

TISTR's From Local to Global International Forum: Food Industry 4.0.  
Food for the Future: Trends in Functional Food & Dietary Supplement.

# Herbal Ingredient and Product Trends in Taiwan



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# Topics

Taiwan  
Functional Foods



*Market Positioning of Functional Foods*

*Overall Trend of Functional Foods  
Development*

*Development of Herbal Ingredient and  
Functional Foods: Case Studies*

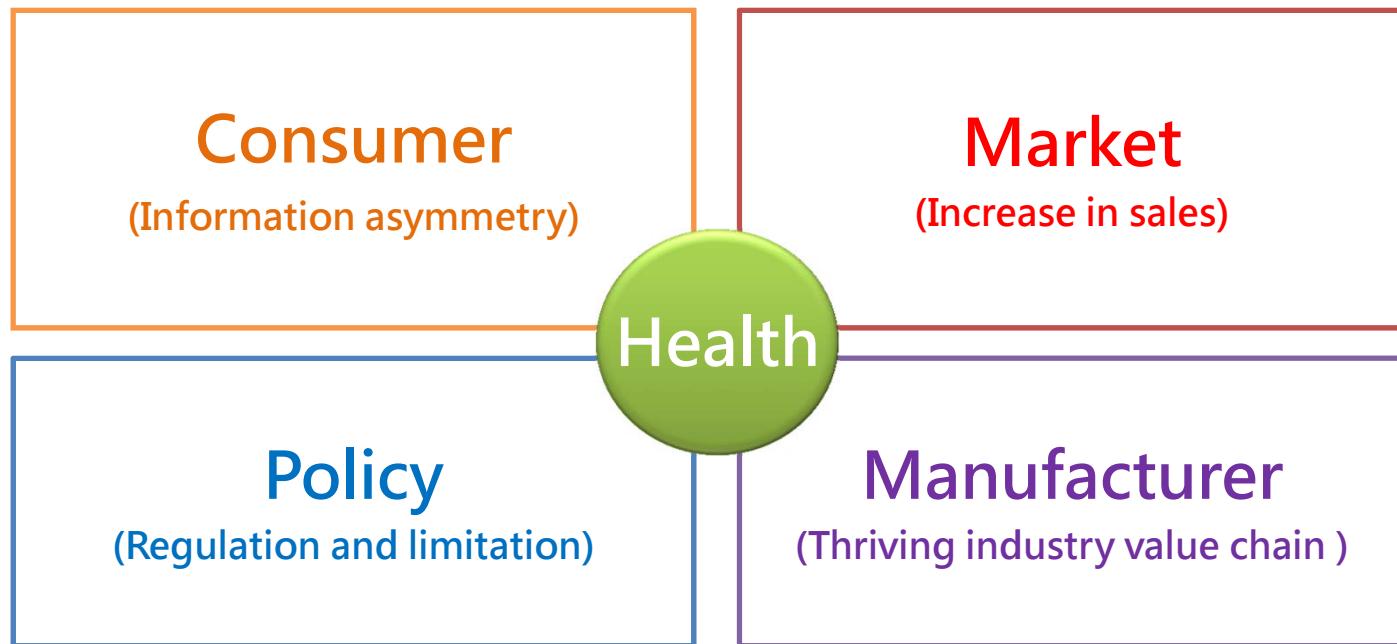
*Future Outlook*

Taiwan Functional Foods

# Market Positioning of Functional Foods



# Emerging Global Trends in Health Products : the ongoing change in the market



## Environment :

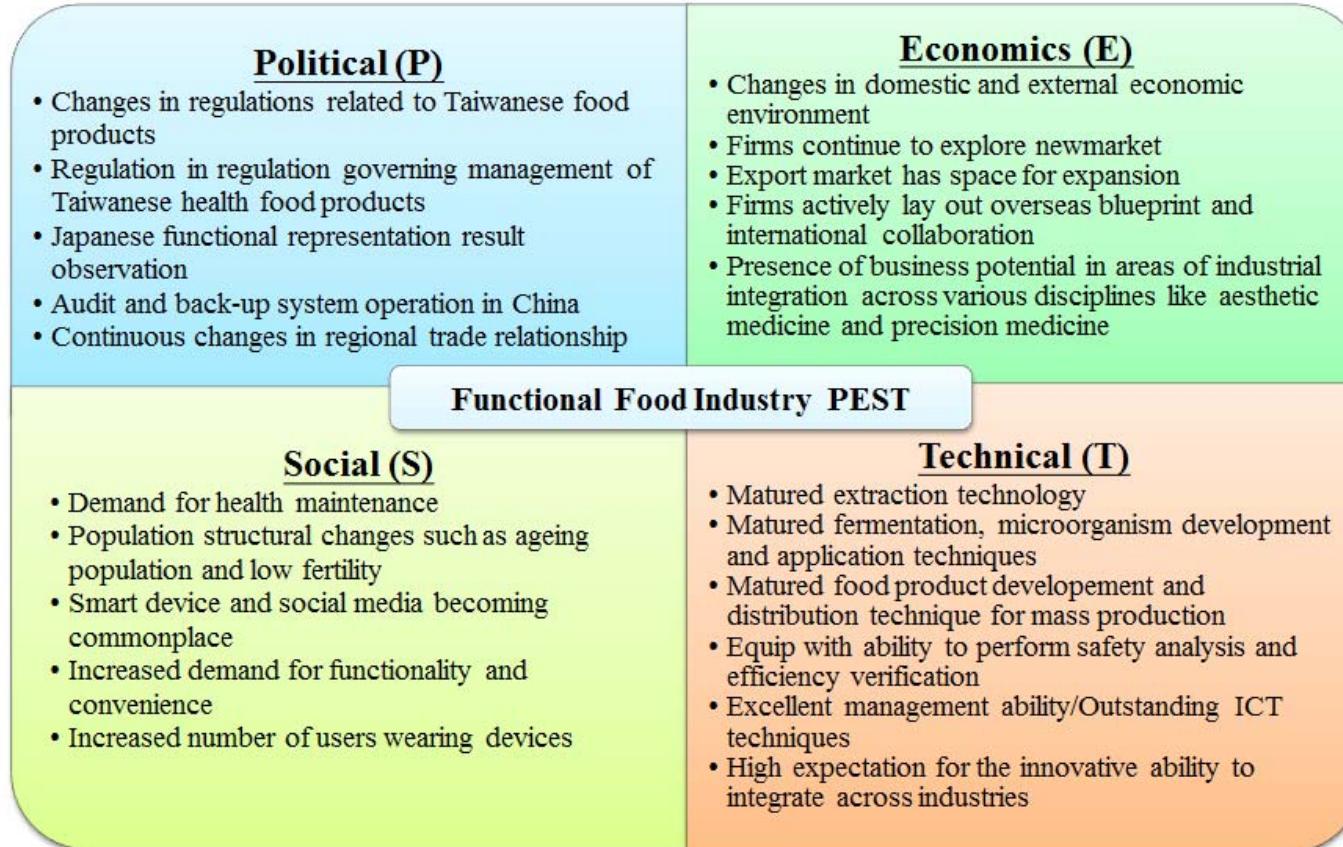
ageing population  
increased risk of influenza  
popularity of functional ingredient  
difference in regional development  
change in policy

## Incentives:

consumer health awareness  
increased medical costs  
R&D ability  
application of innovative technology  
media proliferation

# Taiwan's Functional Foods Industry PEST

Due to changes in population structure such as ageing population and low fertility, demand for convenience and functional health will direct the Taiwanese functional food product industry. With maturing of functional food technology and ability, the product development and quality reliability have received recognition. People are looking forward to new technological application and creative ability to integrate.

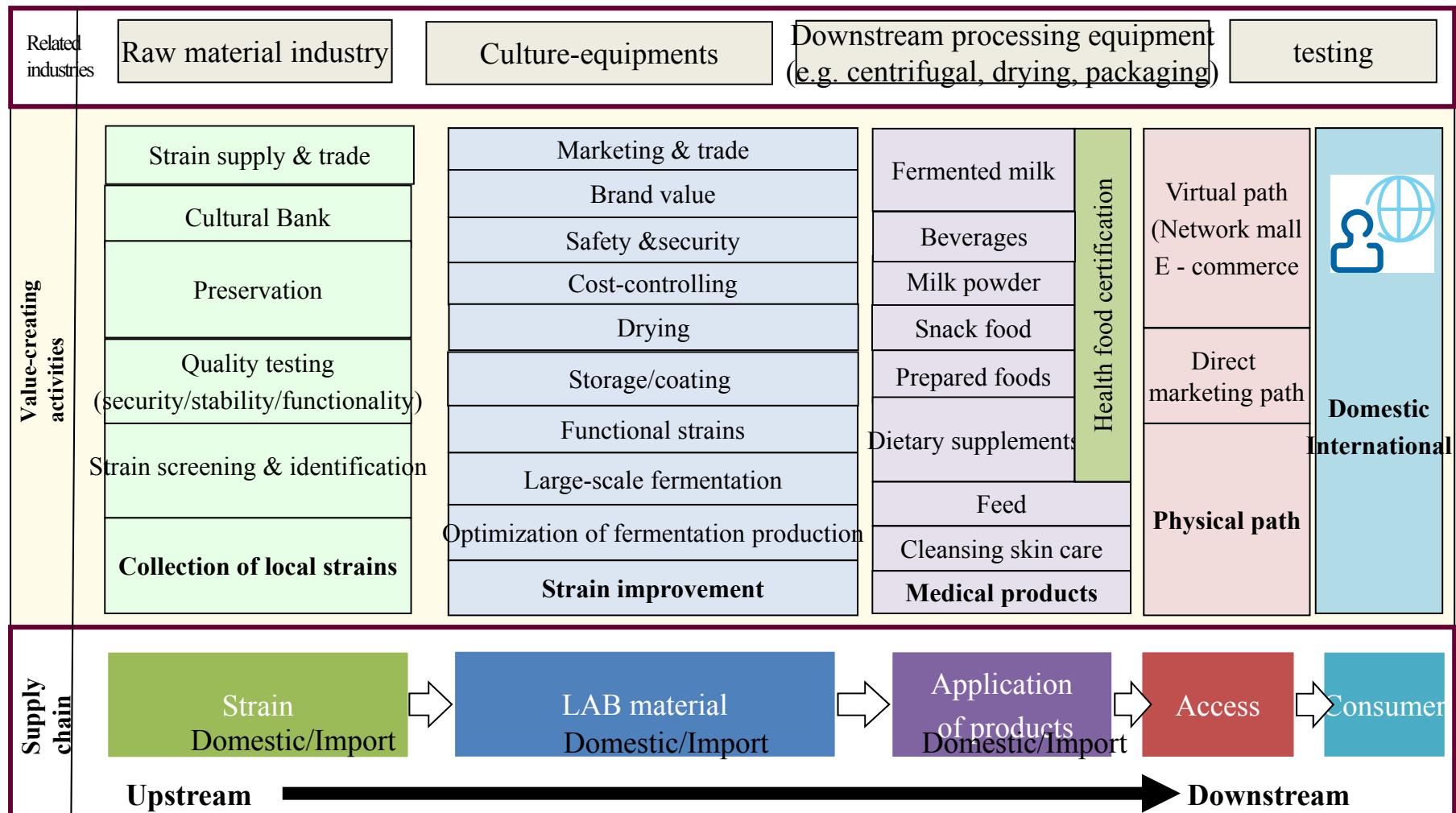


# The Value-Chain of Functional Foods Industry in Taiwan

Taiwan functional food industry is focused on mid-stream and downstream industry.  
Key feature of this industry includes:

- (1) Increased emphasis on developing core materials and expanding international market
- (2) Matured key technology enables process standardization
- (3) Improvement of professional service provided by OEM and material application firms
- (4) Detailed division of labor in the supply chain: new products can be launched rapidly and matured products can be altered to create new business opportunities
- (5) Increased emphasis on the value of brand image in areas of marketing and market expansion
- (6) Emphasis on product safety inspection
- (7) Create new business model through regulating the value chain activities
- (8) Manufacturers utilize various channel to extend supply chain

# The Ecosystem and Value-Chain of Functional Foods Industry in Taiwan

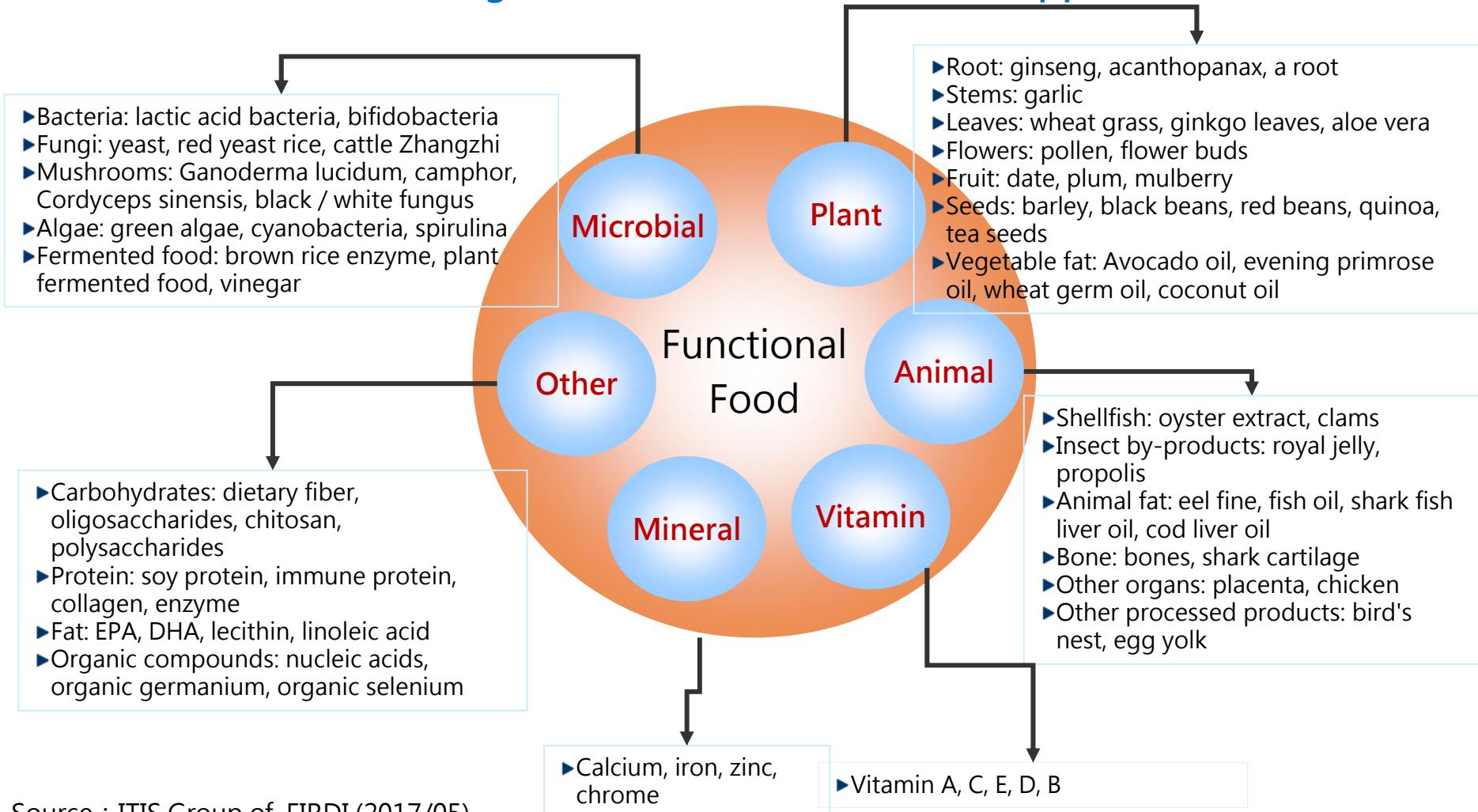


Source : ITIS Group of FIRDI (2017/05)

Tony J. Fang, FIRDI

# Diverse Functional Ingredients in Taiwan

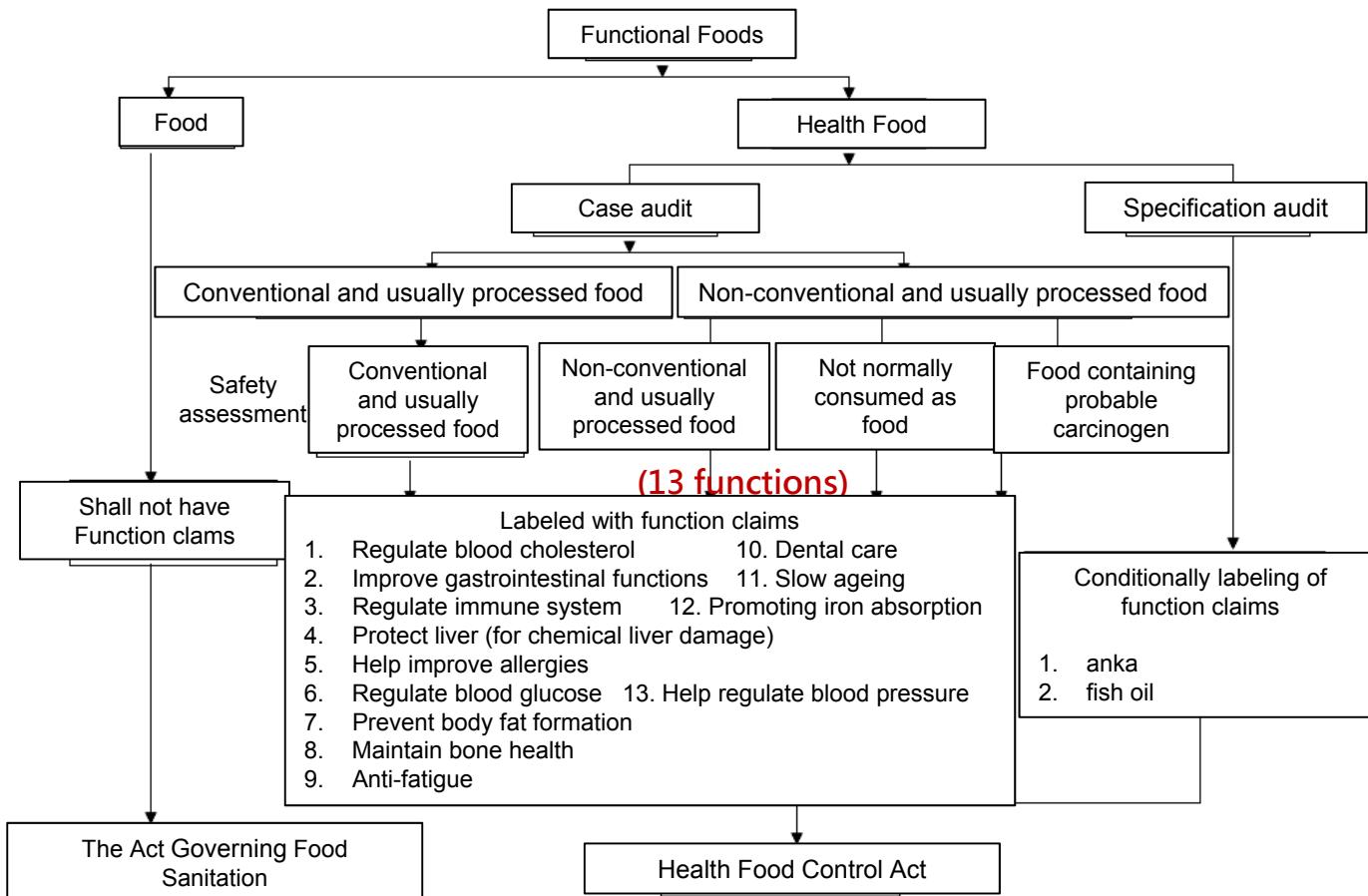
Different functional ingredients, different business opportunities



Source : ITIS Group of FIRDI (2017/05)

Tony J. Fang, FIRDI

# Different Definition of Health Food and Functional Food



Taiwan Health Food Control Act regulates that "health food" is a legislative noun. Company must get Health Food permit of the product before they can make any function claim of the product.



# Taiwan FDA approves 13 functional claims that can be used for health foods

- ✓ Protection of the liver
- ✓ Relieving physical fatigue
- ✓ Regulation of blood lipid
- ✓ Regulation of blood sugar level
- ✓ Regulation of immune system
- ✓ Alleviation of osteoporosis
- ✓ Maintenance of dental health
- ✓ Anti-aging
- ✓ Promotion of iron absorption
- ✓ Promotion of gastrointestinal functions
- ✓ Aiding blood pressure regulation
- ✓ Attenuation of body fat accumulation
- ✓ Reducing allergic reactions



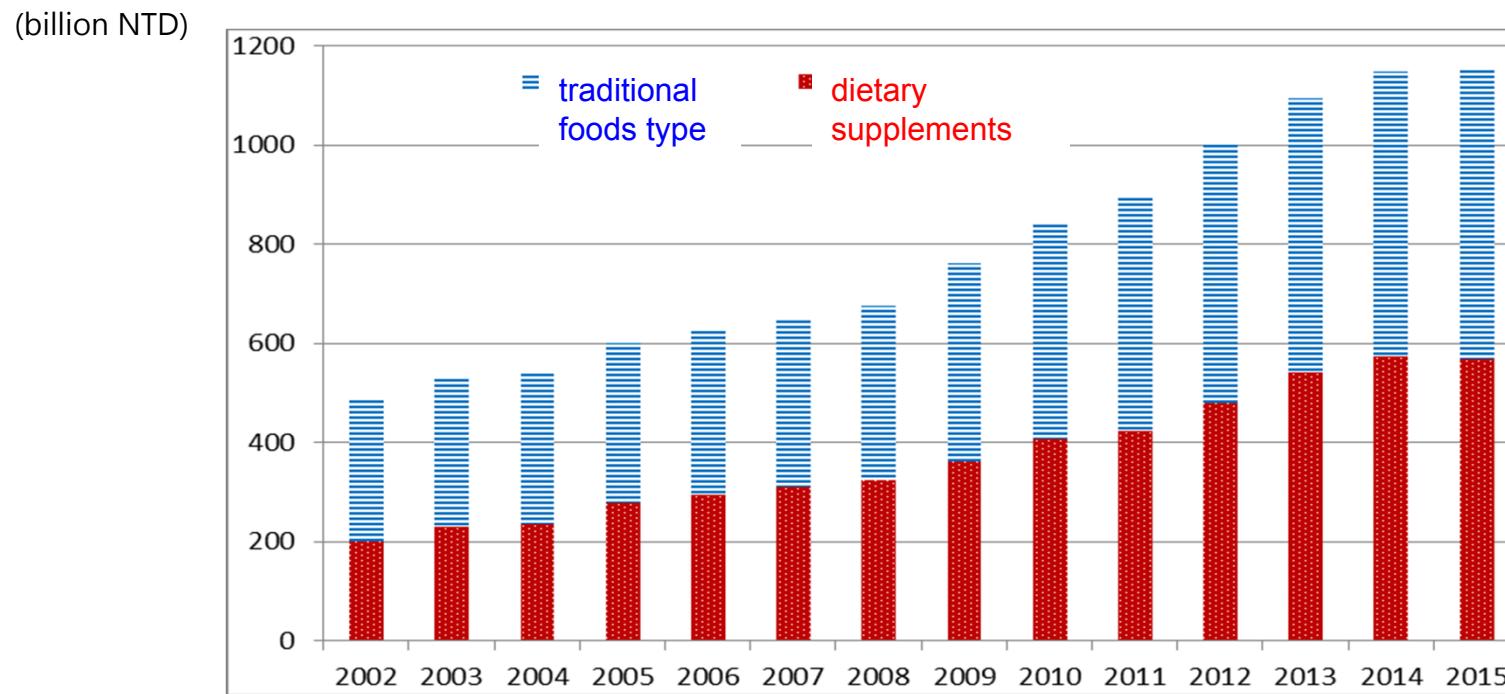
Taiwan Functional Foods

# *Overall Trend of Functional Food Development*



## Market Size and Segment of Taiwanese Functional Foods

- Based on the research and estimation in ITIS project of FIRDI, the size of Taiwanese functional foods market is about 115.5 billion NTD with growth of 0.52%.
- Due to influence of the overall environment such as the economic environment, the growth of functional food market is slowing down.
- Health food in the form of supplement has growth of 2.27% while traditional health food has growth of -1.22%.



Source : Food Industry Almanac 2016, FIRDI(2016/07) Tony J. Fang, FIRDI

# Primary Raw Materials Used by Taiwanese Functional Food Companies

The raw material of Taiwanese functional food products is diverse, including four types: plant, animal, micro-organism and others. The research of raw material research is focused on plant and micro-organisms.

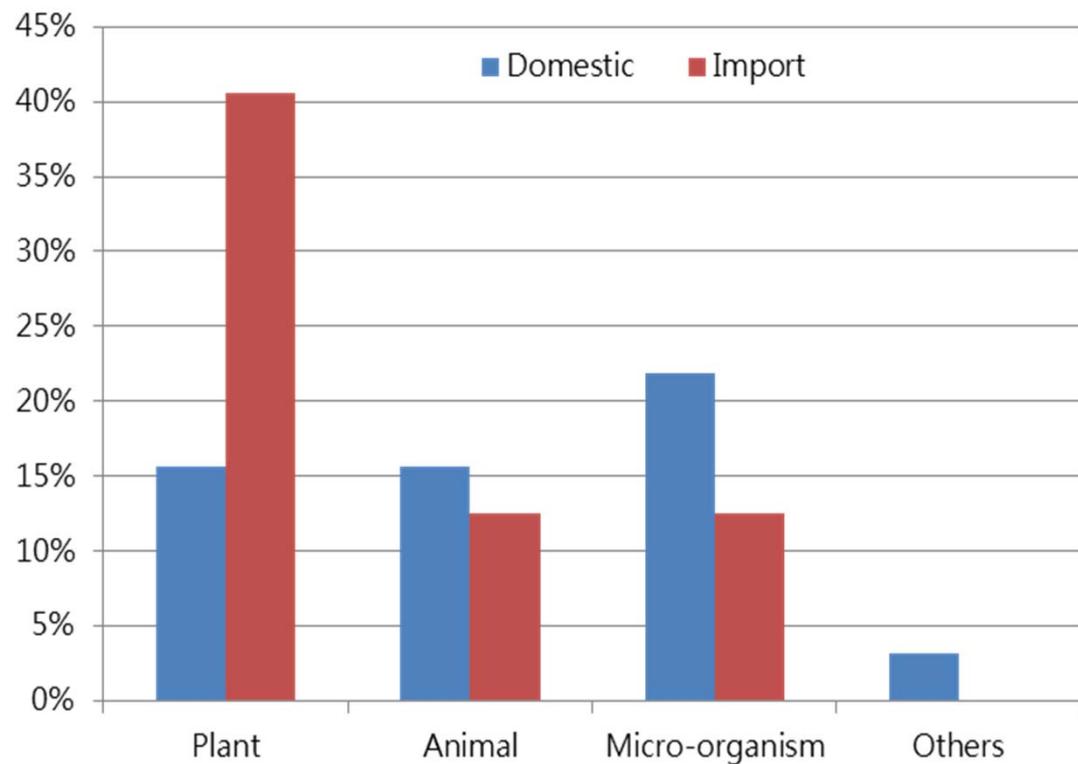
Raw material type	Description	Percentage
Plant-based	Root (e.g., ginseng, acanthopanax), stems (e.g., garlic), leaves (e.g., wheat straw, aloe), flowers (e.g., pollen), fruits (e.g., mulberry, plums), seeds (e.g., barley), cereals (e.g., oats), plant metabolites	47%
Animal-based	Aquatic shellfish (freshwater clam, marine clams, oysters, etc.), insect products (royal jelly, honey, propolis, etc.), animal fats (eel extract, fish oil, cod liver oil, etc.), viscera (internal organs and the placenta, etc.), bones (cartilage, bones, etc.), eggs, saliva (such as edible bird's nest, etc.), animal metabolites	15%
Microorganism-based	<i>Lactobacillus</i> , <i>Bifidobacterium</i> , yeast, red yeast, <i>Ganoderma</i> , <i>Antrodia camphorata</i> , caterpillar fungus ( <i>Ophiocordyceps sinensis</i> ), green algae, blue-green algae, spirulina, microbial metabolites	34%
Others	Water (sea water, mountain spring), soil, organic compounds	4%

Remarks: Survey was conducted in May, 2016.

Source: ITIS Group of FIRDI (2016/06)

Tony J. Fang, FIRDI

# Sources of Raw Materials of Taiwanese Functional Food Product Companies

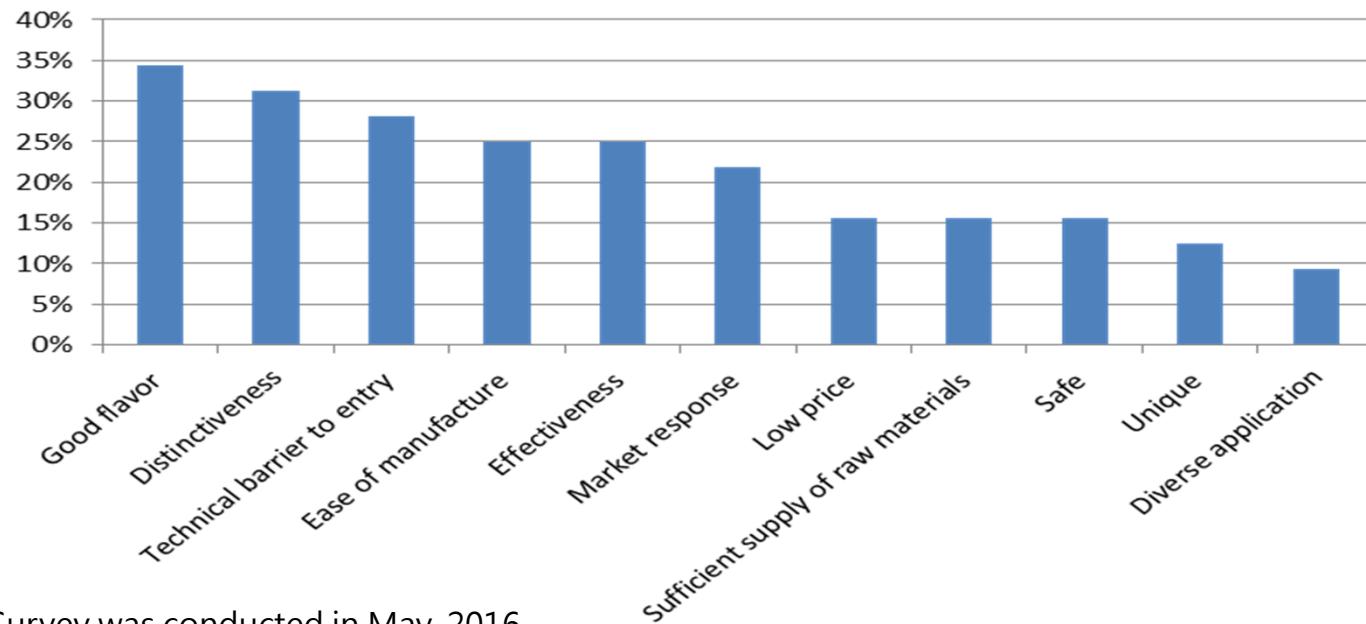


- Due to limited domestic raw materials, majority of the functional materials used are imported, while the ratio is different in each category.
- Based on research by ITIS project of FIRDI, in 2015, most micro-organisms were supplied domestically. For animal raw materials used in Taiwanese functional foods, a greater ratio of domestic to imported is observed.
- The plant raw materials used are mainly imported.

Remarks: Survey was conducted in May, 2016.  
Source: ITIS Group of FIRDI (2016/06)

# Factors to Consider When Choosing Raw Materials

- Based on research done by ITIS project of FIRDI, the factors considered by Taiwanese functional food firms in choosing raw materials are the flavor, ease of identification by consumers and technical barrier to entry, followed by ease of manufacture, effectiveness and market response.
- In 2014, the choice of raw materials by the firms are dependent on effectiveness and safety. However, the emphasis on these two factors dropped significantly in 2015. Possible reasons are reduced influence of food incidents or firms selecting more common raw materials for product development.

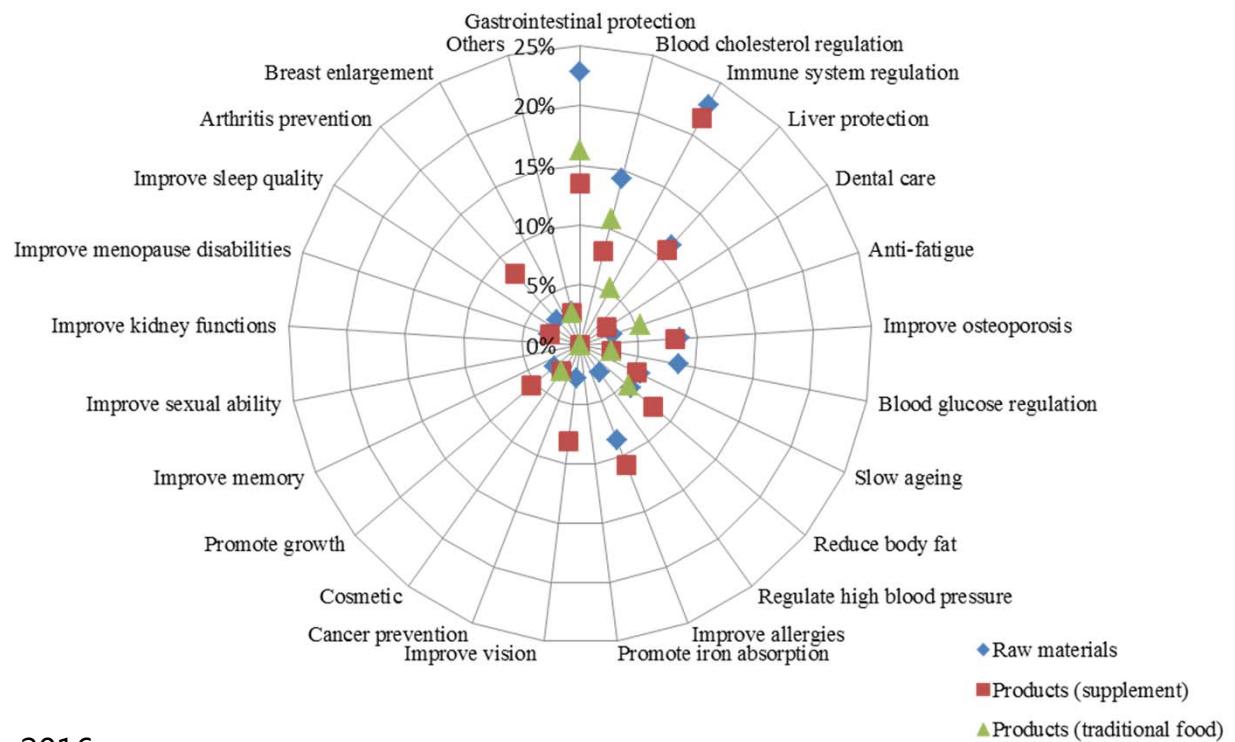


Remarks: Survey was conducted in May, 2016.  
Source: ITIS Group of FIRDI (2016/06)

Tony J. Fang, FIRDI

# Taiwanese Functional Food Companies' Function Claims

- **Raw materials** : (1) Gastrointestinal protection, (2) Immune system regulation, and (3) Blood cholesterol regulation. As compare to the 2015 research, although gastrointestinal protection still ranks the first, the difference with other claims decrease significantly; and blood cholesterol regulation has become the third.
- **Food supplement** : (1) Immune system regulation, (2) Gastrointestinal protection, and (3) Blood cholesterol regulation and allergies improvement; the percentage for immune system regulation has increased as compared to 2015.
- **Traditional food product** : Focuses on (1) Gastrointestinal protection and (2) Blood cholesterol regulation.



Remarks: Survey was conducted in May, 2016.

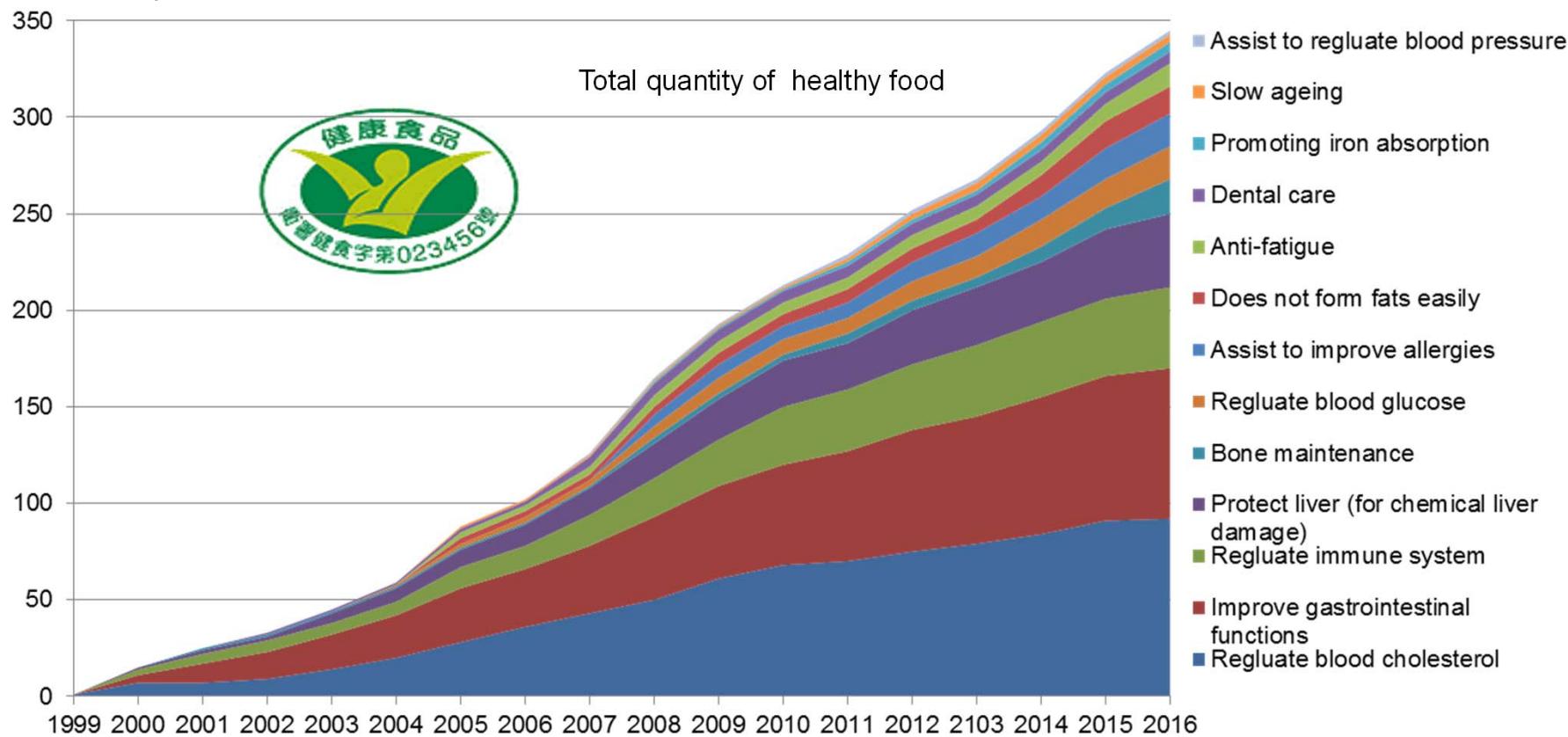
Source: ITIS Group of FIRDI (2016/06)

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# Functional Foods with Health Food Permit of Taiwan

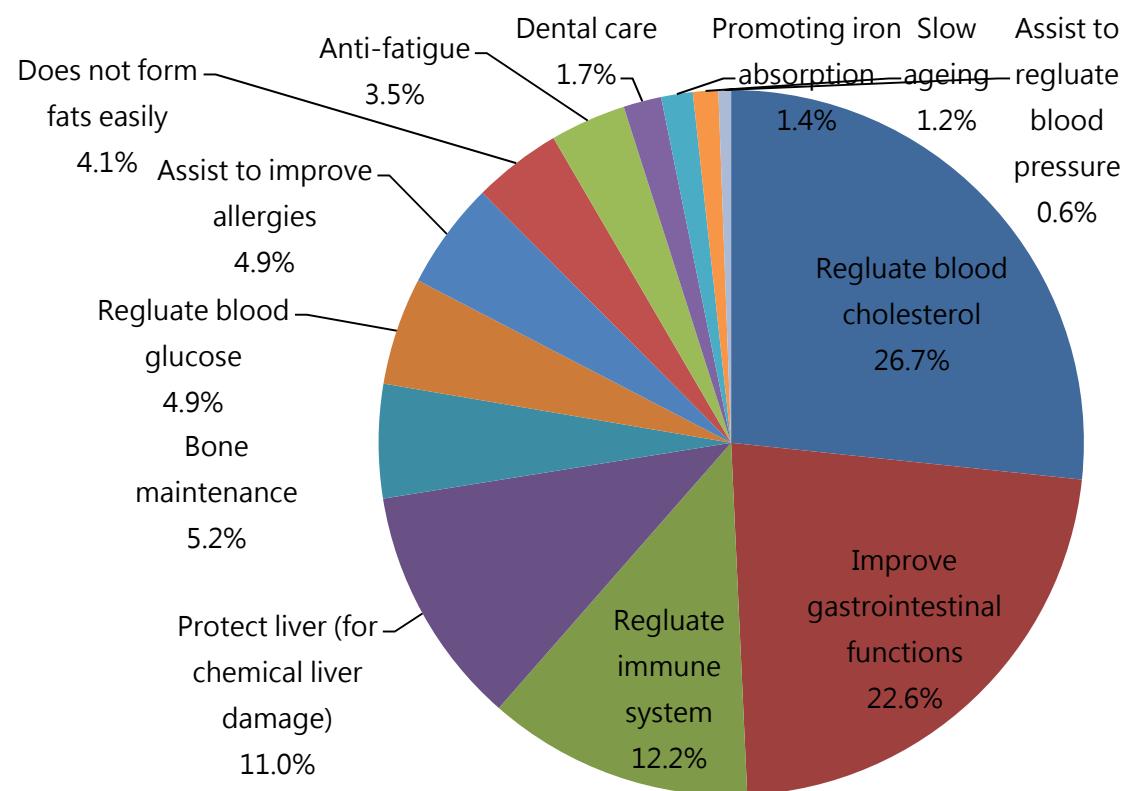
Form of products		Industry		Function	
food	dietary supplement	food	biotech	ingredient	carrier

- By the end of 2016, there are 315 products with Health Food Permit.



# The Proportions of Function Claims of Health Food in Taiwan

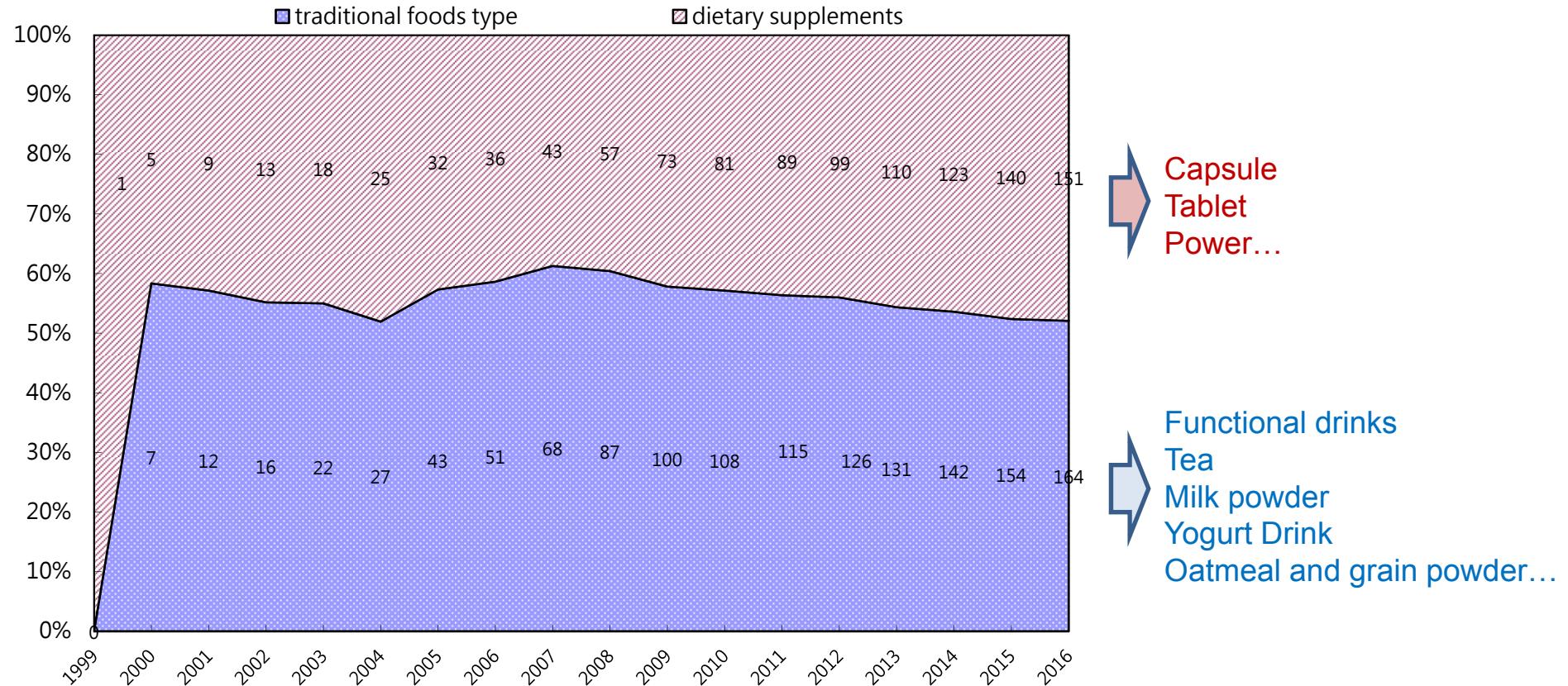
- The top 5 functions are: regulate blood cholesterol, improve gastrointestinal functions, regulate immune system, protect liver, maintain bone health, regulate blood glucose.



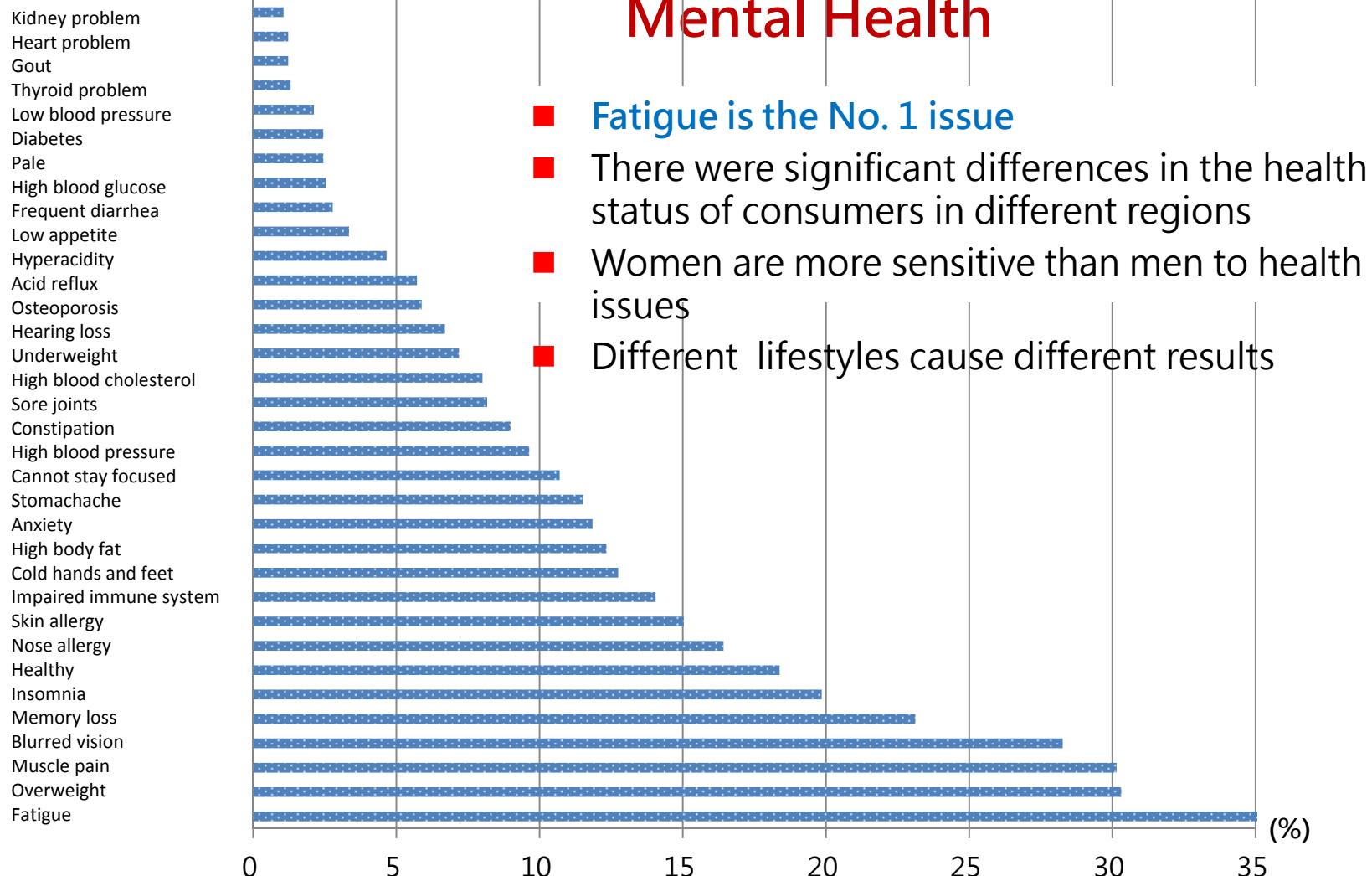
- There are about 120 firms that have obtained health food permit through individual case audit. For the firms with permit, majority are food firms such as Quaker, Uni-President, AGV, Taisugar, Kuangchuan, Weichuan, Vitalon and Yakult, and most of them received certification for single item.
- Firms that have obtained Health Food Permit including SHS group, Sentosa, Sunnano, TCI, Microbio, TLB, Tybio, McHalls, Taisugar, Standard, IS-MI, SinTong, NU Skin, WS Bio, funcare, Kaiser, Han-sheng, FYD, TTL, Derlin, CSCP and PhytoHealth, 90% had obtained a single certification and half have different manufacturing firms.

# The Composition of Products with Health Food Permit

- Based on 315 health foods that had passed the case audits · the ratio of health food in the form of convectional food to non-conventional food is 52:48 ·
- Health drinks, tea drinks, milk powder and yogurt are important form of products; with the inclusion of porridge in 2016.



## Taiwanese Consumers' Self Assessment of Physical and Mental Health



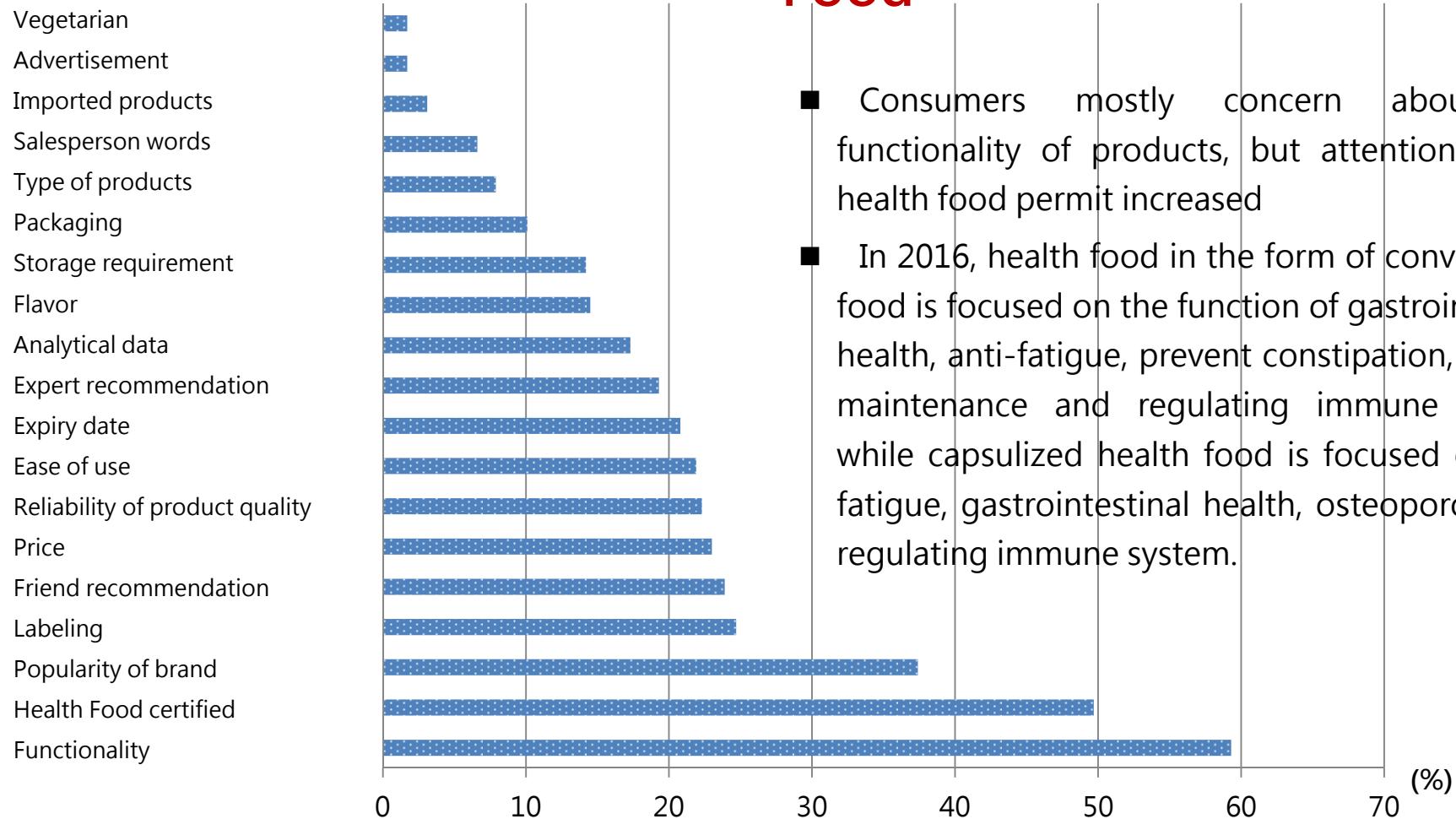
Note: Effective sample size is 1200.

Source: ITIS Group of FIRDI (2016/12)

Tony J. Fang, FIRDI

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# Taiwanese Consumers Preference in regards to Health Food



- Consumers mostly concern about the functionality of products, but attention to the health food permit increased
- In 2016, health food in the form of conventional food is focused on the function of gastrointestinal health, anti-fatigue, prevent constipation, general maintenance and regulating immune system, while capsulized health food is focused on anti-fatigue, gastrointestinal health, osteoporosis and regulating immune system.

Note: Effective sample size is 1200.

Source: ITIS Group of FIRDI (2016/12)

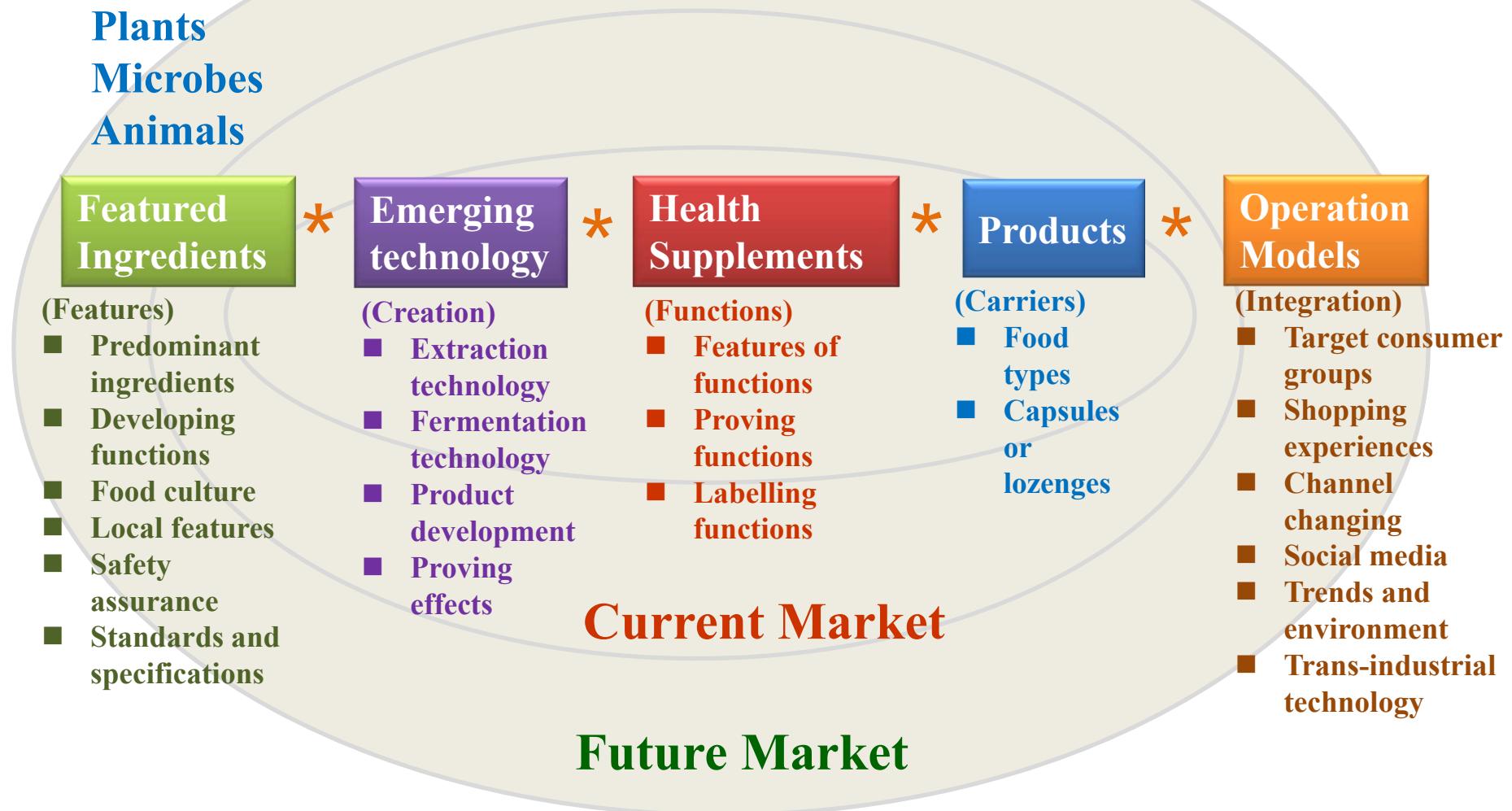
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Taiwan Functional Foods

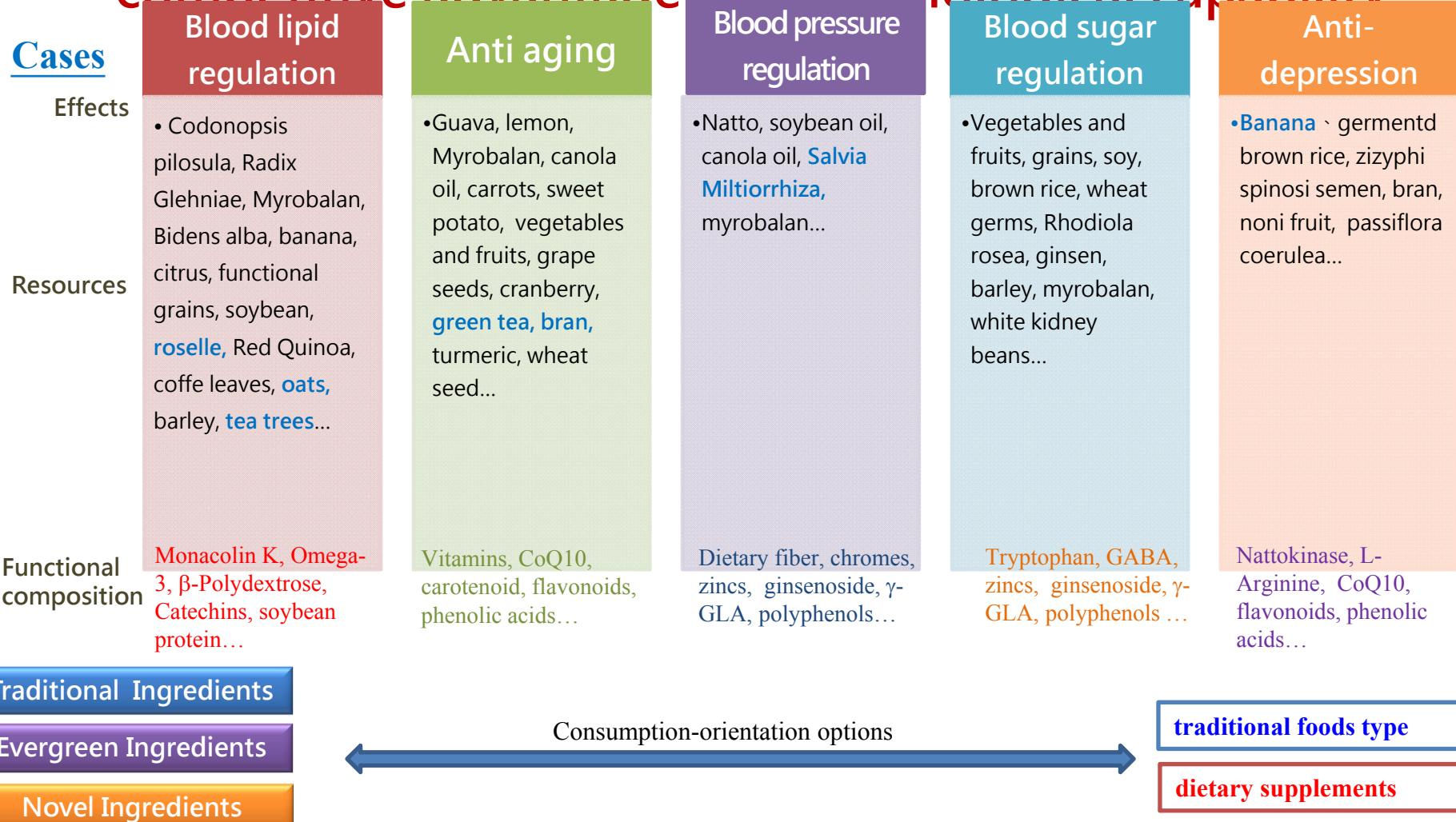
# *Development of Herbal Ingredient and Functional Food: Case Studies*



# Product Development Trend of Functional Foods in Taiwan



# Functional Ingredients from Different Plant Sources: competitive advantage and technological capability

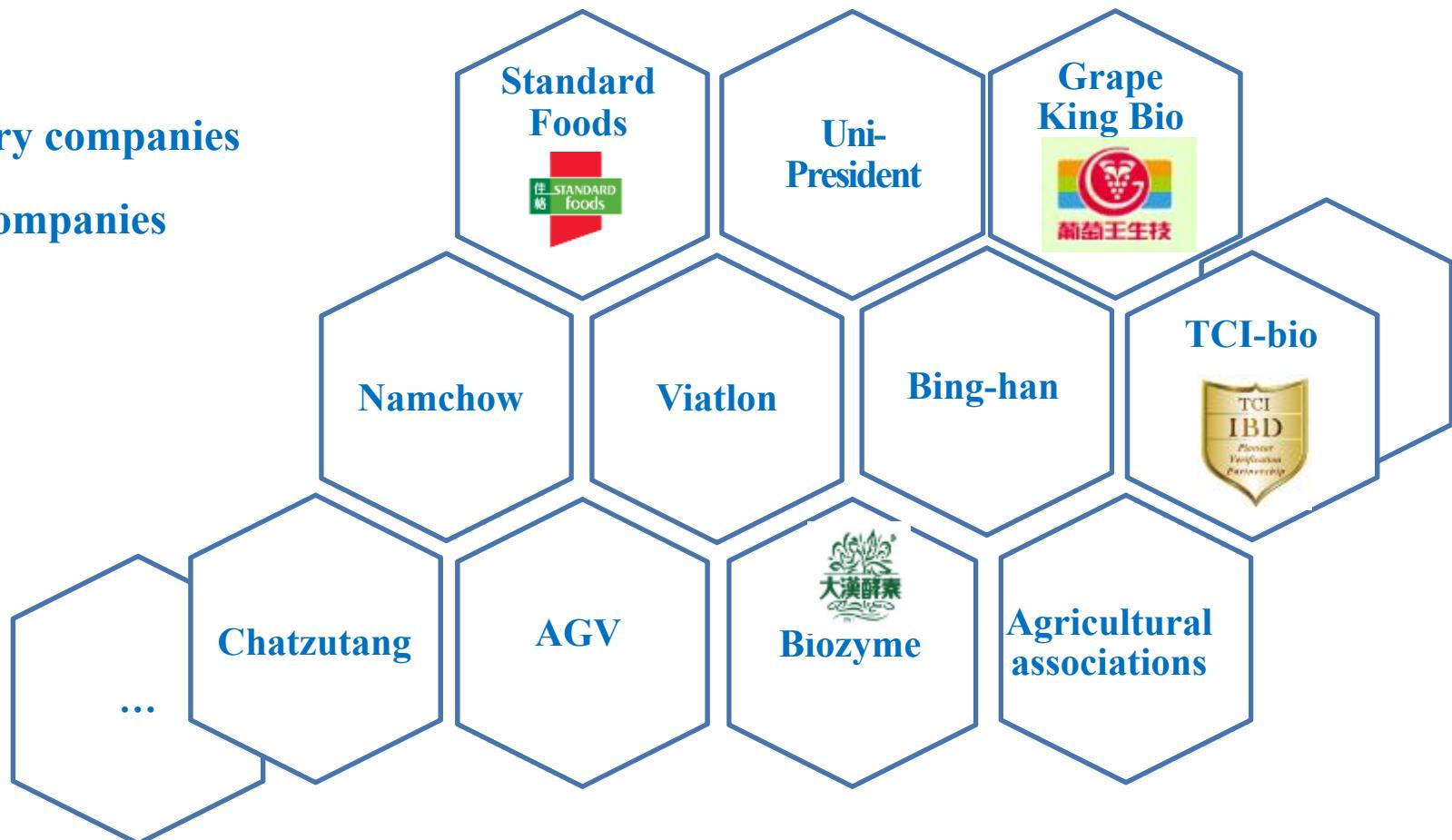


# Featured Taiwanese Functional Foods Companies

## Diversity and flexibility in response to environmental operation models

Ordinary companies

Local companies



# Case 1 : Exploring the function of tea beverage and engaging target customers



## Uni-president Chai Li Won

" The aftertaste is like freshly brewed"

- Function exploring → Health Food Permit
- Technology → single-cell extraction technology + low temperature extraction technology
- Brand image → smart and humorous + office people as spokesperson + marketing ad models



Chai Li Won Green Tea being certified as blood lipid regulation health food



Source : uni-president (2017/05) · ITIS Group of FIRDI (2017/05)

Tony J. Fang, FIRDI

## Case 2 : Focusing on product positioning and developing specific health products



**Quaker** Grain powder + health supplement beverages

- Function deepening → certified health food
- Technology → grain powder technology + patent
- Products → grain powder + health supplement beverages
- Brand image → Profession of nutrition and health care + marketing ad models



"The word, "食", is composed of men (人) and goodness (良). Like our Chinese ancestors, we believe that men eat to be good."



## Case 3 : Focusing on R&D and seeking international cooperation in product development



### TCI-bio

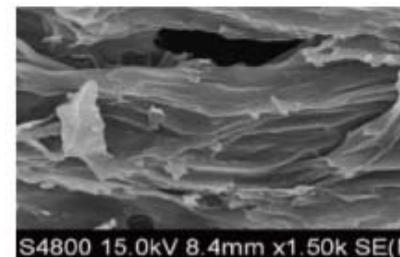
dietary supplement + functional ingredients  
development +international cooperation

- Featured ingredients → Use local ingredients (e.g. bananas) + discovering international ingredients
- Technology → integrated bioscience design IDB + international patent + international awards
- Operation models → international boutique cooperation partners + industry/media interaction



植物幹細胞工程

將稀有珍貴的植物藥材透過植株轉化。  
組織培養、幹細胞量產工程，提升產品活性與品質穩定性。



超頻冷萃原料萃取法

利用超高頻分子震波將細胞壁碎裂，使原料中的有效成份完全釋出。



IBD解決方案



研發&品質驗證



Integrated Bioscience Design

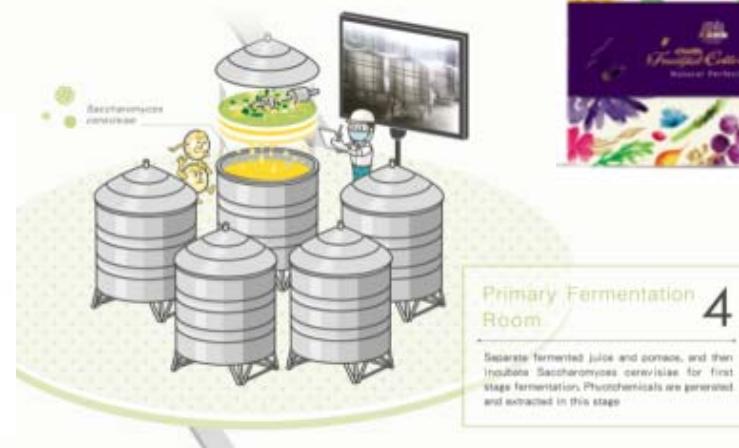
Integrated Bioscience Design  
TCI Co., Ltd.

## Case 4 : Focusing on creating values of vegetables and fruits' enzyme



### Biozyme vegetables and fruits + fermentation

- Function exploration → find new functions
- Technology → vegetables and fruits processing technology (feeling secured/benefits) + fermentation technology
- Products → enzyme focused
- Brand image → Profession of nutrition and health care + brand image + high price marketing



## Case 5 : Revival of tea oil business through combination with traditional food culture



### Chatzutang -Camellia seed' s health effects and application

Function exploration → ensure existing functions + explore new functions

- Technology → modern technology + microbe fermentation
- Products → camellia seed focused
- Brand image → life culture brand + exact target consumer groups + boutique marketing



茶油酒記 | 老農場的苦茶籽成長觀察記  
2016.07.01

茶籽堂 cha  
tzu tang



Belief·Art·Land·Tradition·People



中秋無煙料理 | 蘭花三杯牛肉串  
2016.09.14



美好的生活 | 仲夏野餐無負擔  
2016.06.14



輕食料理 | 香煎蘿蔔三明治  
2016.04.01



油茶主食 | 茶油三杯雞燒飯糰  
2016.03.24



沾茶彩椒太陽蛋  
2016.02.19



沙拉佐醬 | 咖哩芥末優格沙拉  
2016.01.06

## Case 6 : Creating difference by combining local products, culture, and tourism



### Featured plants in Taitung

functional value development + tourism culture connection

- Functional deepening  
→ certified functions + explore new functions
- Technology → cooperation among industry, schools, and researches + new product development
- Products → local functional products
- Brand image → tourism + target consumer groups + integrated marketing



Source : taitung.gov.tw, toyugimal (2017/05) · ITIS Group of FIRDI (2017/05)  
Tony J. Fang, FIRDI



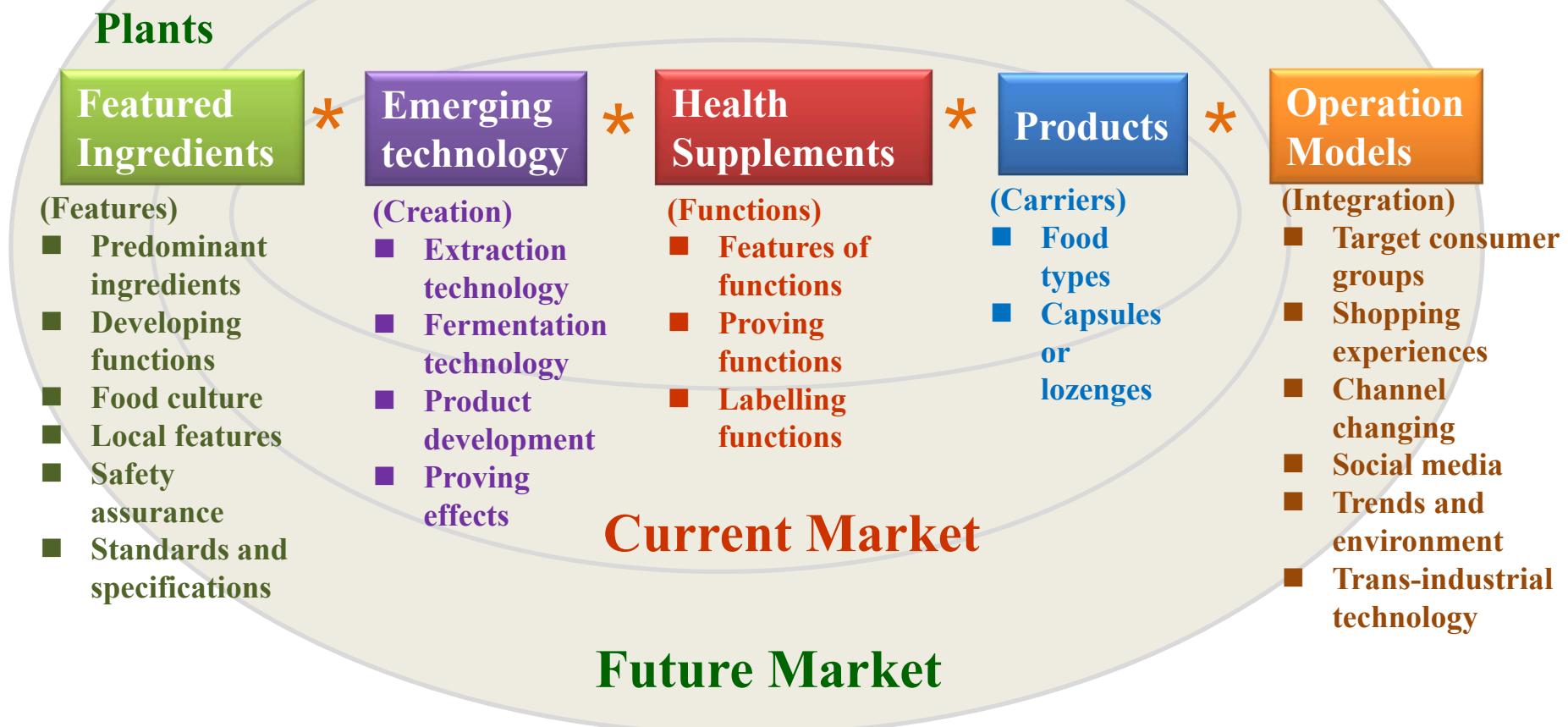
Taiwan Functional Foods

# Future Outlook

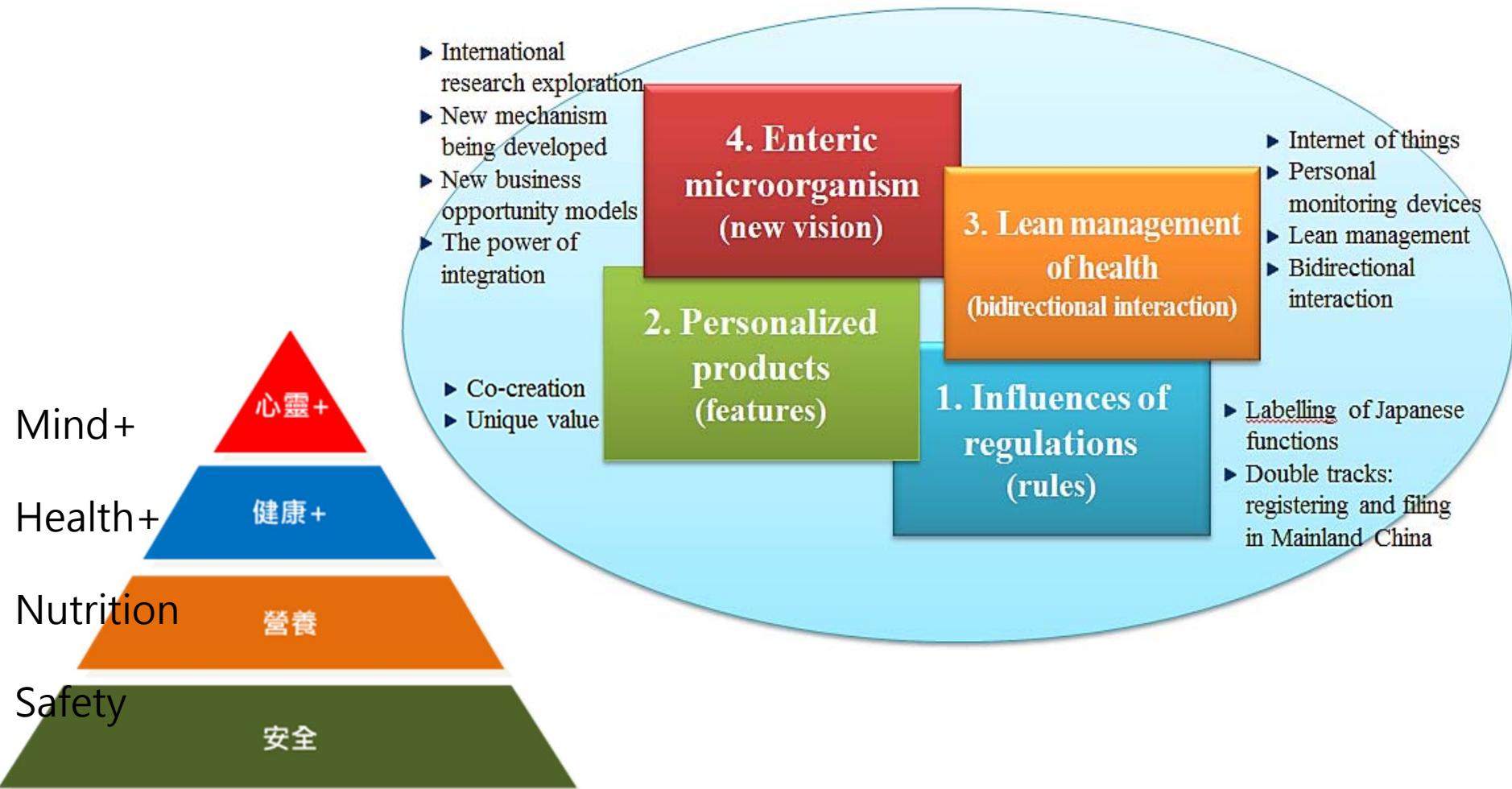


# 1. Keep Exploring

Health supplements from Taiwan,  
product development trend, and key points



## 2. Adapt to changes in New Age

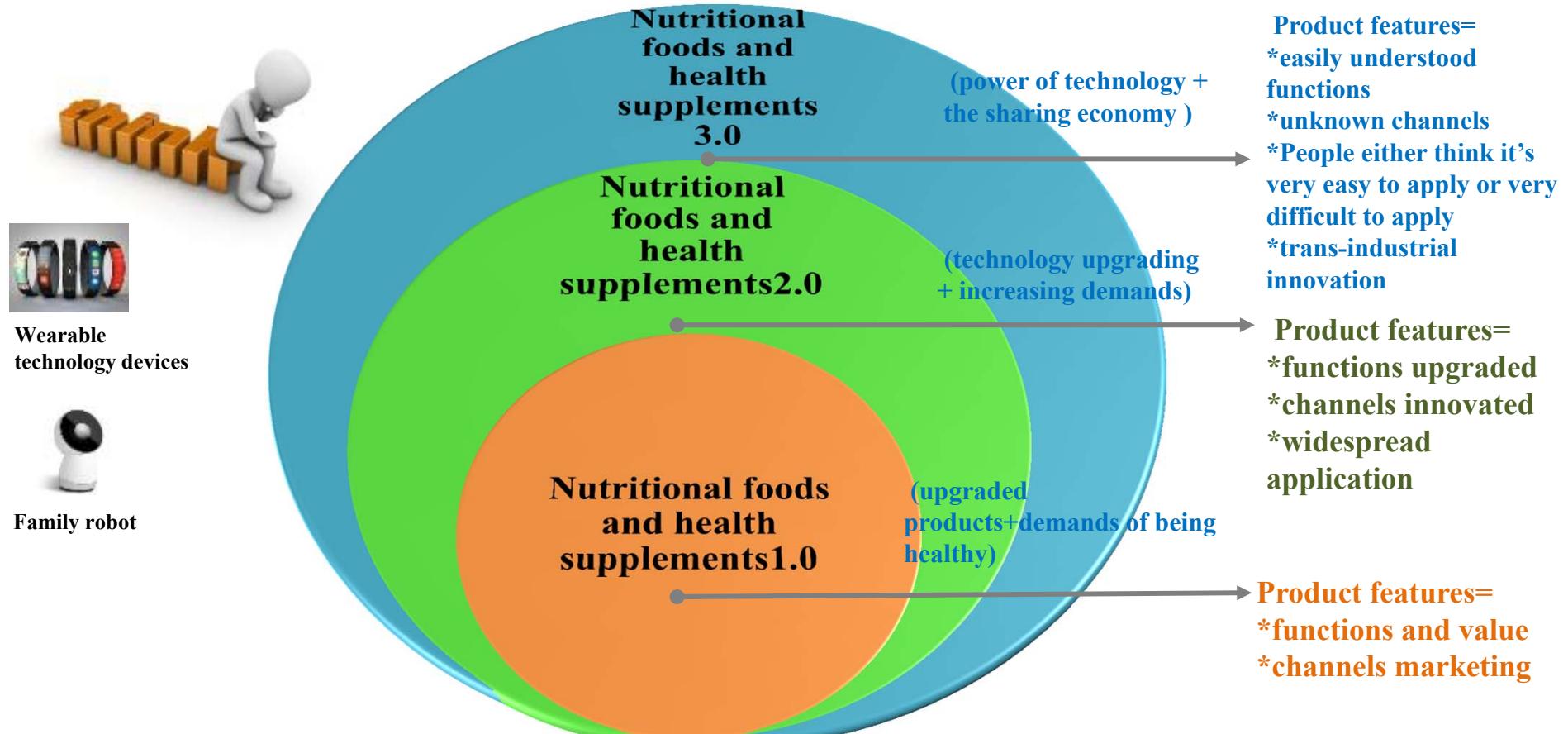


Source: ITIS Group of FIRDI (2017/05)

Tony J. Fang, FIRDI

### 3. Adopt Disruptive Innovation

Health food industry is upgrading to 3.0



# THANK YOU

