MATERIAL INNOVATION INITIATIVE

North Mountain CONSULTING GROUP

August 2021

Next-Gen Leather: Chinese Consumer Perceptions

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EXECUTIVE SUMMARY

This study examined Chinese consumer purchasing preferences for leather and leather alternatives. We collected survey responses from a sample of 501 individuals across China. The sample was nationally representative in terms of age and gender, but was more urban, educated, and higher income earning than the general population. We segmented consumers by generation, material type preference, and purchase likelihood.

We found a very high degree of acceptance of next-gen leather products in urban China: 90% reported a preference for next-gen leather over conventional leather and 70% reported a high ("very" or "extremely") likelihood of purchasing. While the study sample reported high purchase intention for next-gen leather (70%) in general at the start of the survey, the participants' high likelihood of purchasing was overall lower (49%-61%), when asked to consider these specific production technologies. Millennials and members of Gen X expressed the greatest preference for (92-93%) and likelihood of purchasing (75-77%) next-gen leather.

We categorized those with a high likelihood of purchasing as the 'enthusiastic consumer' segment. 62% of these enthusiastic consumers would pay a higher price for next-gen leather in comparison to conventional leather. Enthusiastic consumers were motivated to purchase for multiple reasons, including the environment (72% reported it to be highly influential), quality (72%), animal welfare (68%), personal expression (61%), and cost (56%). After considering specific production technologies, only half of the enthusiastic consumers (51%) rated technology as highly influential in their purchasing decisions around next-gen leather.

Qualitative results showed that those who preferred next-gen leather (90%) appreciated the altruistic benefit for the environment and animals, while enjoying the innovation, fashion, and affordability aspects of the products. Those who preferred conventional leather (10%) appreciated that the product was high quality (durable, authentic, craftsmanship), and expressed uncertainty and skepticism toward new products.

The findings from this study will serve to provide the preliminary groundwork for communication strategy and product development for next-gen leather in China.

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INTRODUCTION

China is among the world's largest and fastest-growing economies (Congressional Research Service, 2019). The value of the global fashion market is expected to reach 878 billion USD in 2021 (Statistica, 2021). In China, fashion industry revenue is expected to be 383 billion USD in 2021, or 44% of the global total, with an annual growth rate of 8.33% (Statista, 2021).

Leather goods in particular has a global value of 414 billion USD in 2017 (Grandview Research, 2019). Although consumers appreciate the quality of leather, there is rising concern regarding production impacts related to the environment and animal welfare, giving rise to the desire for high quality alternatives that are in line with consumers' values. This expectation of values orientation in fashion choices is especially prominent among younger generations (McKinsey & Company, 2017).

The purpose of this research project is to obtain preliminary data on Chinese consumer purchasing likelihood and motivations for purchasing next-gen leather, as well as information on pricing and openness to different production technologies. Currently, there exists a lack of data regarding consumer acceptance of next-gen materials in China. A previous exploratory study in the US (Szejda & Urbanovich, 2021) found that 45% of respondents preferred a leather alternative over conventional leather, and ⅔ of those who preferred alternative leather were willing to pay more. US respondents considered animal welfare, sustainability, and performance (quality/durability) as influential factors.

This exploratory study begins a research agenda to better understand Chinese consumer attitudes toward and behavior around an emerging category of alternative materials that are high performance, more sustainable, and animal-free.

METHOD

Procedures

Research participants answered a series of questions about their motivations and intentions to purchase either conventional and next-gen leathers, as well as their preferences toward pricing and technologies. The survey also included data quality checks and sociodemographic measures.

Measures and Materials

Participants first read a description of next-gen leather (see Appendix A). We then asked a series of questions relating to consumer attitudes and purchasing intentions toward conventional (animal-derived) and next-gen leather. Material preference was measured using a dichotomous choice format (either *conventional leather* or *next-gen leather)*. Participants' reasons for material type preference were assessed using an open-ended question which asked the reason for their preference. The following variables were measured on a five-point scale (1 = *not at all*, 2 = *somewhat*, 3 = *moderately*, 4 = *very*, 5 = *extremely*): motivations for purchasing, purchase intention, technology preferences, and technology influence. Pricing was measured with a multiple choice question (*much lower, slightly lower, about the same, slightly higher, much higher).* Sociodemographic variables included gender, age, population density, income, education, ethnicity, religion, and region.

The questionnaire was translated into Mandarin and confirmed by two native speakers.

Sample

We obtained the sample of 501 participants from CINT panels via Positly. The sample was representative of the Chinese population ages 15-69 in terms of 4-year age brackets by gender quotas. See Appendix B for the sampling quotas. Participants were included in the study if they resided in China, were aged 15-69, and passed two data quality checks. Compared to the full Chinese population, study participants were more urban (with 45% in Guangdong Province, Beijing, and Shanghai), educated, and higher income earning. Demographic characteristics of the full sample and the enthusiastic segment can be found in Appendix C.

Analysis Plan

For material preference, we reported the overall preference and reasoning for two groups of participants: those with a preference for conventional leather, and those with a preference for

next-gen leather. For the open-ended responses, two native speakers independently reviewed the responses and developed thematic categories.

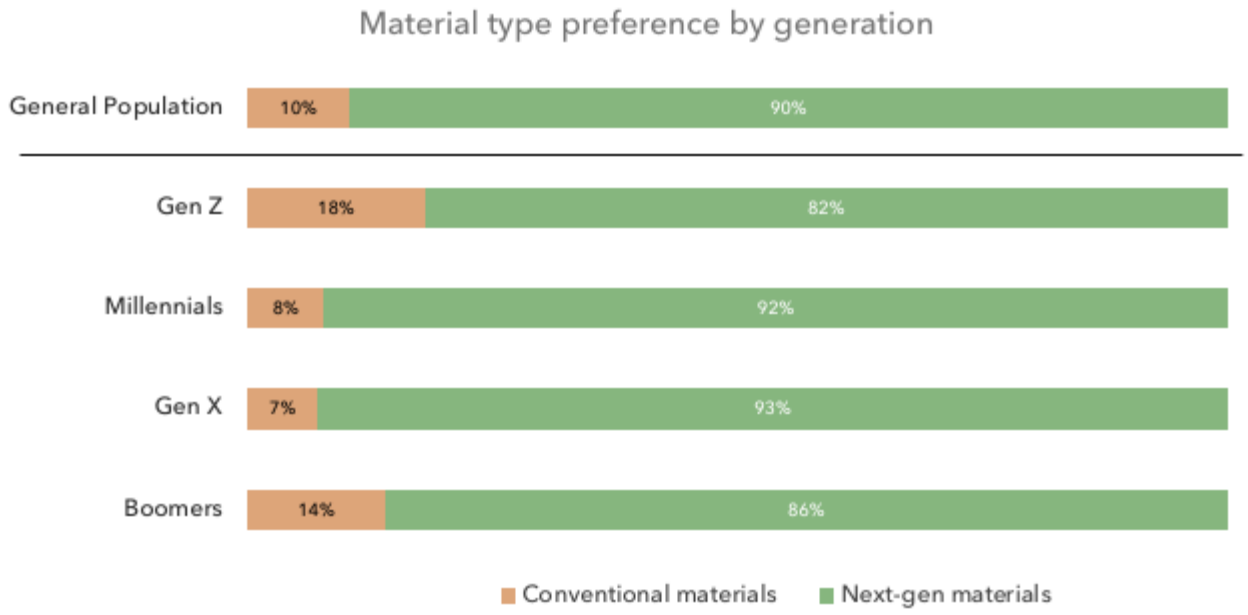
For purchase intention, we reported results for the general population and included a breakdown by generational category, including Gen Z (ages 15-24), Millennials (ages 25-39), Gen X (ages 40-54), and Boomers (ages 55-69). We defined the enthusiastic consumers as those who were highly likely to purchase (very or extremely likely to purchase), which constituted the majority (70%) of the full sample. For the remaining results, we reported characteristics of this enthusiastic segment, as well as the general population.

For visual simplicity, we collapsed the 5-scale items (motivations for purchasing, purchase intention, and technology influence variables) into three categories as follows: none (*not at all*), medium (*somewhat* and *moderately*), and high (*very* and *extremely*). The medium and high groups combined (*somewhat*, *moderately*, *very*, or *extremely likely*) we refer to as *open to purchasing*.

Results: Full Sample

Purchase Preferences

Preferred product type
We asked participants to select their preferred material type: conventional leather or next-gen leather. Most participants (90%) indicated a preference for next-gen leather. This preference was consistent across generations, however Millennials and Gen X most frequently prefered next-gen leather.



Note. Samples for each generation were small (72 Gen Z, 154 Millennials, 168 Gen X, 107 Boomers).

Reasons for preferring conventional leather
We asked the participants who preferred conventional leather (10%) to explain the reasoning behind their preference. Those who prefer conventional leather frequently mentioned these reasons for their preference:

- ➔ Personal preference for conventional leather
  - *"I like conventional leather."*
  - *"I am accustomed to using conventional leather."*

- ➔ Appreciation for the high quality of conventional leather (craftsmanship, traditional, authentic)
  - *"Conventional-leather products are better quality."*

- *"Conventional leather is handmade."*

➔ Skepticism of new products
- *"I have not used next-gen leather products and do not know if they are great."*
- *"Next-gen products need to be tested/proven over time."*

➔ Assurance of safety and credibility
- *"Safe and worry-free"*
- *"More credible"*

Reasons for preferring next-gen leather

We asked the participants who preferred next-gen leather (90%) to explain the reasoning behind their preference. Those who prefer next-gen leather frequently mentioned these reasons for their preference:

➔ Environmental protection
- *"Next-gen leather can protect the environment more."*
- *"Protect the ecosystem"*

➔ Animal protection
- *"It does not hurt animals."*
- *"No need to kill animals."*

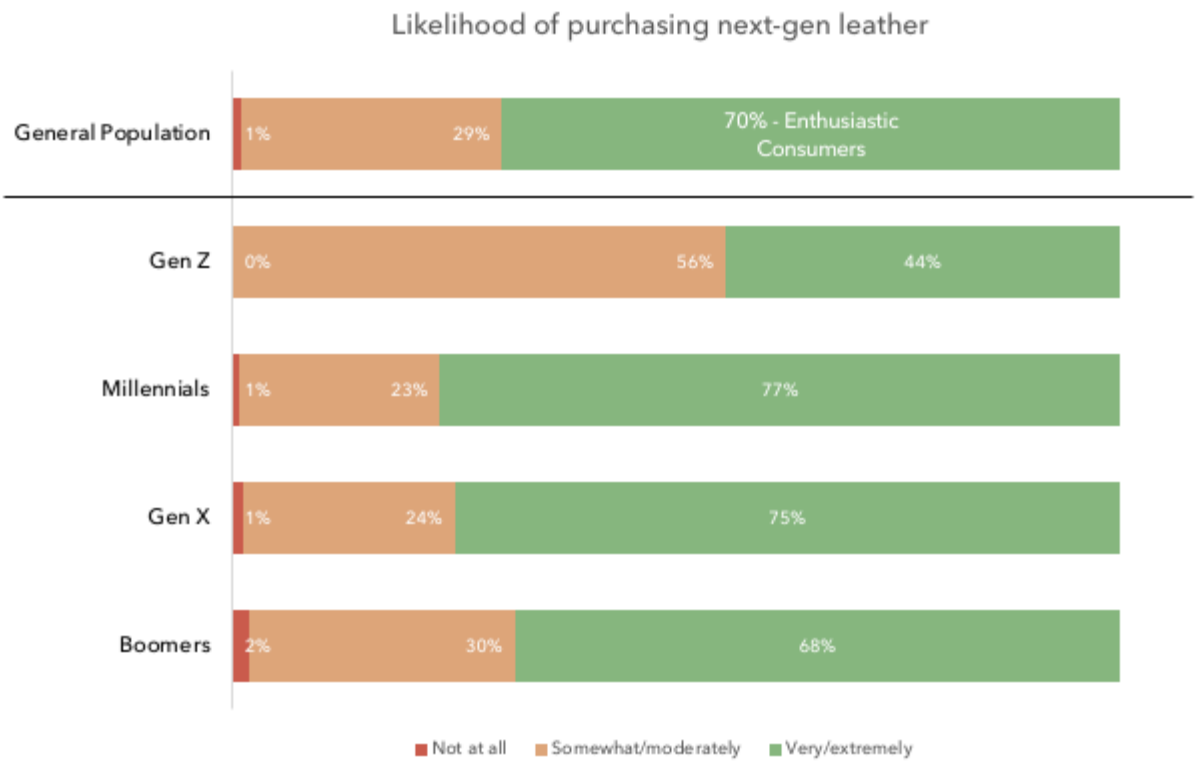
➔ Innovation
- *"I like to try new products."*
- *"New (things) bring freshness."*

➔ Affordability
- *"The performance-cost ratio is high."*
- *"It is inexpensive."*

➔ Fashion and aesthetics
- *"Because it is more fashionable."*
- *"Because it looks more beautiful."*

Purchase Intention

We asked participants the degree to which they were likely to purchase next-gen leather. The vast majority (99%) were at least somewhat open to purchasing, while 70% were very or extremely likely to purchase. Openness to purchasing was consistent across generations. However, enthusiasm for purchasing was higher among older generations: Millennials (77%; ages 25-39), Gen X (75%; ages 40-54), and Boomers (68%; ages 55-69) were more likely to be enthusiastic about purchasing, compared to the Gen Z category (44%; ages 15-24).



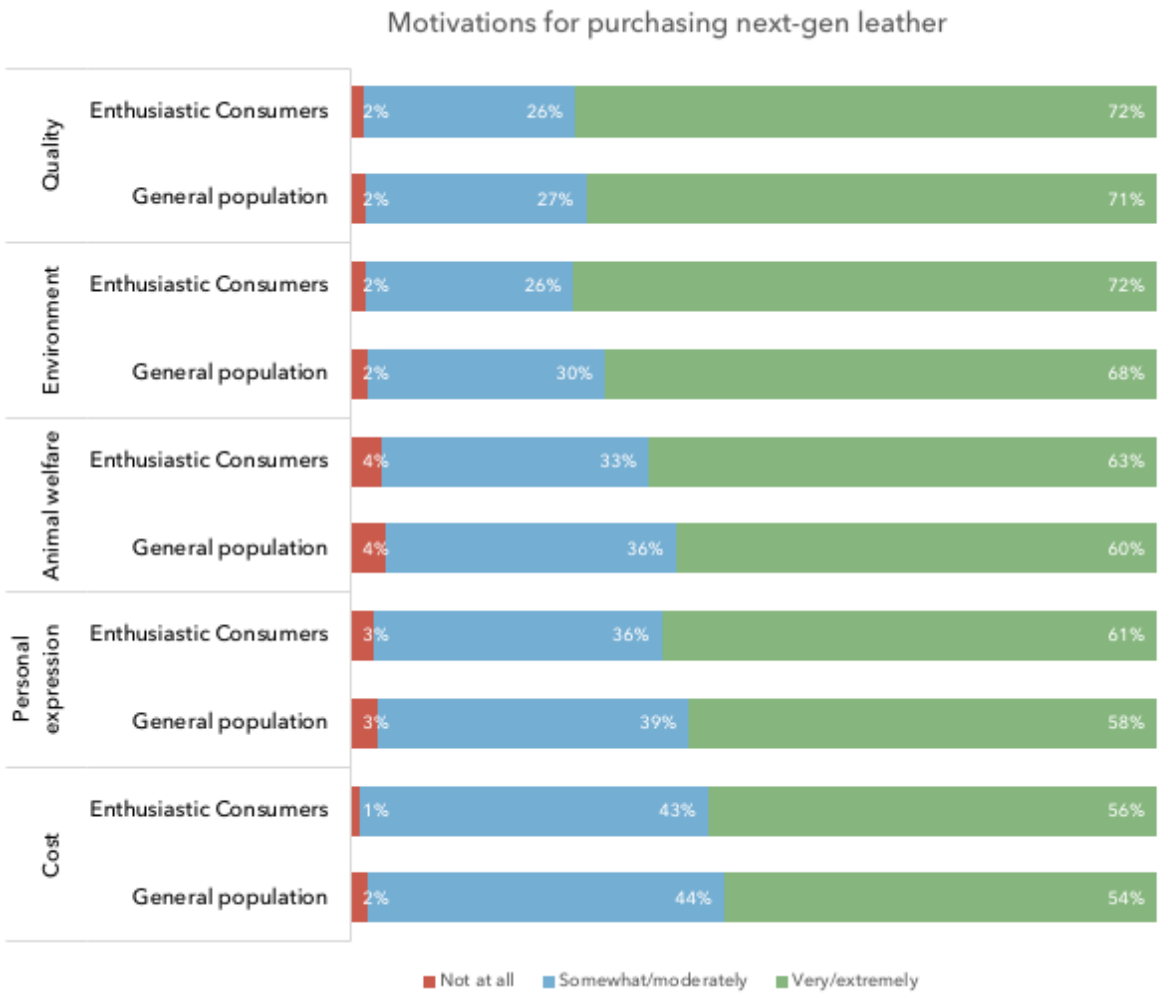
Note. Samples for each generation were small (72 Gen Z, 154 Millennials, 168 Gen X, 107 Boomers).

Results: Enthusiastic Consumers

For the remaining results we focus our reporting on the enthusiastic consumers, or the 70% of the sample who reported a high likelihood of purchasing next-gen leather. For comprehensive reporting, we show both the enthusiastic segment and the full sample in the charts. However it is important to note that the enthusiastic segment and full sample are very similar because the enthusiastic segment comprises 70% of the full sample.

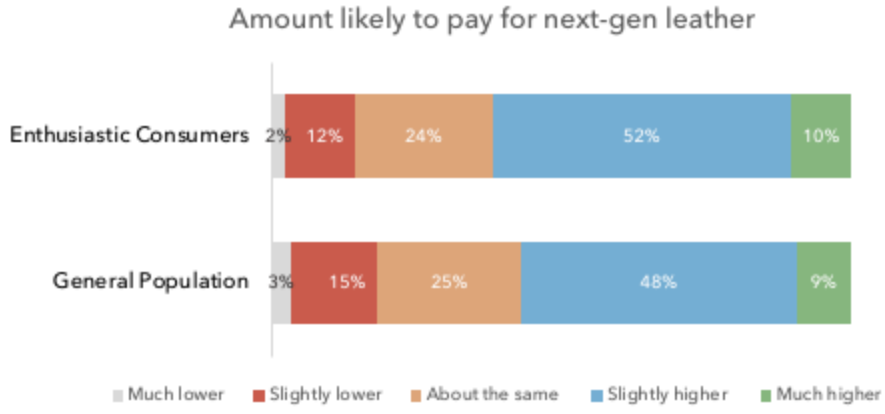
Motivations

We asked participants the extent to which five reasons (environment, animal welfare, quality, cost, personal expression) were personally motivating to purchase next-gen leather. The vast majority of participants considered all five reasons to be at least somewhat motivating. The most influential reasons for enthusiastic consumers were: environment (72% reported it to be highly influential), quality (72%), and animal welfare (68%). Personal expression (61%) and cost (56%) were also highly influential to more than half of the enthusiastic consumers.



Pricing

We asked participants how much they were likely to pay for next-gen leather in comparison to conventional leather. Among the enthusiastic consumers, 24% would pay about the same and 62% would pay higher.



Technologies

We asked participants the extent to which they were likely to purchase next-gen leather produced using six specific technologies (rather than generally). The vast majority of the enthusiastic consumers (95-97%) were open to purchasing products made with specific technologies, though about half (49-61%) were enthusiastic about purchasing. While the study sample reported high purchase intention for next-gen leather (70%) in general at the start of the survey, when asked to consider these specific production technologies, the participants' high likelihood of purchasing was overall lower (49%-61%).

Sourced from biodegradable or compostable materials

- ➔ 97% were open to purchasing
- ➔ 61% were enthusiastic about purchasing

Sourced from biopolymers produced by yeast or bacteria

- ➔ 97% were open to purchasing
- ➔ 61% were enthusiastic about purchasing

Sourced from recycled materials

- ➔ 98% were open to purchasing
- ➔ 55% were enthusiastic about purchasing

Sourced from laboratory-grown animal cells

- ➔ 97% were open to purchasing
- ➔ 54% were enthusiastic about purchasing

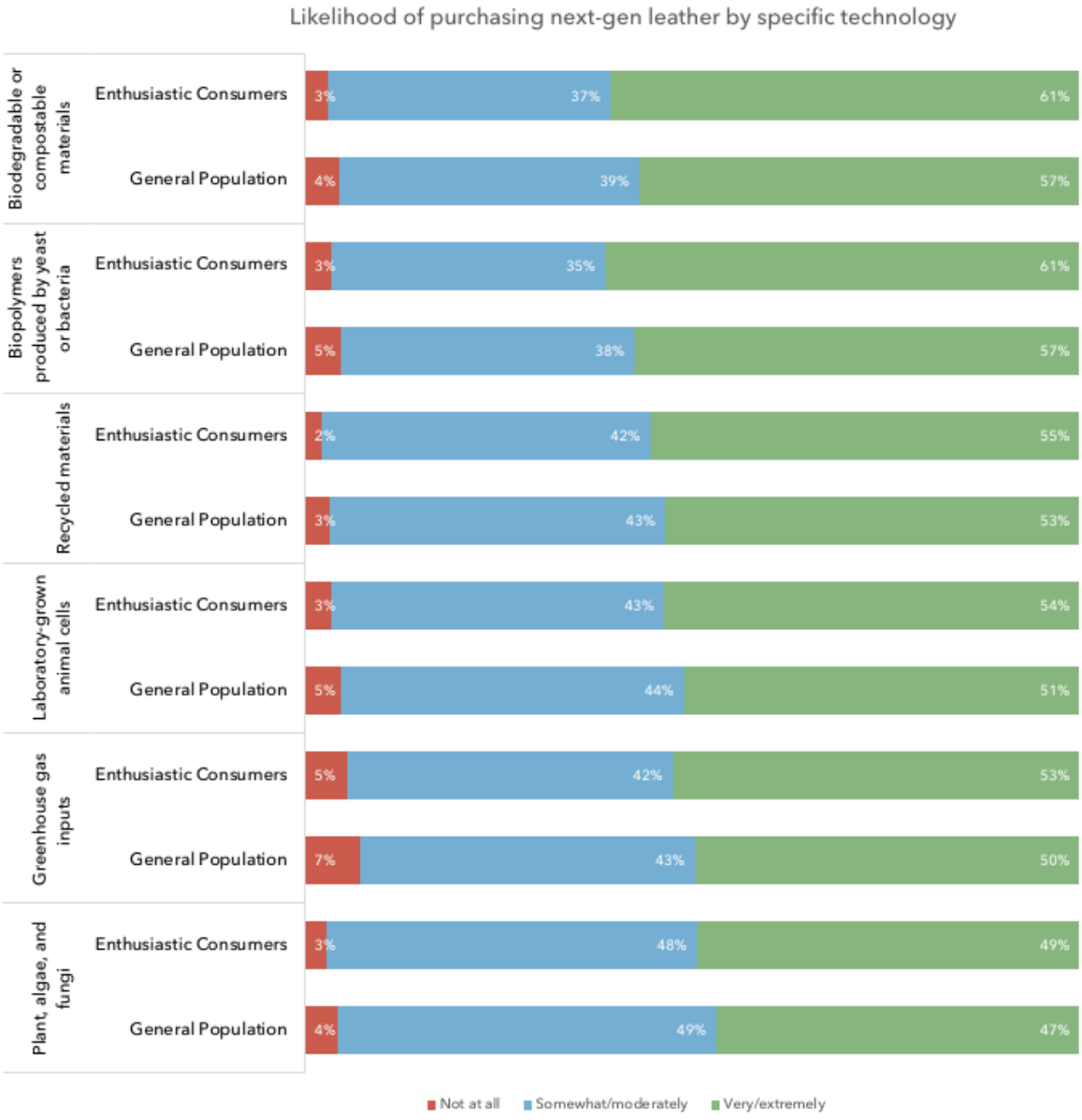
Sourced from greenhouse gas inputs

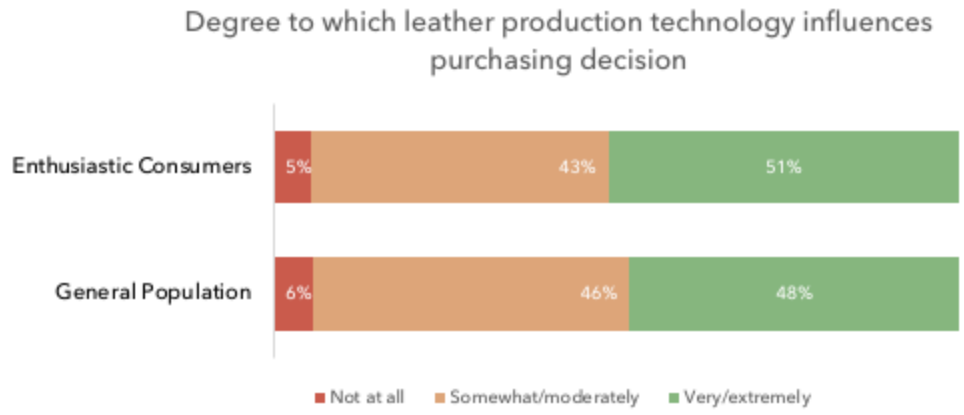
- ➔ 95% were open to purchasing
- ➔ 53% were enthusiastic about purchasing

Sourced from plants, algae, and fungi

- ➔ 97% were open to purchasing
- ➔ 49% were enthusiastic about purchasing

After considering the specific technologies, we asked participants to consider the degree to which the specific type of technology used to make next-gen leather would be influential in their decision to purchase it. Most enthusiastic consumers (95%) reported the specific technology to be at least somewhat influential, though only half of enthusiastic consumers (51%) reported a specific technology to be highly influential.


Likelihood of purchasing next-gen leather by specific technology
Biodegradable or compostable materials
Enthusiastic Consumers
3%
37%
61%
General Population
4%
39%
57%
Biopolymers produced by yeast or bacteria
Enthusiastic Consumers
3%
35%
61%
General Population
5%
38%
57%
Recycled materials
Enthusiastic Consumers
2%
42%
55%
General Population
3%
43%
53%
Laboratory-grown animal cells
Enthusiastic Consumers
3%
43%
54%
General Population
5%
44%
51%
Greenhouse gas inputs
Enthusiastic Consumers
5%
42%
53%
General Population
7%
43%
50%
Plant, algae, and fungi
Enthusiastic Consumers
3%
48%
49%
General Population
4%
49%
47%
Not at all
Somewhat/moderately
Very/extremely


Degree to which leather production technology influences purchasing decision
Enthusiastic Consumers
5%
43%
51%
General Population
6%
46%
48%
Not at all
Somewhat/moderately
Very/extremely

CONCLUSION

This study lays the groundwork for understanding Chinese consumer preferences and behavioral intentions toward next-gen leather products. We found a very high degree of acceptance of next-gen leather products in urban China: 90% reported a preference for next-gen leather over conventional leather and 70% were enthusiastic about purchasing. 62% of the enthusiastic consumers would pay a higher price for next-gen leather in comparison to conventional leather. Millennials and members of Gen X expressed the greatest preference for and likelihood of purchasing next-gen leather (75-76% highly likely to purchase). Members of Gen Z reported the lowest enthusiasm (44% highly likely to purchase); however since this segment included teenagers, their purchase intention could be a reflection of a current low level of purchasing activity in general.

When considering specific technologies, there were fewer consumers enthusiastic about purchasing (49-61%), in comparison to the general enthusiasm for purchasing next-gen leather (70% highly likely to purchase). Accordingly, only half of the enthusiastic consumers (51%) rated specific technologies as highly influential in their purchasing decisions around next-gen leather. This reduced enthusiasm could be a reflection of a variety of consumer perceptions about the products, such as low familiarity with the specific technology and its personal/societal benefits, or conversely, familiarity with lower-quality versions of leather alternatives currently on the market. Further research is needed to more deeply understand consumer perceptions of technologies and how to effectively communicate about them.

Enthusiastic consumers reported being motivated to purchase for multiple reasons, including the environment (72% reported it to be highly influential), quality (72%), animal welfare (68%), personal expression (61%), and cost (56%). Qualitative findings showed that those who preferred next-gen leather (90%) appreciated the altruistic benefit for the environment and animals, as well as the innovation, fashion, and affordability aspects of the products. Those who preferred conventional leather (10%) appreciated its high quality (durable, authentic, craftsmanship), and expressed uncertainty and skepticism toward new products.

The findings from this study will serve to provide the preliminary groundwork for communication strategy and product development for next-gen leather in China. Depending on whether brands desire to target the overall population or specifically target those who are highly interested in next-gen products, these findings can be studied further or applied in the materials industry by focusing on production techniques that yield attributes desirable to Chinese consumers. Pricing strategies and appealing messages can also drive interest and purchasing. Further research is needed to more fully understand Chinese consumer preferences, attitudes, and behavior with respect to other types of high performance, sustainable and animal-free materials.

APPENDIX A: Next-gen Leather Description

In the last few years, rapid advances in science and technology have given rise to a new leather industry. Mission-driven companies are designing new types of leather, called next-gen leather, for fashion, automobile, and homegoods products.

Next-gen leather can be used to make high-performance products such as:
- Beautiful and durable handbags, wallets, and shoes
- Soft and functional sofa, chair, and automobile upholstery

These products are made using a variety of technologies:
- Next-gen leather can be developed using natural components from plants, algae, and fungi
- Next-gen leather can be grown directly from cells, bypassing the animal but resulting in an identical product

Although made in different ways, next-gen leather products are all:
- High performance
- Sustainable
- Animal-free

在过去的几年，科学技术的飞速发展催生了新的皮革工业。 以使命为导向的公司正在为时尚、汽车和家居用品设计新型皮革，称为新一代皮革。

新一代皮革可用于制造高性能产品，比如：
- 美观耐用的手提包、钱包和鞋子
- 柔软实用的沙发、椅子和汽车内饰

这些产品使用多种技术制造：
- 新一代皮革可以使用来自植物、藻类和真菌的天然成分开发产品
- 新一代皮革可以直接从细胞中生长，绕过动物但产生相同的产品

虽然是以不同的方式制造，但新一代皮革产品都是：
- 高性能的
- 可持续的
- 不含动物成分的

Appendix B: Sampling Quotas

Generation	Age (years)	Men		Women	
		Quota	Sample	Quota	Sample
Gen Z	15 to 19	18	18	15	15
Gen Z	20 to 24	20	20	18	18
Millennial	25 to 29	26	26	24	24
Millennial	30 to 34	29	29	28	28
Millennial	35 to 39	24	24	23	23
Gen X	40 to 44	24	25	23	23
Gen X	45 to 49	30	31	29	29
Gen X	50 to 54	28	30	28	30
Boomer	55 to 59	22	22	22	22
Boomer	60 to 64	18	17	18	18
Boomer	65 to 69	16	13	17	15
Total		255	255	245	245

Note: Participants were recruited to match the Chinese population age 15-69 in terms of gender and age, with age ranges spanning four years. Boomers were difficult to recruit; as a result they are slightly underrepresented in the sample (6 individuals under quota). These missing quotas were filled with 6 Gen X participants. The sample also included one non-binary individual age 20-24.

Appendix C: Sample Demographics

Gender

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
Men	255	51%	170	49%
Women	245	49%	179	51%
Non-binary	1	0%	0	0%
Total	501	100%	349	100%

Age

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
15-19	33	7%	11	3%
20-24	39	8%	21	6%
25-29	50	10%	35	10%
30-34	57	11%	47	13%
35-39	47	9%	36	10%
40-44	48	10%	32	9%
45-49	60	12%	47	13%
50-54	60	12%	47	13%
55-59	44	9%	30	9%
60-64	35	7%	24	7%
65-69	28	6%	19	5%
Total	501	100%	349	100%

Population density

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
Rural areas or village	12	2%	4	1%
Small- and medium-sized cities	69	14%	32	9%
Large city	418	83%	313	90%
I do not know	2	0%	0	0%
Total	501	100%	349	100%

Income

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
less than ￥500	1	0%	1	0%
￥501-￥1000	3	1%	1	0%
￥1001-￥1500	1	0%	0	0%
￥1501-￥2000	7	1%	6	2%
￥2001-￥3000	7	1%	1	0%
￥3001-￥5000	28	6%	9	3%
￥5001-￥8000	50	10%	37	11%
￥8001-￥10000	98	20%	65	19%
more than ￥10000	306	61%	229	66%
Total	501	100%	349	100%

Education

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
6th grade	2	0%	2	1%
9th grade	9	2%	0	0%
12th grade	85	17%	49	14%
Associate degree	57	11%	40	11%
Bachelor's degree	323	64%	235	67%
Postgraduate degree or higher	25	5%	23	7%
Total	501	100%	349	100%

Ethnicity

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
Han	487	97%	341	98%
Miao	4	1%	4	1%
Buyi	0	0%	0	0%
Man	1	0%	0	0%
Tujia	1	0%	0	0%
zhuang	3	1%	3	1%
Hui	2	0%	1	0%
Tibetan	0	0%	0	0%
Mongolian	1	0%	0	0%
Uighur	1	0%	0	0%
Yi	0	0%	0	0%
other	1	0%	0	0%
Total	501	100%	349	100%

Religion

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
Hinduism	4	1%	3	1%
Islam	3	1%	0	0%
Christianity	19	4%	17	5%
Sikhism	2	0%	1	0%
Buddhism	78	16%	50	14%
Jainism	1	0%	1	0%
Atheism	243	49%	181	52%
Judaism	0	0%	0	0%
Daoism	10	2%	6	2%
Other	141	28%	90	26%
Total	501	100%	349	100%

Region

	Full Sample		Enthusiastic Consumers (90%)	
	n	**%**	**n**	**%**
Anhui	7	1%	3	1%
Fujian	14	3%	7	2%
Gansu	3	1%	3	1%
Guangdong	100	20%	75	21%
Guizhou	7	1%	3	1%
Hainan	1	0%	1	0%
Hebei	10	2%	6	2%
Heilongjiang	4	1%	3	1%
Henan	28	6%	18	5%
Hubei	13	3%	11	3%
Hunan	13	3%	10	3%

Jiangsu	31	6%	21	6%
Jiangxi	2	0%	1	0%
Jilin	12	2%	8	2%
Liaoning	19	4%	15	4%
Qinghai	1	0%	1	0%
Shaanxi	6	1%	3	1%
Shandong	18	4%	12	3%
Shanxi	8	2%	5	1%
Sichuan	23	5%	16	5%
Yunnan	5	1%	3	1%
Zhejiang	12	2%	3	1%
Guangxi	5	1%	2	1%
Inner Mongolia	8	2%	7	2%
Ningxia	0	0%	0	0%
Xinjiang	0	0%	0	0%
Tibet	0	0%	0	0%
Beijing	67	13%	46	13%
Chongqing	13	3%	9	3%
Shanghai	60	12%	49	14%
Tianjin	10	2%	7	2%
Hong Kong	1	0%	1	0%
Macau	0	0%	0	0%
Total	501	100%	349	100%