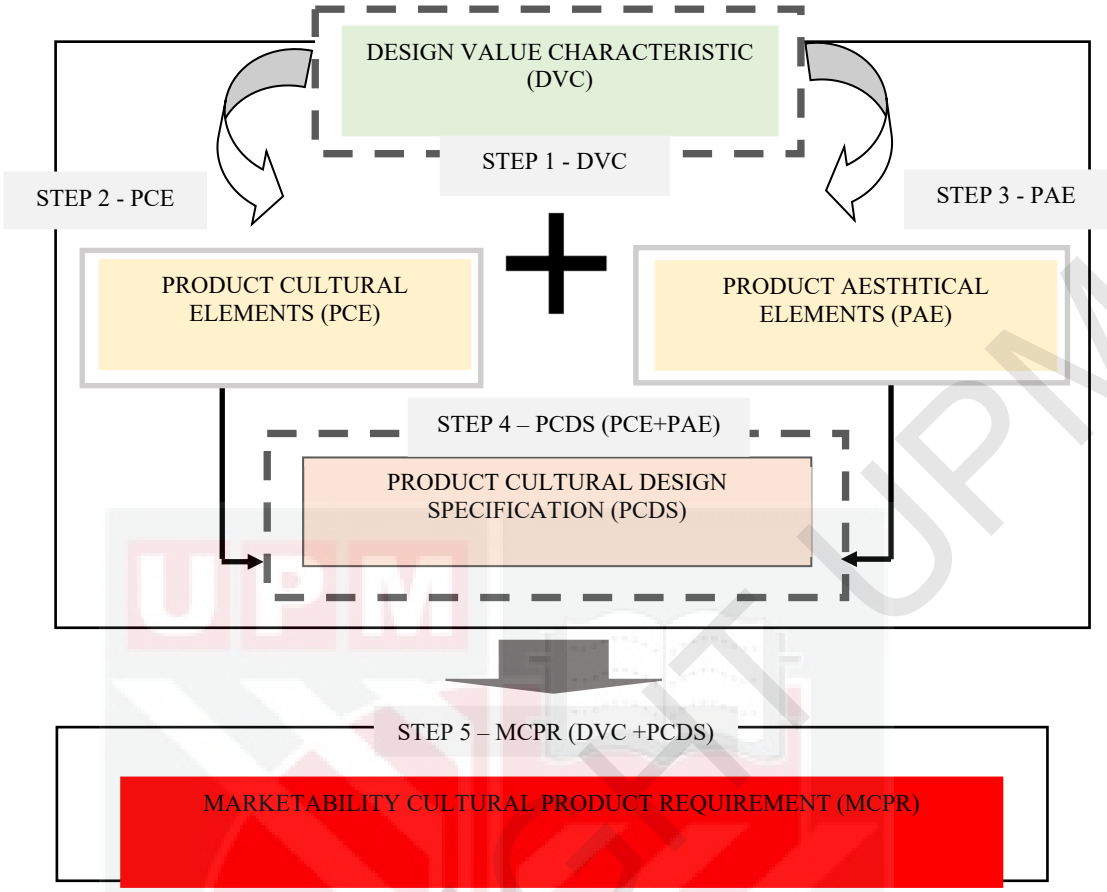


Figure 5.1: Design Value Product Cultural Aesthetical (DVPCA) for marketability
(Source by author)

As refer to the Linxia traditional handicraft products in Hetaomin for marketability, the development of a new framework based on factors found in the previous study in Chapter 4. In order to address the research objective 3 of this research, the integration of design value with cultural and aesthetical elements in Hetaomin for marketability are constructed (see Figure 5.2).

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The Step process of Design Value Product Cultural Aesthetical

(DVPCA) framework through (Level Assessment for Marketability)

Description and Instruction of Level Assessment for Marketability (LAfM)	
Define the attributes and levels relevant to product	
Step 1	Define and choose the Design Value Characteristics (DVC) elements and Level Assessment Toward Marketability (LATM)
Step 2	Define and choose the Product Cultural Elements (PCE) and Level Assessment for Marketability (LAfM)
Step 3	Define and choose the Product Cultural Elements (PAE) and Level Assessment for Marketability (LAfM)
Step 4	Integrate the Product Cultural Elements (PCE) with the Product Cultural Elements (PAE) has become the Product Cultural Design Specification (PCDS)
Step 5	Integrate the Design Value Characteristics (DVC) with the Product Cultural Design Specifications (PCDS) has become the Marketability Cultural Product Requirements (MCPR)
Interpret the results to determine the part-worth utilities and attribute importance	

Figure 5.2: Design Value Product Cultural Aesthetical (DVPCA) framework (Source by author)

5.3.2 The Codding Process and Detailed Step of DVPCA Framework

Creating a coding f framework involves several steps. To ensure the framework is easy to understand, the coding system is created. Three (3) variables for marketability of Linxia traditional handicraft products are Design Value Characteristics (DVC), Product Cultural Elements (PCE) and Product Aesthetical Elements (PAE) is coded (see Table 5.3).

Table 5.3: The variable for marketability

Product Design Characteristics (PDC)	**Code**	**Product Cultural Elements (PCE)**	**Code**	**Product Aesthetical Elements (PAE)**	**Code**
Cultural value	DV01	Region culture	CE01	Modelling	AE01
Aesthetic value	DV02	National culture	CE02	Colour	AE02
Market value	DV03	Folk culture	CE03	Structure	AE03
Sentimental value	DV04	Traditional culture	CE04	Balance	AE04
Social value	DV05	Social culture	CE05	Brand	AE05
Sustainable value	DV06	Religious culture	CE06	Material	AE06
Artistic value	DV07	Pop culture	CE07	Shape	AE07
				Texture	AE08
				Style	AE09
				Emotion	AE10
				Proportion	AE11
				Semiotic	AE12
				Identity	AE13
				Semantic	AE14
				Pattern	AE15

(Source by author)

STEP 1 - Define and choose the Design Value Characteristics (DVC) and Level Assessment for Marketability (LAfM) - There are seven (7) Design Value Characteristic (DVC) need to be defined and choose according to Level Assessment for Marketability (LAfM) for a new Linxia traditional handicraft product is Cultural Value (DV01), Aesthetical Value (DV02), Market Value (DV03), Sentimental Value (DV04), Social Value (DV05), Sustainable Value (DV06) and Artistic Value (DV07).

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STEP 2 - Define and choose the Product Cultural Elements (PCE) and Level Assessment for Marketability (LAfM) - There are seven (7) Product Cultural Element (PCE) need to be defined and choose as well as Level Assessment for Marketability (LAfM) for a new Linxia traditional handicraft product is Region Cultural (CE01), National Culture (CE02), Folk Culture (CE03), Traditional Culture (CE04), Social Culture (CE05), Religious Culture (CE06), and Pop Culture (CE07).

Step 3 - Define and choose the Product Cultural Elements (PAE) and Level Assessment for Marketability (LAfM) - There are seven (15) Product Aesthetical Element (PAE) need to be defined and choose as well as Level Assessment for Marketability (LAfM) for a new Linxia traditional handicraft product is Modelling (AE01), Colour (AE02), Structure (AE03), Balance (AE04), Brand (AE5), Material (AE06), Shape (AE07), Texture (AE08), Style (AE09), Emotion (AE10), Proportion (AE11), Semiotic (AE12), Identity (AE13), Semantic (AE14), and Pattern (AE15).

Step 4 - Integrate the Product Cultural elements (PCE) with the Product Cultural Elements (PAE) has become the Product Cultural Design Specification (PCDS)

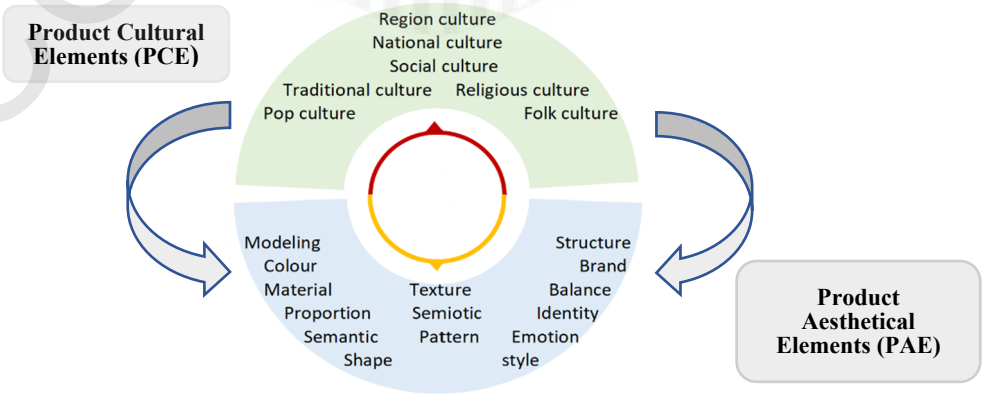


Figure 5.3: Product Cultural Design Specification (PCDS)
(Source by author)

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There are 22 Product Cultural Design Specification (PCDS) need to be integrated based on level its relevant for a new Linxia traditional handicraft product (see Figure 5.3). The final number of PCDS is refers to the level according to Product Cultural Elements (PCE) and Product Aesthetical Elements (PAE).

Step 5: Integrate the Design Value Characteristics (DVC) with the Product Cultural Design Specifications (PCDS) has become the Marketability Cultural Product Requirements (MCPR) - There are 29 Marketability Cultural Product Requirements (MCPR) need to be integrated based on level its relevant for a new Linxia traditional handicraft product. The list of MCPR variable is refereeing to the level according to Design Value Characteristics (DVC) and Product Cultural Design Specification (PCDS).

5.3.3 Level Assessment for Marketability of Variable

As refer to Figure 5.4, the Level Assessment for Marketability (LAfM) of Linxia traditional handicraft products variables can be divided four (4) categories, (1) Very Important (80-100%) essential for the marketability of Linxia traditional handicraft products; (2) Important (60-79%) - can improve the marketability of Linxia traditional handicraft products; (3) Less Important (40-59%) - has little effect on the marketability of Linxia traditional handicraft products; and (4) Not Important (0-39%) - it has no effect on the marketability of Linxia traditional handicraft products. To rate the level relevant for Linxia traditional handicraft products, the percentage can be calculated to address it significantly. Only Very Important (VI) and Important (I) categories of elements of Linxia traditional handicraft product can be considered as design value

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with cultural and aesthetical elements for marketability. However, designers and craft practitioners may also be considered the Less Important (NI) category has become a part of design value with cultural and aesthetical elements for marketability, but maybe it can be contributed for increasing the making cost. For Options (NI), it will not be taken into consideration because it does not result in improving the product marketability.

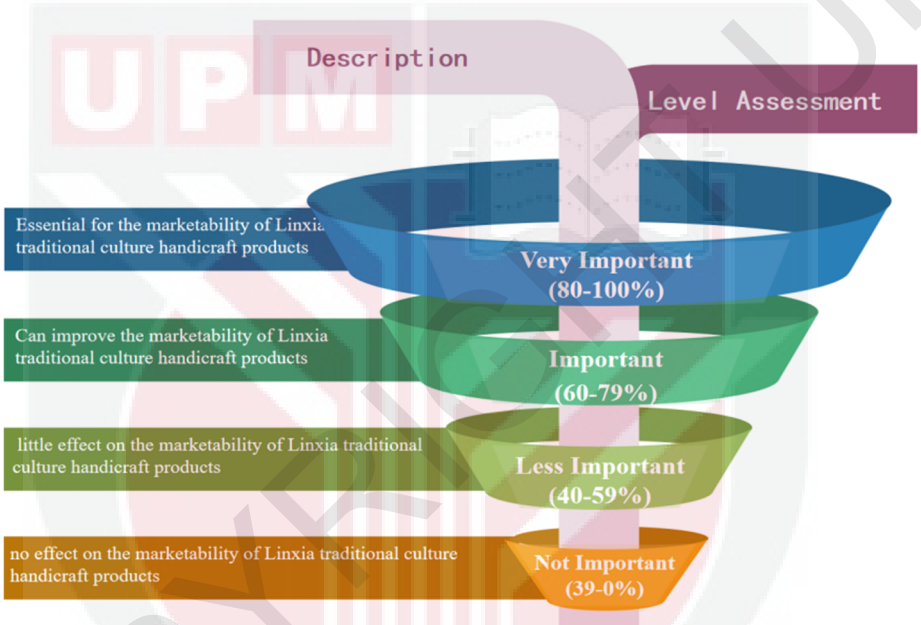


Figure 5.4: Level Assessment for Marketability (LAfM) of variable
(Source by author)

5.4 Validation and Verification of DVPCA Framework by Conjoint Analysis Method through Sampling Product Analysis

Traditional handicrafts often carry the authenticity and heritage of a culture, making them unique and appealing to consumers interested in cultural preservation and historical value. These products are typically handmade, ensuring a high level of craftsmanship and quality that mass-produced items lack. Recently, there is a growing trend towards cultural appreciation and the desire for unique, culturally rich products.

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Emphasise the craftsmanship, quality, and culture significance of the products in marketing efforts. Integrating design and cultural is a multifaceted process that involves blending traditional cultural elements with modern design principles to create products, spaces, or experiences that are both aesthetically pleasing and culturally significant. For instance, adapt traditional designs to contemporary contexts and include using modern materials or reinterpreting traditional motifs in new forms. This integration can enhance the value of a product, foster culture appreciation, and create unique market opportunities.

The marketability of traditional handicraft products can be analysed through various factors, including their unique value propositions, target market, marketing strategies, and current market trends. To validate the significance of a new framework for marketability of Linxia traditional handicraft products, the survey was conducted with the customer. A marketability of Linxia traditional handicraft product is used as sampling product analysis through Conjoint Analysis method and analysis by the SPSS. The analysis will yield part-worth utilities for each attribute level based on the Design Value Characteristic (DVC), Product Cultural Elements (PCE) and Product Aesthetical Elements (PAE) indicating the relative importance of each attribute in the consumer's decision-making process for marketability of Linxia traditional handicraft products.

5.4.1 Sampling Product Analysis by Conjoint Analysis

Conjoint analysis is a powerful statistical technique used in market research to determine how consumers value different attributes of a product. It helps in understanding the trade-offs that consumers make when evaluating a product, which

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in turn can guide product design and marketing strategies. Conjoint analysis presents respondents with a series of hypothetical product profiles or scenarios. Each scenario is a combination of attribute levels. Conjoint analysis results can be used to simulate market scenarios, predict market share, and optimize product features to maximise customer satisfaction and profitability. conjoint analysis provides a robust framework for understanding consumer preferences and guiding strategic decisions in sampling product analysis. By identifying the most valued attributes and optimising product offerings accordingly, businesses can enhance market competitiveness and customer satisfaction.

Analysing brick carving for sampling product purposes involves assessing its attributes, market appeal, and consumer preferences to optimise its marketability. The product sampling analysis is used to rate or rank the profiles based on purchaser preference or likelihood of purchase. Brick carving involves intricate designs and sculptures carved into bricks, often used in architectural decoration, interior design, and as standalone art pieces. Brick carving, as an art form, carries unique characteristics and cultural significance that influence its market appeal.

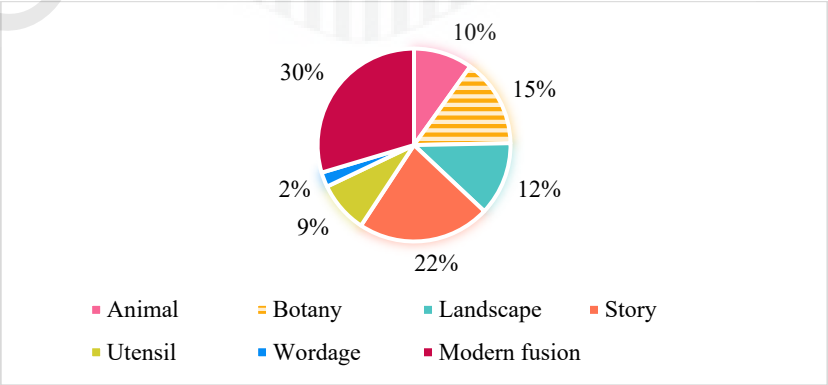


Figure 5.5: Brick carving product types and sales
(Source: Linxia Brick Carving Factory)

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Brick carving as a sampling product offers a unique blend of artistic craftsmanship, cultural heritage, and aesthetic appeal. The sampling product analysis through the Conjoint Analysis method is based on brick carving culture products. The brick carving can be divided into seven (7) types of characters or images are animal, botany, wordage, story, landscape, utensil, and modern fusion(see Figure 5.5).



Figure 5.6: Brick carving in modern fusion series sales
(Source: Linxia Brick Carving Factory)

According to the Linxia Shenyun Brick Carving Limited Company, the modern fusion of brick carving is amongst the trendy and popular brick carving types. From January 2023 to January 2024 (1 year's sales), most customers preferred the modern fusion of brick caving as priority selection that contributed to the highest purchase rate. Besides that, from the five (5) types of modern fusion brick carving, the wonderful Hezhou is the highest preferred followed by charming Linxia, Mount Wutai, Silk Road, and Yellow River Basin). Figure 5.7, Figure 5.8, and Figure 5.9 below shows the pictures of the top three (3) of brick carving products based on the highest sales in modern fusion type of characters. The first-place brick carving is Wonderful Hezhou followed by the second-place brick carving Charming Linxia, and the third-place brick carving Mount Wutai.

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Sampling Product Analysis A

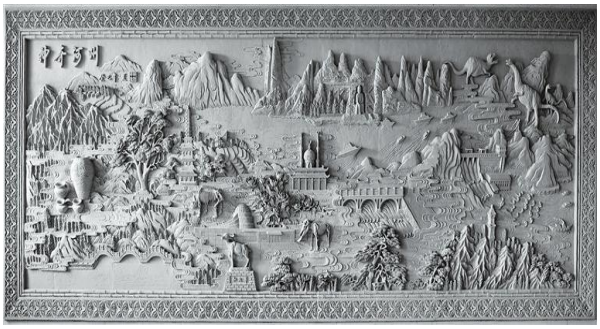


Figure 5.7: Brick carving product (Wonderful Hezhou)
(Source by author)

With China's increasing emphasis and promotion of intangible cultural heritage, Hezhou brick carving has become a testament to the enduring legacy of traditional craftsmanship and artistic expression. "Wonderful Hezhou" brick carving products are one of the best sales products of Linxia brick carving factory. This brick carving product is mainly used for wall decoration in families and public places. This piece is a good representation of the craftsmanship and artistic aesthetics of the local artisans. From the content point of view, it brings together many of the Hezhou area's famous natural scenery and cultural landscape. The content of the picture depicts a large time span, including ancient dinosaurs, Stone Age painted pottery, but also modern buildings such as Liujiaxia hydropower Station and Linxia Mosque. Designs range from simple geometric patterns to elaborate scenes depicting mythological, natural, and historical events. The design adopts the "scatter perspective" composition in Chinese painting, and combines traditional Chinese symbols, religious symbols, and humanistic symbols to show the typicality and uniqueness of the Linxia area. The products embody the rich cultural heritage and artistic tradition of Hezhou, China, which contains complex craftsmanship, cultural symbols, and historical narratives, making them not only decorative elements, but also important cultural relics.

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"Wonderful Hezhou" as a product not only reflects the basic decorative attributes of Linxia brick carving products, but also an important carrier of national identity and cultural identity in the Linxia area.

Sampling Product Analysis B



Figure 5.8: Brick carving product (Charming Linxia)
(Source by author)

Linxia is famous for its rich cultural heritage and unique style of brick carving. It combines intricate craftsmanship with symbolic patterns and historical narratives. Linxia brick carving has a long history dating back centuries, and the brick carving product "Charming Linxia" reflects the cultural diversity and artistic expression of the region. The picture integrates the natural scene and cultural landscape of the Linxia area. The picture adopts the composition method of foreground, middle scene, and distant view in traditional Chinese painting to depict different cultural and religious buildings and historical relics in Linxia area. In close view. The images of pine trees, cypress trees, flowing water and other natural landscapes indicate the friendly and warm outlook on life, and the auspicious meaning of peace and peace, indifference, and elegance. It is an auspicious element favoured by consumers of handicraft products. "Charming Linxia" brick carving products reflect the unique artistic, cultural heritage and the integration of craftsmanship in Linxia City, China. By utilising the historical

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narrative, symbolic themes, and artistic techniques of Linxia brick carving, merchants can create unique products that appeal to consumers seeking authenticity, cultural depth, and aesthetic beauty. This practice is not only conducive to cultural protection, but also improves market competitiveness and consumers' appreciation of traditional Chinese art forms.

Sampling Product Analysis C

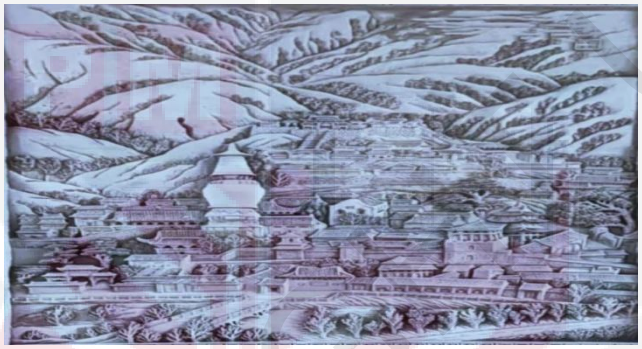


Figure 5.9: Brick carving product (Mount Wutai)
(Source by author)

The brick carvings inspired by Mount Wutai represent a unique art form. The brick carving "Mount Wutai" originated in the Wutai Mountain region of Shanxi Province, China. China has four famous Buddhist mountains. Among them, Mount Wutai is known as "the head of the four famous Buddhist mountains and is also the location of Manjusri Bodhisattva." Mount Wutai is a symbol of Buddhism and wisdom in China. Mount Wutai has a long history of Buddhist pilgrimages and cultural exchanges that have influenced the artistic traditions of the region. Mount Wutai is known for its cultural significance, religious significance and natural beauty, and brick carvings in the area often reflect these elements. Carvings often feature Buddhist themes such as bodhisattvas, lotus flowers, pagodas, and other symbols of spiritual significance. The design can be combined with depictions of buildings, mountains, forests, and rivers in

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the Wutai Mountain area to reflect its natural beauty. The brick carving products of Wutai Mountain embody the exquisite art, the inheritance of culture and the symbol of spirit. The scenery of Wutai Mountain is transformed into a special "cultural symbol" and "ethnic totem" in the brick carving products to convey the inner meaning of the work. Linxia Brick carving integrates elements to resonate with consumers who seek cultural richness, diversity, and inspiration.

A survey conducted involved 30 customers of brick carving products. They are identified through snowball sampling based on experience purchasing the brick carving product of Wonderful Hezhou, Charming Linxia and Mount Wutai. Through surveys, respondents provide their preferences or choices for different product profiles. The survey question on a scale from 1 to 4 attempts to measure on how purchasers like to buy the product based on the design value with cultural and aesthetical elements. The validation process is divided into five (5) steps based on the level assessment for marketability (LAfM) of brick carving products are Wonderful Hezhou, Charming Linxia and Mount Wutai through Design Value Product Cultural Aesthetical (DVPCA) framework(see Table 5.4).

Table 5.4: Level Assessment for Marketability

Level Assessment for Marketability (LAfM)	
Define the attributes and levels relevant to product	
Step 1	Define and choose the Design Value Characteristics (DVC) elements and Level Assessment for Marketability (LAfM)
Step 2	Define and choose the Product Cultural elements (PCE) and Level Assessment for Marketability (LAfM)
Step 3	Define and choose the Product Cultural elements (PAE) and Level Assessment for Marketability (LAfM)
Step 4	Integrate the Product Cultural elements (PCE) with the Product Cultural elements (PAE) has become the Product Cultural Design Specification (PCDS)
Step 5	Integrate the Design Value Characteristics (DVC) with the Cultural Product Design Specifications (CPDS) has become the Marketability Cultural Product Requirements (MCPR)
Interpret the results to determine the part-worth utilities and attribute importance for marketability	

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5.4.2 Reliability of the Research Instrument

A list of 87 questions was used in this validation survey. All the questions were verified in the reliability analysis by using SPSS software to verify the reliability of the instruments. The reliability of the research instrument was defined by the identical values. The reliability of the instrument result would be acceptable if the Cronbach's Alpha displays (between 0.65 to 0.95).

Table 5.5: Reliability of research instrument statistic for expert validation survey

Cronbach's Alpha	N of Items
0.90	87

Table 5.5 shows the reliability of the research instrument statistics from the expert validation survey. The result showed that the Cronbach's Alpha reliability coefficient is 0.90. The reliability of 0.90 states 90.0 percent dependability in the score produced by the instrument.

5.4.3 Characteristics of Brick Carving Purchasers

A total of 30 purchasers of brick carvings products took part in the survey. The purchasers are based on data provided by Linxia Brick Carving Factory from January 2023 - January 2024 (1 year's sale). Purchasers, also known as buyers or consumers, are individuals or entities that acquire goods or services in exchange for money or other forms of payment. Their behaviour, preferences, and decision-making processes vary widely, which influences how businesses market and sell their products. Understanding purchasers helps businesses develop effective marketing strategies, tailor their products and services, and improve customer satisfaction and loyalty.

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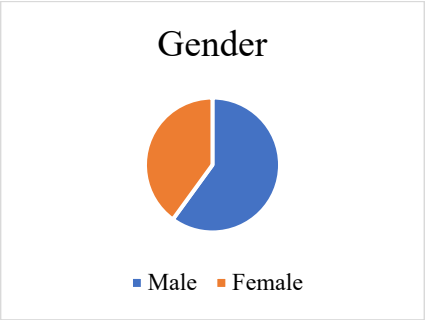


Figure 5.10: Gender of purchasers

Figure 5.10 shows the gender of brick carving products purchasers. The results show that N=18(60.0%) of the respondents is male, and N=12(40.0%) is female.

Table 5.6: Purchasing time of brick carving product

Purchase time	N	Male Percentage (%)	N	Female Percentage (%)
1- 3 months	2	7.0	2	7.0
4-6 months	15	50.0	6	20.0
7-12 months	1	3.0	4	13.0
Total	18	60.0	12	40.0

Table 5.6 shows the purchase time of brick carving products by purchasers. The results indicate that the purchase time of brick carving product by male purchasers within 1-3 months is N=2(7.0%) followed by N=15(50.0%) within 4-6 months and N=1(3.0%) within 7-12 months. While the female purchaser of brick carvings within 1-3 months is N=2(7.0%) followed by N=6(20.0%) within 4-6 months and N=4(13%) within 7-12 months.

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Table 5.7: Age and education background

Age/Educational Background	Junior College (N) Percentage (%)		Bachelor (N) Percentage (%)		Master (N) Percentage (%)		PhD (N) Percentage (%)	
21-30 years	1	3.0	11	33.0	1	3.0	-	-
31-40 years	0	-	2	7.0	5	17.0	-	-
41-50 years	1	3.0	3	10.0	1	3.0	1	3.0
＞50 years	2	7.0	2	7.0	-	-	-	-
Total	4	13.0	18	59.0	7	23.0	1	3.0

Table 5.7 shows the age of brick carving product purchasers. The results indicate the ages between 21-30 years is N=12(29.0%) followed by ages between 31-40 is N=7(24.0%), 31-40 N=6(19.0%), and over 50 years old N=4(14.0%). In the education background, the results show that N=18(59.0%) of the purchasers have a bachelor's degree followed by N7(23.0%) master, N=4(13.0%) junior college, and N=1(3.0%) PhD.

Table 5.8: The income of purchaser

Income Per Month	Frequency N	Percentage (%)
＞12000 RMB	4	13.2
9000 -12000 RMB	6	19.8
5000 – 8999 RMB	17	56.1
2000 – 4999 RMB	3	9.9
＜2000 RMB	0	0
Total	30	100

Table 5.8 shows the income of the purchasers. The results show the highest group income N=17(56.1%) between 5000-8999 RMB per month followed by N=6(19.8%) between 9000-12000 RMB, N=4(13.2%) more than 12000RMB, and N=3(9.9%) between 2000-4999 RMB.

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5.4.4 Evaluation of Brick Carving Products based on DVPCA Framework

a) Define and choose the Design Value Characteristics (DVC) and Level Assessment for Marketability (LAfM) of brick carving products from the three (3) brick carving products are Wonderful Hezhou, Charming Linxia and Mount Wutai.

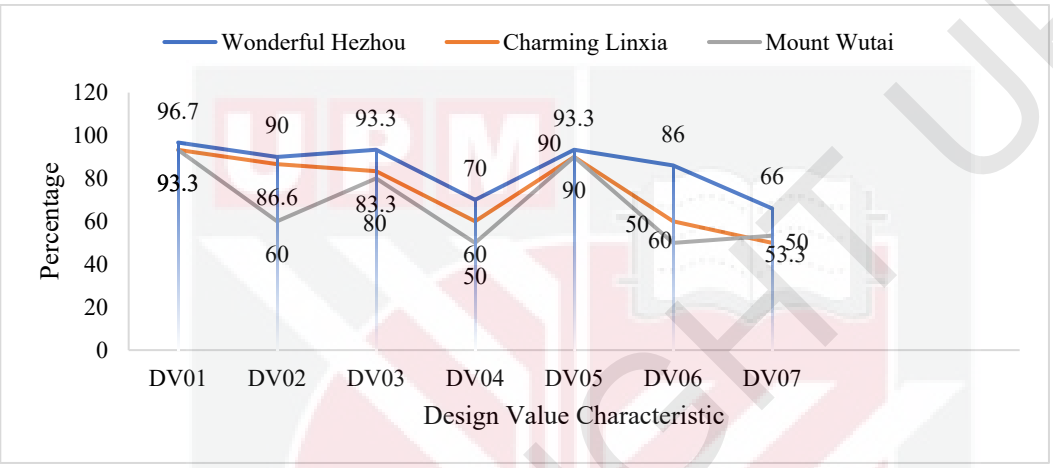


Figure 5.11: Design Value Characteristics of brick carving products

Figure 5.11 shows the design value characteristics of three (3) types of brick carving products as below.

a) Sampling Product A (Wonderful Hezhou) - Cultural Value (DV01) followed by Social Value (DV05), Market Value (DV03), Aesthetic Value (DV02), Sentimental Value (DV04), Artistic Value (DV06), and Sustainable Value (DV07).

b) Sampling Product B (Charming Linxia) - Cultural Value (DV01) followed by Social Value (DV05), Aesthetic Value (DV02), Market Value (DV03), Sentimental Value (DV04), Artistic Value (DV06) and Sustainable Value (DV07).

c) Sampling Product C (Mount Wutai) - Cultural Value (DV01) followed by Social Value (DV05), Market Value (DV03), Aesthetic Value (DV02), Artistic Value (DV07), Sustainable Value (Dv06) and Sentimental Value (DV04).

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d) Define and choose the Product Cultural Design Specification (PCDS) and Level Assessment for Marketability (LAfM) of brick carving products from the three (3) brick carving products are Wonderful Hezhou, Charming Linxia and Mount Wutai. There are two (2) elements that needs to be evaluated by the purchasers are Product Cultural Elements (PCE) and Product Aesthetical Elements (PAE).

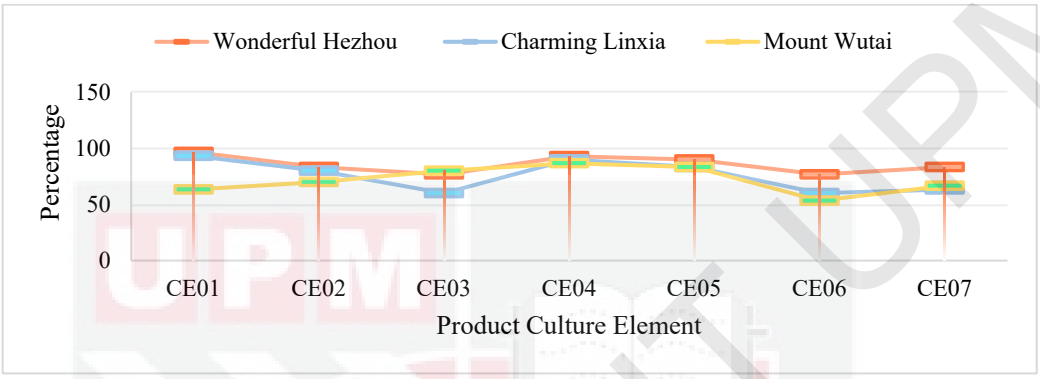


Figure 5.12: Product Cultural Element (PCE) of brick carving products

Figure 5.12 shows the Product Cultural Elements (PCE) of the three (3) brick carving products. The results indicate the Product Cultural Element (PCE) of brick carving products as follows:

a) Sampling Product A (Wonderful Hezhou) - Region Culture (CE01) followed by Traditional Culture (CE04), Social Culture (CE05), Pop Culture (CE07), National Culture (CE02), Folk Culture (CE03) and Religious Culture (CE06).

b) Sampling Product B (Charming Linxia) – Region Culture (CE01) followed by Traditional Culture (CE04), Social Culture (CE05), National Culture (CE02), Pop Culture (CE07), Religious Culture (CE06) and Folk Culture (CE03).

c) Sampling Product C (Mount Wutai) - Traditional Culture (CE04) followed by Folk Culture (CE03), National Culture (CE02), Pop Culture (CE07), Region Culture (CE01) and Religious Culture (CE06).

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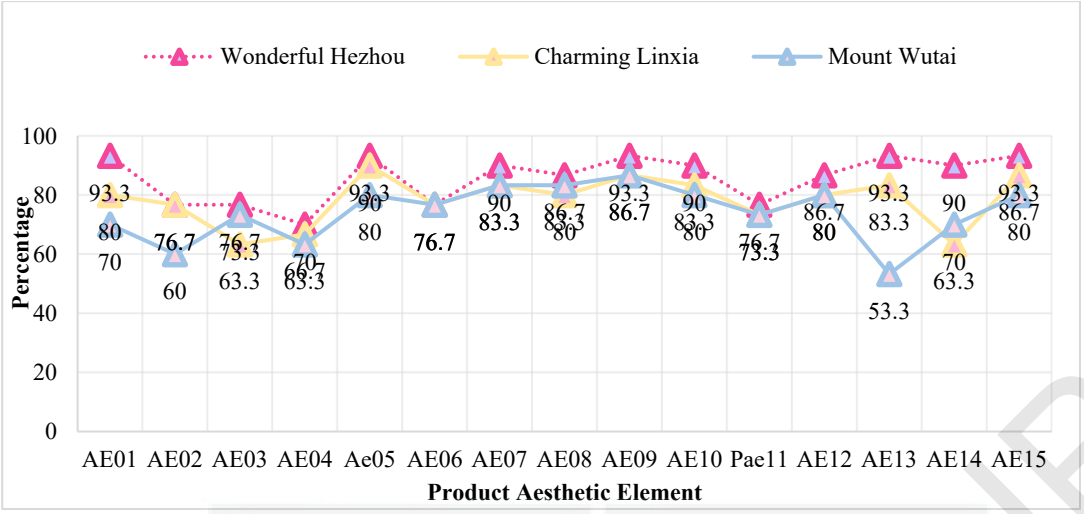


Figure 5.13: Product Aesthetical Element (PAE) of brick carving products

Figure 5.13 shows the Product Aesthetical Element (PAE) of the three (3) brick carving products. The results indicate the Product Aesthetical Element (PCE) of brick carving products as follows:

a) Sampling Product A (Wonderful Hezhou) - Modelling (AE01) followed by Brand (AE05), Style (AE09), Semiotic (AE12), Identity (AE13), Shape (AE07), Emotion (AE10), Semantic (AE14), Texture (AE08), Pattern (AE15), Structure (AE03), Material (AE06), Colour (AE02), Balance (AE04) and Proportion (AE11).

b) Sampling Product B (Charming Linxia) – Modelling (AE01) followed by Brand (AE05), Style (AE09), Identity (AE13), Shape (AE07), Emotion (AE10), Semiotic (AE12), Texture (AE08), Pattern (AE15), Colour (AE02), Material (AE06), Proportion (AE11), Balance (AE04), Structure (AE03) and Semantic (AE14).

c) Sampling Product C (Mount Wutai) - Modelling (AE01) followed by, Brand (AE05), Style (AE09), Shape (AE07), Texture (AE08), Emotion (AE10), Pattern (AE15), Identity (AE13), Material (AE06), Proportion (AE11), Structure (AE03), Semantic (AE14), Balance (AE04), Colour (AE02) and Semiotic (AE12).

d) Integrate the Design Value Characteristics (DVC) with the Product Cultural Design Specifications (PCDS) has become the Marketability Cultural Product Requirements (MCPR) of brick carving products from the three (3) brick carving products are Wonderful Hezhou, Charming Linxia and Mount Wutai. There are two (2) elements that needs to be evaluated by the purchasers are Product Cultural Elements (PCE) and Product Aesthetical Elements (PAE).

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Table 5.9: Marketability Cultural Product Requirements (MCPR) for brick carving products

Brick Carving Product	LATM	Design Value Characteristics (DVC)	Product Cultural Design Specifications (PCDS)		Total
			CE	AE	
Sampling Product A - Wonderful Hezhou (16)	1st Very Important	Cultural Value/ Social Value/ Market Value/ Aesthetic Value/ Sentimental Value	Region Culture/ Traditional Culture/ Social Culture/ Pop Culture/ National Culture	Modelling/Brand/Style/Semiotic/Identity/Shape/Emotion/ Semantic/Texture/Pattern	20
	2nd Important	Artistic Value/ Sustainable Value	Religious Culture/ Folk Culture	Structure//Material/Colour/Balance/ Proportion	9
Sampling Product B Charming Linxia (10)	1st Very Important	Cultural Value/ Social Value/ Aesthetic Value/ Market Value	Region Culture/ Traditional Culture/Social Culture/ National Culture	Modelling/Brand/Style/Identity/Shape/Emotion/Semiotic/ Texture/Pattern	17
	2nd Important	Artistic Value / Sentimental Value	Pop Culture/ Religious Culture/Folk Culture	Colour/Material/Proportion /Balance /Structure/Semantic	11
	3rd Less Important	Sustainable Value			1
Sampling Product C - Mount Wutai (7)	1st Very Important	Cultural Value/ Social Value/ Aesthetic Value	Traditional Culture/ Social Culture/ Folk Culture	Modelling/Brand/Style/Shape /Texture/Emotion/Pattern	13
	2nd Important	Market Value	National Culture/ Pop Culture/ Region Culture	Identity/Material/Proportion/Structure/Semantic/Balance/ Colour	11
	3rd Less Important	Sustainable Value/ Sentimental Value/ Artistic Value	Religious Culture	Semiotic	5

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Table 5.9 shows the Marketable Cultural Product Requirements (MCPR) of the three (3) brick carving products. The results indicate the MCPR of sampling product A (Wonderful Hezhou), sampling product B (Charming Linxia) and sampling product C (Mount Wutai). The MCPR of the three (3) sampling has defined as, Wonderful Hezhou brick carving has ranked as the highest MCR with 20 variables of Very Important followed with nine (9) important, while the Charming Linxia brick carving have 17 variables Very Important MCR followed by 11 variables Important and one (1) is Less Important, and Mount Wutai brick carving have 13 variables of Very Important followed by 11 Important and five (5) are Less Important.

5.4.5 Highest Marketability of Brick Carving Product (Wonderful Hezhou)

As referring to the Figure 5.14 of sampling product A (Wonderful Hezhou) result, five (5) most dominant Product Design Value (DVC) has been identified for marketability are Cultural Value (DV01), Social Value (DV05), Market Value (DV03), Aesthetic Value (DV02) and Sentimental Value (DV04) followed by 16 Product Culture Design Specification (PCDS) are Region Culture (CE01), Traditional Culture (CE04), Social Culture (CE05), Pop Culture (CE07), National Culture (CE02), Modelling (AE01), Brand (AE05), Style (AE09), Semiotic (AE12), Identity (AE13), Shape (AE07), Emotion (AE10), Semantic (AE14), Texture (AE08), Pattern (AE15).Hence the MRC of the Brick carving Wonderful Hezhou can be summarised as follows:

DVC [DV01 + DV05 + DV03 + DV02 + DV04] **+ PCDS** [CE01 + CE04 + CE05 + CE07 + CE02 + AE01 + AE05 + AE09 + AE12 + AE13 + AE07 + AE10 + AE14 + AE8+ AE15] **= MCPR**

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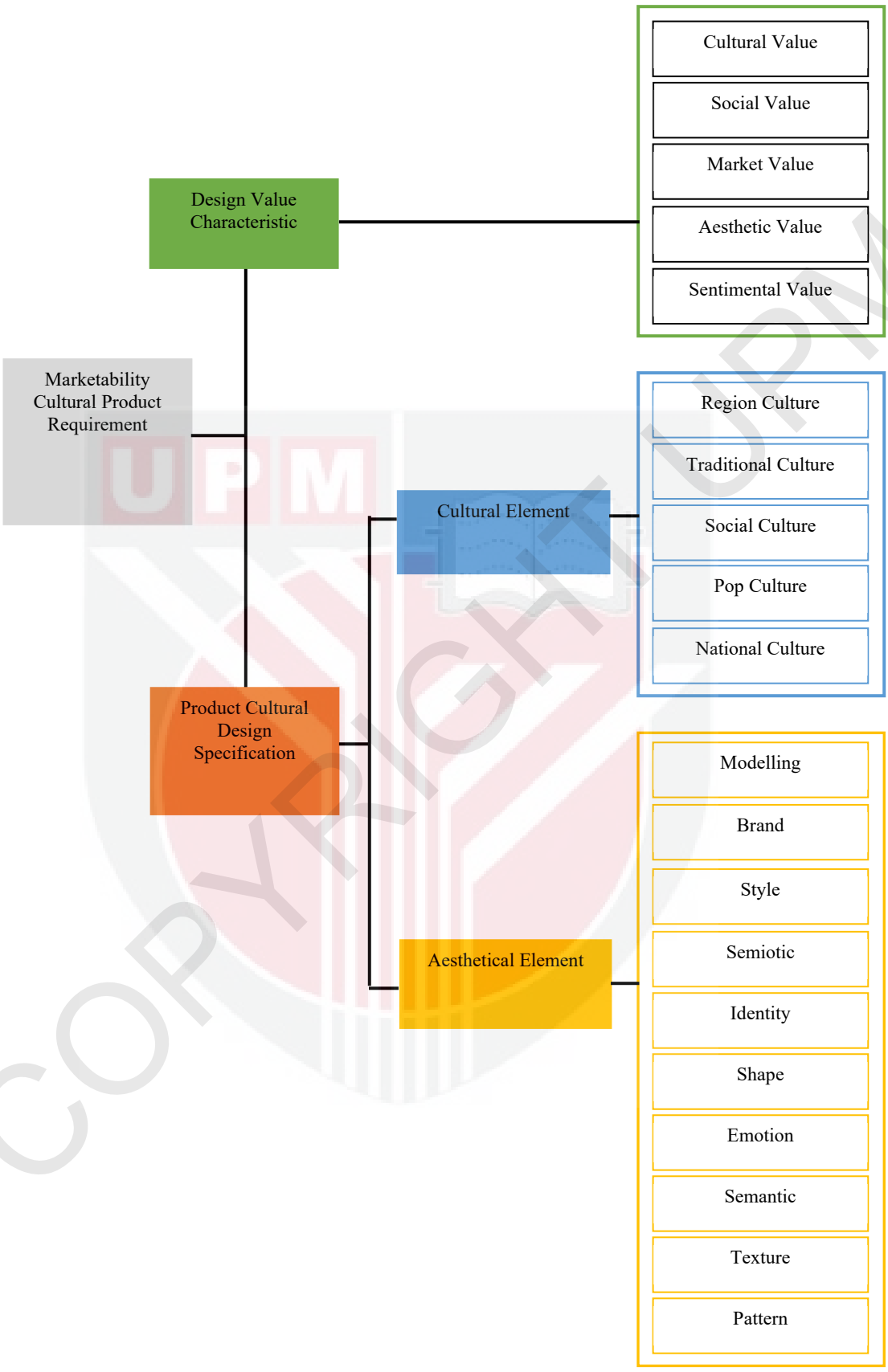


Figure 5.14: Sampling product A (Wonderful Hezhou) for marketability
(Source by author)

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5.4.6 Summary of Validation

The study recognises that in order to improve the marketability of handicraft products, product design should always be accompanied by innovation. In the process of innovation, product users focus on the communication of aesthetics and culture, while designers focus on the value of the design itself. Product designers can improve the marketability of crafts by integrating Product Design Values (PDV) and Product Cultural Design Specifications (PCDS). Both can effectively promote designers and craft practitioners to establish Marketability Cultural Product Requirement (MCPR), thereby increasingly the likelihood of sales of handicraft products.

At the same time, the Design Value Product Cultural Aesthetical (DVPCA) framework established through (Level Assessment for Marketability) provides designers with a clear and complete implementation process. From product conception and design to product establishment, it has become a new decision-making tool in the process of new product development of handicrafts. The effectiveness of the new method is verified by taking a product as an example. In the verification of the products, it is found that the marketability of handicraft products is strongly influenced by five product design values. And supports 15 very important product design specifications. Clearly, (Wonderful Hezhou) sales analysis shows that Design Value Characteristics (DVC) and Product Cultural Design Specifications (PCDS) that include the cultural and aesthetical elements are critical to the marketability of traditional handicraft products. In addition, the importance and contribution of the DVC and PCDS are also significant for handicraft sustainable development and economic growth especially in Linxia.

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5.5 Conclusion

Linxia traditional handicrafts are rich in cultural heritage and authenticity, making them unique. The handicrafts of traditional cultural provide a livelihood for many designers or craft practitioners and contribute to economic development and poverty alleviation in the region. However, in order to effectively promote and enhance the traditional handicrafts products of Linxia, we must enhance the design value of the products, and lack of thinking and understanding about the problem of backward products caused by the outdated design of traditional handicrafts. By conducting in-depth field research, working with social agencies, and engaging with communities, it is possible to create comprehensive guidelines and reference cases. These efforts will enhance the authenticity and attractiveness of traditional handicraft products and make them more valuable for design. In addition, combining cultural narratives with modern marketing strategies helps preserve these traditional cultural artifacts while reaching a global audience.

In the Linxia area, the integration of multiple cultures has produced the unique regional aesthetical and value concept of Linxia. Cultural is the core of handicrafts, and the spread of cultural determines whether the product has established a deep emotional connection with the user. Cultural elements in the development of handicrafts help to increase people's demand for products, improve the brand value of products and the functionality of products. In addition, it is also an important way to distinguish between products and similarities and is an expression point that reflects the uniqueness and innovation of handicrafts. The empirical research shows that the cultural and aesthetical with design value have a significant contribution to the marketability of traditional handicraft products.

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The design of handicrafts has important aesthetical value, and the aesthetical taste of Linxia handicrafts plays a vital role in the consumption trend of products, which promotes the spread of aesthetics and the development of economy. In the design, the designer must consider the structure, colour, material, and other aesthetic elements of the design object as well as the relevant laws of formal beauty, to meet the inherent aesthetic needs of consumers and achieve a good aesthetic experience. Design value plays a key role in the market value of traditional handicraft products. The core of handicraft products lies in the identification of culture, and design value is the key path to achieve this goal. Through user feedback, designers gradually realised that Product Cultural Element (PCE) and Product Aesthetical Elements (PAE), as handicrafts, are important criteria for evaluating products. Combining these elements with product Design Value Characteristics (DVC) can make an important contribution to the marketability of crafts. In this chapter introduced a new Product Design framework acknowledged as Design Value Product Cultural Aesthetical (DVPCA) framework. The DVPCA framework has been designed to facilitate the designers and craft practitioners during the design and development of a new Linxia traditional handicraft product for marketability.

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CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 Introduction

This chapter draws the conclusions from the research findings and provides a description of the contributions and novelty of the research. Finally, the research limitation and recommendation for further research are explained.

6.2 Conclusion

This research attempted to develop a new framework for designers or craft practitioners that became a guideline during the development of a new Linxia traditional handicraft product in Hetaomin for marketability. The framework integrated the design value with cultural and aesthetical elements. According to the finding of the research, it has significantly reflected and achieved all the objectives as were highlighted at the beginning of chapter. In summary, this research has completed and achieved its three (3) research objectives:

a) **To identify the importance of design value for marketability the Linxia traditional handicraft products in China.**

The designs of Linxia traditional handicraft products embody the cultural and historical narratives of the region. Products with strong cultural narratives can evoke emotional connections and make them more desirable. In addition, adapting traditional

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design to modern tastes without losing their essence can expand the market appeal and attract the modern consumers.

Design is the key to product innovation and crucial for their marketability. The design value of Linxia traditional handicraft products has been identified and plays a pivotal role in their marketability. The study determined five (5) Items design value characteristics of Linxia traditional handicraft products. By balancing traditional elements with contemporary design can further expand their market reach, ensuring the sustainability and growth of this cultural heritage industry. In addition, the design value not only boosts marketability but also supports the livelihoods of local artisans as well as can create a positive social impact and appeal to ethically conscious consumers.

Throughout empirical investigations, the results proved the design value can effectively promote the market share of traditional handicraft products in Linxia. Thoughtfully integrating design value in the development of new traditional handicraft products, it can create the products meeting the demands, enriches the traditional handicraft products and promotes cultural sustainability.

b) To examine the design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft product in China.

The design value of Linxia traditional handicraft products, especially those from Hetaomin, is intrinsically linked to both cultural and aesthetical elements. These elements significantly contribute to the products' marketability by enhancing their uniqueness, appeal, and cultural resonance. The aesthetical of a product can

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significantly influence the consumer interest with well-designed products are more likely to catch the eye of potential buyers. Integrating cultural and aesthetical elements into the design of Linxia traditional handicraft products not only can effectively market these aspects but their marketability can be significantly enhanced. This approach not only preserves cultural heritage but also adapts it to contemporary market demands.

In this research there are twenty-nine (29) design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft products (see Table 2.5). The Linxia traditional handicraft product in Hetoamin for marketability acknowledged as Marketability Cultural Product Requirement (MCPR) and will certainly help to increase the market share of new products.

c) To develop a new framework that integrate design value with cultural and aesthetical elements for marketability the Linxia traditional handicraft product in China.

The framework developed in this research combines the value characteristics of product design based on user and expert knowledge with the product cultural design specifications including aesthetical and cultural elements to meet the demand for marketable products. The framework developed in this research combines the value characteristics of product design based on user and expert knowledge with the product cultural design specifications including aesthetical and cultural elements to meet the demand for marketable products. By integrating the key elements such as product design value, cultural elements, and aesthetical elements into one framework, this research creatively proposes a comprehensive analysis method for the traditional handicrafts in the Linxia area of China. The framework not only fills a gap in existing research, but also provides a systematic tool for relevant practitioners to better

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understand the market performance of products. First, the new framework emphasises the key role of cultural and aesthetic elements in the product design process by incorporating design values into product design considerations. By working with users, product designers can more accurately capture user needs to build products that better meet market and user expectations. Secondly, the new framework helps to optimise marketing strategies to ensure the success of products in the market. A case study of brick products found that market rates for Linxia traditional handicraft products could be effectively increased by using the characteristics identified in the proposed framework.

6.3 Research Contribution to Knowledge

The knowledge gained in this research significantly contributed to the development of new Linxia traditional handicraft products in Hetaomin for marketability. This framework has a practical application that integrated the design value with cultural and aesthetical elements for a new development of Linxia traditional handicraft products in Hetaomin for marketability. The research contribution derived in four (4) ways.

Firstly, this research contributes to the development of a new design guideline that combines product design value characteristics, product design specifications, to achieve increased marketability of new products. This design guideline attempts to provide a framework to help product designers develop new products. The new design guide can help validate and establish Marketability Cultural Product Requirements (MCDR). It can also help to improve the effectiveness of the product in design and the quality of the design process.

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Secondly, the study combines the user's perception of cultural and aesthetical elements in the product design specifications with the expert's identification of product value characteristics. It provides theoretical basis and practical experience evidence for the design of marketable handicraft products. Effectively improve and can shorten the product into the market time, improve the product trial production share.

Thirdly, the study can also help product designers minimise the possibility of creating irrelevant design concepts, reduce operating costs, shorten the time frame for product entry into the market, and bring products to market more quickly.

Fourthly, the proposed design framework for improving the marketability of handicrafts in the Linxia region enriches the innovative design of handicrafts in other regions. Meanwhile, this design framework provides an effective theoretical basis and practical reference for other industrial product development.

6.3.1 Novelty of the Study

In this research, concluded with an introduction of a new framework acknowledged as Design Value Product Cultural Aesthetical (DVPCA). The framework becomes a guideline for designer or craft practitioners attempting to support the design and development process of new Linxia traditional handicraft products in Hetaomin for marketability (see Figure 6.1).

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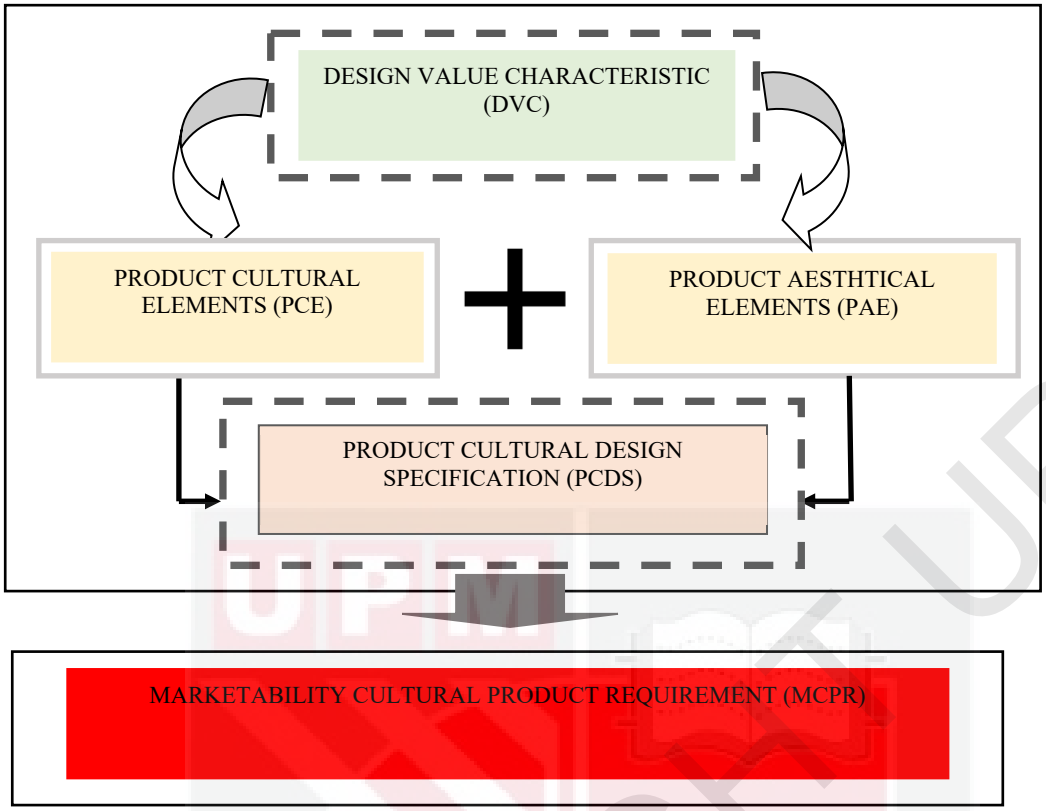


Figure 6.1: Design Value Product Cultural Aesthetical (DVPCA) framework
(Source by author)

The framework will also become a decision-making tool where product designers can easily establish and validate the demand for marketable products to improve the marketability of Linxia's new process product designs. provide better ways to integrate product design values, product design specifications, and specific cultural and aesthetical elements to improve the marketability of Linxia traditional handicraft products. The authors suggest that more in-depth research should be conducted to assist future product designers. The detailed steps of communication between product designers and users in the early stages of product development and process also need to be further studied. The results could provide users with more knowledge and information to improve collaborative work and encourage excellent design concepts that meet market needs during the design process.

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6.4 Limitations of Research

It was a challenge for the authors when they conducted this study with the interviewees. Some of the issues identified and described are as follows:

a) A few traditional designers and craft practitioners lack understanding of modern design conceptual perspectives due to conditions such as level of education and closed production environments.

b) Most of the users are not well informed about the design specifications of the products and detailed elements of the products comprehensively.

c) Time constraints and financial issues were the problems faced by the authors in conducting this study, especially since the study involved many respondents. The authors spent a lot of time and money conducting the survey as the data collection involved multiple sources.

6.5 Recommendations for Future Research

The research introduced a new framework namely Design Value Product Cultural Aesthetical (DVPCA) has become a guideline for designers or craft practitioners to create new Linxia traditional handicraft products for marketability. However, this research needs further study to provide more significant tools for designer or craft practitioners, especially to design user-friendly tools by using computer interaction. This study will help them to quickly provide data and the faster decisions can be made during the early stage of the design and development process.

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REFERENCES

Abubakar, I., Abdullahi, R., & Ibrahim, H. B. (2021). Moderating effect of strategic improvisation on product innovation and performance of manufacturing SMEs. Asian Journal of Management, 12(3), 237-242.

Adamson, G. (2007). Thinking through Craft. New York, USA: Berg Publishers

Adamson, G. (2010). The craft reader. Oxford, UK: Berg Publishers.

Akhir, N. H. M., Ismail, N. W., Said, R., & Kaliappan, S. R. A. (2015). Traditional craftsmanship: The origin, culture, and challenges of batik industry in Malaysia. In R. Omar, H. Bahrom, & G. de Mello (Eds.), Islamic perspectives relating to business, arts, culture, and communication (pp. xx-xx). Springer.

Aldina, R. P., & Margunani, M. (2022). Pengaruh inovasi produk, tenaga kerja, dan pemasaran terhadap perkembangan UMKM kerajinan di Kecamatan Purwanegara Banjarnegara. Business and Accounting Education Journal, 3(1), 83-91.

Alfoldy, S. (2007). NeoCraft: Modernity and the crafts. The Press of Nova Scotia College of Art and Design.

Alli, H. (2015). A design methodology incorporating user requirements and preferences for a successful product [Doctoral dissertation, University of Malaya].

Alli, H. (2018). User involvement method in the early stages of new product development process for successful International. Journal on Sustainable Tropical Design Research & Practice, 11(1), 23-28.

Alli, H. (2020). Decision making for product design definition method in the early stage of design process of a successful new product. Journal on Sustainable Tropical Design Research & Practice, 13(1), 18-27.

Alnawas, I., & Hemsley-Brown, J. (2018). The differential effect of cognitive and emotional elements of experience quality on the customer-service provider's relationship. International Journal of Retail & Distribution Management, 46(2), 125-147.

Alonso, A. D., & Bressan, A. (2014). Innovation in the context of small family businesses involved in a 'niche' market. International Journal of Business Environment, 6(2), 127-145.

Anderson, N. L., & Anderson, N. G. (1998). Proteome and proteomics: New technologies, new concepts, and new words. Electrophoresis, 19(11), 1853-1861.

Angat, N. F., & Hasan, R. H. (2023). Material adjustments/alteration/modification in handicraft by the Malay Muslim community in Saribas, Sarawak. International Journal for Multidisciplinary Research, 5(2), 1-23.

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Ardaturk, A. S. (2022). Looking at design and designer from a cultural point of view. Uluslararsi Sosval Bilimer Academic, Arastirmalar Dergisi, 6(2), 1-9.

Ariffin, W. J. W., Shahfiq, S., Ahmad, F., Ibrahim, A., & Ghazalli, F. S. (2023). Handicraft innovations: A strategic approach to preserving intangible cultural heritage of Malaysia. ISVS e-journal, 10(7), 137-146.

Arikunto, S. (2010). Prosedur Penelitian (Suatu Pendekatan Praktik). Rineka Cipta.

Arroyo, F., & Bravo, D. (2020). El proceso del diseño industrial como herramienta de la Gestión de la Empresa. INGENIO, 3(1), 71-83.

Aveyard, H., & Sharp, P. (2017). A beginner's guide to evidence-based practice in health and social care. McGraw-Hill Education.

Banerjee, A., & Mazzarella, F. (2022). Designing innovative craft enterprises in India: A framework for change makers. She Ji: The Journal of Design, Economics, and Innovation, 8(2), 192-216.

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. Management Decision, 47(8), 1323-1339.

Bathelt, H., Malmberg, A., & Maskell, P. (2004). Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation. Progress in Human Geography, 28(1), 31-56.

Bell, V. R. (2022). Entrepreneurs in action? Motivations for crafting a career in handmade goods. In The Artisan Brand. Edward Elgar Publishing.

Berg, B. L. (2009). Qualitative research methods for the social sciences. Allyn & Bacon Publishers.

Bervar, M., & Trnavčevič, A. (2019). Importance of culture for sustainable development. Managing Global Transitions, 17(3), 195-209.

Betjemann, P. (2008). Craft and the limits of skill: handicrafts revivalism and the problem of technique. Journal of Design History, 21(2), 183-193.

Biswas, D., Grewal, D., & Roggeveen, A. (2010). How the order of sampled experiential products affects choice. Journal of Marketing, 47(6), 508-519.

Bocken, N. M., De Pauw, I., Bakker, C., & Van Der Grinten, B. (2016). Product design and business model strategies for a circular economy. Journal of Industrial and Production Engineering, 33(5), 308-320.

Bondyra, K., Dziekanowska, M., & Herudziński, T. (2023). The role of crafts in the development of women's entrepreneurship in rural areas. Journal for Perspectives of Economic Political and Social Integration, 28(2), 67-88.

Brace, I. (2018). Questionnaire design: How to plan, structure and write survey material for effective market research. Kogan Page Publishers.

© COPYRIGHT UPM

Brasel, S. A., & Gips, J. (2014). Enhancing television advertising: Same-language subtitles can improve brand recall, verbal memory, and behavioral intent. Journal of the Academy of Marketing Science, 42, 322-336.

Brown, J. S., & Teisberg, E. O. (2003). Options thinking for leading innovation. Darden School of Business, University of Virginia.

Bryman, A., & Bell, E. (2015). Business research methods. Oxford University Press.

Bryman, A., & Cramer, D. (2012). Quantitative Data Analysis with IBM SPSS 17, 18 & 19: A Guide for Social Scientists. Routledge.

Buechel, E. C., & Townsend, C. (2018). Buying beauty for the long run: Predicting liking of product aesthetics. Journal of Consumer Research, 45(2), 275-297.

Callon, M. (2017). Markets, marketization and innovation. In H. Bathelt, P. Cohendet, S. Henn, & L. Simon (Eds.), The Elgar Companion to Innovation and Knowledge Creation (pp. 589-609). Edward Elgar Publishing.

Campbell, C. (2005). The craft consumer: Culture, craft and consumption in a postmodern society. Journal of Consumer Culture, 5(1), 23-42.

Carlucci, D., & Schiuma, G. (2018). The power of the arts in business. Journal of Business Research, 85, 342-347.

Celetti, D. (2020). Small businesses in the global market: Evidence from the fashion system of Vicenza province (Italy). R-Economy, 6(2), 74-88.

Cerar, J., Nell, P. C., & Reiche, B. S. (2021). The declining share of primary data and the neglect of the individual level in international business research. Journal of International Business Studies, 52(7), 1365-1374.

Chandukala, S. R., Dotson, J. P., & Liu, Q. (2017). An assessment of when, where and under what conditions in-store sampling is most effective. Journal of Retailing, 93(4), 493-506.

Chen, J. (2019). Cultural DNA and product innovation: A guideline of establishing and utilizing cultural DNA banks [Doctoral dissertation, University of Cincinnati]. ProQuest Dissertations.

Chen, L. (2024). Study on the path of high-quality cultural industry development in China from the perspective of WSR methodology. Proceedings of the 5th International Conference on Economic Management and Cultural Industry, Xi an, China, October 13-15.

Chen, Y. (2019). Study on the “Activation” of traditional Qi-Lu folk handicraft in modern design art. Proceedings of the 3rd International Conference on Culture, Education and Economic Development of Modern Society, Moscow, Russia, March 1-3.

© COPYRIGHT UPM

Cheng, H., Luo, S., Liu, B., Xia, L., Xie, J., & Qiu, X. (2023). Insights on metrics' correlation of creativity assessment for museum cultural and creative product design. Proceedings of the 25th International Conference on Human-Computer Interaction, Copenhagen, Denmark, July 23-28.

Cheng, P., & De Bont, C. (2022). Understanding design utilizations in China: Investigating design award-winning products based on innovation pyramid framework. International Journal of Design, 16(3), 115.

Chuang, M. C., Chang, C. C., & Hsu, S. H. (2001). Perceptual factors underlying user preferences toward product form of mobile phones. International Journal of Industrial Ergonomics, 27(4), 247-258.

Ciftci, G. H., & Walker, S. (2017). Design for grassroots production in eastern Turkey through the revival of traditional handicrafts. The Design Journal。

Cillo, V., Petruzzelli, A. M., Ardito, L., & Del Giudice, M. (2019). Understanding sustainable innovation: A systematic literature review. Corporate Social Responsibility and Environmental Management, 26(5), 1012-1025.

Clunas, C. (1997). Art in China. Oxford History of Art Craig Clunas. China Review International, 6(1), 79-83.

Cohen, J. (1988). Statistical power analysis for the behavioural science (2nd ed.). Erlbaum.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. Administrative Science Quarterly, 35(1), 128-152.

Cominelli, F., & Greffe, X. (2013). Why and how intangible cultural heritage should be safeguarded. In Handbook on the Economics of Cultural Heritage (pp. 402-418). Edward Elgar Publishing.

Creative & Cultural Skills. (2010). A baseline survey of the creative and cultural sector, Creative & Cultural Skills. The Footprint 10/11.

Creswell, J. W., & Clark, P. V. L. (2011). Designing and conducting mixed methods research (2nd ed.). Sage.

Crilly, N., Moultrie, J., & Clarkson, P. J. (2004). Seeing things: consumer response to the visual domain in product design. Design Studies, 25(6), 547-577.

Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: effects of environment, organization and top managers. British Journal of Management, 17(3), 215-236.

Dasgupta, A., & Chandra, B. (2016). Evolving motives for fair trade consumption: A qualitative study on handicraft consumers of India. The Anthropologist, 23(3), 414-422.

Dash, M., & Mishra, B. B. (2021). Problems of handicraft artisans: An overview. International Journal of Managerial Studies and Research, 9(5), 29-38.

© COPYRIGHT UPM

Datta, D. B., & Bhattacharyya, S. (2016). An analysis on problems and prospects of Indian handicraft sector. Asian Journal of Management, 7(1), 5-16.

De Clercq, R. (2008). The structure of aesthetic properties. Philosophy Compass, 3(5), 894-909.

De Massis, A., Frattini, F., Kotlar, J., Petruzzelli, A. M., & Wright, M. (2016). Innovation through tradition: Lessons from innovative family businesses and directions for future research. Academy of Management Perspectives, 30(1), 93-116.

Dell'Era, C., & Verganti, R. (2007). Strategies of innovation and imitation of product languages. Journal of Product Innovation Management, 24(6), 580-599.

Den Hertog, F., & van Sluijs, E. (1995). Het management van de kennisstroom: Een sleutelrol voor het personeelsbeleid. MERIT Research Memorandum, 2/95-004.

Dodgson, M., Gann, D., & Salter, A. (2005). Think, play, do: Technology, innovation, and organization. Oxford University Press.

Dorie, M. (2008). Review of NeoCraft: Modernity and the crafts. Canadian Art Review, 33(1/2), 149-151.

Dorst, K., & Dijkhuis, J. (1995). Comparing paradigms for describing design activity. Design Studies, 16(2), 261

Dragan, I. M., & Isaic-Maniu, A. (2013). Snowball sampling completion. Journal of Studies in Social Sciences, 5(2), 160-177.

Dutta Roy, S., & Mishra, W. (2021). Brand style DNA in consumer products: Decoding strategies from a design perspective. In Design for Tomorrow (1): Proceedings of ICoRD (pp. 593-605). Springer Singapore.

Elsahookie.M., M., Ali, Adel, Dawood. (2024). Sample size determination for agronomic experiments. The Iraqi Journal of Agricultural Science. https://doi.org/10.36103/1t2xhr35

Ernst & Young. (2012). Competitive study on handicrafts sector in China. Export Promotion Council for Handicrafts. http://www.epch.in/ChinaStudy/Report.pdf

European Conference of Crafts and Small Businesses. (1994). Craft and small enterprises: The key to growth, employment and innovation. In Proceedings of the Berlin Conference (pp. xx-xx). Office for Official Publications of the European Communities.

European Conference of Crafts and Small Businesses. (1997). Employment through innovation: Preparing Milan [Proceedings of the Third European Conference of Crafts and Small Businesses, Milan, Italy, November 20-21].

Eves, B., & Hewitt, J. (2009). Style-branding, aesthetic design DNA. In DS 59: Proceedings of E&PDE 2009 (pp. xx-xx). The 11th Engineering and Product Design Education Conference-Creating a Better World.

© COPYRIGHT UPM

Fagerberg, J. (2004). What do we know about innovation? Lessons from the TEARI project. Report: Centre for Technology, Innovation and Culture, University of Oslo.

Fan, K-K., & Feng, T-T. (2019). Sustainable development strategies of the traditional handicraft industry based on Su-Style furniture in the Ming Dynasty. Sustainability, 11, 2-21.

Fang, X., & Zhang, R. (2022). Design and application of traditional craft in cultural and creative products taking the Hubei Provincial Museum as an example. Frontiers in Art Research, 4(16), 121-130.

Farhana, M., & Bimenyimana, E. (2015). Design driven innovation as a differentiation strategy: In the context of automotive industry. Journal of Technology Management & Innovation, 10(2), 24-38.

Fernández-Esquinas, M., van Oostrom, M., & Pinto, H. (2017). Key issues on innovation, culture and institutions: implications for SMEs and micro firms. European Planning Studies, 25(11), 1897-1907.

Ferreira, J., Sousa, B. M., & Gonçalves, F. (2019). Encouraging the subsistence artisan entrepreneurship in handicraft and creative contexts. Journal of Enterprising Communities: People and Places in the Global, 13(1/2), 64-83.

Fillis, I. (2012). An aesthetic understanding of the craft sector. Creative Industries Journal, 5(1-2), 23-41.

Fillis, I., & Rentschler, R. (2006). The emergence of creative marketing. In Creative marketing: An extended metaphor for marketing in a new age. Palgrave Macmillan UK.

Forero, J. A. M., & Mejía, A. N. (2023). Creative tourism based on handicrafts in the municipality of Ráquira, Boyacá. In Proceedings of the International Conference on Tourism Research, 6(1), 220-225.

Frantzeskaki, N., Loorbach, D., & Meadowcroft, J. (2012). Governing societal transitions to sustainability. International Journal of Sustainable Development, 15(1-2), 19-36.

Freccero, C. (1999). Popular culture: An introduction. New York University Press.

Freeland, C. A. (1997). Art and moral knowledge. Philosophical Topics, 25(1), 11-36.

Fu, Y. (2023). Analysis of the transmission and development of traditional handicrafts in intangible cultural heritage. Frontiers in Art Research, 5(5), 23-29.

Furferi, R., & Buonamici, F. (2023). The role of product engineering modelling in aesthetic design education. Designs, 7(6), 127.

Gao, Y., & Guo, W. (2019). Correlation analysis of cultural industry in Gansu Province. In Proceedings of the 2nd International Conference on Economy, Management and Entrepreneurship (pp. xx-xx). Voronezh, Russia, May 22-23.

© COPYRIGHT UPM

Gasparin, M., & Quinn, M. (2021). Designing regional innovation systems in transitional economies: A creative ecosystem approach. Growth and Change, 52(2), 621-640.

Gautam, V., Chakraborty, I., & Singh, P. (2023). Analysing the parameters affecting the handicraft sector of a region. National Journal of Labour and Industrial Law, 6(1), 5-18.

Ghaisani, O. N., Azhari, A. K., & Rohman, H. (2019). Small business development programs on the Center of Handicraft Small Industry in Tutul Village, Balung Sub-district, Jember Regency. Electronical Journal of Social and Political Sciences, 6(1), 119-128.

Ghouse, M. S. (2011). Indian handicraft industry: Problems and strategies. International Journal of Management Research, 2(7), 1183-1199.

Glass, G. V. (1976). Primary, secondary, and meta-analysis of research. Educational Researcher, 5(10), 3-8.

Gobattoni, F., Pelorosso, R., Leone, A., & Ripa, M. N. (2015). Sustainable rural development: The role of traditional activities in Central Italy. Land Use Policy, 48, 412-427.

Goldman, A. (2005). The Routledge companion to aesthetics. Routledge.

Goldsby, M. G., Kuratko, D. F., Bishop, J. W., Kreiser, P. M., & Hornsby, J. S. (2018). Social proactiveness and innovation: The impact of stakeholder salience on corporate entrepreneurship. Journal of Small Business Strategy, 28(2), 1-15.

Goni, S., Kandowangko, N., & Kawung, E. J. (2023). The Minahasan art and culture. International Journal of Social Science Research and Review, 6(6), 59-68.

Gough, D., Oliver, S., & Thomas, J. (2012). An introduction to systematic reviews. SAGE Publications.

Grobar, L. M. (2017). Policies to promote employment and preserve cultural heritage in the handicraft sector. International Journal of Cultural Policy, 25(2), 1-13.

Guiso, L., Sapienza, P., & Zingales, L. (2006). Does culture affect economic outcomes? Journal of Economic Perspectives, 20(2), 23-48.

Guo, J., & Ahn, B. (2021). Collaborative design intervention in the traditional Chinese handicraft sector for enhancing cultural sustainability: New channel social innovation project. Archives of Design Research, 34(4), 39-53.

Hagtvedt, H., Patrick, V. M., & Hagtvedt, R. (2008). The perception and evaluation of visual art. Empirical Studies of the Arts, 26(2), 197-218.

Hair, J. F., et al. (2010). Essentials of Business Research Methods (2nd ed.). Wiley.

Halskov, K., & Christensen, B. T. (2018). Designing across cultures. CoDesign, 14(2), 75-78.

© COPYRIGHT UPM

Hang, J., & Guo, Q. (2012). Chinese Arts and Crafts. Cambridge University Press.

Harrod, T. (1997). Obscure objects of desire: Reviewing the crafts in the twentieth century. In Conference Papers, University of East Anglia (pp. xx-xx). January 10-12.

Harwiki, W., Choiron, A., & Hartini, S. (2018). Batik creative industry: Creativity, innovation and competitiveness to encounter global market. Journal of Business and Finance in Emerging Markets, 1(2), 189-196.

He, Y., Lyu, J., & Chen, M. (2019). An approach of traditional handicraft products innovative design from the perspective of regional ethnic minority culture. In Proceedings of the 3rd International Conference on Economics and Management, Education, Humanities and Social Sciences (pp. xx-xx), Suzhou, China, May 18-19.

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. Evidence-based Nursing, 18(3), 66-67.

Heap, V., & Waters, J. (2019). Data collection methods. In Mixed Methods in Criminology (pp. xx-xx). Routledge.

Hegarty, C., & Prezezborska, L. (2005). Rural and agri-tourism as a tool for reorganizing rural areas in old and new member states: A comparison study of Ireland and Poland. International Journal of Tourism Research, 7(2), 63-77.

Hein, K. (2009). Sampling inspires repeat purchase. Adweek, August 4.

Henderson, R. M., & Clark, K. B. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. Administrative Science Quarterly, 35(1), 9-30.

Hermawan, M. F. (2022). Design of a handicraft product marketplace using a web-based business to consumer (B2C) method. Journal of Computer Science and Information Technology, 7, 7-11.

Hernandez-Pardo, R. (2012). Designing Sustainable Product Service Systems: A business framework for SME implementation [Doctoral dissertation, Loughborough University].

Hinton, P. R., McMurray, I., & Brownlow, C. (2014). SPSS explained. Routledge.

Hipp, C., & Grupp, H. (2005). Innovation in the service sector: The demand for service specific innovation measurement concepts and typologies. Research Policy, 34(4), 517-535.

Ho, M. C., Lin, C. H., & Liu, Y. C. (1996). Some speculations on developing cultural commodities. Journal of Design, 1, 1-15.

Hoegg, J., Alba, J. W., & Dahl, D. (2010). The good, the bad, and the ugly: Influence of aesthetics on product feature judgments. Journal of Consumer Psychology, 20(4), 419-430.

© COPYRIGHT UPM

Højholt, C., & Kousholt, D. (2014). Participant observations of children's communities: Exploring subjective aspects of social practice. Qualitative Research in Psychology, 11(3), 316-334.

Højholt, C., & Kousholt, D. (2014). Practice research. Encyclopaedia of Critical Psychology, 3, 1485-1488.

Holmquist, A., Magnusson, M., & Livholts, M. (2018). Reinventing tradition: Exploring the creation of new meaning through innovations involving craft-based design. Creativity and Innovation Management, 28(1), 124-137.

Homburg, C., Schwemmle, M., & Kuehnl, C. (2005). New product design: Concept, measurement, and consequences. Journal of Marketing, 79(3), 41-56.

Howell, D. C. (2002). Statistical methods for psychology (5th ed.). Duxbury.

Hsu, C. H., Lin, C. L., & Lin, R. (2011). A study of framework and process development for cultural product design. In Proceedings of the 4th International Conference in Internationalization, Design and Global Development (pp. xx-xx). Orlando, Florida, USA, July 9-14.

Huang, M. H., Houng, W., & Lin, R. (2011). Exploration of the cultural product design of the national palace museum from a qualia viewpoint. In Proceedings of the 4th International Conference, Internationalization, Design and Global Development (pp. xx-xx). Orlando, Florida, USA, July 9-14.

Huang, Z. (2019). A summary of research on cultural and creative product design based on traditional culture. Popular Literature and Art, 459(09), 113-114.

Huebner, F., & Fichtel, C. (2015). Innovation and behavioral flexibility in wild redfronted lemurs (Eulemur rufifrons). Animal Cognition, 18, 777-787.

Huimin, L. (2016). Tourists' satisfaction and influencing factors in cultural and creative tourism destination for Tianzifang, M50 and Hongfang in Shanghai. Resources Science, 38(2), 113-119.

Hung, C. S. (2023). A study on entrepreneurial factors of craft artists. American Journal of Social Sciences and Humanities, 8(1), 145-155.

Igwe, P. A., Madichie, N. O., & Newbery, R. (2018). Determinants of livelihood choices and artisanal entrepreneurship in Nigeria. International Journal of Entrepreneurial Behavior & Research, 25(4), 674-697.

International Trade Centre. (2010). Inclusive tourism: Linking the handicraft sector to tourism markets. https://intracen.org/resources/publications/inclusive-tourism-linking-the-handicraft-sector-to-tourism-markets

Jackson, I., & Tomlinson, P. R. (2009). The role of cooperation in a creative industry: The case of UK studio pottery. International Review of Applied Economics, 23(6), 691-708.

© COPYRIGHT UPM

Jameson, F., & Miyoshi, M. (1998). The cultures of globalization. Duke University Press.

Jangid, V. K. (2005). Tarkashi craftsmen. In Designers meet artisans: A practical guide (pp. xx-xx). UNESCO-Craft Revival Trust Publication.

John, E. (2001). Art and knowledge. In B. Gaut & D. Lopes (Eds.), The Routledge Companion to Aesthetics (pp. xx-xx). Routledge.

Jueming, H. (2022). Safeguarding, inheriting, innovating, utilizing, and revitalizing: The inheritance and further development of traditional handicrafts in China. Studies in the History of Natural Sciences, 38(3), 308-315.

Kälviäinen, M. (2000). The significance of 'Craft' qualities in creating experiential design products. The Design Journal, 3(3), 4-15.

Kang, X. (2020). Aesthetic product design combining with rough set theory and fuzzy quality function deployment. Journal of Intelligent & Fuzzy Systems, 39(1), 1131-1146.

Karjalainen, T. M. (2007). It looks like a Toyota: Educational approaches to designing for visual brand recognition. International Journal of Design, 1(1), 67-81.

Kotler, P., & Keller, K. L. (2016). Marketing Management (15th ed.). Pearson Education.

Kouhia, A. (2016). Unravelling the meanings of textile hobby crafts. University of Helsinki Open Repository.

Krasae-in, A. (2017). Craft by you: Acquiring consumer's idea to the product development for handicraft business in Thailand. International Journal of Entrepreneurship and Innovation Management, 21(1-2), 143-162.

Kuang, J., & Jiang, P. (2008). Product platform design for a product family based on Kansei engineering. Journal of Engineering Design, 20(6), 1-19.

Kumar, M., Townsend, J. D., & Vorhies, D. W. (2015). Enhancing consumers' affection for a brand using product design. Journal of Product Innovation Management, 32(5), 716-730.

Kumar, R. (2010). Research methodology: A step-by-step guide for beginners (3rd ed.). SAGE Publication Ltd.

Kurosu, M., & Kashimura, K. (1995). Apparent usability vs. inherent usability: Experimental analysis on the determinants of the apparent usability. In Proceedings of the Conference Companion on Human Factors in Computing Systems (pp. xx-xx), Denver, Colorado, USA, May 7-11.

Kuter, U., & Yilmaz, C. (2001). Survey methods: Questionnaires and interviews. In Choosing Human-Computer Interaction (HCI) Appropriate Research Methods. Retrieved from http://otal.umd.edu/hci-rm/survey.html

© COPYRIGHT UPM

Leong, D., & Clark, H. (2003). Culture-based knowledge towards new design thinking and practice: A dialogue. Design Issues, 19(3), 48-58.

Levinson, J. (1987). Aesthetic Supervenience. Journal of Aesthetics and Art Criticism, 45(1), 1-10.

Li, H. G., & Zhao, H. M. (2011). Research of product design on the basis of DNA theory. Advanced Materials Research, 228, 408-411.

Li, Q. (2018). Cultural industries in China and their importance in Asian Communities. Comparative Literature and Culture, 20(2), 4-12.

Li, T. (2023). A contemporary approach to traditional handicrafts in the context of globalization: Taking the embroidery of sachets in Qingyang, Gansu as an example. Highlights in Art and Design, 4(3), 72-75.

Li, W. T., Ho, M. C., & Yang, C. (2019). A design thinking-based study of the prospect of the sustainable development of traditional handicrafts. Sustainability, 11(18), 4823.

Lin, R. T. (2007). Transforming Taiwan aboriginal cultural features into modern product design: A case study of a cross-cultural product design model. International Journal of Design, 1(2), 45-53.

Lin, R., Lin, P. H., Shiao, W. S., & Lin, S. H. (2009). Cultural aspect of interaction design beyond human-computer interaction. In Proceedings of the 3rd International Conference Internationalization, Design and Global Development (pp. xx-xx), San Diego, CA, USA, July 19-24.

Lin, R., Sun, M. X., Chang, Y. P., Chan, Y. C., Hsieh, Y. C., & Huang, Y. C. (2007). Designing "culture" into modern product: A case study of cultural product design. In Proceedings of the Second International Conference on Usability and Internationalization: HCI and Culture (pp. xx-xx), Beijing, China, July 22-27.

Liu, H., Alli, H., & Yusoff, I. S. M. (2024). A thematic review on traditional handicraft from design perspective publications from 2002-2022: Analysis of trends for future studies. Cogent Arts & Humanities, 11(1), 2298084.

Lou, Y. (2022). The modernity turns of traditional handicraft: A design study of the elderly recreational mode. In Proceedings of the 5th International Conference on Humanities Education and Social Sciences (ICHESS 2022) (pp. xx-xx), Chongqing, China, October 14-16.

Lu, Z. L., Xue, C. Q., & Tang, W. C. (2010). Product design DNA research in industrial design based on style characteristics. Journal of Machine Design, 27(7), 7-14.

Lucie-Smith, E. (1981). The story of craft: The craftsman's role in society. Phaidon Press Ltd.

Luo, S. J., Zhu, S. S., & Feng, C. (2008). Product family design DNA in industrial design. Chinese Journal of Mechanical Engineering, 44(7), 123-128.

© COPYRIGHT UPM

Lyotard, J. F. (1994). The postmodern condition. In The Postmodern Turn: New Perspectives on Modern Theory (pp. 27-38).

Ma, W., & Liu, S. (2023). Research on the design of domestic makeup products from the perspective of design culture: Taking Huaxizi for example. Highlights in Art and Design, 2(3), 21-23.

Mackey, A., & Gass, S. M. (202). Research methodology and design (3rd ed.). Routledge.

Macmillan Dictionary. (n.d.). Retrieved from http://www.macmillandictionary.com/

Mahgoub, Y. M., & Alsoud, K. M. (2015). The impact of handicrafts on the promotion of cultural and economic development for students of art education in higher education. Journal of Literature and Art Studies, 5(6), 471-479.

Mahoney, M. T. (2002). The relevance of Chester I. Bernard's teachings to contemporary management education: Communicating the aesthetics of management. International Journal of Organization Theory and Behavior, 5(1/2), 159-172.

Mahuika, N., & Mahuika, R. (2020). Wānanga as a research methodology. ALTERNATIVE: An International Journal of Indigenous Peoples, 16(4), 369-377.

Makhmudova, A. A. (2022). Culture is a certain level of historical development of society, human creative power and abilities. European International Journal of Multidisciplinary Research and Management Studies, 2(09), 99-105.

Mangham, I. L., & Overington, M. A. (1987). Organizations as theatre: A social psychology of dramatic appearances. John Wiley & Sons.

Margolin, V., & Margolin, S. (2002). A social model of design: Issues of practice and research. Design Issues, 18(4), 24-30.

Marques, C. S., Santos, G., Ratten, V., & Barros, A. B. (2019). Innovation as a booster of rural artisan entrepreneurship: A case study of black pottery. International Journal of Entrepreneurial Behavior & Research, 25(4), 753-772.

Martin, W. E., & Bridgmon, K. D. (2012). Quantitative and statistical research methods: From hypothesis to results. John Wiley & Sons.

Martin, W. E., & Bridgmon, K. D. (2012). Quantitative and statistical research methods: From hypothesis to results. John Wiley & Sons.

Master Plan for Tibetan-Qiang Cultural Industry Corridor. (2014). Retrieved from https://www.gov.cn/gongbao/content/2014/content_2711451.htm

Master Plan for Tibetan-Qiang Cultural Industry Corridor. (2014). Retrieved from https://www.gov.cn/gongbao/content/2014/content_2711451.htm

© COPYRIGHT UPM

Matsumoto, D., & Juang, L. (2012). Culture and psychology (5th ed.). Wadsworth Publishing.

Matsumoto, D., & Juang, L. (2012). Culture and psychology (5th ed.). Wadsworth Publishing.

Mazur-Włodarczyk, K., & Karaś, E. (2021). Chinese craft in e-commerce. In Proceedings of the Sustainable Economic Development and Advancing Education Excellence in the Era of Global Pandemic (pp. xx-xx), Granada, Spain, March 24.

Mazur-Włodarczyk, K., & Karaś, E. (2021). Chinese craft in e-commerce. In Proceedings of the Sustainable Economic Development and Advancing Education Excellence in the Era of Global Pandemic (pp. xx-xx), Granada, Spain, March 24.

Mcintyre, M. H. (2010). Consuming craft: The contemporary craft market in a changing economy. Retrieved from http://www.craftscouncil.org.uk

Mcintyre, M. H. (2010). Consuming craft: The contemporary craft market in a changing economy. Retrieved from http://www.craftscouncil.org.uk

Mendoza-Ramírez, L., & Toledo-López, A. (2014). Strategic orientation in handicraft subsistence businesses in Oaxaca, Mexico. Journal of Marketing Management, 30(5-6), 476-500.

Mendoza-Ramírez, L., & Toledo-López, A. (2014). Strategic orientation in handicraft subsistence businesses in Oaxaca, Mexico. Journal of Marketing Management, 30(5-6), 476-500.

Meng, J. (2023). Most of the early Chinese traditional handicrafts were mainly handicraft workshops, and they were divided into folk handicrafts and government handicrafts.

Meng, J. (2023). Most of the early Chinese traditional handicrafts were mainly handicraft workshops, and they were divided into folk handicrafts and government handicrafts.

Mevhibe, A., & Ozdemir, M. (2012). The role of geographical indication in brand making of Turkish handcrafts. Indian Journal of Traditional Knowledge, 11(3), 420-426.

Mevhibe, A., & Ozdemir, M. (2012). The role of geographical indication in brand making of Turkish handcrafts. Indian Journal of Traditional Knowledge, 11(3), 420-426.

Mitra, A., & Lankford, S. V. (1999). Research method in park, recreation, and leisure services. SAGE Publication.

Mitra, A., & Lankford, S. V. (1999). Research method in park, recreation, and leisure services. SAGE Publication.

© COPYRIGHT UPM

Moalosi, R., Popovic, V., & Hickling-Hudson, A. (2010). Culture-orientated product design. International Journal of Technology and Design Education, 20, 175-190.

Moalosi, R., Popovic, V., & Hickling-Hudson, A. (2010). Culture-orientated product design. International Journal of Technology and Design Education, 20, 175-190.

Mochammad, R., Suparman, S., Sugion, S., & Herminingrum, S. (2018). Handicraft product design for micro and small enterprises in Malang tourism. In Proceedings of the 3rd International Conference of Graduate School on Sustainability (pp. xx-xx), Malang, Indonesia, September 22-23.

Mochammad, R., Suparman, S., Sugion, S., & Herminingrum, S. (2018). Handicraft product design for micro and small enterprises in Malang tourism. In Proceedings of the 3rd International Conference of Graduate School on Sustainability (pp. xx-xx), Malang, Indonesia, September 22-23.

Mokhtar, M. (2018). Art and craft in the era of creative industry in Malaysia. Jurnal Seni Rupa dan Desain, 21(2), Agustus.

Mokhtar, M. (2018). Art and craft in the era of creative industry in Malaysia. Jurnal Seni Rupa dan Desain, 21(2), Agustus.

Muasya, J. N., & Mulwa, P. M. (2023). Pilot study, A neglected part of qualitative and quantitative research process: PhD Thesis and Dissertations. Higher Education Research, 8(4), 115-123.

Muasya, J. N., & Mulwa, P. M. (2023). Pilot study, A neglected part of qualitative and quantitative research process: PhD Thesis and Dissertations. Higher Education Research, 8(4), 115-123.

Nachmias, D., & Nachmias, C. (1987). Research methods in the social sciences (3rd ed.). St. Martin's.

Nachmias, D., & Nachmias, C. (1987). Research methods in the social sciences (3rd ed.). St. Martin's.

Nagori, N., & Saxena, K. (2012). Marketing of rural handicraft products through retail format: A synthetic review. Annals of Management Research, 2(1), 45-59.

Nagori, N., & Saxena, K. (2012). Marketing of rural handicraft products through retail format: A synthetic review. Annals of Management Research, 2(1), 45-59.

Naibei, P. (2014). Cultural and sustainable development. In Proceedings of the Conference Paper, 10(2), 2692-9928.

Naibei, P. (2014). Cultural and sustainable development. In Proceedings of the Conference Paper, 10(2), 2692-9928.

Naidu, S., Chand, A., & Southgate, C. P. (2014). Determinants of innovation in the handicraft industry of Fiji and Tonga: An empirical analysis from a tourism perspective. Journal of Enterprising Communities: People and Places in the Global Economy, 8(4), 318-330.

© COPYRIGHT UPM

Naidu, S., Chand, A., & Southgate, C. P. (2014). Determinants of innovation in the handicraft industry of Fiji and Tonga: An empirical analysis from a tourism perspective. Journal of Enterprising Communities: People and Places in the Global Economy, 8(4), 318-330.

Nedović, M., Mađarac, S. M., & Sabljo, I. B. (2019). Innovation and creativity as a prerequisite to sustained competitive advantage. Limen, 157.

Nedović, M., Mađarac, S. M., & Sabljo, I. B. (2019). Innovation and creativity as a prerequisite to sustained competitive advantage. Limen, 157.

Niedderer, K., & Townsend, K. (2010). Craft research: Joining emotion and knowledge. The Design Journal, 1(1), 3-10.

Niedderer, K., & Townsend, K. (2014). Designing craft research: Joining emotion and knowledge. The Design Journal, 17(4), 624-647.

Nieswiadomy, R. M. (2008). Foundation of nursing research (5th ed.). Prentice Hall.

Ning, W. Z. (2013). On the formation and evolution of ancient folklore from the archaeological remains in He, Tao and Ming Areas. Journal of Northwest Normal University (Social Sciences), xx(x), xx-xx.

Noëlla, R. (2007). Handicrafts and employment generation for the poorest youth and women. Intersectoral Program on the Cross-Cutting Theme "Poverty Eradication, Especially Extreme Poverty" Policy Paper.

Nuryakin, N. (2018). Competitive advantage and product innovation: Key success of batik SMEs marketing performance in Indonesia. Academy of Strategic Management, 17(2), 1544-1458.

O'Connor, D. (2006). Handicrafts and Their Linkage with Tourism: Artisans Are Also Your Treasures. In Proceedings of the International Conference on Tourism and Handicrafts (pp. xx-xx), Tehran, Islamic Republic of Iran, May 13-15.

Oakley, K. (2009). The disappearing arts: Creativity and innovation after the creative industries. International Journal of Cultural Policy, 15(4), 403-413.

Olsen, W. (2011). Data collection: Key debates and methods in social research. SAGE Publication Ltd.

OSMEP. (2010). Small and Medium Enterprises of Thailand in 2009 and Trends 2010. White Paper on The Office of Small and Medium Enterprises Promotion in Thailand.

Oxford Dictionaries. (2012). Retrieved from http://oxforddictionaries.com/

Paige, R. C. (2009). Profiles of successful craft micro-retailers. Journal of Developmental Entrepreneurship, 14(04), 393-412.

© COPYRIGHT UPM

Pan, X., & Rafeah, L. (2022). Problems and countermeasures in the inheritance of Chinese traditional culture: The example of Chinese traditional patterns. Environment-Behaviour Proceedings Journal, 7(SI9), 485-489.

Parker, C., Scott, S., & Geddes, A. (2019). Snowball sampling. In SAGE Research Methods Foundations. Retrieved from SAGE Research Methods.

Patimah, S., & Maulana, M. F. (2023). Innovation strategy through financial literacy case study on handicraft craftsmen in Lembang District, West Bandung Regency. International Journal of Artificial Intelligence Research, 6(1), 2579-7298.

Patrick, V. M., Peracchio, L. A., & Townsend, C. (2019). Introduction to special issue: Uncovering the potential of aesthetics and design to transform everyday life. Journal of the Association for Consumer Research, 4(4), 306-312.

Patrick, V., & Peracchio, L. (2010). 'Curating' the JCP special issue on aesthetics in consumer psychology: An introduction to the special issue. Journal of Consumer Psychology, 20, 393-397.

Petruzzelli, M., & Albino, V. (2012). When tradition turns into innovation: How firms can create and appropriately value transfer tradition. Woodhead Publishing Limited.

Petruzzelli, M., & Savino, T. (2015). Reinterpreting tradition to innovate: The case of Italian Haute Cuisine. Industry and Innovation, 22(8), 677-702.

Piaw, C. Y. (2012). Mastering research methods. McGraw-Hill Education.

Popovic, V., Hickling-Hudson, A. R., & Moalosi, R. (2007). Strategies for infusing cultural elements in product design. In Proceedings of the Design Education Forum of South Africa, University Botswana (pp. xx-xx), South Africa.

Portigal, S. (1997). Design as a cultural activity. ACM Sigchi Bulletin, 29(3), 12-14.

Postrel, V. I. (2003). The substance of style: How the rise of aesthetic value is remaking commerce, culture, and consciousness. Technology and Culture, 46(1), 261-262.

Press, M., & Alfoldy, S. (2007). Neocraft: Modernity and the crafts. Nova Scotia College of Art and Design Press.

Press, M., & Cooper, R. (2017). The design experience: The role of design and designers in the twenty-first century. Routledge.

Pritchard, A., & Morgan, N. J. (2001). Culture, identity, and tourism representation: Marketing Cymru or Wales? Tourism Management, 22(2), 167-179.

Pujari, D., Wright, G., & Peattie, K. (2003). Green and competitive: Influences on environmental new product development performance. Journal of Business Research, 56(8), 657-671.

© COPYRIGHT UPM

Punz, S., Hehenberger, P., Follmer, M., & Zeman, K. (2010). Customer oriented concept development in mechatronic product design. In Proceedings of the 11th International Design Conference (pp. xx-xx), Dubrovnik, Croatia, May 17-20.

Putra, P. G. P., Arini, N. N., & Putri, K. S. N. K. (2023). Mmerekonstruksi siklus kehidupan sebagai daya tarik wisata budaya di Samsara living museum. Pariwisata Budaya: Jurnal Ilmiah Agama dan Budaya, 8(1), 65-76.

Qin, Z., Song, Y., & Tian, Y. (2019). The impact of product design with traditional cultural properties (TCPs) on consumer behavior through cultural perceptions: Evidence from the young Chinese generation. Sustainability, 11(2), 426.

Qing, W. U. (2015). Traditional Chinese culture in modern product design. Canadian Social Science, 11(10), 32-39.

Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. European Journal of Education Studies, 3(9), 369-387.

Rao, B., & Gopi, A. G. (2016). Investigating the value chain of modern artisanal innovation. In Proceedings of the 2016 Portland International Conference on Management of Engineering and Technology (PICMET) (pp. 1037-1042). IEEE.

Ravasi, D., & Lojacono, G. (2005). Managing design and designers for strategic renewal. Long Range Planning.

Razzaghi, M., & Ramirez Jr, M. (2005). The influence of the designers' own culture on the design aspects of products. In Proceedings of the EAD06 International Conference of the European Academy of Design (pp. xx-xx), Hochschule für Künste Bremen, April 12-14.

Reimann, M., Zaichkowsky, J., Neuhaus, C., Bender, T., & Weber, B. (2010). Aesthetic package design: A behavioral, neural, and psychological investigation. Journal of Consumer Psychology, 20(4), 431-441.

Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). Sage Publications.

Risatti, H. (2007). A theory of craft: Function and aesthetic expression. University of North Carolina Press.

Rizali, N. (2018). Arts, designs, and textile craft art. In Proceedings of the 3rd International Conference on Creative Media, Design and Technology (pp. xx-xx), Surakarta, Indonesia, September 25.

Robson, C. (2011). Real world research (3rd ed.). John Wiley and Sons.

Romana, Y. K. (2018). Creativity and richness craft: Admirable traditional carve wooden art as recognition of Pakistani heritage. Journal of Arts & Humanities, 7(9), 53-69.

© COPYRIGHT UPM

Roopa, S., & Rani, M. S. (2012). Questionnaire designing for a survey. Journal of Indian Orthodontic Society, 46(4), 273-277.

Roostika, R., Wahyuningsih, T., & Haryono, S. (2015). The impacts of external competitiveness factors in the handicrafts industry. Polish Journal of Management Studies, 12(1), 166-176.

Röse, K., Liu, L., & Zühlke, D. (2001). Needs of the Chinese users on German machines: Localization as one sales aspect. IFAC Proceedings Volumes, 34(29), 167-172.

Roy, S., & Mohapatra, S. (2023). Exploring the culture creativity innovation triad in the handicraft industry using an interpretive approach. Journal of Business Research, 156, 113460.

Rubin, A., & Babbie, E. (2011). Research methods for social work (7th ed.). Brooks/Cole, Cengage Learning.

Ryder, B. (2014). Second wind: Some traditional businesses are thriving in an age of disruptive innovation. Economist, June 14.

Saha, D., & Sen, J. (2023). Characterizing the geography of artisanal production: Case of handloom industry in Varanasi, India. Creative Industries Journal。

Saunders, M. N., & Townsend, K. (2016). Reporting and justifying the number of interview participants in organization and workplace research. British Journal of Management, 27(4), 836-852.

Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students. Pearson education.

Saunders, M., Lewis, P., & Thornhill, A. (2016). Research methods for business students (7th ed.). Pearson Education Ltd.

Schabracq, M. J. (2007). Changing organizational culture: The change agent's guidebook. John Wiley & Sons.

Schwarz, M., & Yair, K. (2010). Making value: Craft and the economic and social contribution of makers. Craft Council.

Sehnem, S., Piekas, A., Dal Magro, C. B., Fabris, J., & Leite, A. (2020). Public policies, management strategies, and the sustainable and competitive management model in handicrafts. Journal of Cleaner Production, 266, 121695.

Sekaran, U., & Bougie, R. (2009). Research method for business: A skill building approach. John Wiley and Son Inc.

Sennett, R. (2008). The craftsman. Yale University Press.

Sevilla, J., & Kahn, B. E. (2014). The completeness heuristic: Product shape completeness influences size perceptions, preference, and consumption. Journal of Marketing Research, 51(1), 57-68.

© COPYRIGHT UPM

Shafi, M., Sarker, M. N. I., & Junrong, L. (2019). Social network of small creative firms and its effects on innovation in developing countries. Sage Open, 9(4), 2158244019898248.

Shafi, M., Szopik-Depczyńska, K., Cheba, K., Ciliberto, C., Depczyński, R., & Ioppolo, G. (2022). Innovation in traditional handicraft companies towards sustainable development: A systematic literature review. Technological and Economic Development of Economy, 28(6), 1589-1621.

Shepherd, H. (2014). Culture and cognition: A process account of culture. Sociological Forum, 29(4), 1007-1011.

Shi Zhou Ren. (2002). Chinese cultural gene bank. Peking University Press.

Shin, M. (2022). Cascading failures in new product development. In Academy of Management Proceedings (Vol. 1, p. 17295). Briarcliff Manor, New York, USA: Academy of Management.

Shin, S., & Park, J. (2019). Evolutionary dynamics of cultural memes and application to massive movie data. arXiv preprint arXiv:1903.02197.

Shivaraju. (2019). An historical study on handicraft industry in Karnataka and women empowerment. Shanlax International Journal of Arts, Science and Humanities, 6(S2), 5-29.

Shuzhen, L., & Qin, Y. (2009). Research on design method of product semantics based on regional culture differences. In Proceedings of the 10th International Conference on Computer-Aided Industrial Design & Conceptual Design (pp. xx-xx), Wenzhou, China, November 26-29.

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. Clinical Nurse Specialist, 34(1), 8-12.

Silverman, H., & Blumenfield, T. (2013). Cultural heritage politics in China: An introduction. In Cultural heritage politics in China (pp. 3-22). Springer.

Silvestre, B. S., & Ţîrcă, D. M. (2019). Innovations for sustainable development: Moving toward a sustainable future. Journal of Cleaner Production, 208, 325-332.

Storey, J. (2018). Cultural theory and popular culture: An introduction. Routledge.

Strati, A. (2000). The aesthetic approach in organization studies. In S. Linstead & H. Hopfl (Eds.), The aesthetics of organization (pp. xx-xx). SAGE.

Sundar, A., & Noseworthy, T. J. (2016). Too exciting to fail, too sincere to succeed: The effects of brand personality on sensory disconfirmation. Journal of Consumer Research, 43(1), 44-67.

Tabachnik, B. G., & Fidell, S. L. (2007). Using multivariate statistics (5th ed.). Allyn and Bacon.

© COPYRIGHT UPM

Taherdoost, H. (2019). What is the best response scale for survey and questionnaire design; review of different lengths of rating scale/attitude scale/Likert scale. International Journal of Academic Research in Management, 8(1), 1-10.

Taherdoost, H. (2021). Data collection methods and tools for research: A step-by-step guide to choose data collection technique for academic and business research projects. International Journal of Academic Research in Management, 10(1), 10-38.

Tapfuma, M. M., Musavengane, R., & Magwaza, R. (2024). The role of creative tourism through arts and crafts in promoting inclusive tourism in Zimbabwe. Journal of Tourism and Cultural Change, 22(1), 1-20.

Taylor, S. S., & Hansen, H. (2005). Finding form: Looking at the field of organizational aesthetics. Journal of Management Studies, 42(6), 1211-1231.

Tienken, C. H. (2013). International comparisons of innovation and creativity. Kappa Delta Pi Record, 49(4), 153-155.

Tolmie, A., Muijs, D., & McAteer, E. (2011). Quantitative methods in educational and social research using SPSS. McGraw-Hill Education.

Torabian, P., & Arai, S. M. (2016). Tourist perceptions of souvenir authenticity: An exploration of selective tourist blogs. Current Issues in Tourism, 19(7), 697-712.

Townsend, C., & Shu, S. B. (2010). When and how aesthetics influences financial decisions. Journal of Consumer Psychology, 20(4), 452-458.

Traiyarach, S., & Banjongprasert, J. (2022). Craft product export promotion competitiveness: The mediating effect between niche differentiation strategy and export performance. Journal of Marine Science and Engineering, 10(7), 999.

Tull, D. S., & Hawkins, D. I. (1993). Marketing Research: Measurement and Method. Prentice Hall.

Tung, F. W. (2012). Weaving with rush: Exploring craft-design collaborations in revitalizing a local craft. International Journal of Design, 6(3), 71-84.

Tyler, T. (2011). Memetics: Memes and the science of cultural evolution. Tim Tyler.

UNCTAD. (2008). Creative economy report. United Nations Conference on Trade and Development. Retrieved from http://unctad.org.org

UNCTAD. (2008). Export competitiveness and development in LDCs: Policies, issues, and priorities for least developed countries. Retrieved from http://unctad.org

UNESCO. (2001). The open file on inclusive education. UNESCO.

UNESCO. (2016). The globalization of cultural trade: A shift in consumption: International flows of cultural goods and services 2004-2013. UNESCO Institute for Statistics. https://doi.org/10.15220/978-92-9189-185-6-en

© COPYRIGHT UPM

United Nations Industrial Development Organization (UNIDO). (2007). Creative industries and micro and small-scale enterprise development: A contribution to poverty alleviation. Retrieved from https://www.unido.org/sites/default/files/200903/69264_creative_industries_0.pdf

United Nations Statistics Division (UNSD). (2002). International Standard Industrial Classification of All Economic Activities.

Vartanian, T. P. (2010). Secondary data analysis. Oxford University Press.

Verganti, R. (2009). Design driven innovation: Changing the rules of competition by radically innovating what things mean. Harvard Business Press.

Vitasurya, V. R. (2016). Local wisdom for sustainable development of rural tourism, case on Kalibiru and Lopati village, province of Daerah Istimewa Yogyakarta. Procedia-Social and Behavioral Sciences, 216, 97-108.

Walker, S., Mullagh, L., Evans, M., & Wang, Y. (2019). Design ecologies: Sustaining ethno-cultural significance of products through urban ecologies of creative practice. International Journal of Anthropology and Ethnology, 3, 1-33.

Wang, D. (2003). Five core concepts in the five glories of Chinese civilization and cultural genes. Hebei Academic Journal, (5), 130-134.

Wang, J. (2022). Analysis of the characteristics of intangible cultural heritage of traditional handicrafts and its value of exhibition space design. Journal of Sociology and Ethnology, 4(6), 131-135.

Wang, Y., Alli, H., & Ishak, S. M. M. (2024). Application of modern design culture in Chinese traditional handicraft products for new appearance and commercial value. International Journal of Academic Research in Business & Social Sciences, 14(2), 2222-6990.

Wedawatta, G., Ingirige, B., & Amaratunga, D. (2011). Case study as a research strategy: Investigating extreme weather resilience of construction SMEs in the UK. In Proceedings of the 7th Annual International Conference of International Institute for Infrastructure, Renewal and Reconstruction (pp. xx-xx), Kandalama, Sri Lanka, July 19-21.

Weggeman, M., Lammers, I., & Akkermans, H. (2007). Aesthetics from a design perspective. Journal of Organizational Change Management, 20(3), 346-358.

Weiguo, H. (2019). Ecological analysis of folk arts and crafts in Gansu Province. In Proceedings of the 3rd International Workshop on Arts, Culture, Literature and Language (pp. xx-xx), Harbin, China, June 21-22.

Wijngaarden, Y., Hitters, E., & Bhansing, P. V. (2019). Innovation is a dirty word: Contesting innovation in the creative industries. International Journal of Cultural Policy, 25(3), 392-405.

© COPYRIGHT UPM

Withanage, C., Park, T., Duc, T. T. H., & Choi, H. (2011). Exploration of product value-characteristic relationship: Partial least squares path modeling for product design and development. In Proceedings of the 2011 IEEE International Conference on Industrial Engineering and Engineering Management (pp. 733-737). IEEE.

Woolley, M. (2011). Beyond control: Rethinking industry and craft dynamics. Craft Research, 2(1), 11-36.

Wu, Y., Chen, L.-Y., & Ren, L. (2017). Implementation of service design on innovation development of traditional handicraft: A case study of Yongchun lacquered basket. In P. L. P. Rau (Ed.), Cross-Cultural Design: Lecture Notes in Computer Science (pp. 232-240). Springer.

Wu, Y., Qin, Y., Wu, M., Zhang, F., & Zhou, M. (2023). Promoting rural economic development in many ways under the strategy of rural revitalization: A case study of Jingxing Township in Huaiyuan, Bengbu. Journal of Innovation and Development, 2(2), 36-40.

Xiaotong, F. (1983). How to carry out ethnic studies. Journal of Guangxi University for Nationalities, 8(10), 468-484.

Xue, X., Caiguo, X., Yi, L., & Mao, C. (2022). Consumption of traditional handicraft fashion: Motivations, intentions and behaviours of Chinese consumers. Cleaner and Responsible Consumption, 4, 100046.

Yadav, U. S., Tripathi, R., Yadav, G. P., & Tripathi, M. A. (2022). Proposal of a global handicraft index for sustainable development: A visionary approach for small industry and developing strategies for handicraft (rural industry). European Journal of Sustainable Development Research, 6(2), em0185.

Yamamoto, M., & Lambert, D. R. (1994). The impact of product aesthetics on the evaluation of industrial products. Journal of Product Innovation Management, 11(4), 309-324.

Yang, C. C., & Shieh, M. D. (2010). A support vector regression-based prediction model of affective responses for product form design. Computers & Industrial Engineering, 59(4), 682-689.

Yang, H. (2022). Design model of cultural and creative products using user perception demand mining. Computational Intelligence and Neuroscience, 1, 6339184.

Yang, Y., & Shafi, M. (2020). How does customer and supplier cooperation in micro-enterprises affect innovation? Evidence from Pakistani handicraft Asian micro-enterprises. Business and Management, 19(5), 530-559.

Yang, Y., Shafi, M., Song, X., & Yang, R. (2018). Preservation of cultural heritage embodied in traditional crafts in the developing countries. A case study of Pakistani handicraft industry. Sustainability, 10(5), 1336.

© COPYRIGHT UPM

Yavari, H. (2006). Reciprocal effects of tourism and handicrafts. In Proceedings of the International Conference on Tourism and Handicrafts (pp. xx-xx), Tehran, Islamic Republic of Iran, May 13–15.

Yi-yi, X. U. (2011). Traditional Handicraft in Traditional Chinese Culture. Jiangsu Social Sciences, 5, 223.

Yongqi, H. (2017, April 5). Plan to revitalize traditional crafts. China Daily USA.

Youjian, W., & Ghani, D. A. (2023). The Chinese traditional cultural graphic elements in modern graphic design. International Journal of Academic Research in Business & Social Sciences, 13(6), 2222-6990.

Yu, X., & Lu, W. (2023). Media integration and digital inheritance: A study of Huizhou rituals and lacquerware paths under rural cultural revitalization. International Journal of Biology and Life Sciences, 3(3), 79-82.

Yuan, H. (2022). Design of folk custom traditional culture resources optimization system based on cloud platform. In SPIE: In Second International Symposium on Computer Technology and Information Science (Vol. 12474, pp. 405-409).

Zafarmand, S. J., Sugiyama, K., & Watanabe, M. (2003). Aesthetic and sustainability: The aesthetic attributes promoting product sustainability. The Journal of Sustainable Product Design, 3(3), 173-186.

Zang, Y. (2008). Cultural genes and variations designed (Doctoral dissertation). Suzhou University, Japan.

Zhan, X., & Walker, S. (2018). Value direction: Moving crafts toward sustainability in the Yangtze River Delta, China. Sustainability, 10(4), 1252.

Zhang, L., & Hong, J. (2023). Research on the sustainable development of traditional crafts under the perspective of service design. In Proceedings of the IAFOR International Conference on Education (pp. xx-xx), Honolulu, Hawaii, USA, January 03-07.

Zhang, L., & Liu, Y. (2022). Research on Chinese traditional culture development art innovation design and development system. Journal of Education, Humanities and Social Sciences, 3, 92-98.

Zhang, S., Juanjuan, X., Pengfei, S., & Jianning, S. (2020). Study on design of Linxia brick carving products based on shape grammar. E3S Web of Conferences, 179(3), 02089.

Zhang, T. C., & Chu, T. Y. (2020). The preliminary study on the application of modern advanced processing technique in non-legacy cultural and creative product design: Taking Wuhu iron painting as an example. E3S Web of Conferences, 179, 02091.

Zhang, Y., & Zhao, X. G., Z. (2016). Analysis on the "redesign" of Chinese traditional handicraft in cultural and creative products. Art and Design: Theoretical Edition, 125-127.

© COPYRIGHT UPM

Zhao, C. (2012). Interview with experts on the protection of intangible cultural heritage. China Development Press. pp. 295-296.

Zhao, J., Xu, M., Lu, S. L., & Cao, C. X. (2013). Human settlement evaluation in mountain areas based on remote sensing, GIS and ecological niche modeling. Journal of Mountain Science, 10(3), 378-387.

Zhaolin, L., Chengqi, X., & Wencheng, T. (2010). Research on product design DNA based on stylistic feature in industrial design. Journal of Machine Design, 27(7), 8-14.

Zhong, Y., Tang, S., & Lan, M. (2023). Research on the path and the branding inheritance model of traditional crafts. Sustainability, 15(7), 5878.

Zhu, S., & Luo, S. (2007). A preliminary study on product family DNA in industrial design. In Proceedings of the 2007 11th International Conference on Computer Supported Cooperative Work in Design (pp. 337-342). IEEE.

Zhu, S., & Shijian, S. (2007). Exploring DNA design of grouped product in industrial design. Journal of Industrial Design, 44(7), xx-xx.

Zhuang, M., & D, J. (2011). A probe into the application of shape tracing model to product shape development. Journal of Industrial Design, 24(1), 3-16.

Zibing, T. (2010). History of Chinese arts and crafts. Flieder-Verlag GmbH.

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APPENDICES

Appendix A

Questionnaire Survey

Expert survey



DEAR RESPONDENTS

This survey is a part of my PHD study at the Faculty of Design and Architecture, Universiti Putra Malaysia. The objective of the survey is ***" development of Design value product culture aesthetic framework for Linxia handicraft towards the marketability".*** I would be very grateful if you could complete this survey. Any information that can be confirmed with you in connection with this study will remain confidential. In any written report or publication, no one is identified and only group data is provided. Thank you!

亲爱的受访者

这个调查是我在马来西亚博特拉大学设计与建筑学院博士研究的一部分。调查的目的是**“临夏手工艺走向市场化的设计价值、产品文化美学框架的发展”**。如果您能完成这份调查，我将非常感激。任何可以与您确认的与本研究相关的信息都将保密。在任何书面报告或出版物中，没有确定任何人，只提供群体数据。谢谢你！

This questionnaire is divided into three (3) sections
问卷分为三个部分

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Section A: Expert's Background
A 部分:专家背景

Section B: The Expert's Knowledge 01 – the design value of Linxia cultural handicraft product
B 部分:专家知识 01 – 临夏文化手工艺产品的设计价值

Section C: The Expert's Knowledge 02 – Culture and aesthetic elements of Linxia cultural handicraft product in Hetaomin toward marketability
C 部分:专家知识 02 – 临夏文化手工艺品走向市场化的文化与审美要素

Section A: Expert's Background
A 部分:专家背景

Please √ tick **ONE ONLY** where is appropriate
请在适当的地方勾选一个

A1. Gender/性别
[ ] Male/男 [ ] Female/女

A2. Education background /教育背景
[ ] Junior college/大专 [ ] Degree/本科
[ ] Master/硕士 [ ] PhD/博士

A3. Age/年龄
[ ] ＜20 years /岁 [ ] 21-30 years /岁 [ ] 31-40 years /岁
[ ] 41-50 years /岁 [ ] >51 /岁

A4. Years of Experience/工作时间
[ ] ＜2 years /年 [ ] 3-5 years /年
[ ] 6-10 years/年 [ ] ＞10years/年

A5. Designation/职位
[ ] Designer/设计师
[ ] Craftsman /手工艺人
[ ] Manufacturer /经理
[ ] Government Agency 政府机构
[ ] Inheritors of intangible cultural heritage/非物质文化遗产传承人
[ ] Design researcher (scholar) 学者/设计研究人员
[ ] Others (Please justify) /其他（请具体描述） _____

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A6. What types of Linxia handicraft product that you are produce or design? 你生产或设计的临夏工艺品有哪些?

[ ] Brick carving 砖雕
[ ] Wood carving 木雕
[ ] Copper art 铜艺
[ ] Embroidery and knitting 刺绣和编织
[ ] Others (please specify) / 其他 _____

A7. What Issue that do you think that currently facing by Linxia handicraft products? 你认为临夏手工艺产品面临什么样的问题?

[ ] Serious product homogeneity and lack of innovation 产品同质化严重缺乏创新
[ ] Inheritance difficulty 传承困难
[ ] Less innovative on Design 设计滞后，产品老化
[ ] Low cultural integration 文化融入低
[ ] Low market share 市场占有率低
[ ] Other (Please justify) /其他（请具体描述） _____

Section B: The Expert's Knowledge 01 – the design value of Linxia cultural handicraft product
B 部分: 专家知识 01 – 临夏文化手工艺产品的设计价值

Please rate the following in term of their importance to you by √ tick ONE ONLY where is appropriate
请根据其对您的重要性对以下内容进行评分，在适当的地方打"√"

B1. Do you think design is important for Linxia traditional handicraft products? 你认为设计对临夏传统手工艺是否重要?

[ ] Not Important 不重要
[ ] Neutral 中立
[ ] Important 重要

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B2. Do you think the design features of Linxia traditional handicraft are important? 你认为临夏传统手工艺的设计特征重要吗

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Combination of traditional skills 现代与传统技艺结合					
Uniqueness and individuation 独特与个性化					
Art and aesthetics 艺术与审美					
Ecological harmony 区域生态和谐					

B3. Do you think design value is important for Linxia traditional crafts to achieve market-oriented strategic innovation? 您认为设计价值对临夏传统手工艺实现面向市场的战略创新重要吗?

[ ] Not Important 不重要
[ ] Neutral 中立
[ ] Important 重要

B4. Please evaluate the importance of design value characteristic for Linxia Handicraft to achieve market-oriented strategic innovation. 请你评价设计价值特征对临夏手工艺实现面向市场的战略创新的重要程度。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Cultural value 文化价值					
Social value 社会价值					
market value 市场价值					
Sentimental value 情感价值					
Sentimental value 可持续价值					
Aesthetic value 审美价值					
Artistic value 艺术价值					

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B5. Please evaluate whether the following design knowledge is important for improving the design value of market-oriented strategic innovation handicraft products ？ 请你评价，以下设计知识对提高面向市场的战略创新临夏手工艺产品的设计价值是否重要？

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Handicraft Issue 手工艺存在的问题					
Market demand and preference 用户需求与情感偏好					
Culture and aesthetics 文化与审美					
Inheritance and innovation 创新与独特性					
Technology and function 技术与功能性					
Environment and sustainable development 环境与可持续发展					

B6. Please evaluate Marketability Factors to enhance the design value of Linxia traditional cultural handicraft products. 请评估提高临夏传统文化手工艺品的设计价值的适销性因素。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Product Quality 产品质量					
Unique design 独特设计					
Cultural identity 文化认同					
Sustainability 持续性					
Marketing Promotion 市场营销					
Product Brand 产品品牌					
Education Training 教育培训					

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B7. Please evaluate the benefits of design value to Linxia handicraft products with market-oriented strategic innovation 请评价，设计价值对面向市场战略创新的临夏手工艺产品的益处。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Protecting and inheriting traditional handicrafts 保护和继承传统手工艺品					
Highlight regional and cultural characteristics 突出区域和文化特色					
Carry forward traditional culture and enhance cultural identity 延续传统文化与提升文化认同					
Innovative traditional handicraft design concept 创新传统手工业设计概念					
Activate handicraft market and promote regional economic development 激活手工业市场和促进区域经济发展					

SectionC: The Expert's Knowledge 02 – Culture and aesthetic elements of Linxia cultural handicraft product in Hetaomin toward marketability
C 部分: 专家知识 02 – 临夏文化手工艺品走向市场化的文化与审美要素

Please rate the following in term of their importance to you by √ tick ONE ONLY where is appropriate
请根据其对您的重要性对以下内容进行评分，在适当的地方打"√"

C1. Are cultural elements important for Linxia handicraft products with strategic innovation for the market? 文化元素对面向市场战略创新的临夏手工艺产品重要吗?

[ ] Not Important 不重要
[ ] Neutral 中立
[ ] Important 重要

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C2. How do your rate the important of culture elements toward marketability of Linxia traditional handicraft products? 你如何评价文化元素对临夏传统手工艺品的市场价值的重要性？

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Region culture 地区文化					
National culture 民族文化					
Folk culture 民间文化					
Traditional culture 传统文化					
Social culture 社会文化					
Religious culture 宗教文化					

C3. Are aesthetic elements important for Linxia handicraft products with strategic innovation for the market? 美学元素对面向市场战略创新的临夏手工艺产品重要吗?

[ ] Not Important 不重要
[ ] Neutral 中立
[ ] Important 重要

C4. How do your rate the important of aesthetic elements toward marketability of Linxia traditional handicraft products? 你如何评价审美元素对临夏传统手工艺品的市场价值的重要性？

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Form/ 造型					
Color / 色彩					
Texture / 结构					
Balance /平衡					
Brand/ 品牌					
Material/ 材质					
Shape/ 形状					
Texture/ 肌理					
Style/ 风格					
Image/意象					
Emotion/ 情感					
Appearance/ 外观					
Semiotic/产品符号					
Semantic/ 语义					
Identity/身份					

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C5. Please evaluate the role of cultural elements in Linxia's market-oriented strategic innovation handicraft products 请你评价文化元素对面向市场战略创新的临夏手工艺产品的作用特征

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Protection and inheritance of traditional handicrafts 传统手工艺的保护和传承					
Product connotation enhancement 产品内涵提升					
Embodiment of regional characteristics 地域特色体现					
Consumer market development 消费市场开拓					
Enhance cultural identity 提升文化认同					

C6. Please evaluate the effect of aesthetic elements on the market oriented strategic innovation of Linxia handicraft products. 请你评价美学元素对面向市场战略创新的临夏手工艺产品的作用特征。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Aesthetic value Enhancement 审美价值增强					
Integration of contemporary aesthetics 当代美学融合					
Expand the consumer Market 扩展消费市场					
Improve functionality and aesthetics 改进功能美观					

C8. In your options, what are the future trends that needed in development of Linxia traditional handicraft product? 在您的选择中，未来临夏手工艺产品开发有哪些要素能够丰富文化和美学元素提高产品的市场化？

[ ] Elements integration (culture and aesthetic)/ 元素整合
[ ] Innovative design/ 丰富设计
[ ] Innovation strategy/ 战略创新
[ ] Product marketability (positioning and brand building)/产品定位和品牌建设
[ ] Other (please specify)其他（请描述）_____

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C9. How do you evaluate the successful of culture and aesthetic elements integration toward marketability of Linxia traditional handicraft product? 您如何评价文化美学元素对临夏手工艺产品市场化的成功与否？

[ ] User feedback/ 用户反馈
[ ] Sales data/ 销售数据
[ ] Industry awards/ 行业奖项
[ ] Personal satisfaction/ 个人满意度

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Appendix A2: purchaser Survey

DEAR RESPONDENTS

This survey is a part of my PHD study at the Faculty of Design and Architecture, Universiti Putra Malaysia. The objective of the survey is ***" development of Design value product culture aesthetic framework for Linxia handicraft towards the marketability".*** I would be very grateful if you could complete this survey. Any information that can be confirmed with you in connection with this study will remain confidential. In any written report or publication, no one is identified and only group data is provided. Thank you!

亲爱的受访者

这个调查是我在马来西亚博特拉大学设计与建筑学院博士研究的一部分。调查的目的是**“临夏手工艺走向市场化的设计价值、产品文化美学框架的发展”**。如果您能完成这份调查，我将非常感激。任何可以与您确认的与本研究相关的信息都将保密。在任何书面报告或出版物中，没有确定任何人，只提供群体数据。谢谢你！

This questionnaire is divided into three (3) sections
问卷分为三个部分

Section A: User’s Background
A 部分：用户背景

Section B: The User’s Knowledge 01 – the design value of Linxia cultural handicraft product
B 部分: 用户知识 01 临夏文化手工艺产品的设计价值

Section C: The User’s Knowledge 02 - Culture and aesthetic elements of Linxia cultural handicraft product in Hetaomin toward marketability
C 部分: 用户知识 02 -临夏文化手工艺品面向市场化的文化与审美要素

Section A: User's Background
A 部分：用户背景

Please √ tick ONE ONLY where is appropriate
请在适当的地方打上“√”

A1. Gender/性别
[ ] Male/男 [ ] Female/女

A2. Education background /教育背景
[ ] Junior college/大专 [ ] Degree/本科 [ ] Master/硕士
[ ] PhD/博士

A3. Age/年龄
[ ] ＜20 years /岁 [ ] 21-30 years /岁 [ ] 31-40 years /岁
[ ] 41-50 years /岁 [ ] >51 /岁

A4. What is your profession? 你的职业是什么？
[ ] Agriculture 农业 [ ] Utilities 公用事业 [ ] Education 教育
[ ] Entertainment 娱乐公司 [ ] artist 艺术家 [ ] Designer 设计师 [ ] Handicrafts man 手工艺人 [ ] Finance 金融 [ ] Religious people 宗教人士 [ ] Health care 医疗保健 [ ] Culture industry 文化产业
[ ] Students 学生

A5. What is your current monthly income? 你目前的月收入是多少？
[ ] > 15000RMB [ ] 10000 -15000RMB
[ ] 5000 - 9999RMB [ ] 2000 - 4999RMB
[ ] ＜2000RMB [ ] No more income 没有收入

Section B: The User's Knowledge 01 – the design value of Linxia cultural handicraft product
B 部分: 用户知识 01 临夏文化手工艺产品的设计价值

Please √ tick where is appropriate
在适当的地方打 √

B1. Do you know anything about Linxia's handicraft products? 你对临夏手工艺产品了解吗？
[ ] Not at all 一点也不 [ ] Slightly 稍微
[ ] Moderately 适度 [ ] Extremely 非常

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B2. Have you ever bought Linxia handicraft products? 你是否购买过临夏手工艺产品？

[ ] Yes 是 [ ] No 否

B3. What types of Linxia handicraft product that you have bought? 你购买过的临夏工艺品有哪些?

[ ] Brick carving 砖雕 [ ] Wood carving 木雕
[ ] Copper art 铜艺 [ ] Embroidery and knitting 刺绣和编织
[ ] paper-cutting 剪纸 [ ] Gourd carving 刻葫芦

B4. How often do you buy handicrafts 你购买手工艺品的频率是多少次

[ ] Monthly 每月 [ ] Quarterly 每季度
[ ] Semiannually 每半年 [ ] Annually 每年
[ ] Non scheduled 不定期

B5 Are you willing to pay high prices to buy well-designed handicraft products in Linxia？你是否愿意花高价购买设计优良的临夏手工艺产品.

[ ] Yes 是 [ ]No 否

B6. What is the main reason why you buy Linxia handicraft products? 什么是你购买临夏手工艺产品的主要原因？

[ ] To others as a special gift 作为特色礼物送给他人
[ ] Used for decoration and beautification 用于装饰、美化
[ ] Collection value 收藏价值
[ ] Support the development of local handicrafts 支持本地手工艺发展
[ ] Interested in the craft of handicraft products 对手工艺产品的工艺感兴趣
[ ] It integrates the diverse cultures of the Linxia region 它集成了临夏地区多元的文化

B7. What kind of problems do you think Linxia handicraft products have? 你认为临夏手工艺产品面临什么样的问题？

[ ] Design with a high similarity degree 高相似度的设计
[ ] Lack of innovation 缺乏创新
[ ] The product lacks modernity 产品缺乏现代感
[ ] Inheritance difficulty 传承困难
[ ] Low cultural integration 文化融入低

B8. In your opinion, what Design Factors Influenced the Experience Product Users Purchase Decision? 在您看来，哪些设计因素影响了产品用户的购买决策?

[ ] Inheritance and innovation of materials and technology 材料与工艺的传承创新
[ ] Combination of tradition and modernity 传统与现代的结合
[ ] Designer \ craftsman background and highlights 设计师\手工艺人的背景和亮点
[ ] Uniqueness and innovation 独特性和创新性
[ ] Design style and concept 设计风格、理念

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B9. Please evaluate your importance according to the following content, and type in a "√" under the appropriate options 请根据以下内容对您的重要性进行评价，在适当的选项下打"√"

When you buy a handicraft product, its design value does you focus more on below (in order of importance)? 当你购买手工艺产品,它的设计价值你更注重以下哪几个方面.	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Cultural value 文化价值					
Social value 社会价值					
market value 市场价值					
Sentimental value 情感价值					
Sentimental value 可持续价值					
Aesthetic value 审美价值					
Artistic value 艺术价值					

Section C: The User's Knowledge 02 - Culture and aesthetic elements of Linxia cultural handicraft product in Hetaomin toward marketability
C 部分: 用户知识 02 -临夏文化手工艺品面向市场化的文化与审美要素

Please √ tick where is appropriate
在适当的地方打 √

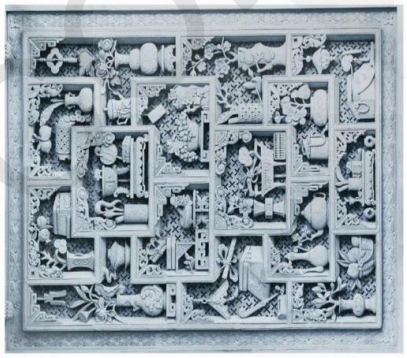
C1. In your opinion, do the cultural elements help to improve the marketability of Linxia's handicraft products? 在你看来，文化元素是否有助于提高临夏手工艺产品的适销性。
[ ] Not important/ 不重要
[ ] Important/ 重要

C2. In your opinion, do aesthetic elements help to improve the marketability of Linxia handicraft products??在你看来，审美元素是否有助于提高临夏手工艺产品的适销性。
[ ] Not important/ 不重要
[ ] Important/ 重要

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C3. What cultural elements do you think the brick carving products below contain？你认为下面的临夏手工艺(砖雕)产品包含哪些文化元素？	Region culture 地域 文化	Traditional Culture 传统 文化	Social Culture 社会 文化	Pop Culture 流行 文化	National Culture 民族 文化	Religious Culture 宗教 文化	Folk Culture 民俗 文化
							
							
							

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C4.Please evaluate the importance of aesthetic elements in buying Linxia handicrafts (brick carving)请评价在购买临夏手工艺品(砖雕)审美元素的重要性？	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Form/ 造型					
Color / 色彩					
Texture / 结构					
Balance /平衡					
Brand/ 品牌					
Material/ 材质					
Shape/ 形状					
Texture/ 肌理					
Style/ 风格					
Image/意象					
Emotion/ 情感					
Appearance/ 外观					
Semiotic/ 产品符号					
Semantic/ 语义					
Identity/身份					

End of Questionnaire, Thank you
问卷结束，非常感谢

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Appendix A3: Purchaser Verification



DEAR RESPONDENTS

This survey is a part of my PHD study at the Faculty of Design and Architecture, Universiti Putra Malaysia. The objective of the survey is ***" development of Design value product culture aesthetic framework for Linxia handicraft towards the marketability".*** I would be very grateful if you could complete this survey. Any information that can be confirmed with you in connection with this study will remain confidential. In any written report or publication, no one is identified and only group data is provided. Thank you!

亲爱的受访者

这个调查是我在马来西亚博特拉大学设计与建筑学院博士研究的一部分。调查的目的是“临夏手工艺走向市场化的设计价值、产品文化美学框架的发展”。如果您能完成这份调查，我将非常感激。任何可以与您确认的与本研究相关的信息都将保密。在任何书面报告或出版物中，没有确定任何人，只提供群体数据。谢谢你！

This questionnaire is divided into three (3) sections
问卷分为三个部分

Section A: User’s Background
A 部分：用户背景

Section B: Understanding of the design value of brick carving products
B 部分: 对砖雕产品的设计价值理解

Section C: Understanding of the culture and aesthetic elements of brick carving products
C 部分: 对砖雕产品文化与审美要素的理解

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Section A: User's Background
A 部分：用户背景

Please √ tick ONE ONLY where is appropriate
请在适当的地方打上“√”

A1. Gender/性别
[ ] Male/男 [ ] Female/女

A2. Education background /教育背景
[ ] Junior college/大专 [ ] Degree/本科
[ ] Master/硕士 [ ] PhD/博士

A3. Age/年龄
[ ] 21-30 years /岁 [ ] 31-40 years /岁
[ ] 41-50 years /岁 [ ] ＞50years /岁

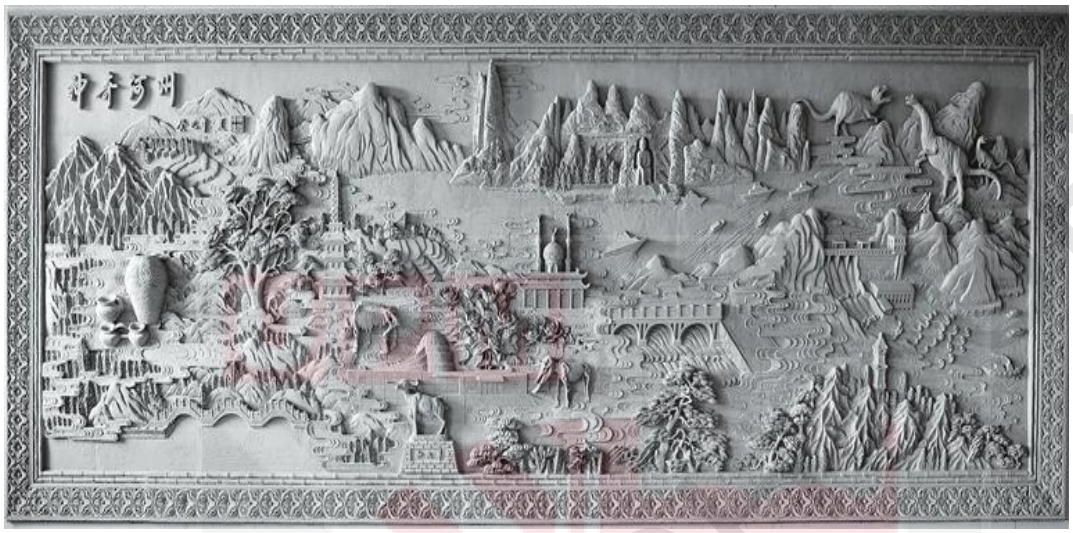
A4. Purchasing time of brick carving product/砖雕产品采购时间
[ ] 1- 3 months / 1-3 个月
[ ] 4- 6 months / 4-6 个月
[ ] 7- 12 months / 7-12 个月

A5. Purchaser's income/购买者收入情况
[ ] ＞12000RMB
[ ] 9000 -12000RMB
[ ] 5000 - 8999RMB
[ ] 2000 - 4999RMB
[ ] ＜2000RMB

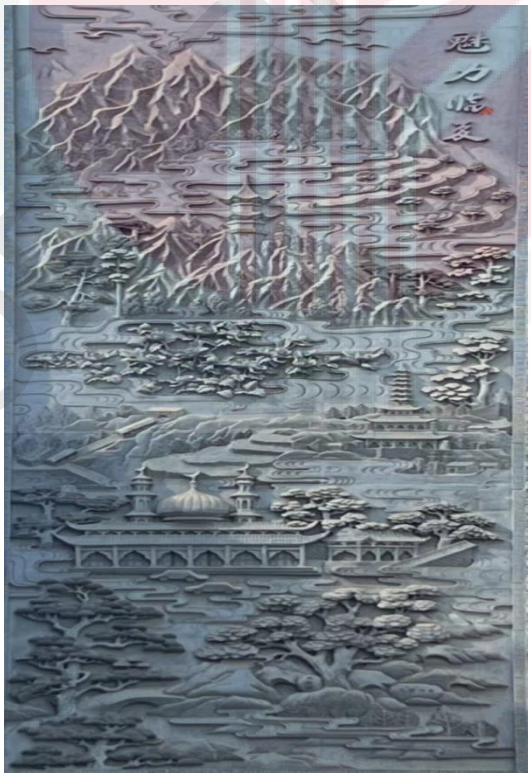
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Section B: Understanding of the design value of brick carving products
B 部分: 对砖雕产品的设计价值理解

Please √ tick ONE ONLY where is appropriate
请在适当的地方打上“√”



brick carving product A (wonderful Hezhou)
砖雕产品 A（神奇贺州）。



brick carving product B (Charming Linxia)
砖雕产品 B(魅力临夏)



brick carving product C (Mount Wutai)
砖雕产品 C（五台山）

B1. Please tick（√） the box reflecting the degree of design value according to the brick carving product A (wonderful Hezhou). 请根据砖雕产品 A（神奇河州）在反映设计价值程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Cultural value 文化价值					
Social value 社会价值					
Market value 市场价值					
Artistic value 艺术价值					
Sentimental value 情感价值					
Sustainable value 可持续价值					
Aesthetic value 审美价值					

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B2. Please tick（√） the box reflecting the degree of design value according to the brick carving product **B（Charming Linxia.)** 请根据砖雕产品 B（魅力临夏）在反映设计价值程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Cultural value 文化价值					
Social value 社会价值					
Market value 市场价值					
Artistic value 艺术价值					
Sentimental value 情感价值					
Sustainable value 可持续价值					
Aesthetic value 审美价值					

B3. Please tick（√） the box reflecting the degree of design value according to the brick carving product C（Mount Wutai）. 请根据砖雕产品 C（五台山）在反映设计价值程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Cultural value 文化价值					
Social value 社会价值					
Market value 市场价值					
Artistic value 艺术价值					
Sentimental value 情感价值					
Sustainable value 可持续价值					
Aesthetic value 审美价值					

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Section C:

Section C: Understanding of the culture and aesthetic elements of brick carving products
C 部分: 对砖雕产品文化与审美元素的理解

C1. Please tick the box reflecting the degree of cultural elements according to the brick carving product A (wonderful Hezhou). 请根据砖雕产品 A（神奇河州）在反映文化元素程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Region culture 地域文化					
National culture 民族文化					
Folk culture 民间文化					
Traditional culture 传统文化					
Social culture 社会文化					
religious culture 宗教文化					
pop culture 流行文化					

C2. Please tick the box reflecting the degree of cultural elements according to the brick carving product B（**Charming Linxia**）请根据砖雕产品 B（魅力临夏）在反映文化元素程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Region culture 地域文化					
National culture 民族文化					
Folk culture 民间文化					
Traditional culture 传统文化					
Social culture 社会文化					
religious culture 宗教文化					
pop culture 流行文化					

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C3. Please tick the box reflecting the degree of cultural elements according to the brick carving product C (Mount Wutai). 请根据砖雕产品 C（五台山）在反映文化元素程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Region culture 地域文化					
National culture 民族文化					
Folk culture 民间文化					
Traditional culture 传统文化					
Social culture 社会文化					
religious culture 宗教文化					
pop culture 流行文化					

C4. Please tick the box reflecting the degree of Aesthetic elements according to the brick carving product A (wonderful Hezhou). 请根据砖雕产品 A（神奇河州）在反映美学元素程度的方框里打勾。

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Modelling/ 造型					
Colour / 色彩					
Structure / 结构					
Balance /平衡					
Brand/ 品牌					
Material/ 材质					
Shape/ 形状					
Texture/ 肌理					
Style/ 风格					
Emotion/ 情感					
proportion/比例					
Pattern/ 图案					
Semiotic/ 产品符号					
Semantic/ 语义					
Identity/身份					

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C5. Please tick the box reflecting the degree of Aesthetic elements according to the brick carving product B（**Charming Linxia**）请根据砖雕产品 B（魅力临夏）在反映美学元素程度的方框里打勾

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Modelling/ 造型					
Colour / 色彩					
Structure / 结构					
Balance /平衡					
Brand/ 品牌					
Material/ 材质					
Shape/ 形状					
Texture/ 肌理					
Style/ 风格					
Emotion/ 情感					
proportion/比例					
Pattern/ 图案					
Semiotic/ 产品符号					
Semantic/ 语义					
Identity/身份					

C6. Please tick the box reflecting the degree of Aesthetic elements according to the brick carving product C (Mount Wutai) 请根据砖雕产品 C（五台山）在反映美学元素程度的方框里打勾

	Not Important 不重要	Less Important 不太重要	Neutral 中立	Important 重要	Very Important 非常重要
Modelling/ 造型					
Colour / 色彩					
Structure / 结构					
Balance /平衡					
Brand/ 品牌					
Material/ 材质					
Shape/ 形状					
Texture/ 肌理					
Style/ 风格					
Emotion/ 情感					
proportion/比例					
Pattern/ 图案					
Semiotic/ 产品符号					
Semantic/ 语义					
Identity/身份					

Anything to add or comment (please specify)

_____

_____

End of Questionnaire, Thank you
问卷结束，非常感谢

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BIODATA OF STUDENT

Jin Dou Wenkun was born in China ,Gansu Province.China and graduated from the School of Fine Arts of Northwest University for Nationalities with a Bachelor's Degree in Fine Arts in 2000 and a Master's Degree in Fine Arts of Northwest University for Nationalities in 2013. She is specifically focusing on regional art development, including ethnic art, preservation, and sustainable development of cultural heritage, and committed to fostering interdisciplinary research to foster communication and collaboration in the field of cultural and aesthetic design. Study at Universiti Putra Malaysia (UPM) under supervision by Associate Professor Ts. Dr. Hassan Hj Alli at the Faculty of Design and Architecture, Universiti Putra Malaysia is very valuable to enhance knowledge and expertise in the field. His proficiency has inspired me to continue research to gain knowledge and research insights into design values and cultural elements Aesthetic elements as important and potential roles in the design of traditional handicraft products.

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LIST OF PUBLICATIONS

Jin, D., Alli, H., Yusoff, M., & Syah, I. (2024). Development of integrating design value product culture aesthetic framework for Linxia handicraft toward marketability. Online Journal of Art & Design, 12(4). Retrieved from http://adjournal.net/articles/124/12420.pdf

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