



FOSTERING CONSUMER TRUST — ETHICAL ARTIFICIAL INTELLIGENCE IN E-COMMERCE

道德與信心共融 促進電子商務人工智能發展

Press Conference
8 September 2022

AI – A Driving Force for Development

Artificial Intelligence (AI) is well-recognised as an irreversible trend to enable social and economical development and transformation around the world.

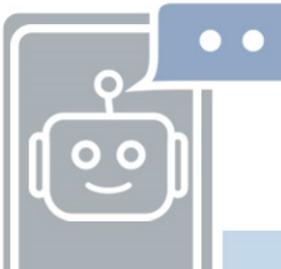
In recent years, AI has developed rapidly in many industries, and **E-commerce** is one of the key markets that adopt AI widely.

Hong Kong needs to **adopt a forward-thinking approach** and anticipate the need to formulate strategies given various benefits and risks of AI, and leverages AI to achieve the vision to become a digitalised **smart city**.

Currently, there is no widely accepted definition of AI.

AI generally refers to a family of technologies that involve the use of computer programmes and machine learning to mimic the problem-solving and decision-making capabilities of human beings.

AI-related technologies are still evolving, and more new applications will likely emerge.



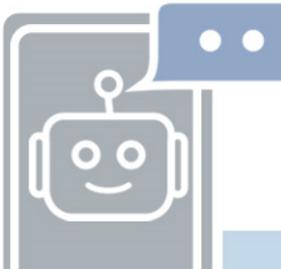
Strengthening Consumer Protection

In the digital era, the imbalance between consumers and traders in terms of information possession and bargaining power has become increasingly prevalent amidst the rapid development of AI. Such ethical issues must be nipped in the bud and promptly addressed to safeguard consumer rights.

Although AI brings benefits to human, there are **inherent risks** related to AI which might affect consumers and the society.

In e-commerce market, traders might use consumers' personal data with AI algorithms at the back-end operations for their own benefits, which might result in significant implications for consumers in terms of product pricing, choices, and search results, **affecting consumers' rights to know and choose**, and **distort market competition**.

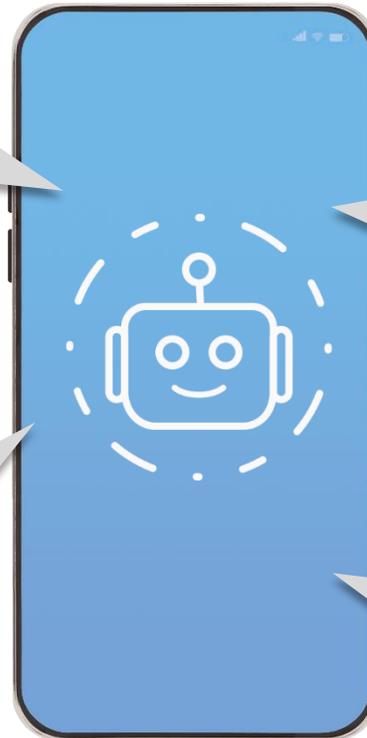
In the light of these issues, many international organisations and jurisdictions have already established national strategies and guidance to manage AI-related risks.



Objectives

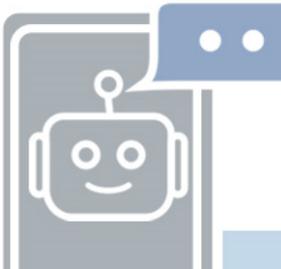
Probe into **consumers'** perception and usage of AI in e-commerce

Understand **e-commerce traders'** adoption of AI

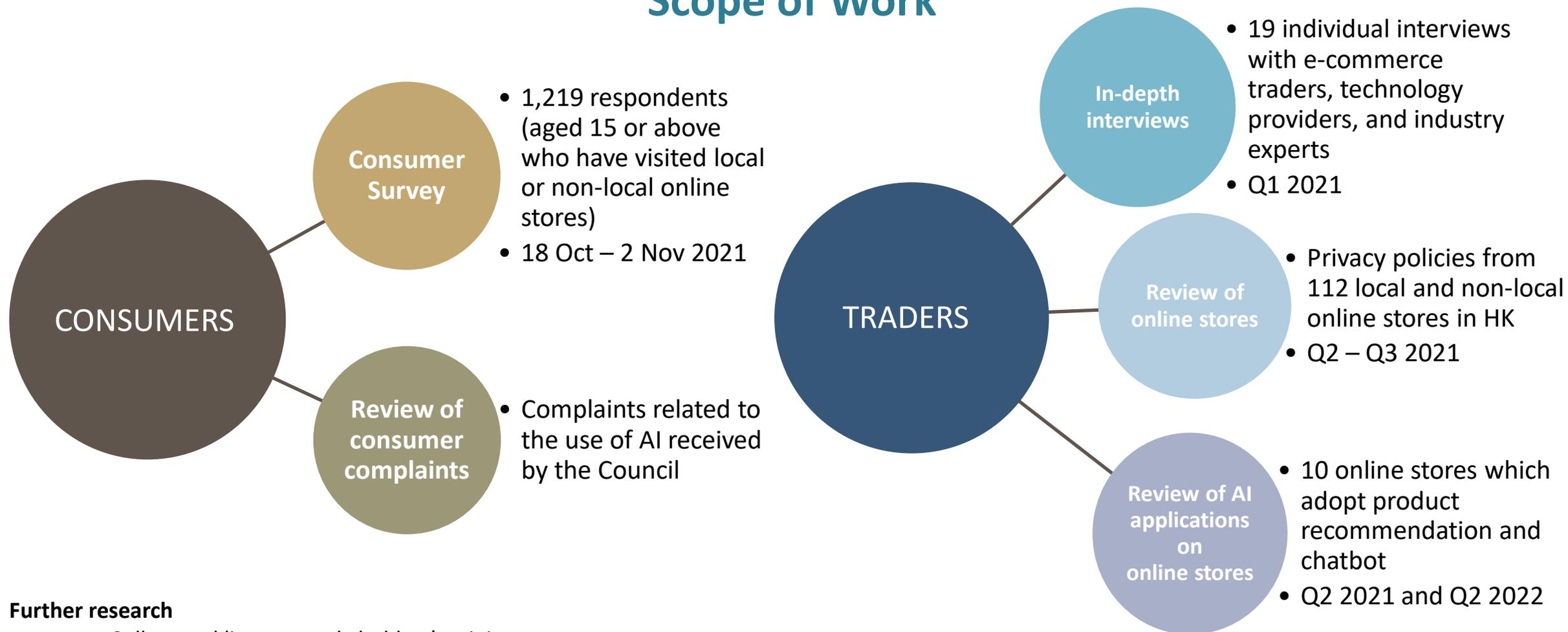


Explore ways to **empower consumers** and mitigate AI risks associated with them

Identify ways to encourage **good trade practices** regarding AI and promote the development of “Responsible and Ethical AI”



Scope of Work



Further research

- Collect and listen to stakeholders' opinions
- Desk research on potential consumer issues about the use of AI in the globe
- Desk research on AI governance in 10 jurisdictions (Mainland China, Canada, France, Germany, Japan, Singapore, South Korea, the EU, the UK, and the US)

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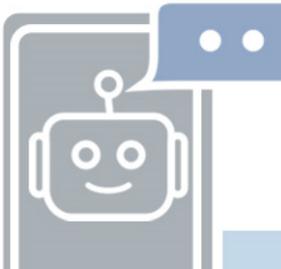
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03 CONSUMERS' EXPERIENCE IN AI APPLICATIONS AND TRADERS' INFORMATION DISCLOSURE

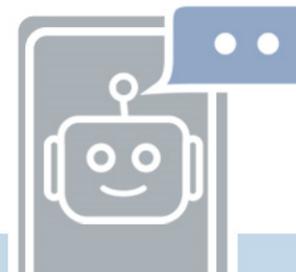
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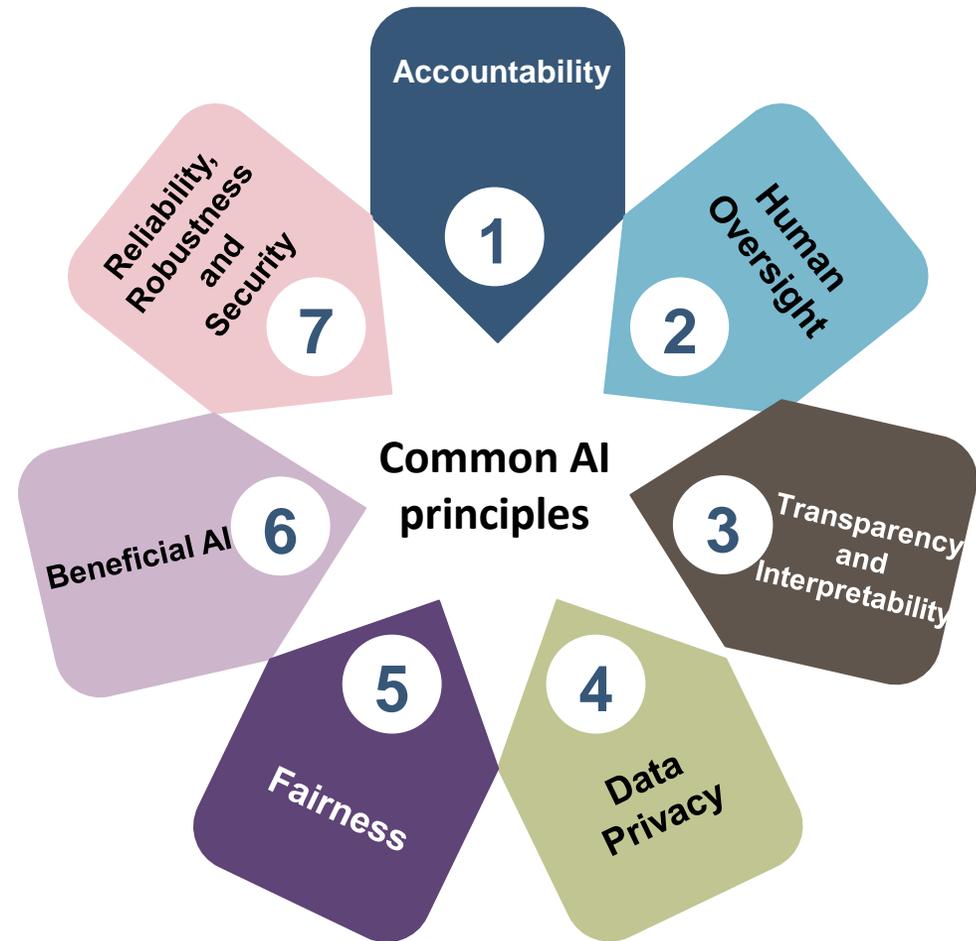
PART 1: AI-CONSUMER RELATIONSHIP



RELATIONSHIP BETWEEN AI AND THE SOCIETY

AI could be a **double-edged sword** –
On the one hand, it fosters economic growth, improves quality of life and brings benefits to the society and consumers, as well as provides more personalised shopping experiences to consumers. On the other, it could pose risks to the consumers if used inappropriately.

Currently, more than **160** sets of AI principles have been introduced worldwide (e.g. OECD, WEF, UN, G20) to promote “Trustworthy AI”.



Case Studies Related to Protection of Consumer Rights' Regarding the Use of AI – Transparency, Choice, Fairness, Privacy Protection

Personalised pricing



In 2020, Tinder Plus was found to use users' personal data to set differentiated prices without informing them. Older people were arbitrarily charged more.

- Unfair to consumers who had to pay higher prices
- Interests of the older people were harmed
- Consumers did not know the pricing difference; how the prices were calculated were unknown
- Consumers' personal data was not used according to the agreement

Biased ranking



In 2021, Google was fined US\$2.7 billion by the European Commission for promoting its own comparison-shopping service at the top of its search results.

- Unfair to other market players
- Harmed consumer choices
- Consumers did not know how the search results are generated

Social scoring



In 2020, US's Electronic Privacy Information Center complained that Airbnb's algorithms, which scanned online news articles, social media profiles, education records, etc. for scoring, were not fair, transparent or explainable.

- Unfair to consumers who were less active online or linked with fake information
- Harmed consumer choices
- Consumers did not know how the scores were calculated

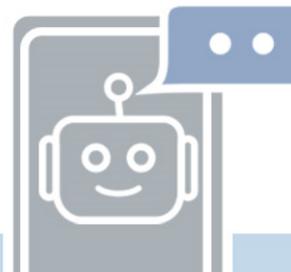
Facial recognition



In 2022, Cyberspace Administration of China fined Didi 80 billion yuan for excessively collecting personal data of passengers, including over 100 million pieces of passengers' face recognition information, location information, and 57.8 million pieces of drivers' ID information.

- Excessive collection of sensitive personal information; seriously infringing users' rights and interests in relation to personal information
- Fail to meet obligations to inform consumers about how the company handles personal information

PART 2: CONSUMERS' PERCEPTION OF AI

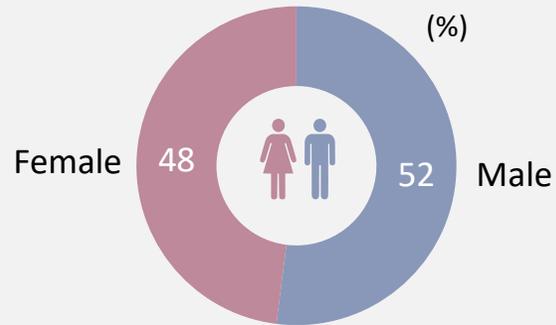


Profile & Shopping Behaviour of Respondents

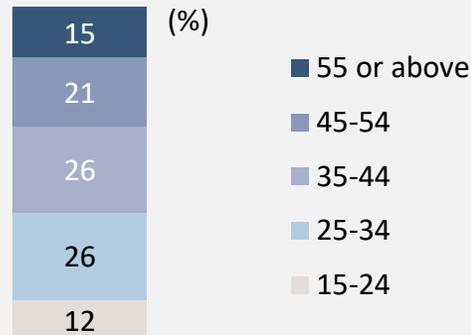
Selection criteria referred to Census and Statistics Department's latest data about IT usage and penetration.

Respondents: N=1,219

Gender



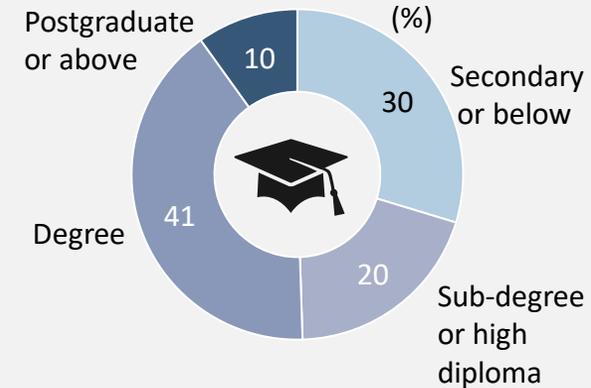
Age



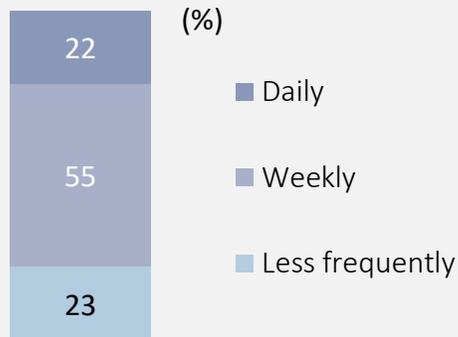
Monthly Household Income (HKD)



Education Level



Online Shopping Frequency



Online Shopping Experience



Top 3 Categories Browsed Online

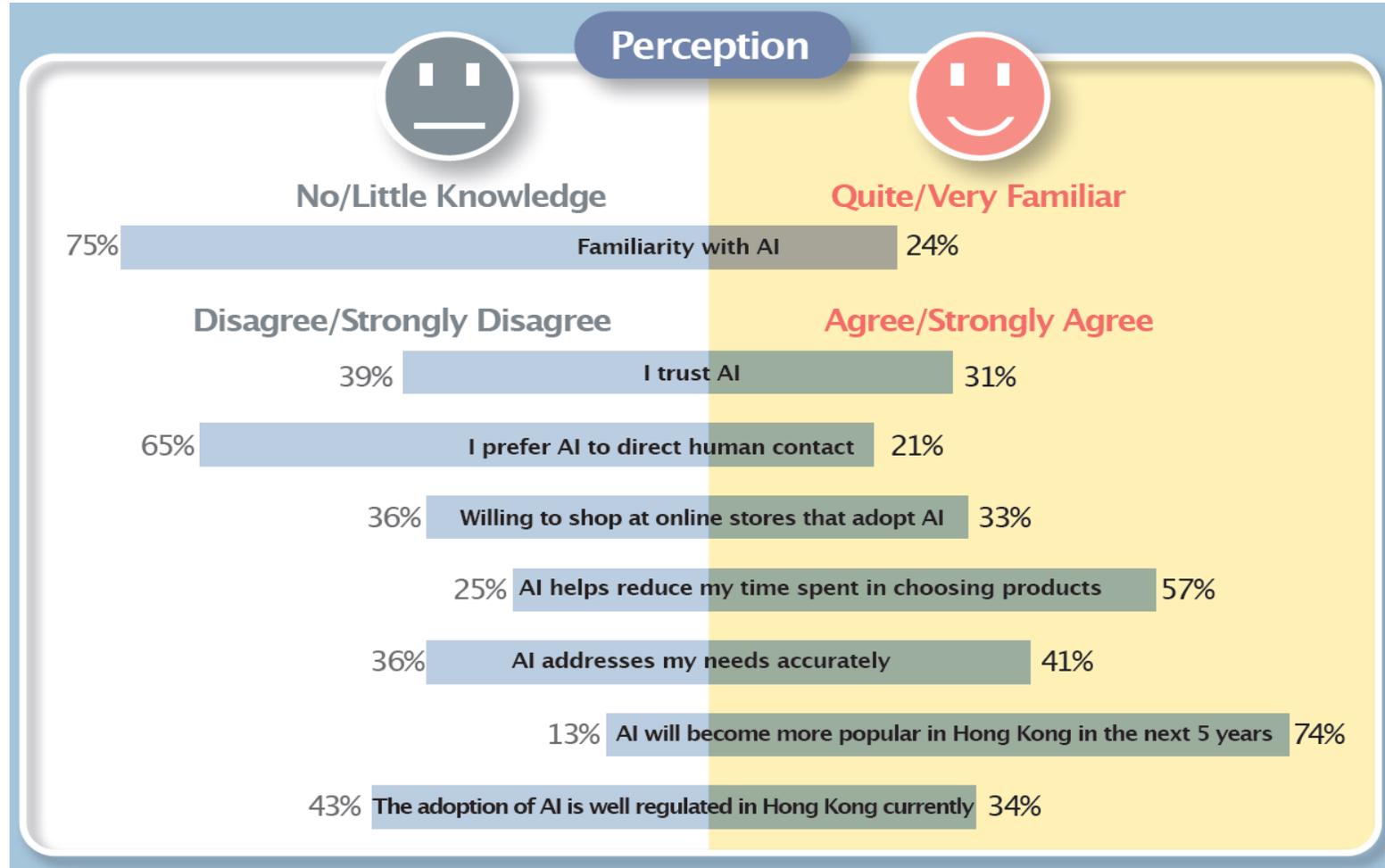
Daily household goods	49%
Clothes & shoes	47%
Food & beverages	45%

77% visited or made purchases at online stores on either a daily or a weekly basis

Median Monthly Online Spending: HK\$1,000

Perception on AI

Most consumers are still not familiar with AI, consumer satisfaction and trust towards AI varied vastly.

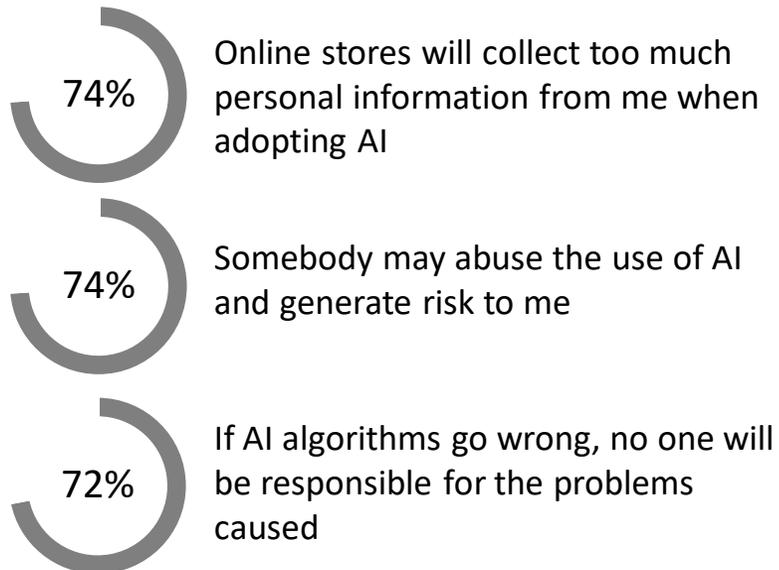


Respondents: N=1,219; the data above does not necessarily add up to 100% as other options like "No opinion" and "Don't know" are not included.

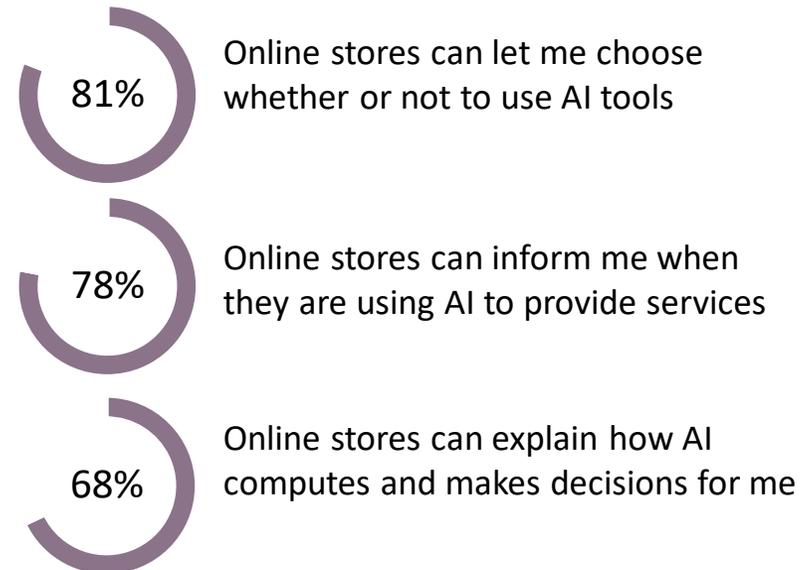
Worries & Desires about AI

Consumers in general are worried about the risks of AI.
They anticipate the right to know and the right to choose.

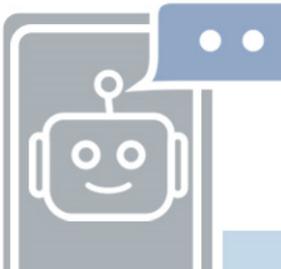
Worries & Concerns



Demands

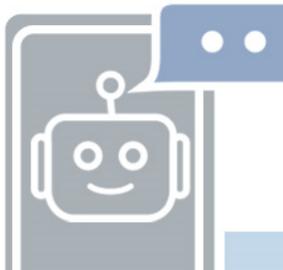


Respondents: N=1,219



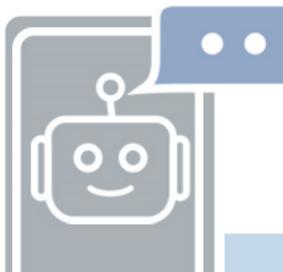
Concerns about AI

Cybersecurity and privacy protection are top concerns of consumers.



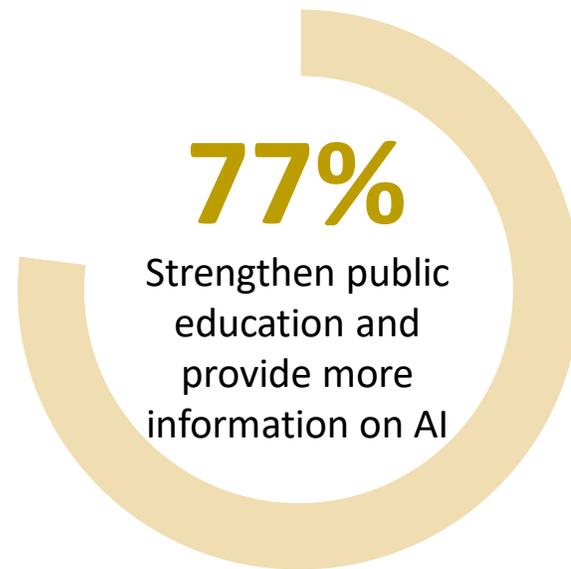
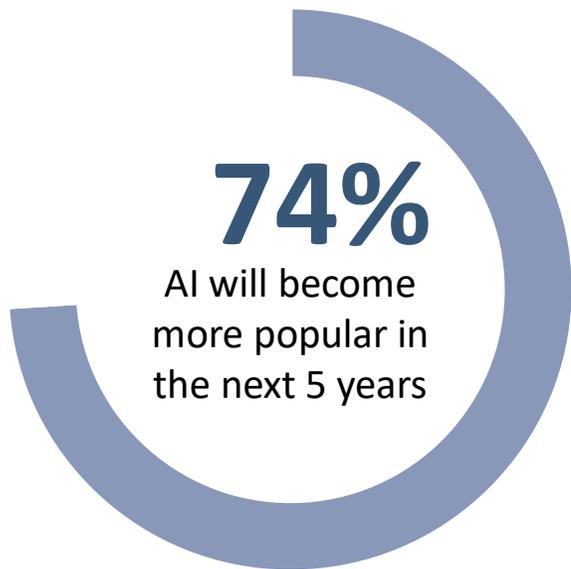
Accountability Party for AI

Consumers attribute the accountability for AI's mistakes mostly to traders and technology providers.



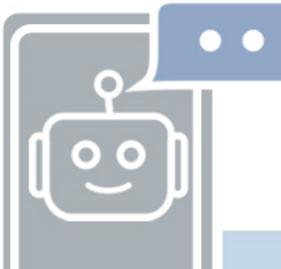
Future Development of AI

Foreseeing the growing popularity of AI, there is a need to strengthen education and information provision. Consumers pay extra attention to cybersecurity and privacy protection when shopping online.



Measures to increase consumers' confidence in AI when shopping online

1. Online stores to increase the security and privacy protection level
2. Online stores to establish a complaint mechanism for dispute resolution
3. Government to strengthen the monitoring of e-commerce market



Behaviour and Attitude regarding Data Privacy

Many consumers have not yet developed habits to protect their own personal data when shopping online.

Privacy policy reading habit



Never read or did not know privacy policies

60%

Too lengthy and wordy (68%)
 Trader can gather personal information online no matter I read the privacy policies or not (47%)
 Hard to understand (31%)

Respondents: N=1,056

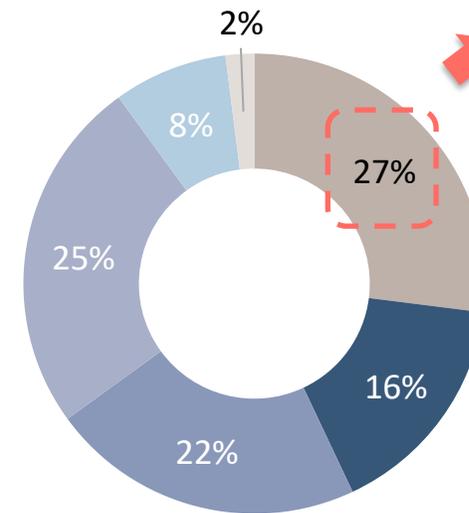
Stopped browsing an online store after reading its privacy policy due to worries

43%

Collect too much personal information (48%)
 Data would be transferred to too many third-party organisations (43%)
 Too many purposes of collecting personal information (41%)

Respondents: N=489

Cookie handling habit



Ignore the message, and continue browsing

Accept all cookies

Accept many of the cookies

Only accept essential cookies for the websites' operation

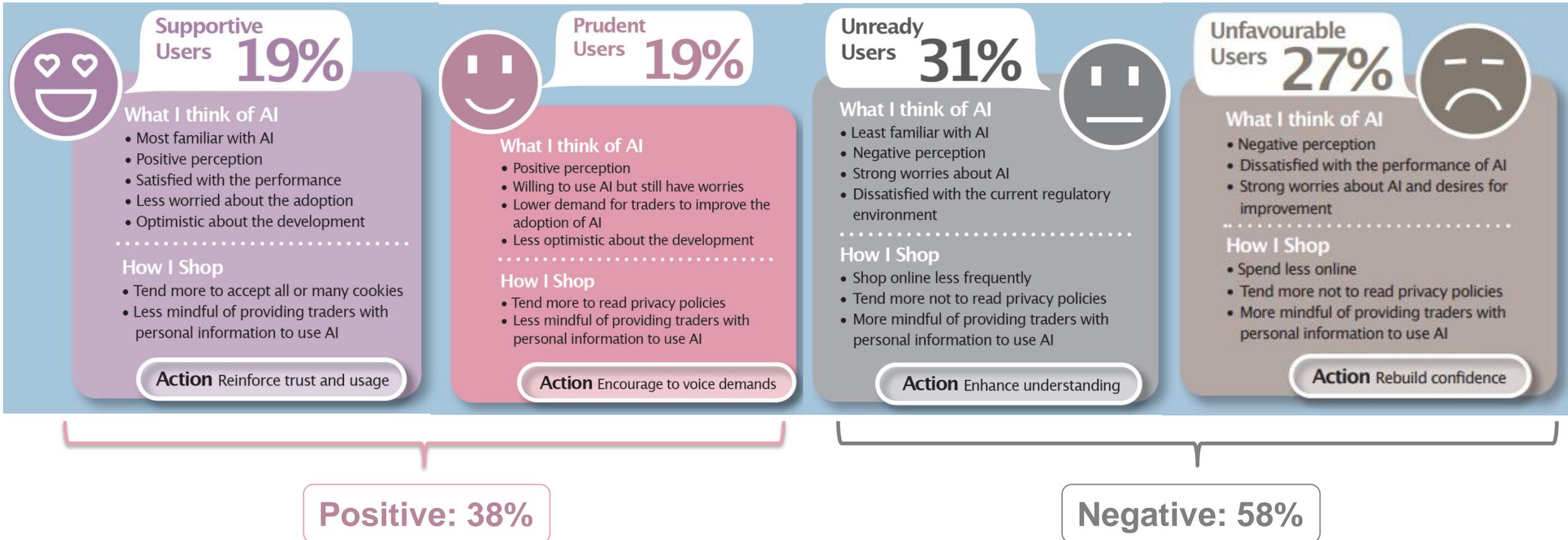
Reject all cookies

Have not encountered this situation previously

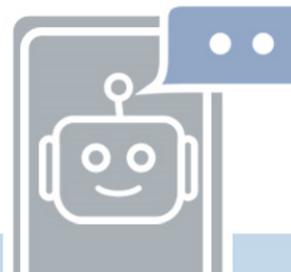


Respondents: N=1,219

Four Segments of Consumers and their Attitudes towards AI



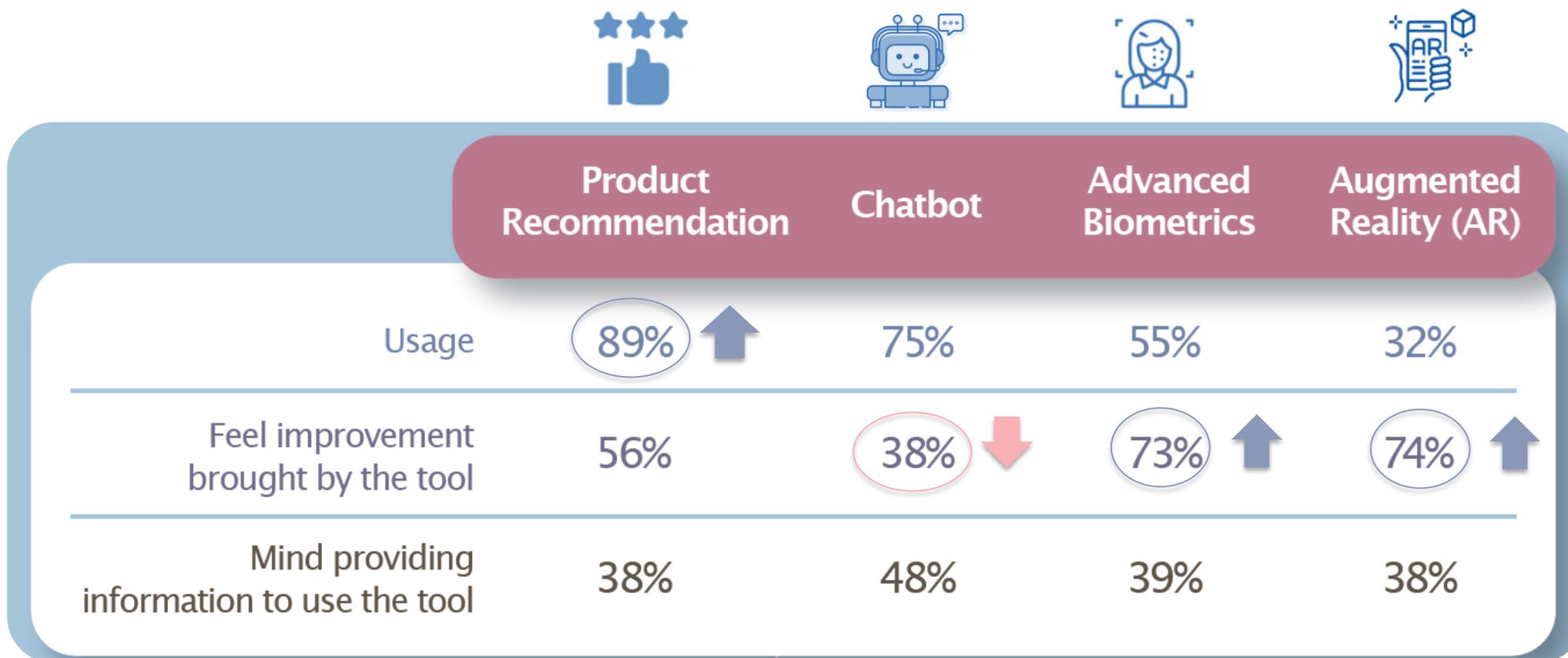
PART 3: CONSUMERS' EXPERIENCE IN AI APPLICATIONS AND TRADERS' INFORMATION DISCLOSURE



Satisfaction with Four Types of AI Tools

Product recommendation has the highest usage rate.

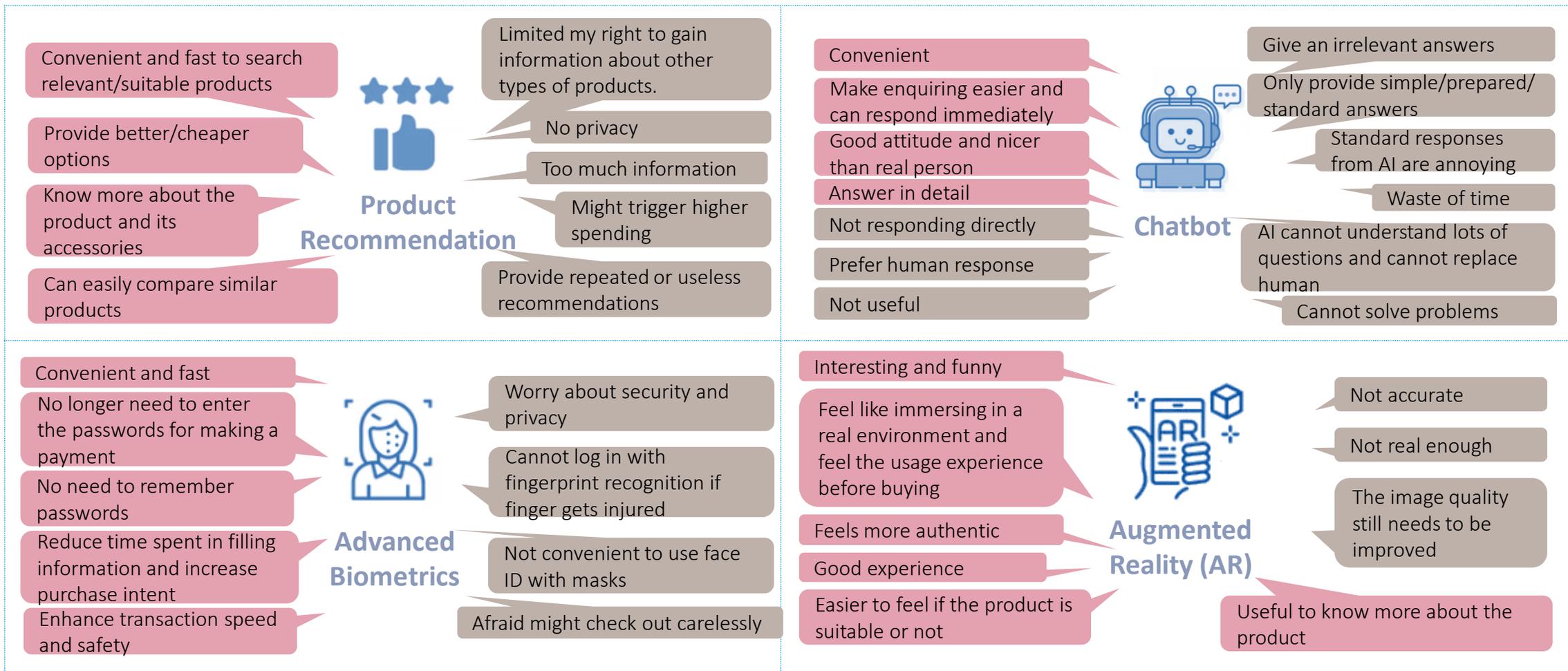
Consumer satisfaction on **advanced biometrics** and **AR** is more positive. **Chatbot** is the least satisfactory.



Consumers' Feedback

Positive Comments

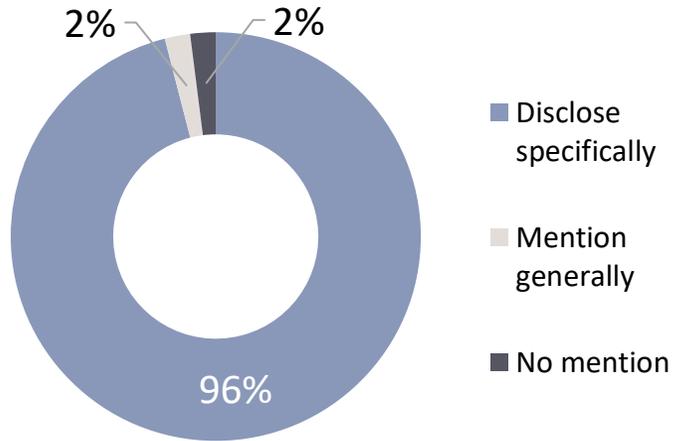
Negative Comments



What Consumers can Know from Reading Privacy Policies (1)

90% disclosed their ways, purpose of data collection, and types of data collected.

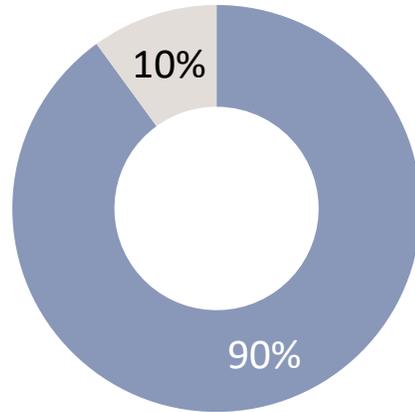
Ways of collecting data



- Disclose specifically
- Mention generally
- No mention

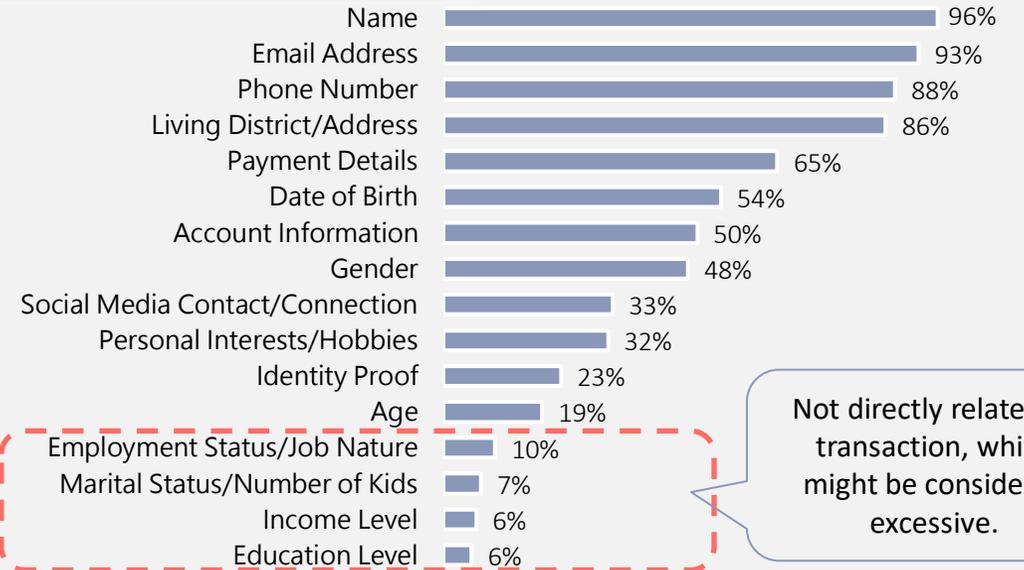
Base: N=112

Tracking technology usage



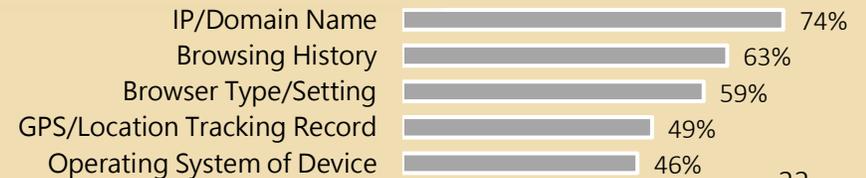
Types of Data Collected

Information Provided by Consumers



Not directly related to transaction, which might be considered excessive.

Automatic Information

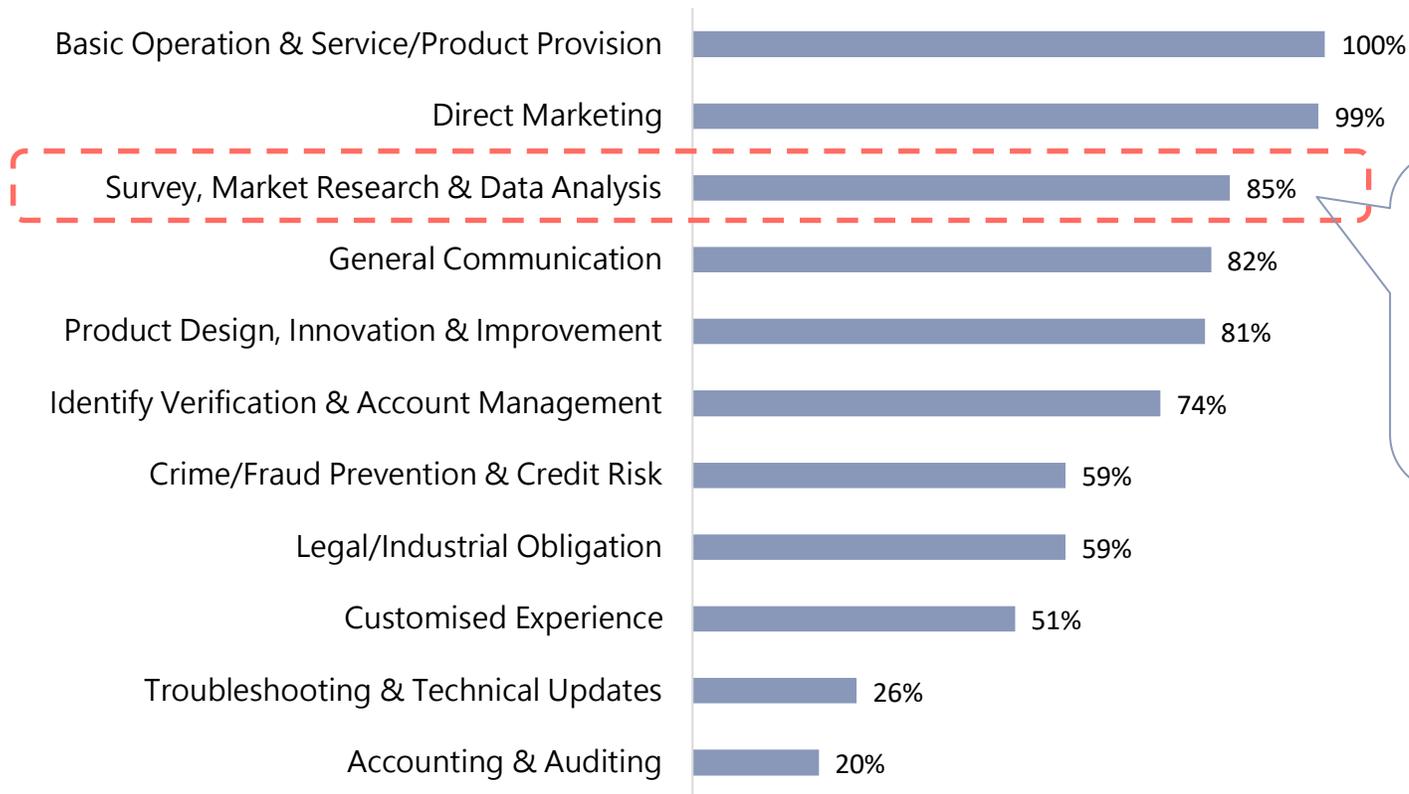


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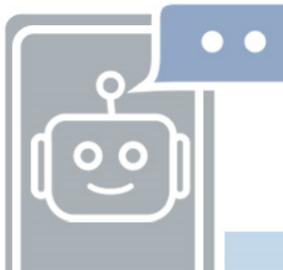
Base: N=109

What Consumers can Know from Reading Privacy Policies (2)

Although 85% mentioned “survey, market research & data analysis” as the purpose of data collection, using data for training AI models is rarely mentioned.



Only 6 reviewed traders indicated the purpose of data collection including AI models training/ machine learning



What Consumers can Know from Reading Privacy Policies (3)

Except for transferring to third parties, the disclosure of handling procedure of collected data (data processing, retention period and security measures) need to be strengthened.

Data Anonymisation

41% mentioned they would anonymise the data before using it

Data Transfer

87% specified to whom they would transfer the data.

69% informed about cross-border data transfer.

Data Retention

17% specified the data retention period.

Security Measures

44% specified the cybersecurity measures they took.

Examples of Privacy Policies



Mentioning data anonymisation

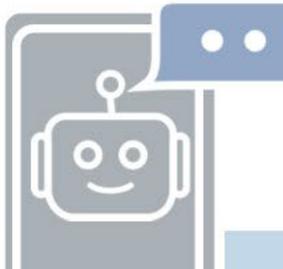
(e) Statistics: Carry out statistics and data analysis, such reports will contain only anonymous data for the Company's reference as well as improving our service and product quality;



Not specifying the data retention period

In your dealings with us, we retain records of your online transactions for auditing purposes. Our general policy is to retain the information for a reasonable period.

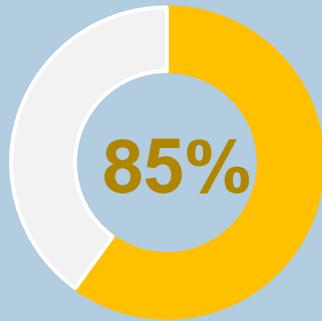
Base: N=111



What Consumers can Know from Reading Privacy Policies (4)

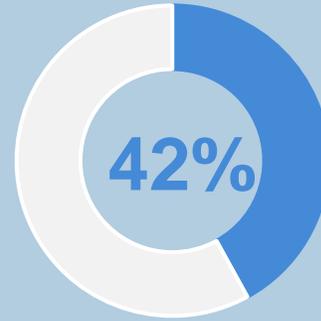
Insufficient disclosure of online stores for consumers to decline data collection and the use of cookies.

Access and Correct Data



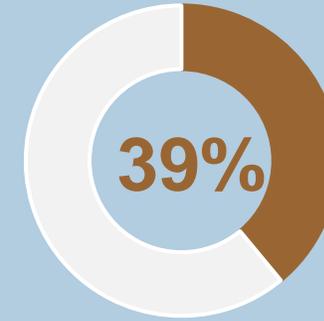
informed consumers how to access and correct data

Decline Data Collection



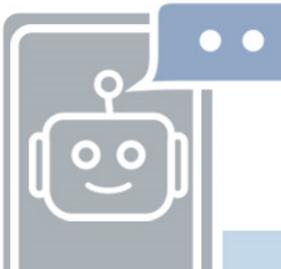
informed consumers how to reject data collection

Decline the Use of Cookies

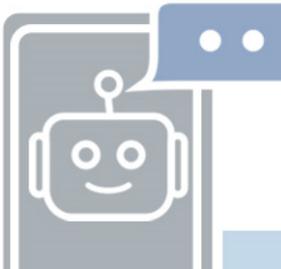


specified how consumers could opt out of cookies tracking

Base: N=111



PART 4: ROLE OF TRADERS AND STAKEHOLDERS IN PROMOTING THE USE OF AI IN HONG KONG



Traders' Adoption of AI

AI adoption in e-commerce in Hong Kong is at an early development stage; traders graded 4.9/10 on average currently (10 refers to extremely advanced development).

Popular AI Tools

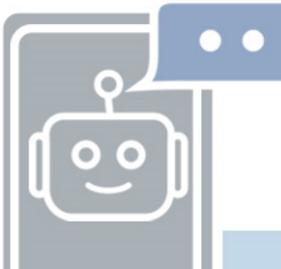
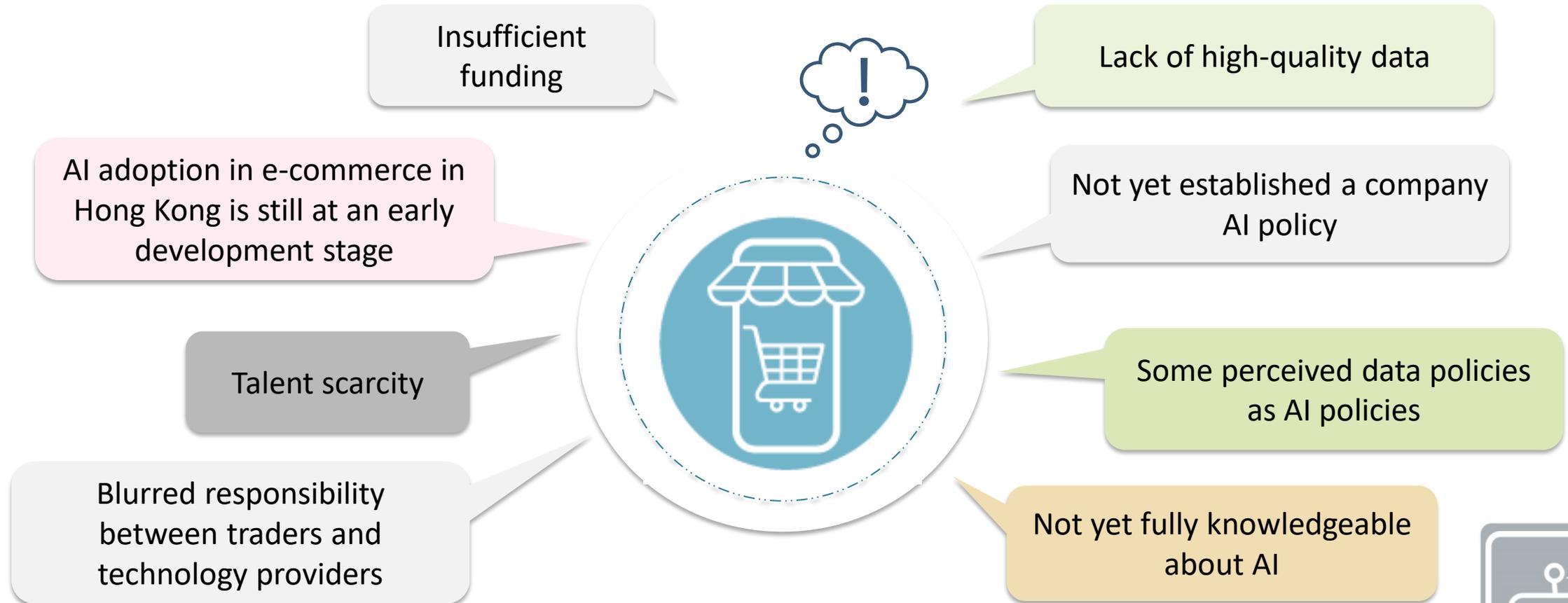
- 1 Product Recommendation
- 2 Chatbot

Reasons for Adoption

- 1  Better Customer Services
- 2  Better Efficiency
- 3  Reduce Costs
- 4  Better Predictions and Results
- 5  More Personalised Experience

Respondents: 19 traders, technology providers and industry experts

Challenges and Difficulties



Traders' Demands to the Government

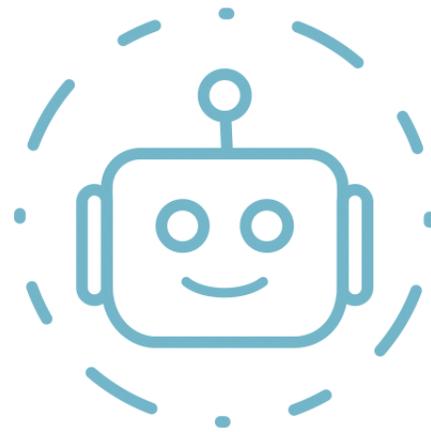
Establish a unique, integrated and holistic digital strategy

Attract and nurture AI talents

Provide more training for traders

Increase funding to support AI projects to commercialise

Extend data resources and enable data sharing



AI-related Legislations/Guidance Advocated by the HKSAR Government and Stakeholders

AI-related Legislations and Initiatives

Innovation, Technology and Industry Bureau

“The Smart City Blueprint for Hong Kong 2.0” (2020)

Innovation and Technology Commission

Administers the Innovation and Technology Fund to increase the added value, productivity and competitiveness of Hong Kong’s economic activities by supporting projects that help industries develop innovative ideas on AI

Office of the Government Chief Information Officer

Introduced AI applications (AI Chatbot Bonny);
Launched the “Ethical Artificial Intelligence Framework” (2021)

HKSTP, Cyberport, HKPC, ASTRI

Providing support in strengthening the application of AI and digital transformation among local enterprises

AI-related Guidance

Office of the Privacy Commissioner
for Personal Data

“Guidance on the Ethical Development
and Use of Artificial Intelligence”
(Aug 2021)

Hong Kong Monetary Authority

“High-level Principles on AI”
(Nov 2019)

Securities and Futures Commission

“Guidelines on Online Distribution and
Advisory Platforms”
(Jul 2019)

Stakeholders' Opinions*

1 Commercialising technologies

- More resources could be dedicated to the application of AI technologies for the industry

2 Extend data resources

- E-commerce industry can make collective efforts to encourage traders to open up their own data and share with one another
- Industry players can make use of unstructured data (e.g. speech and image data) for training
- Industry players can consider forming partnership with other traders or universities, locally or internationally to extend data resources

3 Ride on the development trend of regional and digital supply chains

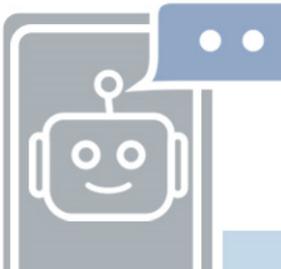
- Develop Hong Kong's own digital strategy while integrating with the city's unique strength in smart logistic and supply chain management

4 Establish a unique, integrated and holistic digital strategy

- Currently, Hong Kong's guidance on AI were mainly found in the financial sectors
- Cross-bureau cooperation in establishing a unique, integrated and holistic digital strategy for Hong Kong is crucial

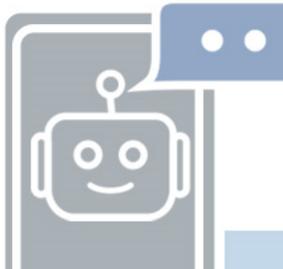
*Stakeholders included: Office of the Government Chief Information Officer (OGCIO), Office of the Privacy Commissioner for Personal Data (PCPD), HKSTP, Cyberport, HKPC, E-commerce Association of Hong Kong, Federation of Hong Kong Industries, Hong Kong Federation of E-commerce, Hong Kong General Chamber of Commerce, Hong Kong Retail Management Association and The Chinese General Chamber of Commerce.

PART 5: GLOBAL GOVERNANCE DEVELOPMENT AND CONSUMER PROTECTION





- Amidst the rapid transformation of the digital economy, AI has become a driving force for societal and economic development. Different countries and regions have formulated AI development roadmaps covering various facets, such as governance, digital policies, industry support, consumer safeguard and education.
- Over **60** jurisdictions have developed, or are in the process of developing, a **national AI strategy**.



AI Governance in 10 Selected Jurisdictions* (1)

AI-regulation

- Legislation on AI can be classified into comprehensive legislation and sectoral legislation.
- As of July 2022, comprehensive or cross-sector law governing AI was not yet established in the 10 jurisdictions, yet some AI-related regulations have been implemented or various acts have been proposed.

Examples:

Jurisdiction	Year	Regulation	Focus
Mainland	2022	Released the "Administrative Provisions on Algorithm Recommendation of Internet Information Services" to regulate the use of algorithms	Algorithm-specific
EU	2021	Proposed the "Artificial Intelligence Act" to regulate the use of AI	Proposed comprehensive AI laws
Canada	2022	Proposed the "AI and Data Act" under the "Digital Charter Implementation Act"	
UK	2022	Proposed the policy paper on "Establishing a pro-innovation approach to regulating AI" to seek stakeholders' views	

AI systems with unacceptable risks will be prohibited (e.g. social scoring), and AI systems with high risks will be strictly regulated and require assessments (e.g. medical-related applications).

AI Governance in 10 Selected Jurisdictions (2)

National AI Strategy

- All 10 jurisdictions have developed their own national AI strategies, which focus on visions and measures including economic development, infrastructure establishment, nurturing talent, support to industries, and consumer protection, etc.

Data Privacy Law

- Data privacy laws in some jurisdictions already covers automated decision-making of data users.

Examples:

Jurisdiction	Regulation	Year
Mainland	“Personal Information Protection Act” (PIPL)	Implement in 2021
EU	“General Data Protection Regulation” (GDPR)	Implement in 2018
US	“California Privacy Rights Act”	Passed the act in 2020 and will be effective in 2023

AI Governance in 10 Selected Jurisdictions (3)

Consumer Protection

Examples:

Jurisdiction	Source	Year	Initiatives
Mainland	“Administrative Provisions on Algorithm Recommendation of Internet Information Services”	2022	<ul style="list-style-type: none"> Traders shall notify users in a clear manner about the situation of the algorithmic recommendation services they provide, and publicise the basic principles, purposes, etc. Traders shall provide users with a convenient option to switch off algorithmic recommendation services. Traders shall not commit unreasonably differentiated treats to individuals based on consumers’ tendencies, trading habits and other such characteristics.
France	“National AI Strategy”	2018	<ul style="list-style-type: none"> AI must not become a way of excluding parts of the population. It proposed to create a group of certified public experts who can conduct audits of algorithms and databases and carry out testing.
Japan	"AI Utilization Handbook – How to use AI Wisely"	2020	<ul style="list-style-type: none"> Provide use cases for AI developers from a consumer protection perspective.
US – Federal Trade Commission	“Business guidance on AI and algorithms”	2020	<ul style="list-style-type: none"> Traders are recommended to be transparent about how automated tools are used, and when sensitive data is collected. Traders are recommended to consider how to hold themselves accountable.

AI Governance in 10 Selected Jurisdictions (4)

Support to industries

Examples:

Jurisdiction	Initiatives
South Korea	<ul style="list-style-type: none"> Established an AI hub to provide companies and researchers with AI training data Provided AI-vouchers to SMEs and start-ups that need AI-powered products or services. Each company can receive up to 0.3 billion won (HK\$2 million) AI voucher
Germany	<ul style="list-style-type: none"> Provided funding for AI coaches to work with SMEs to adopt AI
EU	<ul style="list-style-type: none"> Launched the European AI on Demand Platform (AI4EU) project is an AI-on-demand platform that aims to help SMEs in the EU adopt AI AI4EU brings together research institutes, SMEs and large enterprises in 21 countries to build a focal point for AI resources, and to fund AI projects of enterprises
Singapore	<ul style="list-style-type: none"> Launched “Implementation and Self-Assessment Guide for Organisations” and “A.I. Verify” tool to help organisations assess the alignment of their AI governance practices when developing and user AI

AI Governance in 10 Selected Jurisdictions (5)

Education

- Some jurisdictions launched education campaigns to promote AI literacy among the public.

Examples:

Jurisdictions	Initiatives
Germany	Offered free online course “Elements of AI” (initiated by University of Helsinki)
Singapore	Offered AI for Everyone (AI4E), AI for Students (AI4S), and AI for Kids (AI4K) programmes for citizens with different needs

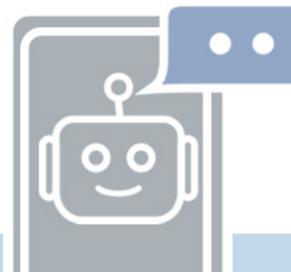
Attracting and Nurturing talents

- Different jurisdictions launched initiatives to nurture and attract talents as the demand of talents is increasing.

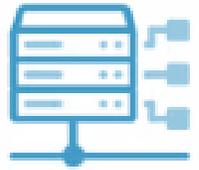
Examples:

Jurisdictions	Initiatives
UK	Established 16 AI Centres for Doctoral Training at universities , backed by up to £100 million (HK\$920 million) and delivering 1,000 new PhDs over five years
Canada	Invested CAN\$1.8 billion (HK\$11 billion) in its Innovation Superclusters program, aims to create 66,000 jobs by 2030

PART 6: RECOMMENDATIONS



Summary of Issues Encountered by Consumers



Excessive Consumers'
Data Collection by
Traders



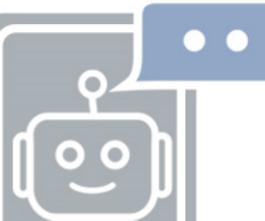
Lack of Opt-out
Options to
Consumers

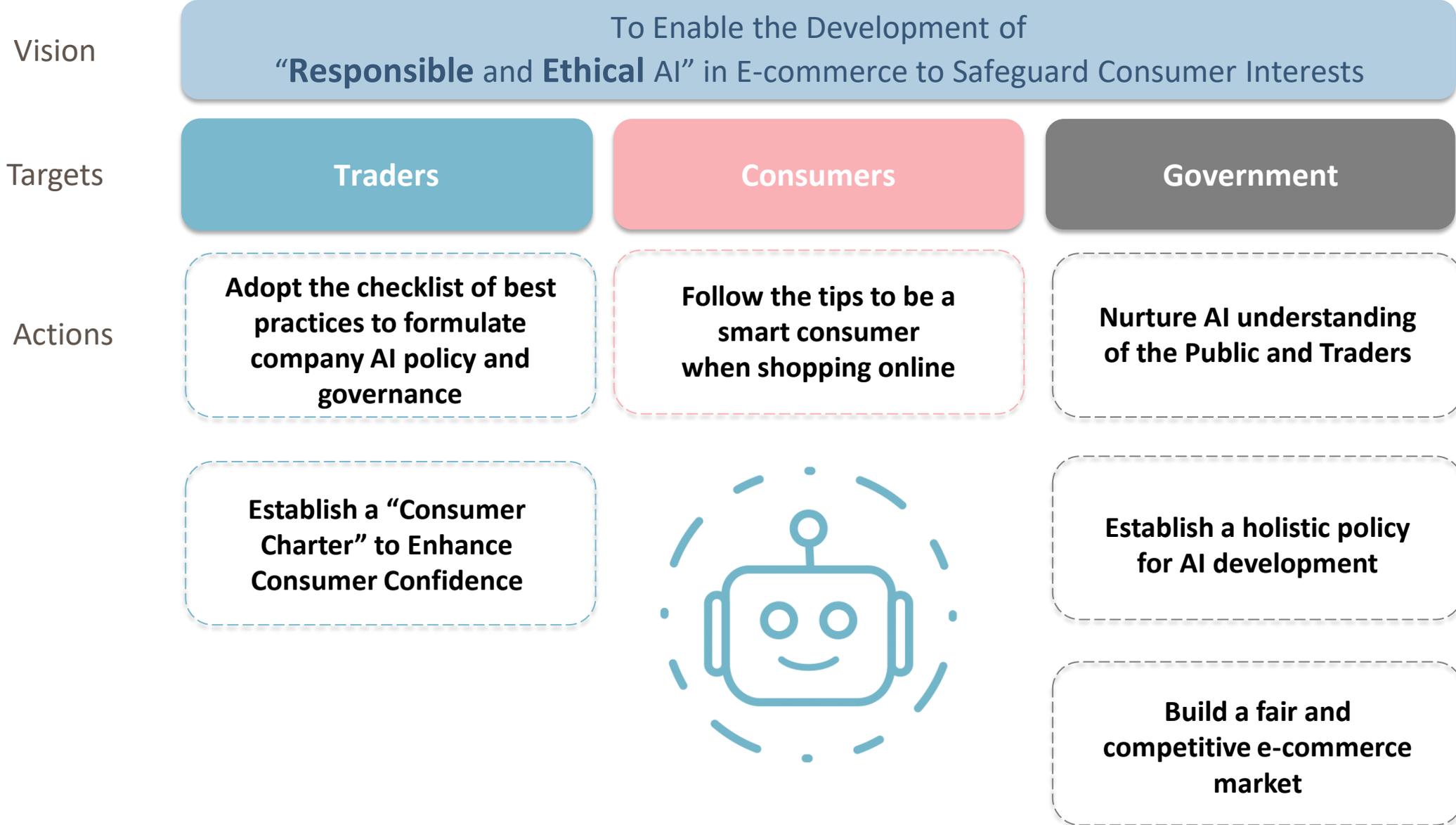


Lack of Information
Transparency
by Traders



Unsatisfactory
Performance of
Some AI Tools





Recommendation (1) for Traders:

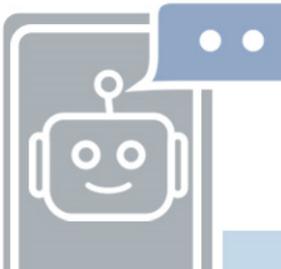
Adopt the Checklist of Best Practices to Formulate Company AI Policy and Governance

#01



Checklist of Best Practices for AI

- Formulate a clear company policy on AI, data usage and storage with good compliance and disclosure
- Dedicate resources for AI development with clear accountability, e.g. appointing a person to be accountable for the ethical use of AI
- Validate AI models before deployment
- Ensure consumers' data is handled in a safe and secure manner to protect consumers' data privacy
- Communicate with staff and ensure they follow the company policy and ethical standards of AI
- Foster communication with consumers
- Provide choices for consumers to choose whether to use AI
- Clarify clear responsibility between traders and third-party technology providers, and ensure data is handled and transformed safely and ethically



Recommendation (2) for Traders: Establish a “Consumer Charter” to Enhance Consumer Confidence

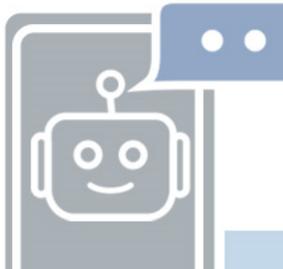
As many SMEs might have limited resources to establish their own set of AI policies, industry associations can develop a “Consumer Charter” as guidance to protect consumers and invite their member traders to commit to and follow.

#02



“Consumer Charter”

- Be transparent and inform consumers when using AI
- Do not manipulate consumers’ choices
- Be fair to all consumers and do not discriminate against consumers
- Provide choices for consumers to opt in and opt out of the use of AI easily with immediate effect
- Ensure consumer requests can be addressed
- Establish an effective dispute resolution mechanism in case of non-compliance
- Collect consumer data at an adequate level



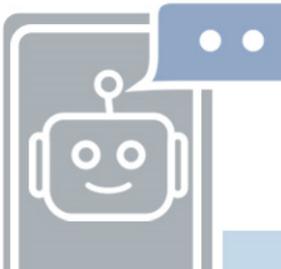
Recommendation (3) for Consumers: Follow the Tips to be a Smart Consumer when Shopping Online

Consumers have not yet developed habits to protect their own personal data, which might be exposed to the abusive use by unscrupulous traders. Cultivating good online shopping habits is the first and immediate step consumers can take to protect their own rights.

Tips for Consumers

- Choose the right e-commerce platform and make it a habit to always read data privacy policies, and terms and conditions
- Pay attention to website updates, and thoroughly read the pop-up notices, news and updates when entering a platform
- Make the best decision against tracking of locations, browsing histories, etc.
- Provide adequate personal information only
- Keep a good record of membership accounts
- Check privacy settings regularly
- Exercise your rights against automated decisions when needed

#03

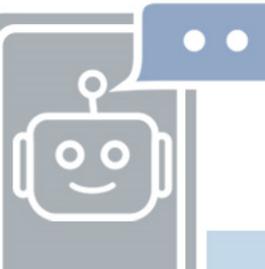


Recommendation (4) for the Government: Nurture AI Understanding of the Public and Traders

Societal/Sector-specific Perspective

- ❑ Education campaigns could be launched to teach consumers about different facets of AI (definition and operations, potential benefits and harms, consumer rights regarding the use of AI, related guidelines consumers can refer to, best practices in the marketplace, etc.)
- ❑ Education to traders is also essential, so they can adopt ethical AI in practice.
- ❑ Sector-specific regulators (such as Insurance Authority, Travel Industry Authority) and authorities from the Government could strengthen education to traders for using AI in specific sectors, establish guidance of adoption of AI, set standards for the industry players to follow, report AI compliance for public surveillance, and collect consumer feedback and suggestions for improvement of such initiatives.

#04



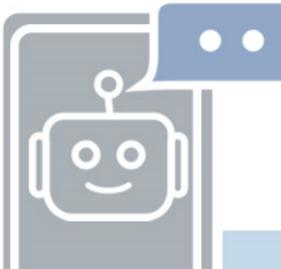
Recommendation (5) for the Government: Establish a Holistic Policy for AI Development

Some jurisdictions have been considering cross-sectoral approaches to regulate AI, the Government can adopt a progressive approach in establishing a long-term AI development plan that can balance the need of setting rules and encouraging innovation.

Content of A Holistic Policy

- Establish clear vision and key milestones for AI development
- Lead by example to accelerate the digital transformation
- Increase funding to support AI projects to commercialise
- Enrich open data and encourage utilisation of data
- Assist traders to build business connections with partners in the Mainland and in the globe
- Attract and nurture AI talents
- Provide AI ethics training or guidelines to traders

#05



Recommendation (6) for the Government: Build a Fair and Competitive E-commerce Market

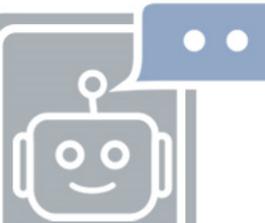
To reduce disparities between SMEs and big techs, SMEs must be able to access more data for AI development. Government, relevant stakeholders, and trade associations should facilitate the sharing and utilising of data among traders, thus to maintain competitiveness of SMEs.

#06



Build a fair and competitive e-commerce market

- Take appropriate measures to ensure a fair e-commerce market
- Prevent traders from using big data to manipulate the market for their own advantages
- Prohibit the unethical use of AI
- Mitigate the risk of “winner-take-all”



Concerted Effort to Realise the Vision of a Smart City

- AI has become a driving force for societal and economic development. The Council hopes that while the Government is actively promoting digital transformation and AI development, it can make reference to the experiences and approaches of other jurisdictions and establish an AI development plan and regulating policies to encourage the development of “responsible and ethical AI” in the society and ensure consumer interests are well protected.
- The Council will actively participate in the work. It is believed that a three-pronged approach must be adopted, including progressively establish policy framework, enhancing the performance of digital governance amongst traders, and strengthening consumers’ ability to protect themselves, in order to leverage the power of AI and transform AI into a driving force for the future development of Hong Kong.



THANK YOU

