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FPT Education

TRƯỜNG ĐẠI HỌC FPT

THESIS DEFENSE

The impacts of global supply chain shift on Vietnams retail industry due to the COVID-19 period:

VIETNAM'S OPPORTUNITIES AND SOLUTIONS

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CHAP 1

INTRODUCTION

01 Topic background

02 Practical Problem

03 Research Question

04 Research Scope

05 Research Objective

INTRODUCTION

TOPIC BACKGROUND

Today, competition between businesses is competition between the supply chains.

For a long time, most major economies depend on the market and supply from China.

COVID-19 unexpectedly appeared, put global supply chains at risk.

Retail is one of the most sensitive industries and suffering the most severe losses in COVID-19.

INTRODUCTION

PRACTICAL PROBLEM

Vietnam’s retail supply chain is seriously damaged by COVID-19.

Vietnam’s retail industry has been given the optimistic view about the prospect of economic recovery.

There are some new retail trends appearing due to COVID-19.

INTRODUCTION

RESEARCH QUESTION

QUESTION 1

During the COVID-19 period, what are the important factors affecting the success of Vietnamese retail supply chain under the influence of global supply chain shifting trends?

QUESTION 2

What are opportunities and solutions for Vietnamese retail supply chain?

INTRODUCTION

RESEARCH SCOPE

Research Subject

Retail supply chain operations

Research Object

Retail supply chain operations at grocery stores and the stores belonging to some large Vietnamese retail businesses

Research Scope

In Hanoi

Reseach Period

2018-NOW

INTRODUCTION

RESEARCH OBJECTIVE

Identify factors affecting the success of retail supply chain in the context of Vietnam under the impact of global supply chain shifting trends caused by COVID-19 pandemic

- Identifying the factors affecting on the success of Vietnam's retail supply chain under the impact of global supply chain shifts caused by COVID-19 pandemic.
- Determining the impact intensity of the factors which are focused on.
- Analyzing the strengths and weaknesses of Vietnam's retail industry, thereby giving solutions which are suitable for the supply chain operation in Vietnam's retail industry after the pandemic.

CHAP 2

LITERATURE REVIEW

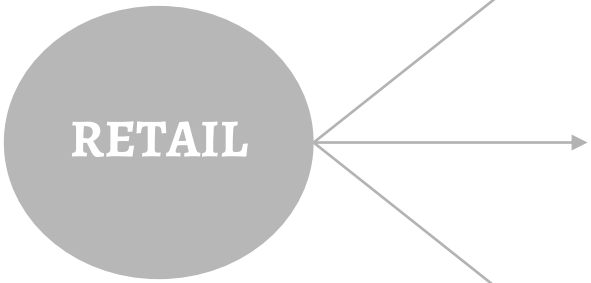
01 Main definitions

02 Factors affecting the success Vietnam's retail supply chain

03 Hypothesis and proposed research model

LITERATURE REVIEW

MAIN DEFINITION



Involves a series of activities

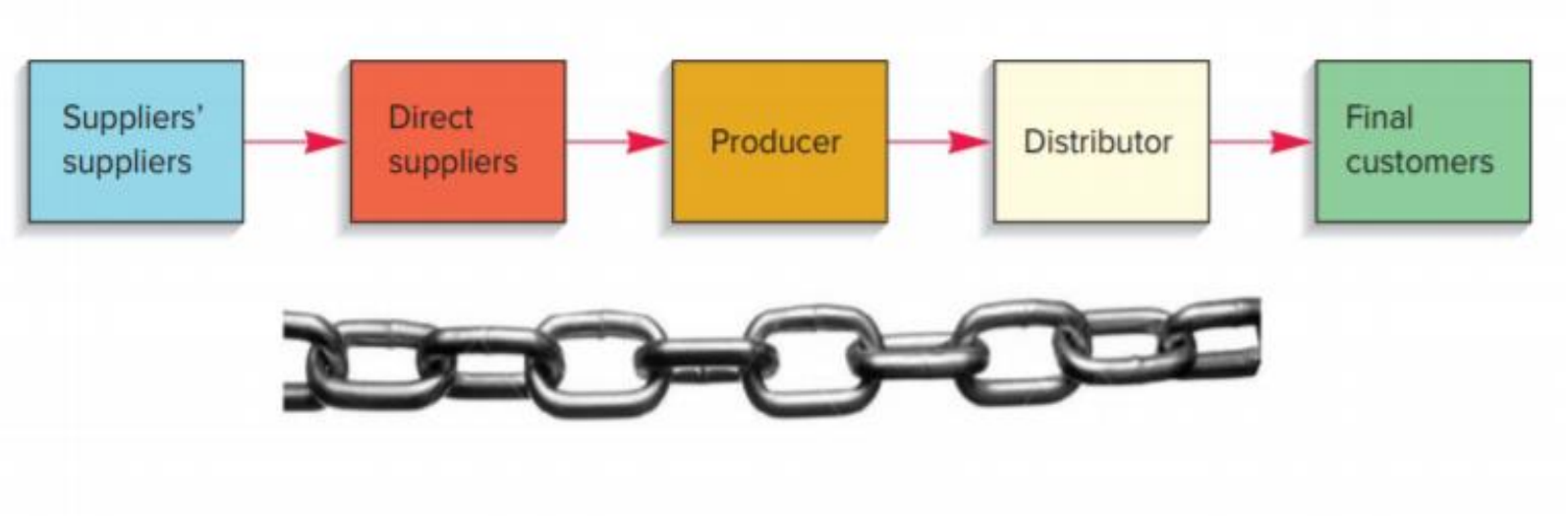
Provides not only goods but also services

Is the sale of goods to the public in relatively small quantities for use or consumption rather than for resale.

LITERATURE REVIEW

MAIN DEFINITION

Supply chain:



LITERATURE REVIEW

MAIN DEFINITION

Retail supply chain:

The retail supply chain includes activities of all related-parties from the input stage to the stage of delivering products or services to end consumers.

LITERATURE REVIEW

Factors affecting the success Vietnam's retail supply chain

01 Manufacturing

02 Inventory

03 Location

04 Transportation

05 Information

06 Strategy

07 Information Technology

HYPOTHESIS

H1: *Manufacturing has a positive impact on the success of retail supply chain.*

H2: *Inventory has a positive impact on the success of retail supply chain.*

H3: *Transportation has a positive impact on the success of retail supply chain.*

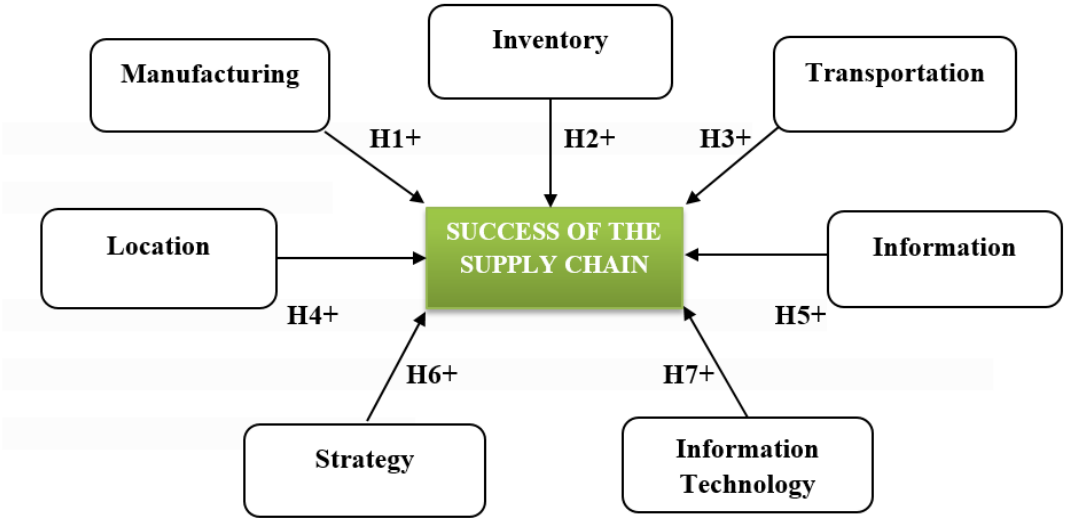
H4: *Location has a positively impact on the success of retail supply chain.*

H5: *Information has a positive impact on the success of retail supply chain.*

H6: *Strategy has a positive impact on the success of retail supply chain.*

H7: *Information Technology has a positive impact on the success of retail supply chain.*

PROPOSED RESEARCH MODEL



Research model

Source: proposed by the authors

CHAP 3

METHODOLOGY

1. Selecting Research Methods
2. Research process
3. Design quantitative questionnaires

METHODOLOGY

SELETING RESEARCH METHOD

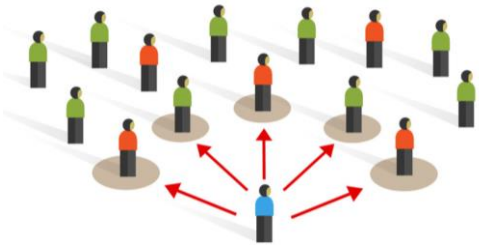
Data Collection Methods

1) Data Collection Tools:

✓ *Document and Record*

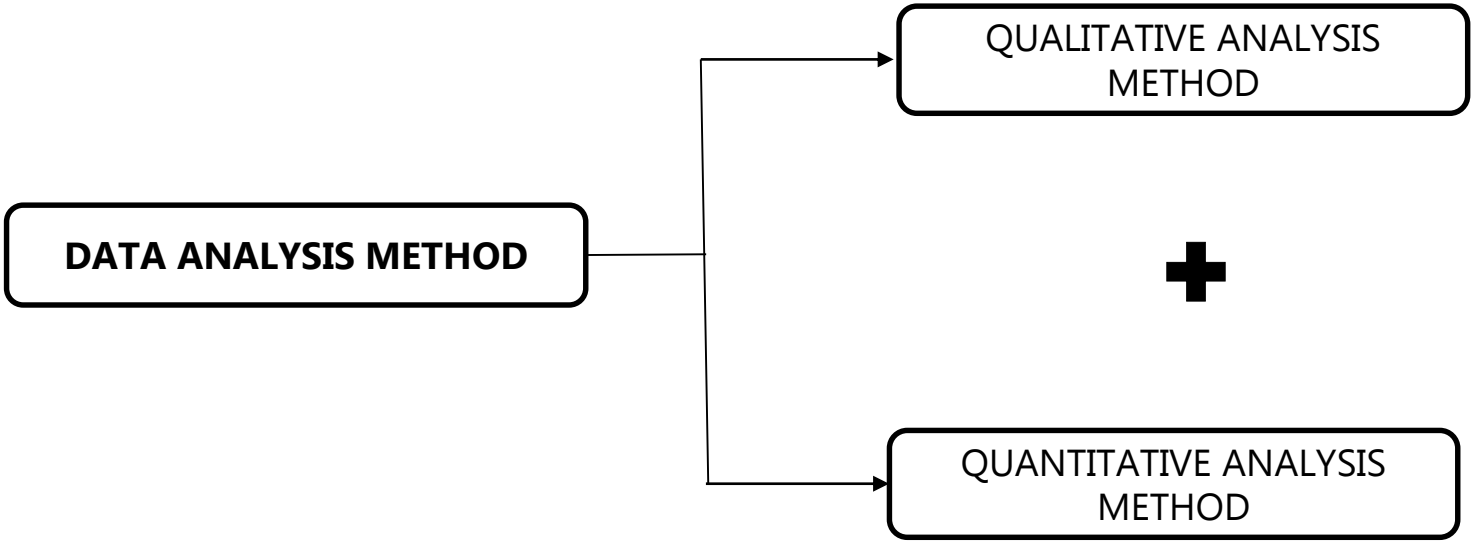
✓ *Questionnaire and Survey*

2) Sampling method: *Convenience sampling*



METHODOLOGY

SELETING RESEARCH METHOD



METHODOLOGY

SELETING RESEARCH METHOD

Data Analysis Method

Analysis Matrices:

1. **Descriptive analysis**
2. **Reliability analysis**
3. **Exploratory factor analysis**
4. **Correlation analysis**
5. **Regression analysis**

METHODOLOGY

RESEARCH METHOD

Research Problem

The factors influencing Vietnam's retail supply chain during the COVID-19 period

↓

Research Objective

To identify the factors influencing Vietnam's retail supply chain during the COVID-19 period

↓

Qualitative Research Method

Using the methods of synthesis, statistics and inference

↓

Quantitative Research Method

Determining the impact intensity of the researched factors by Regression

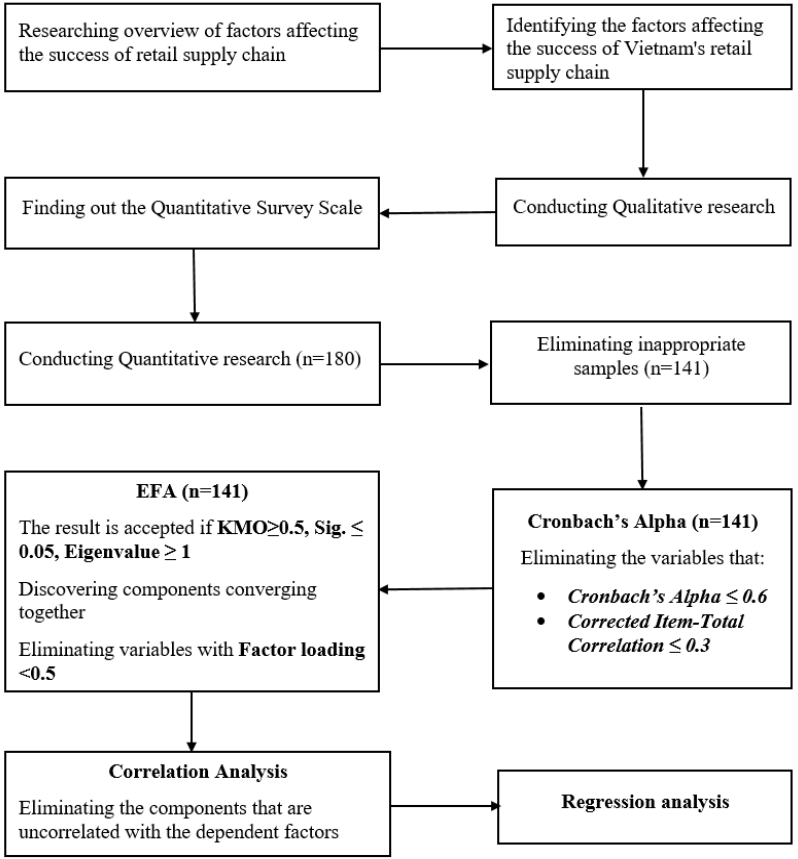
↓

Research Result

Discovering the factors that have strongest impact on Vietnam's retail supply chain during the COVID-19 period

METHODOLOGY

RESEARCH PROCESS



CHAP 4

FINDING AND ANALYSIS

01 COVID-19 – impact on supply chains in which Vietnam is a link

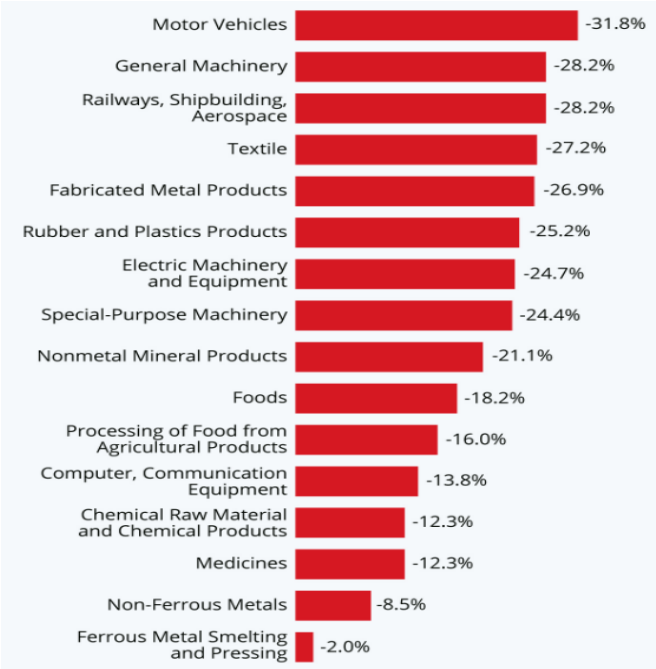
03 Current situation of Vietnam's retail industry

03 Quantitative Research

04 Factors that deeply affect Vietnam's supply chain in the context of global supply chain shift

FINDING AND ANALYSIS

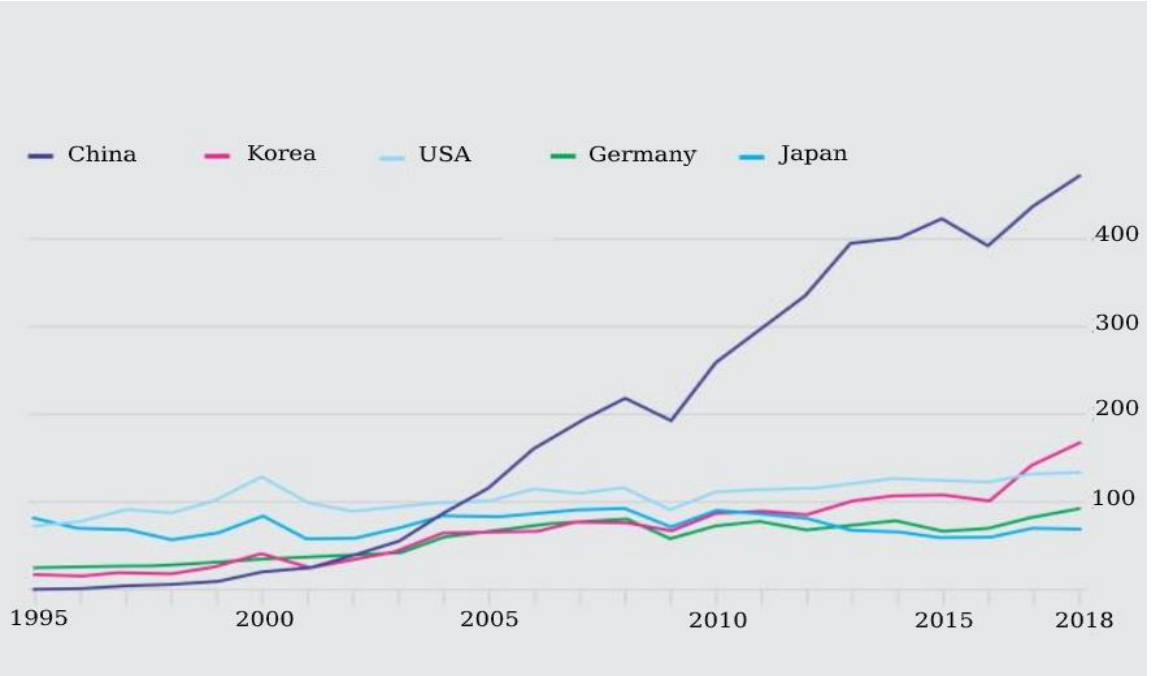
COVID-19 – Impact on global supply chains



Change in value added by selected manufacturing sectors of China in January-February 2020 vs. 2019

Source: National Bureau of Statistic of China

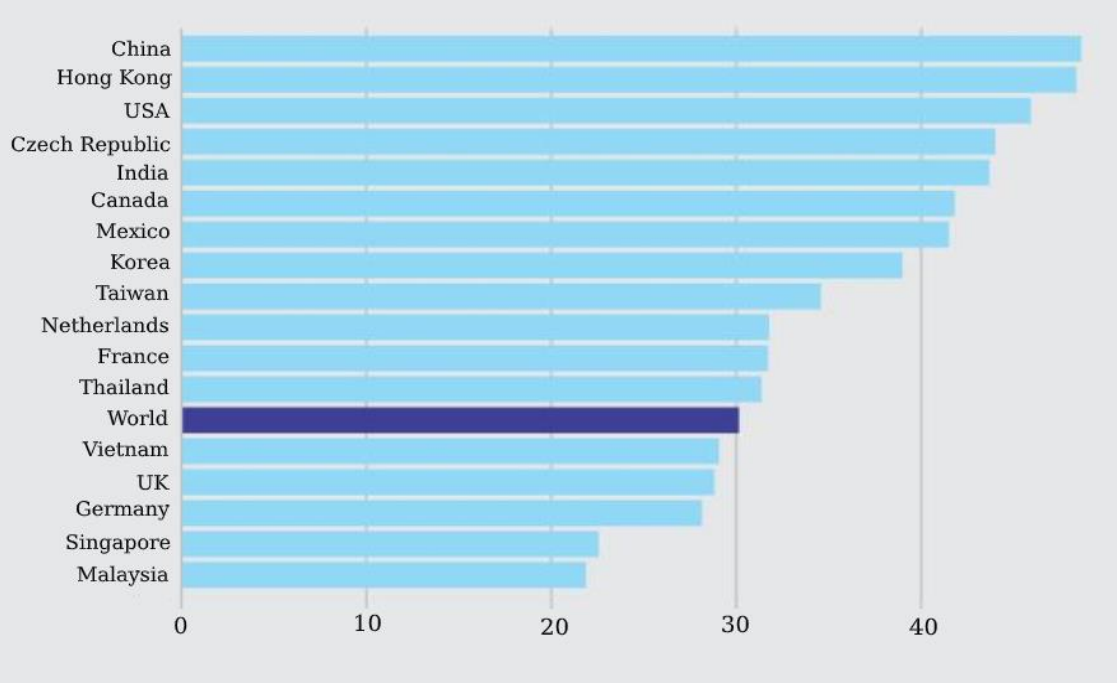
COVID-19 - Impact on global supply chains



Annual export value of electrical and electronic components from China, Korea, the US, Germany and Japan

Source: WTO Center

COVID-19 - Impact on global supply chains



The dependence of countries on electrical and electronic components imported from China in 2018

Source: WTO Center

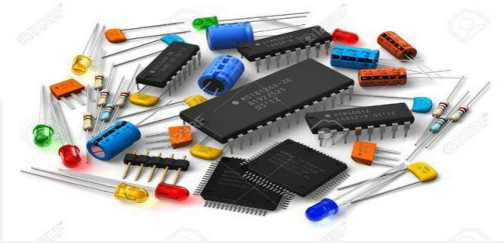
COVID-19 – Impact on global supply chains

In 2019, Vietnam imported from China:

Textiles and leather products:
- $11,52 billions (47.74%)

Plastic materials and plastic products:
- $3,99 billions (25,7%)

Chemicals and chemical products:
- $3,23 billions (30,6%)



Electronic components
- $ 13,8 billions (34%)

COVID-19 - Impact on global supply chains

The impact of the Covid-19 epidemic caused an increase in concerns about enterprises' inventory.

First half of 2020:

- Textile industry: 118,7%
- Industry of processing and manufacturing products from wood, bamboo: 104.7%
- Chemical and chemical products production industry: 103.4%
- Motor vehicle production industry: 97.3%
- Non-metallic mineral products production industry: 96.5%
- Food production and processing industry: 96%

COVID-19 – Impact on global supply chains

Global supply chains will have to evolve:

01 Diversifying supply

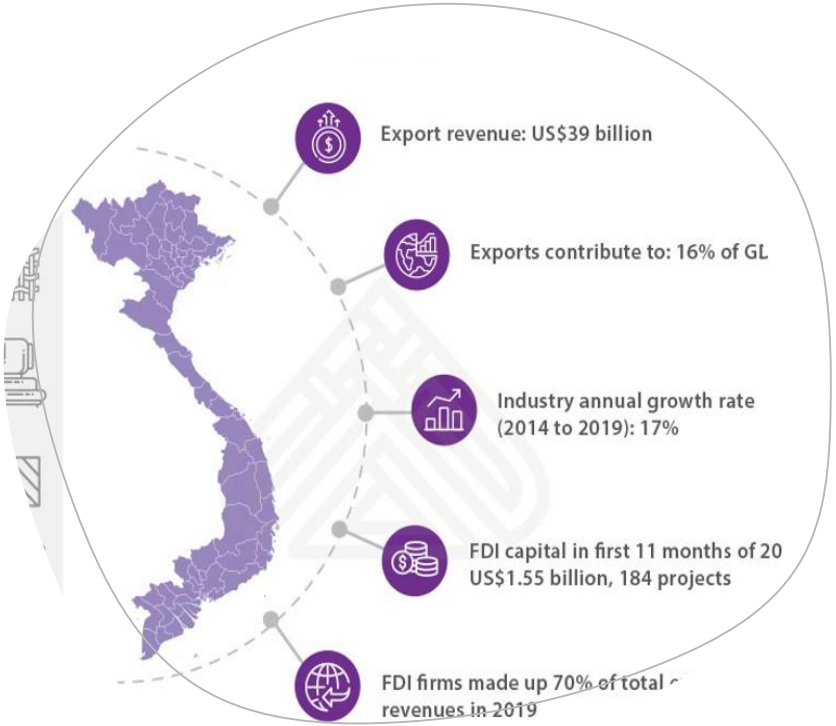
02 Shortening and simplifying supply chains

03 Going from just-in-time to just-incase strategies

04 Using digital technology

OVERVIEW OF VIETNAM'S RETAIL INDUSTRY

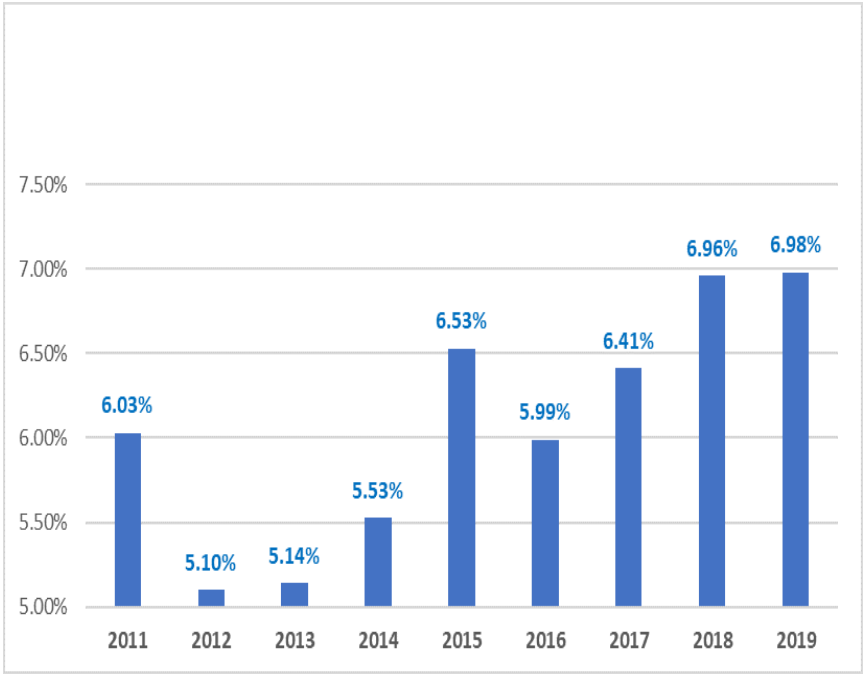
FINDING AND ANALYSIS



1. Vietnam is one of the developing countries

2. Vietnam is a very potential market for retail industry

FINDING AND ANALYSIS



Vietnamese cumulative GDP growth rate in the first 9 months of the year 2011-2019

Source: Kinh te & Do thi

Vietnam's GDP growth reached 7.02% (2019)

Total online sales revenue reached $ 8.06 billion

Total revenue from merchandise retail activities in 2019 increase

FINDING AND ANALYSIS

- The most attractive markets in the world
- Vietnam receives a lot of investment
- Created intense competitive challenges

- The expansion of foreign enterprises.
- Vietnamese retail businesses are in competition with foreign businesses

FINDING AND ANALYSIS

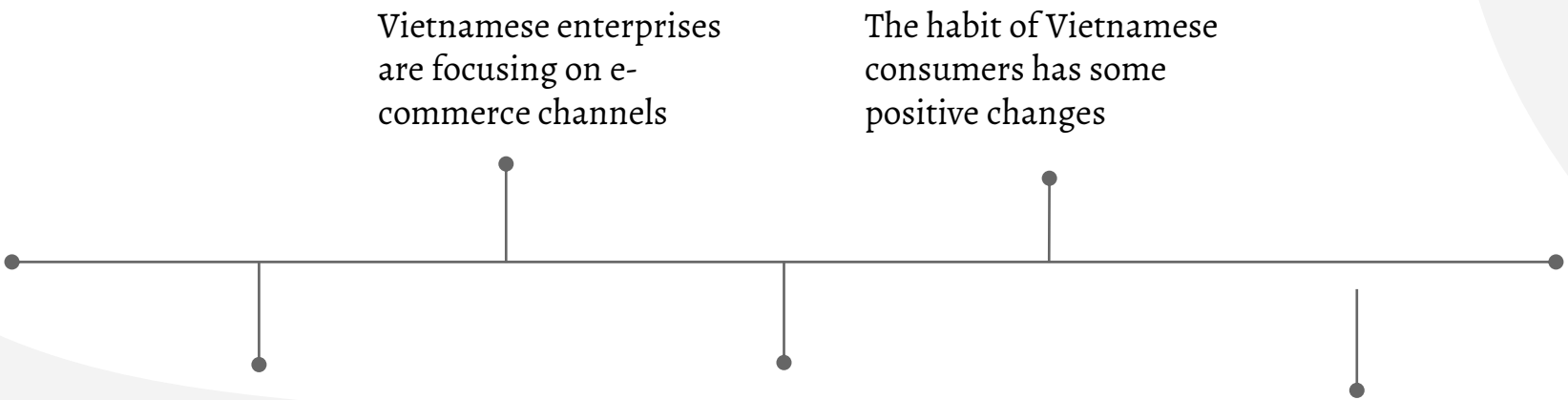
- Foreign enterprises have lots of advantages.

- Bringing good quality of products.
- Vietnamese people prefer to use foreign products.

FINDING AND ANALYSIS

- Workers are lack of professionalism
- Workers do not have foreign languages.
- The service quality still far behind from the foreign enterprises.

FINDING AND ANALYSIS



Vietnam's retail market has a great potential to growth

The Covid-19 epidemic caused customers to hesitate to go out

Purchase activities were often via online channels

Domestic enterprises have to focus on developing online sales channels

Strengths

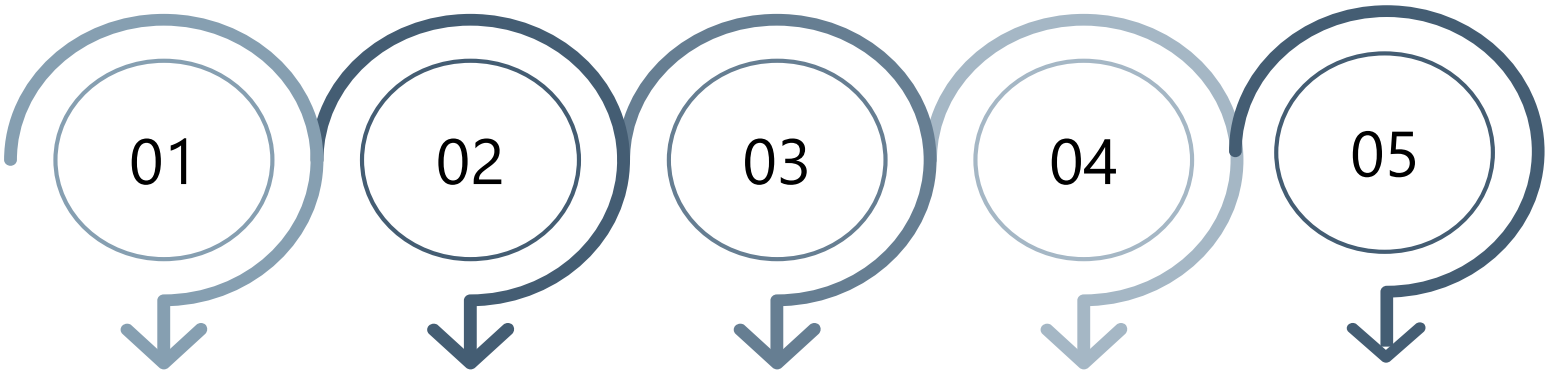
01 The large population and the high urbanization rate

02 The urbanization is an important factor

03 Vietnam's retail market is more attractive

04 Vietnam market will bring more opportunities

Weakness



01 The land costs are high in large urban areas

02 The large supply of retail space and tightened policy

03 E-commerce and online sales market not develop

04 Vietnamese people stick with traditional payment

05 The new technologies have not been applied

The impact of Covid-19 pandemic on the retail industry in Vietnam

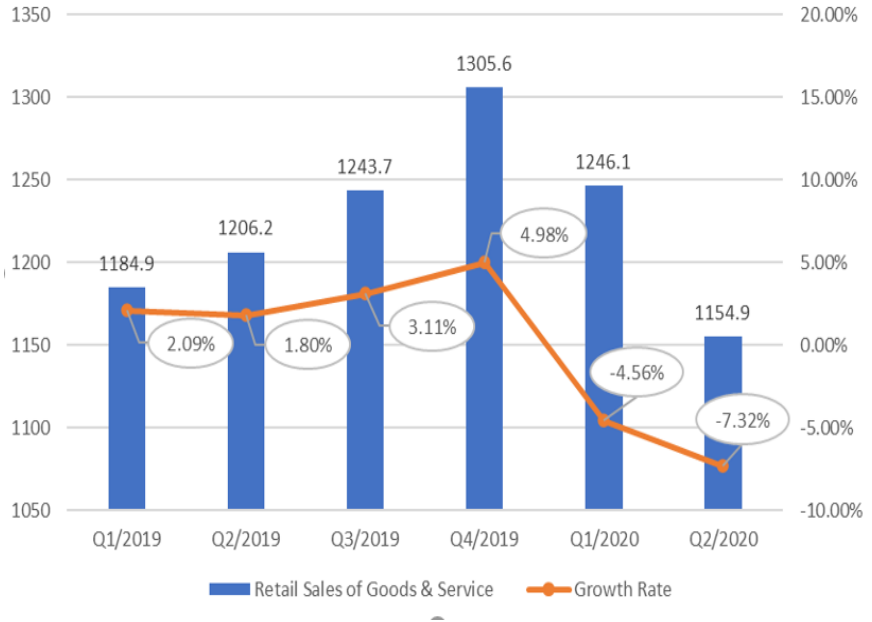
Retail Sales of Good & Services in Vietnam

In Q2 / 2020

- Retail sales of consumer goods and services:
- VND 1,154.9 trillion
- ↓ 5.8% compared to the previous quarter
- ↓ 4.6% compared to the same period last year
- Retail sales of goods
- VND 928.5 trillion
- ↓ 4% compared to the previous quarter
- ↑ 1.2% compared to the same period last year

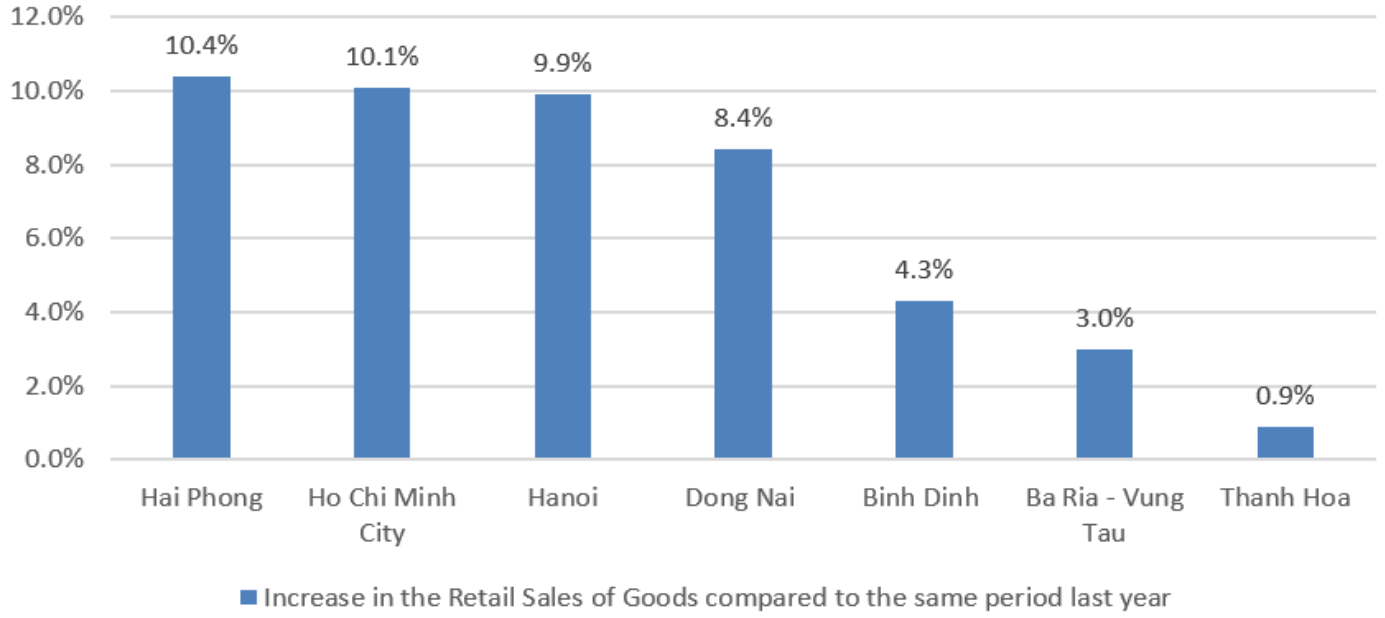
In the first half of 2020

- Retail sales of goods:
- VND 1,895.6 trillion (79.6%)
- ↑ 3.4% compared to the same period last year



Source: Ministry of Industry and Trade of Vietnam

Increase in the Retail Sales of Goods in Vietnam



Source: Ministry of Industry and Trade of Vietnam

FINDING AND ANALYSIS

- ↓ 50% compared to January 2020
- ↓ more than 20% compared to the same period of 2019

- January 2020: ↓ 2%
- February 2020: ↓ 6% compared to the plan

- The first 2 months: ↓ 50% compared to the same period last year

Covid-19 has changed many factors affecting the retail industry in Vietnam

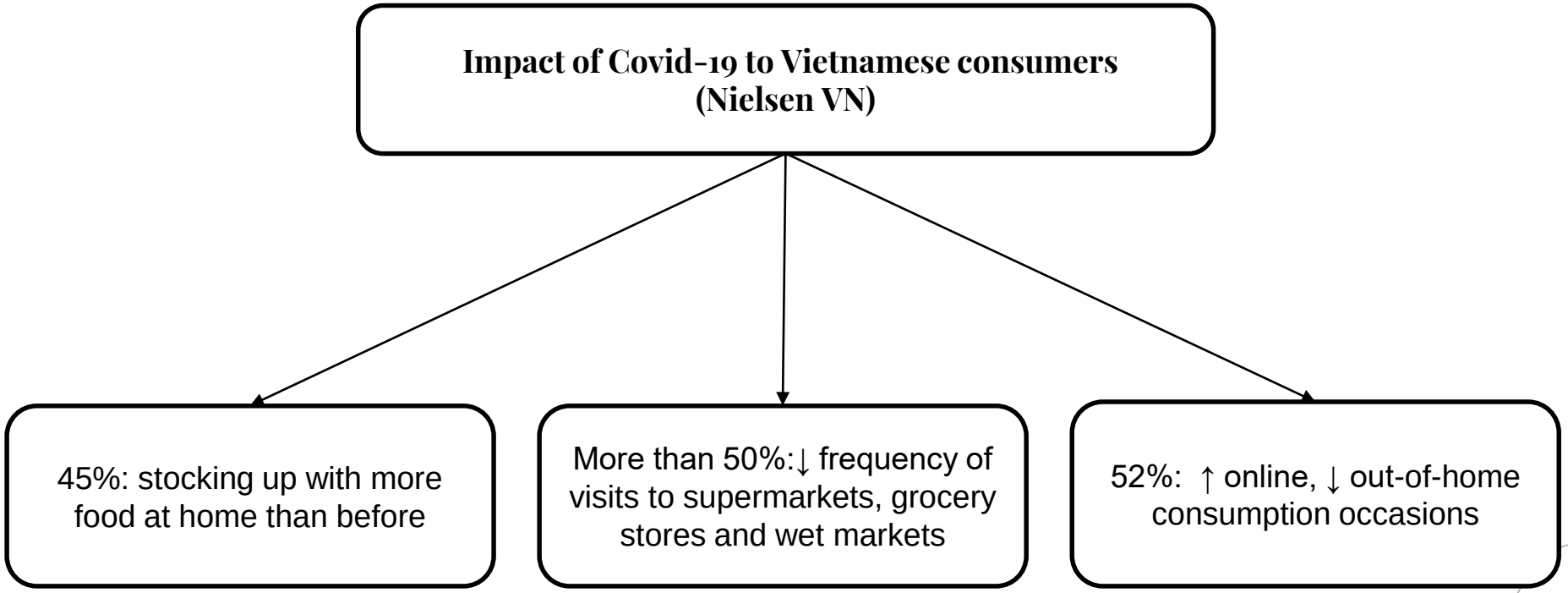
Demand Fluctuations

Internal Factors

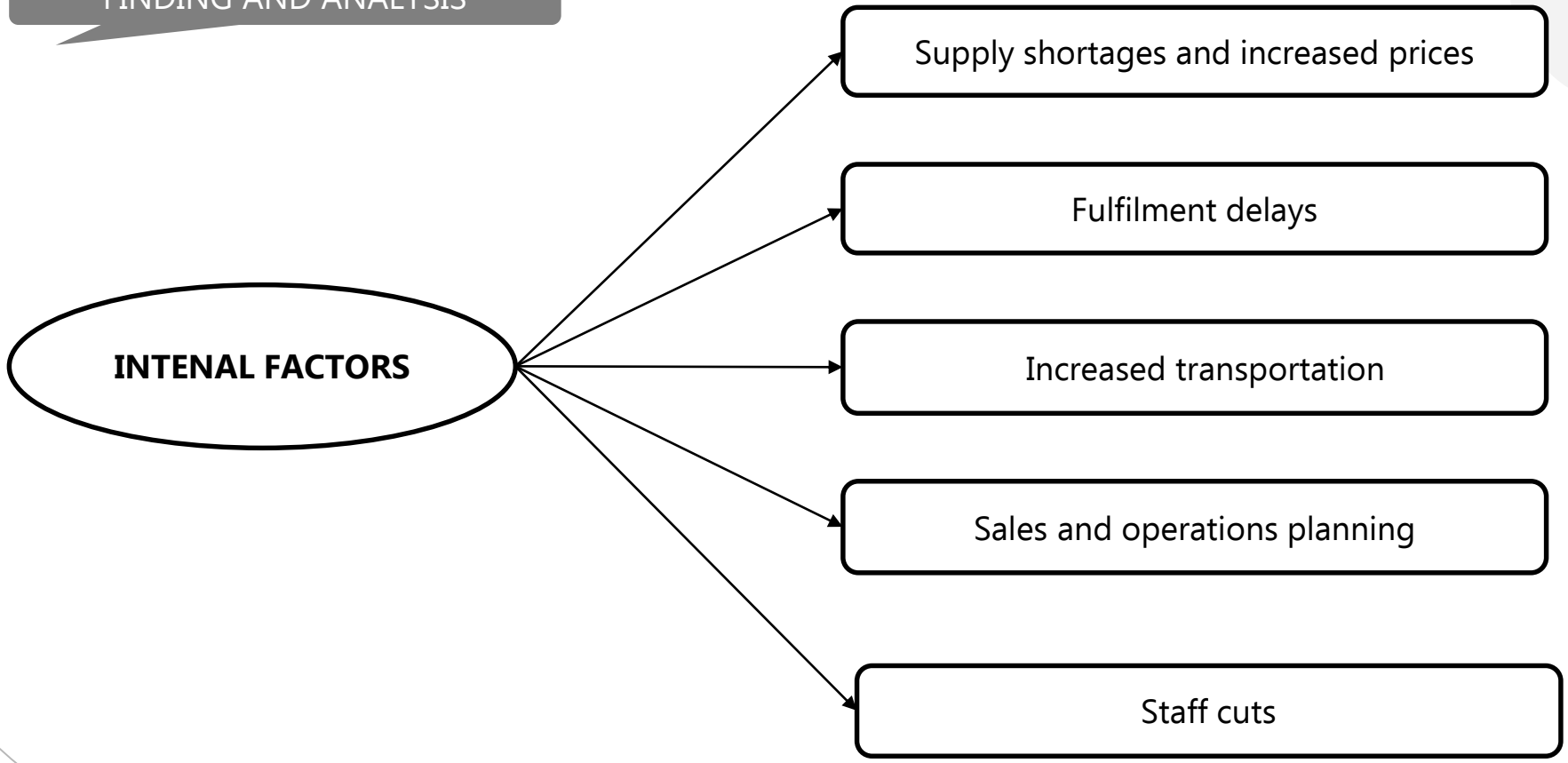
E-commerce

Trend Change

DEMAND FLUCTIONS



FINDING AND ANALYSIS

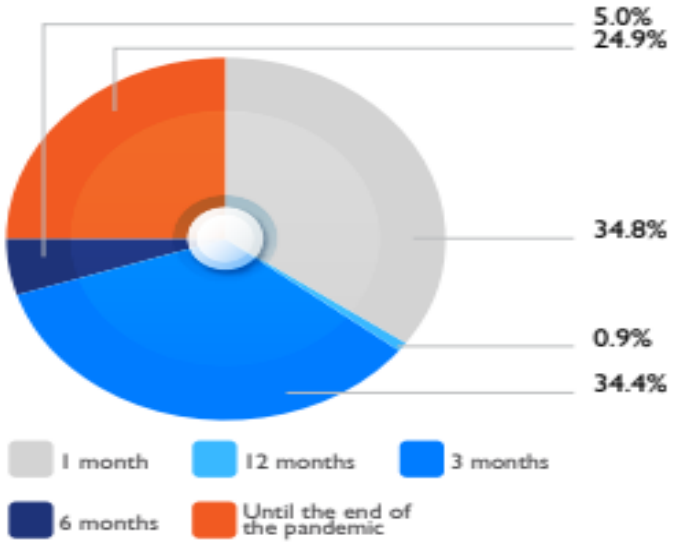


INTENAL FACTORS

Staff cuts

A survey of online recruitment company VietnamWorks:

- 69% would only accept the cut to last three months at most
- Six out of ten employers:
  +) Cut staff salaries by at least 25%
  +) Some going as far as 80% percent or over
- In Vietnam's labor market:
  +) 40%: Lost their job
  +) 30%: Income shrink



Employee Pay Cut Duration

Source: Vietnamwork

E-commerce

Ranking	Name	Q1/2020 Monthly Web Traffic	QoQ	YoY
1	Shopee Vietnam	**43,156,667**	+14%	+36%
2	The Gioi Di Dong	**28,590,000**	+2%	-6%
3	Tiki	**23,990,000**	-2%	0%
4	Lazada Vietnam	**19,763,333**	-27%	-7%
5	Sendo	**17,596,667**	-35%	-20%
6	Dien May Xanh	**11,180,000**	+8%	+15%
7	FPT Shop	**8,256,667**	+15%	-5%
8	Dien May Cho Lon	**7,016,667**	+8%	+228%
9	CellphoneS	**4,930,000**	-7%	-7%
10	Hoang Ha Mobile	**4,533,333**	+8%	-14%

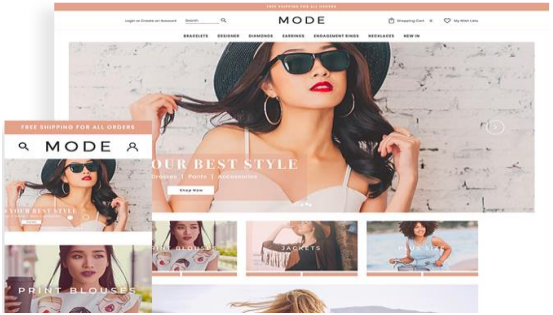
Vietnamese E-Commerce marketplaces' monthly website traffic Q1/2020

Source: CBRE

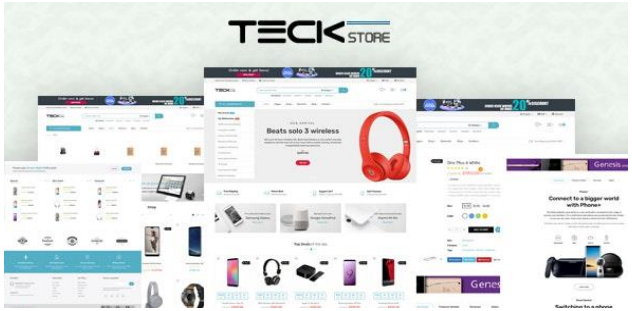
Trend change

Healthcare products: such as facemasks and hand sanitisers shot up by 610% and 680%

Bach Hoa Xanh's website: ↑ 49%

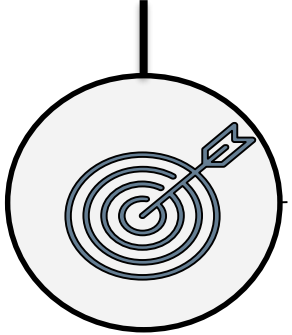


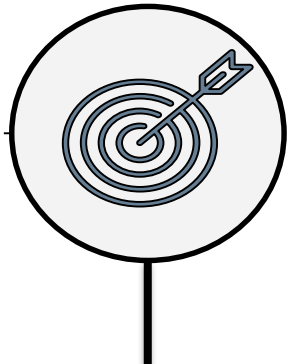
Fashion retail websites: ↓ 38%



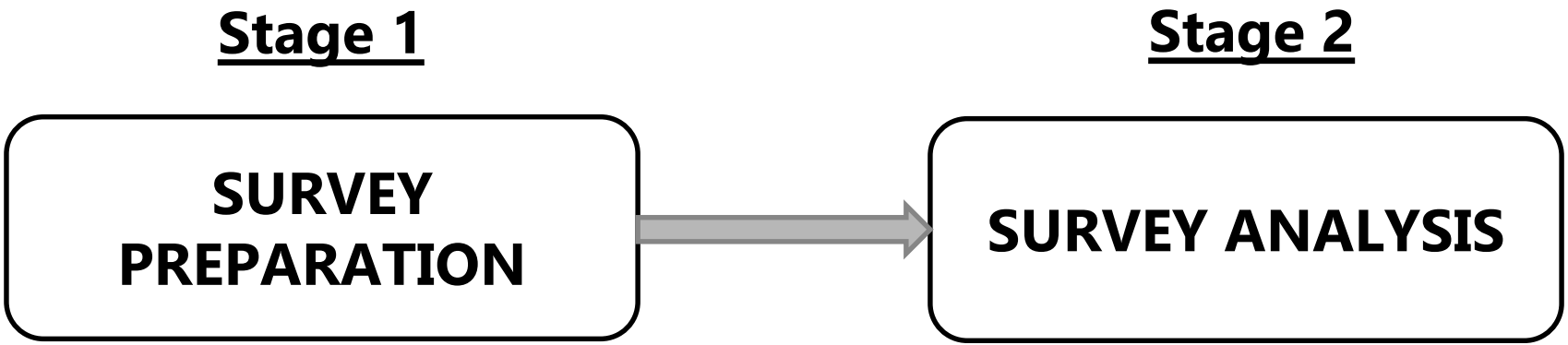
Electronics retail websites: in February ↓ 17% compared to January

QUANTITATIVE RESEARCH





QUANTITATIVE RESEARCH PROCESS



SURVEY ANALYSIS

180 responds:

- 141 valid responds
- 39 invalid responds

SURVEY ANALYSIS

		Frequency	Percent
Gender	Male	47	33.3
	Female	94	66.7
Position	Manager	9	6.4
	Employee	132	93.6
Work Experience	1-3 year(s)	28	19.9
	3-5 years	87	61.7
	More than 5 years	26	18.4

Respondent profile

SURVEY ANALYSIS

Descriptive analysis

The mean of variables: 3 - 4

	N	Mean
IT1	141	4.02
IT2	141	4.21
IT3	141	4.14
IT4	141	4.00
INV1	141	3.76
INV2	141	3.69
INV3	141	3.87
INV4	141	3.72
IN1	141	3.70
IN2	141	3.57
IN3	141	3.79
TR1	141	4.28
TR2	141	4.28
TR3	141	4.36
TR4	141	4.07
TR5	141	3.77
STR1	141	3.48
STR2	141	3.74
STR3	141	3.82
STR4	141	3.82
MA1	141	3.52
MA2	141	4.25
MA3	141	4.17
MA4	141	3.81
LO1	141	3.54
LO2	141	3.40
LO3	141	3.14
SU1	141	3.81
SU2	141	3.89
SU3	141	4.18

Reliability Analysis

Cronbach’s Alpha > 0.6

INFORMATION scale:
Cronbach's Alpha **= 0.697**

STRATEGY scale:
Cronbach's Alpha = **0.687**

TRANSPORTATION scale:
Cronbach's Alpha = **0.849**

MANUFACTURE scale:
Cronbach's Alpha = **0.614**

LOCATION scale:
Cronbach's Alpha = **0.895**

INFORMATION TECHNOLOGY scale:
Cronbach's Alpha = **0.806**

INVENTORY scale:
Cronbach's Alpha = **0.788**

SUCCESS OF RETAIL SUPPLY CHAIN scale:
Cronbach's Alpha = **0.803**

EXPLORATORY FACTOR ANALYSIS (EFA)

Independent factors

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.86
Bartlett's Test of Sphericity	Approx. Chi-Square	1606.962
	df	253
	Sig.	0

Total Variance Explained[Extracted]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variane	Cumulative %
1	**7.306**	31.767	31.767	7.306	31.767	31.767
2	**2.775**	12.067	43.834	2.775	12.067	43.834
3	**1.86**	8.088	51.922	1.86	8.088	51.922
4	**1.415**	6.152	58.073	1.415	6.152	58.073
5	**1.187**	5.161	63.235	**1.187**	5.161	**63.235**
6	0.979	4.257	67.492			
7	0.85	3.696	71.188			

Rotated Component Matrix[a]

	Component					Component's name
	1	2	3	4	5	
TR3	0.78					
TR2	0.747					
TR4	0.741					
TR1	0.724					
IT2	0.671					Transportation and strategy applying information technology
IT3	0.657					
IT4	0.642					
IT1	0.642					
STR2	0.634					
STR1	0.597					
INV2		0.75				
INV3		0.742				
INV4		0.705				Inventory
INV1		0.689				
LO2			0.934			
LO1			0.923			Location
LO3			0.836			
MA2				0.769		
MA1				0.763		Manufacture
MA3				0.691		
IN1					0.867	
IN3					0.671	Information
IN2					0.527	

EXPLORATORY FACTOR ANALYSIS (EFA)

Independent factors

Reliability analysis result of new factor IST:

Transportation and strategy applying information technology scale: Cronbach's Alpha = **0.903**				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TR1	36.29	43.236	**.696**	.892
TR2	36.29	42.708	**.659**	.894
TR3	36.21	41.265	**.808**	.884
TR4	36.50	41.652	**.663**	.894
IT1	36.55	42.393	**.683**	.892
IT2	36.36	43.204	**.703**	.891
IT3	36.43	41.832	**.689**	.892
IT4	36.57	43.961	**.606**	.897
STR1	37.09	45.056	**.508**	.903
STR2	36.83	43.728	**.577**	.899

EXPLORATORY FACTOR ANALYSIS (EFA)

Dependent factors

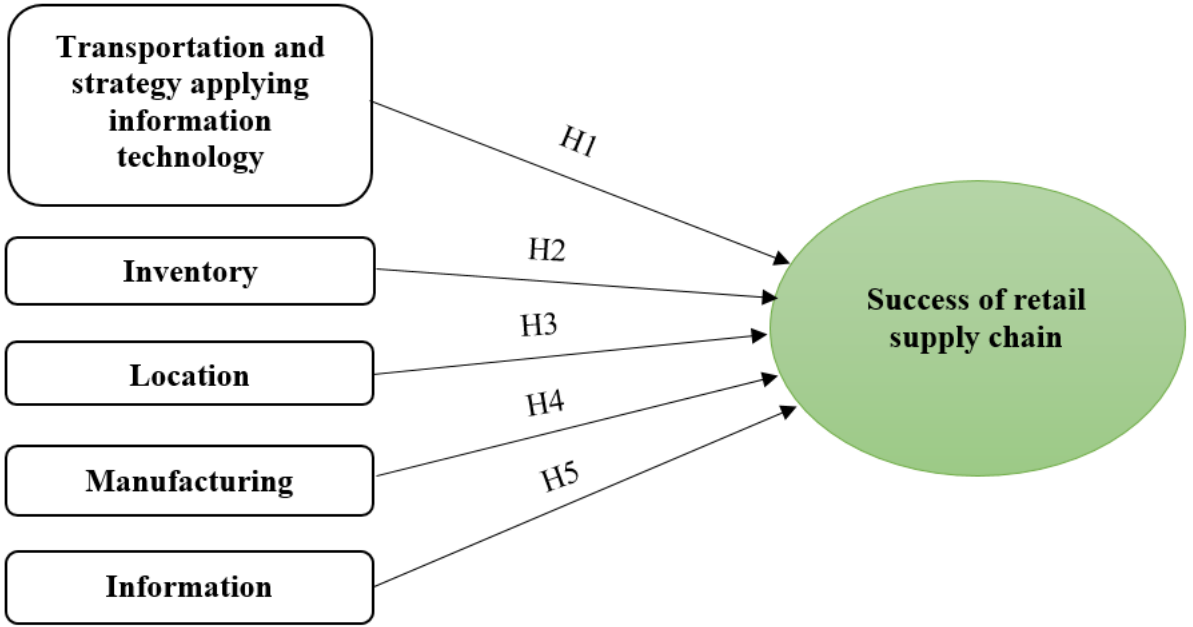
KMO and Bartlett's Test						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				**0.699**		
Bartlett's Test of Sphericity	Approx. Chi-Square	135.568				
	df	3				
	Sig.	**0.000**				
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.153	71.776	71.776	2.153	**71.776**	71.776
2	0.495	16.502	88.278			
3	0.352	11.722	100			
Component Matrix[a]						
Component						
1						
SU3	**0.875**					
SU2	**0.852**					
SU1	**0.813**					

CORRELATION ANALYSIS

Correlations

		SU	IST	INV	LO	MA	IN
SU	**Pearson Correlation**	**1**	**.821****	**.619****	**-.017**	**-.033**	**.541****
	Sig. (2-tailed)		**.000**	**.000**	**.841**	**.695**	**.000**
	N	141	141	141	141	141	141
IST	**Pearson Correlation**	.821**	1	.590**	.036	.063	.553**
	Sig. (2-tailed)	.000		.000	.668	.459	.000
	N	141	141	141	141	141	141
INV	**Pearson Correlation**	.619**	.590**	1	.040	-.047	.389**
	Sig. (2-tailed)	.000	.000		.635	.578	.000
	N	141	141	141	141	141	141
LO	**Pearson Correlation**	-.017	.036	.040	1	.072	-.073
	Sig. (2-tailed)	.841	.668	.635		.399	.390
	N	141	141	141	141	141	141
MA	**Pearson Correlation**	-.033	.063	-.047	.072	1	-.054
	Sig. (2-tailed)	.695	.459	.578	.399		.523
	N	141	141	141	141	141	141
IN	**Pearson Correlation**	.541**	.553**	.389**	-.073	-.054	1
	Sig.(2-tailed)	.000	.000	.000	.390	.523	

ADJUSTABLE RESEARCH MODEL



REGRESSION ANALYSIS

The regression formula

$$SU = \beta_0 + \beta_1 * IST + \beta_2 * INV + \beta_3 * IN$$

In which,

- β_0**:** Constant
- β_i**:** Regression coefficients (i=1, 2, 3)
- **IST, INV, IN:** the independent factors (Transportation and strategy applying information technology, Inventory, Information)
- **SU:** the dependent factor (Success of retail supply chain)

REGRESSION ANALYSIS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.845[a]	.715	**.708**	.47270	**1.664**

a. Predictors: (Constant), IN, INV, IST

b. Dependent Variable: SU

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.688	3	25.563	114.403	**.000[b]**
	Residual	30.612	137	.223		
	Total	107.300	140			

REGRESSION ANALYSIS

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.380	.238		-1.595	.113		
	IST	.762	.076	**.630**	10.048	**.000**	.530	**1.886**
	INV	.194	.058	**.192**	3.372	**.001**	.645	**1.551**
	IN	.139	.055	**.140**	2.536	**.012**	.683	**1.464**

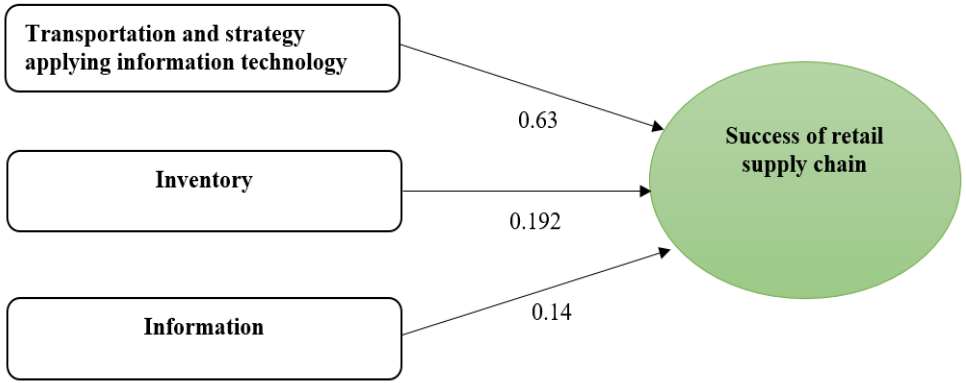
a. Dependent Variable: SU

REGRESSION ANALYSIS

The linear regression equation:

$$SU = 0.63*IST + 0.192*INV + 0.14*IN$$

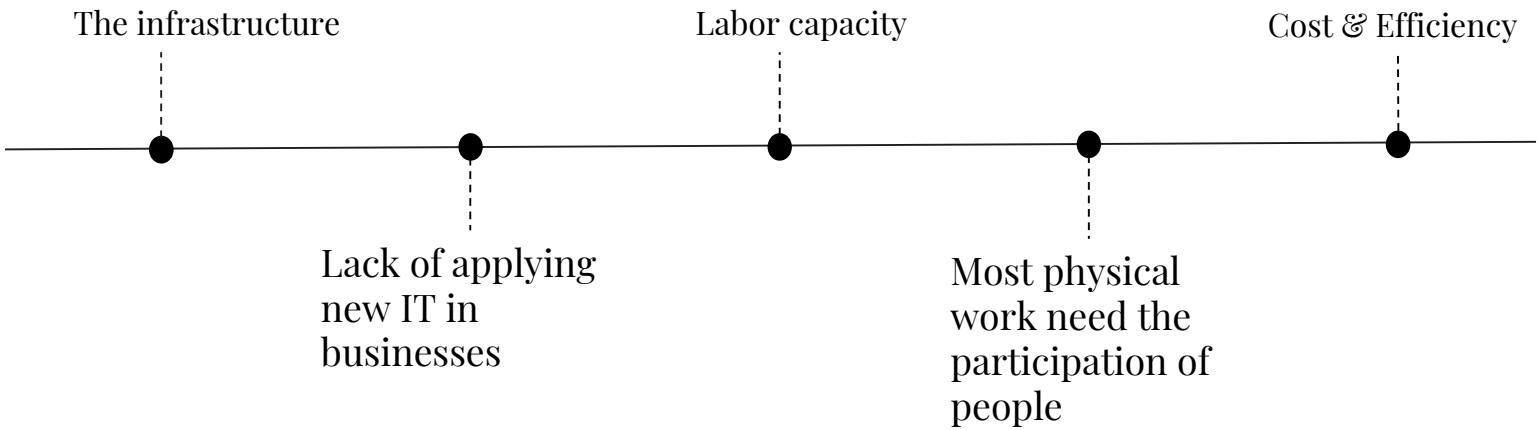
Regression Analysis Result Model:



Factors that deeply affect Vietnam's supply chain in the context of global supply chain shifts

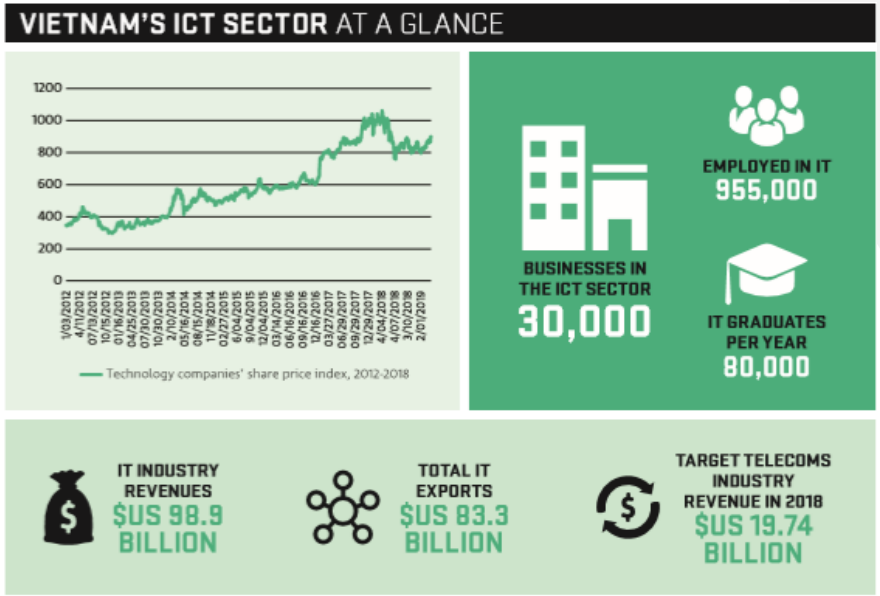
Transportation and Strategy applying Information Technology

Vietnamese enterprises' IT application:



Transportation and Strategy applying Information Technology

- Emerging sectors and fast-growing sunrise industries in Vietnam include:
  - Finance Technology (Fintech)
  - Telecommunications, Electronics and Computer manufacturing
  - Information and Communications Technology (ICT) services
- 2018 ICT industry revenue was US$98.9 billion, 13 times the revenue in 2010 (US$7.6 billion)
- Vietnam currently has 235 universities, including 153 universities providing IT training
- Vietnam was placed as the 23rd on HACKERRANK's chart and the 6th on TOPCODER's chart for programming skills



Source: Ministry of Information and Communications (Source: stockbiz.vn)

Transportation applying Information Technology

As of December 2017, There are **5797** patents on research and application of IoT, AI and Big Data in transportation:

- Has increased dramatically in the past 10 years (2007 - 2017)
- China leads with **3783** patents
- Vietnam has not owned any patents on research and application of AI, Big Data and IoT in transportation

Number of patents on research and application of AI, big data and IoT in Transportation according to Research Topics

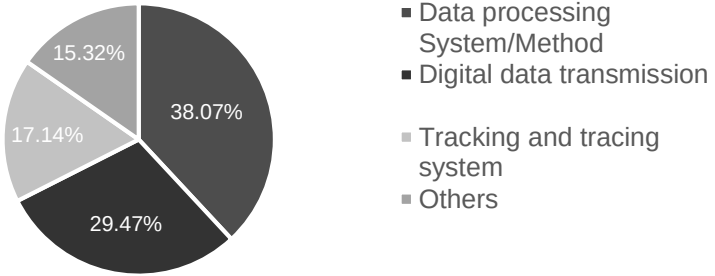


Chart: Number of patents on research and application of AI, Big data and IoT in Transportation according to research topics

Source: Center for Information and Statistics of Science and Technology in Vietnam

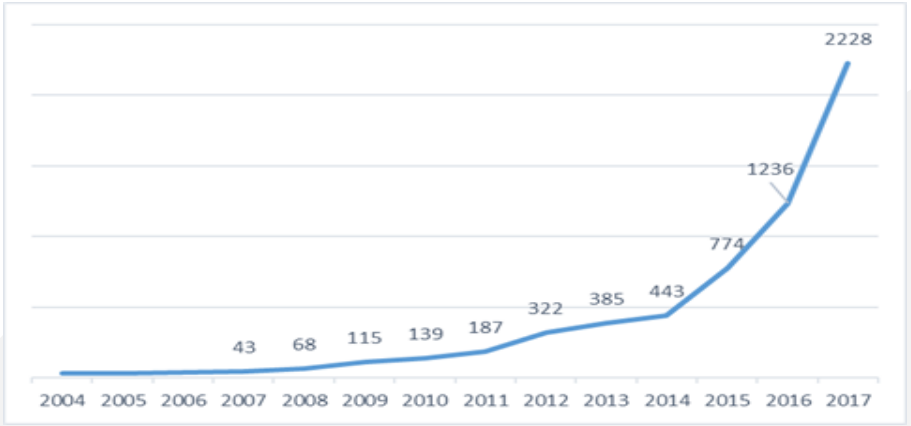
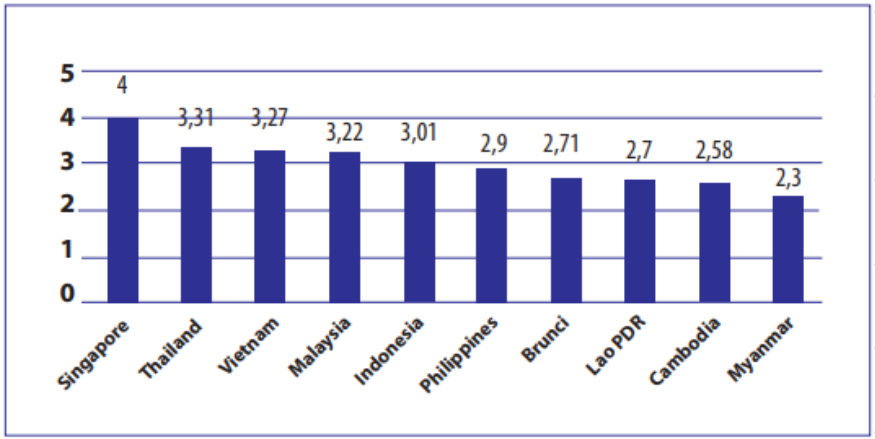


Chart: Number of patents on research and application of AI, dig Data and IoT in Transportation over time

Transportation applying Information Technology

Vietnam's LPI 2018 was published by the World Bank in its July 2018 report, whereby Vietnam was ranked 39 out of 60 countries participating in the survey, up 25 places from the 2016 ranking



Index	2007		2010		2012		2014		2016		2018	
	Score	Ranking	Score	Ranking	Score	Ranking	Score	Ranking	Score	Ranking	Score	Ranking
LPI	2.89	53	2.96	53	3.00	53	3.15	48	2.98	64	3.27	39
Customs	2.89	37	2.68	53	2.65	63	2.81	61	2.75	64	2.96	41
Infrastructure	2.50	60	2.56	66	2.68	72	3.11	44	2.70	70	3.01	47
International Shipments	3.00	47	3.04	58	3.14	39	3.22	42	3.12	50	3.16	49
Logistics competence & Service quality	2.80	56	2.89	51	2.68	82	3.09	49	2.88	62	3.40	33
Tracking & Tracing	2.90	53	3.10	55	3.16	47	3.19	48	2.84	75	3.45	34
Timeliness	3.22	65	3.44	76	3.64	38	3.49	56	3.50	56	3.67	40

Source: VLA – White Book 2018

Transportation applying Information Technology

Vietnamese transportation infrastructure' Weakness:

01 Vietnam's trade flows are concentrated at just ¼ of all international border gates, handle up to 82% of the trade value in 2016

02 Depends heavily on road transport

03 Traffic congestion also occurs frequently in big cities

04 Not yet taken advantage of the extensive network of rivers

Strategy applying Information Technology

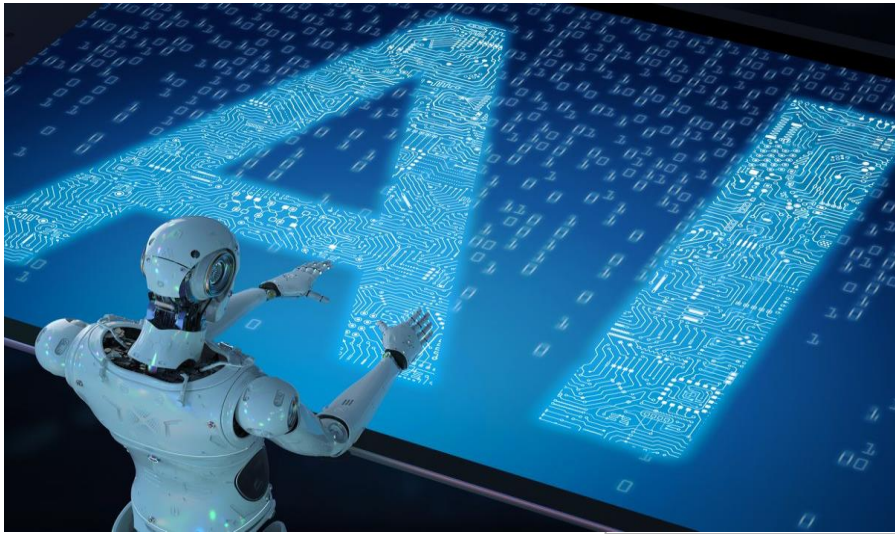
Strategy in the retail industry will not change much after the shift in global supply chains:

- The strategy of each retail nit will serve the overall strategy of the company
- Strategies in each supply chain would be divided into many levels
- Units in the supply chain also need to have appropriate strategies based on the company's general strategy

Applying Artificial Intelligence (AI) to strategy designing:

- Effective tool to analyze insight about customers:
  - Customers' shopping trend
  - Customer behavior
  - Customer care methods

- There are just few retailers in Vietnam applying AI technology to their business: Shopee, Tiki, Lazada, etc

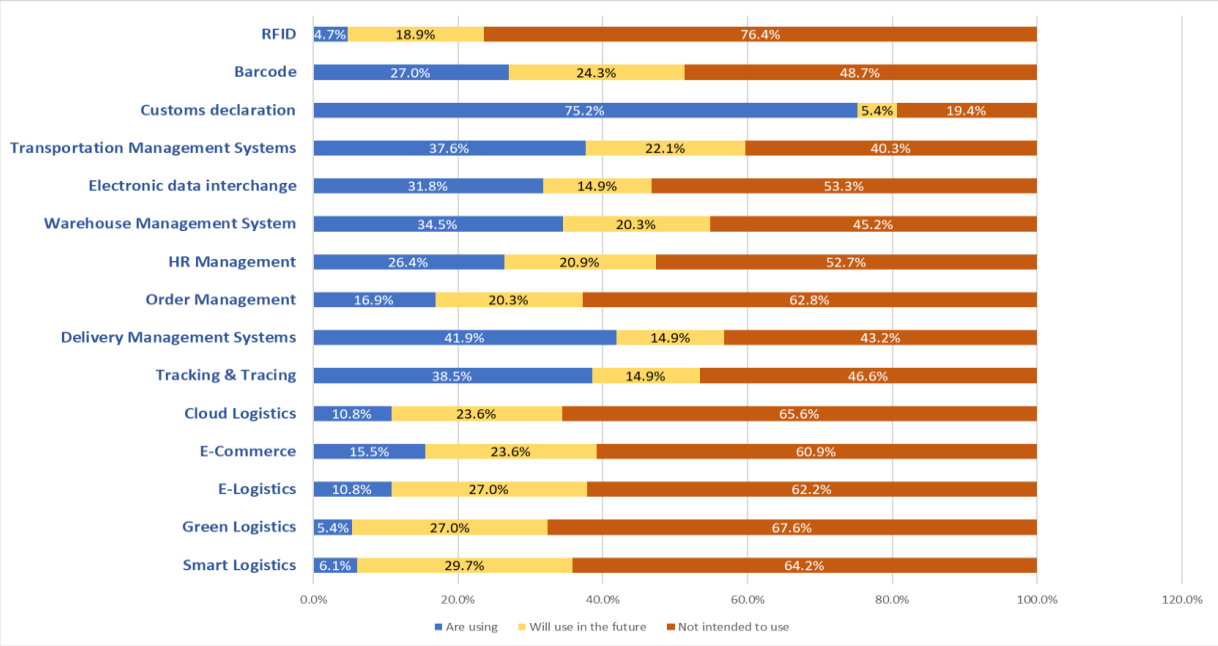


Information

The information factor will not be affected greatly after the movement of the global supply chain:

- Information must be shared continuously throughout all supply chain units
- Lack of information leads to huge issues in the business operation and market forecast
- Time zone differences and Language differences

Inventory



IT application of Logistics enterprises (2018) Source: VLA – White Book 2018

Inventory

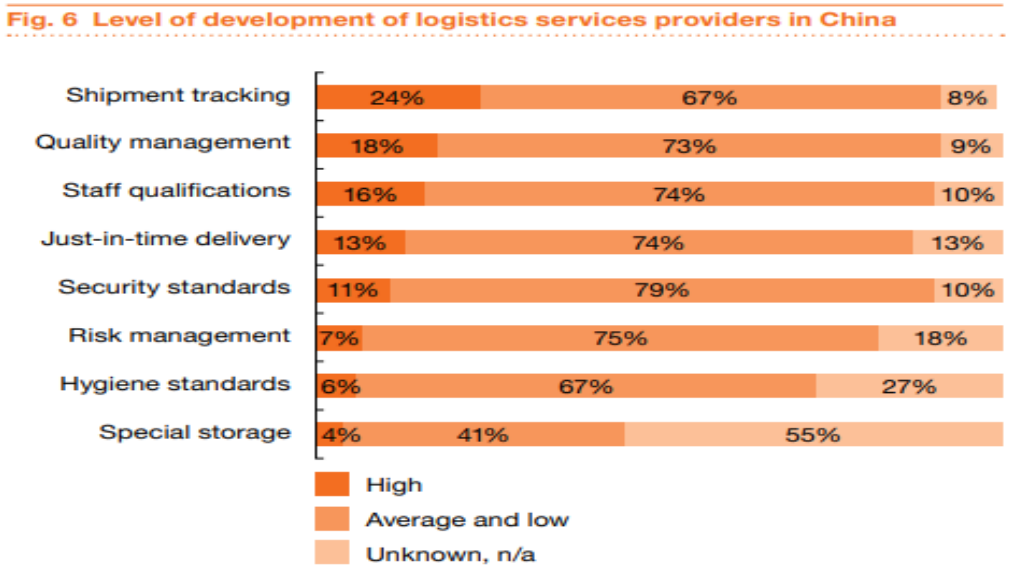


Chart: Level of development of logistics services providers in China (Source: Logistics In China: An All-Inclusive Market? – PwC)

Chap 5:

OPPORTUNITIES & SOLUTIONS

Opportunities

The desire to restructure the global supply chain.

Effective control of COVID-19 pandemic.

Vietnamese retail businesses to change the way doing business.

OPPORTUNITIES

Solutions for Vietnam's retail supply chain during COVID-19 period.

OPPORTUNITIES

Solutions for Vietnam's retail supply chain during COVID-19 period

1. Applying Information Technology in Strategies and enhancing Transportation capacity

2. Solutions for Inventory

3. Solution to improve the efficiency of Information sharing in the supply chain

OPPORTUNITIES

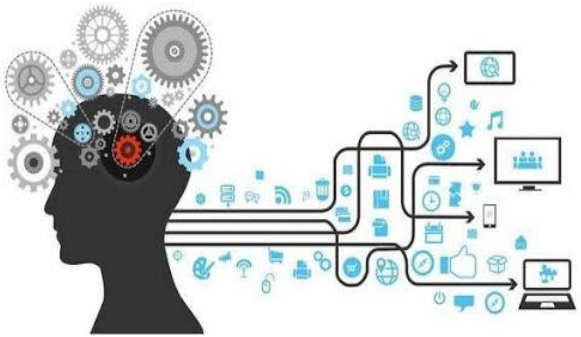
Applying Information Technology in Strategies and enhancing Transportation capacity

Strategies

Transportation

Applying Information Technology in Strategies

1. E-commerce

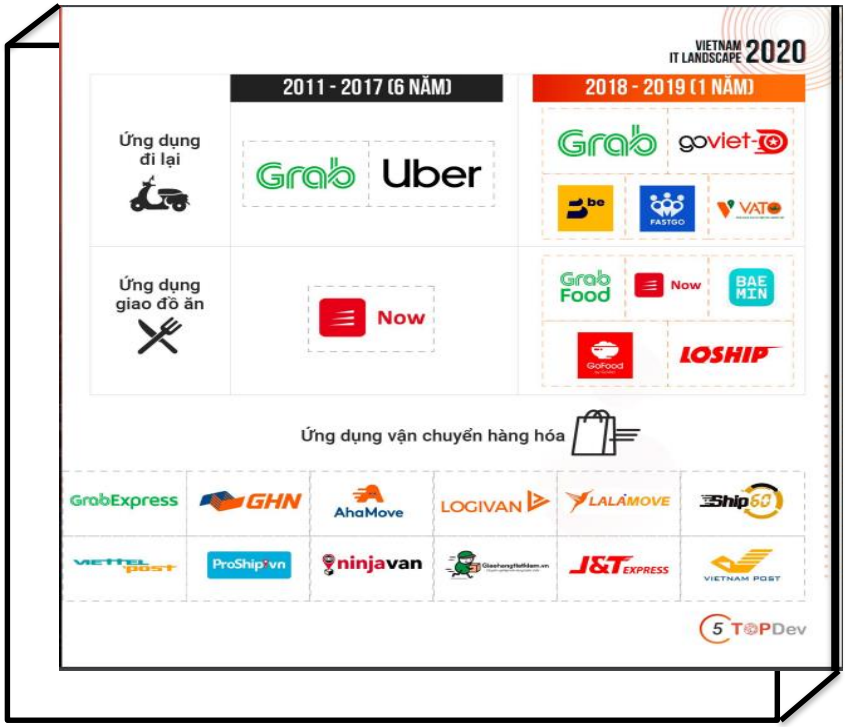


2. Big data and AI

3. Developing IT level

OPPORTUNITIES

E-commerce platform in Vietnam



E-commerce

- Improve the quality of products and service:
  - Anti-Counterfeiting
  - Time of shipment
  - Customer service

- Diversify sources of goods:
  - Fresh food – ultimate e-commerce campa

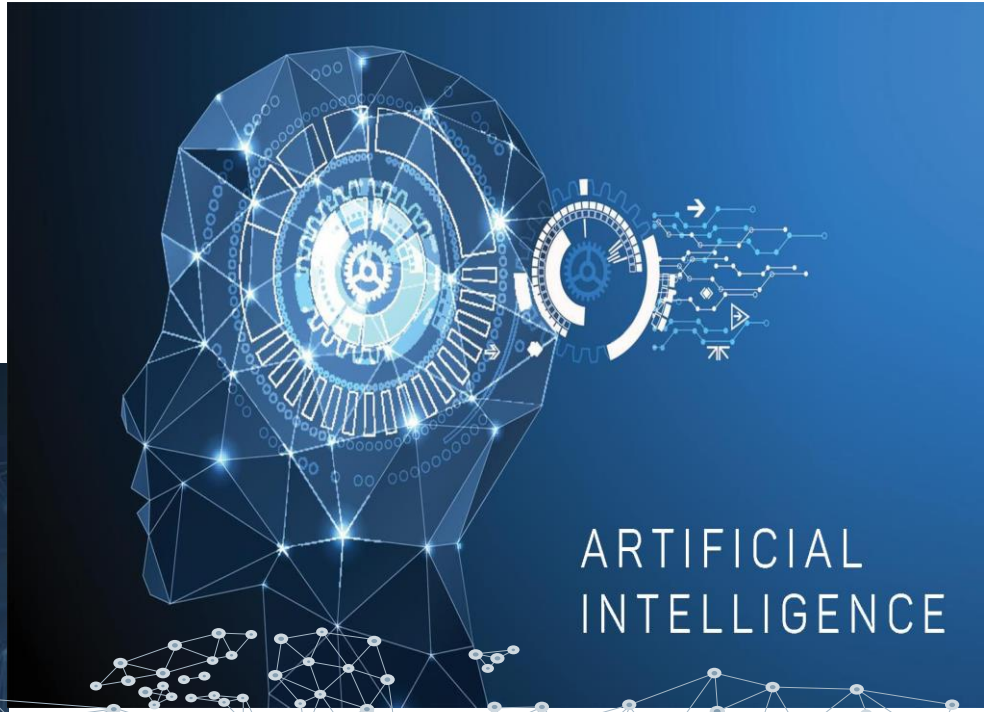
Alibaba Group 阿里巴巴集团

TECHNOLOGY

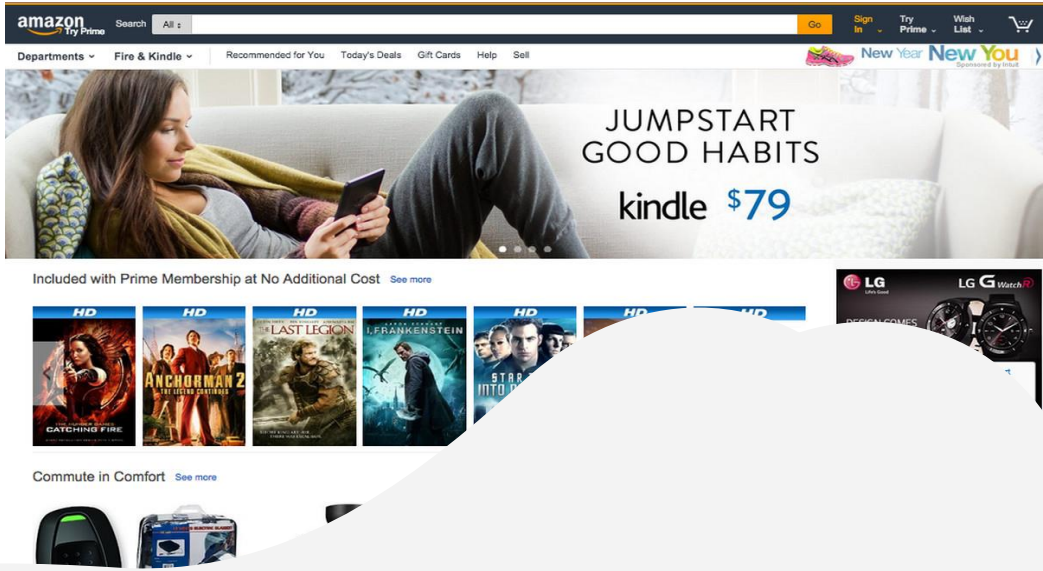
TO PROTECT
INTELLECTUAL PROPERTY

OPPORTUNITIES

BIG DATA AND AI

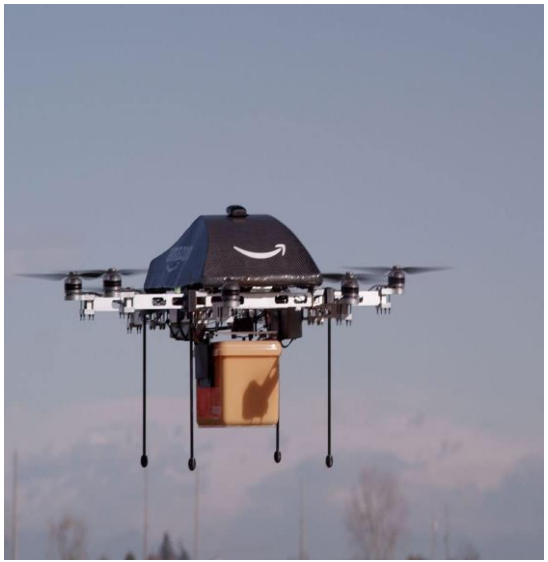


EXAMPLE OF AMAZON BIG DATA AND AI



OPPORTUNITIES

Applying Information Technology in enhancing Transportation capacity



Drone Delivery

Delivery Robot

AI to plan delivery routes

OPPORTUNITIES

Solutions for Inventory

Strategies of inventory
- Go from Just-in-time to Just-in-case inventory management

Applying information technology in inventory management:
- RFID
- "Quick Put away Process“
- Robotics and AI system

OPPORTUNITIES

Go from Just-in-time to Just-in-case inventory management

Just in time

- inventory holding costs (such as warehouse space) are minimized.
- there is a heavy reliance on suppliers - any failures in delivery can lead to stock-outs

Just in case

- Large inventories overcome JIT's shortcomings by making business operations less disruptive
- Storing too much inventory means inventory costs will be very high. Including costs related to inventory, operating costs.

Applying information technology in inventory management

Quick Put away Process

Carton Wrap robot

Kiva robot

OPPORTUNITIES

Solution for Information sharing in the supply chain

Applying information technology to create a smooth communication channel between suppliers and customers

It is not only for the domestic enterprises, but also it is very important to develop information connection abroad.

Example of Alibaba e-commerce platform

C2C model

B2B model

C2C + B2B model

THANK YOU!!