

FOOD MARKETING INNOVATIONS

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I. Introduction

The roles of marketing become more important as economic development and urbanization take place. Consumers want to get commodities produced at the right place and time, in the right form and at the minimum cost. Performing these roles results in more efficient marketing in an economic society.

Marketing efficiency can be divided into two components: productive efficiency and pricing efficiency. Productive efficiency deals with how marketing firms operate their businesses at the minimum cost in static and changing situations. This efficiency involves how the firms can utilize their full scale of capacity, how they take advantage of the economy of scale and how they adjust their operation to changing situations in the economy.

Pricing efficiency is evaluated by the transferability of prices from consumers to producers and vice versa. The transferability usually depends upon the degree of competition in the market.

Many efforts have been made to cut costs involving product marketing and to enhance productive and pricing efficiencies.

II. Economic Theories of Innovation

The common theories of innovation are an attempt to explain how and why marketing changes get started, how innovation affects the marketing economy, profit expectation and investment, and how innovations play a part in enabling our society to reach higher levels of consumers' well-being. The effective application of a discovered new idea to a product, method or organization is defined as an innovation. An innovation is not just invention, which is the discovery of a device, contrivance, or process. Invention is not effective unless it enters into the economic system. Therefore, innovation must be accomplished by a combination of research, promotion, and market use.

1. Classification of innovations

Innovations may belong to one or more of four types. The first type of

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innovation is the application of techniques and devices that cut costs to actual use. Different operations and processes are to be carried out to reduce costs per unit of output. Innovations of this type include developments of new techniques and technology to reduce the cost function of the product, and full utilization of operating capacity and exploitation of economy of scale to reduce costs, along with the movement of the existing cost curves. Substitution of capital for labor to reduce costs belongs to the development of new technology. Output per man hour increases, as capital is substituted for labor.

The second type of innovation is the introduction of new products or services. Consumer demand for a new product or service may be expressed or latent. Fulfilling expressed consumer demand for a new product and catering to latent demand belong to the second type of innovation. Introduction of new products may fulfill latent consumer demand and create new demand for new products. Costs of new products should be at a reasonable level which consumers are willing to pay.

The third type of innovation is the discovery of new markets for products and factors. New markets for products may increase the demand for products, and the increased demand may induce economy of scale which cuts costs and increases scale. Employment of new sources of factor supply may cut costs and induce development of new technology.

The fourth type of innovation consists of improvements in business organization and market structure. They include changes in business combinations such as integration, both horizontal and vertical; competitive devices such as promotions, tie-in sales, and price changes; and other factors which affect the way a business is handled. Other factors involved are grades, standards, quality and brands used by firms to take advantage of the market. Use of company brands is a competitive innovation. The growth of cooperatives is another example of a structural type of innovation. There are differences in control and in distribution of earnings and tax treatment from other forms of corporations.

2. Theories of innovation

Innovations affect the market economy, profit expectation and investment, and play a role in enabling the society to reach higher levels of consumer satisfaction and well-being. It can be that innovations have the effect of promoting gains for consumers and producers, as well as middle men, in the economy.

Innovation may always involve risks. Businesses are uncertain about profits under innovations. Therefore, the motivation of firms for innovation is very important to take under consideration.

The theories reviewed here are not limited to innovations in food marketing. They deal with innovation per se.

Schumpeter regarded innovations as the prime movers of economic growth and activities.¹ They introduce change into the economy. As soon

as innovations diffuse throughout the economy, other businessmen may imitate the product, process or method. The innovation may make the existing product, service or structure obsolete by its entry into the market. This creates forces that disturb the equilibrium. The demand for investment is increased. Capital associated with the displaced technology becomes obsolete. The emerging firms hire new employees. Employees need mobility to move from the replaced industry to the new one. One innovation may not bring about a wave of investment. But a particular innovation may create a psychological climate for other inventions that have been on the shelf. If owners of these inventions become optimistic, these are placed on the market. Coping with and imitating these successful innovations make the total effects greater. An upward swing may continue until the products on the shelf are exhausted. The length of time necessary to install productive equipment will determine the expansion phase of the economy. When the investment flow diminishes, expansion is checked. The initial innovator reaps profits for a limited time, but society may derive a permanent benefit through a general reduction in prices if the innovation has been a cost-cutting one. Schumpeter viewed cost-cutting innovations as benefiting not only the individual firm, but also the consumer and society.

Clark emphasized competition as a necessary ingredient for innovation.² Innovations result in profits, and then allow lower costs. Lower costs result in reduced prices. Competition forces other firms to adopt the innovation to avoid losses. And then the resulting superior methods of production diffuse throughout the economy. But many innovations actually limit competition, and Clark failed to discuss this matter. Bain says that a firm's reaction to another firm's innovation is different depending on whether they operate under monopoly competition conditions. Since firms innovate to increase profits, they estimate the time lag until their competitors can copy their innovations, and introduce them only when there is adequate time for a profit to be made. A monopolist is more likely to innovate since his time lag is longer. Bain says that a more rapid rate of innovation may occur under conditions of monopoly than under competition.³ Innovation and monopoly are interrelated in that innovations may open the road to a new monopoly. Pursuit of monopoly profits may be a primary incentive to innovation.

Baumol⁴ classifies innovation as follows: new goods, new methods of production, new markets, employment of new sources of factors supplies, and reorganization of an industry or part of an industry. Innovations are brought about by the profit motive and are the primary source of excess

1. Schumpeter, J. A. *Business Cycles*, Vol. I., McGraw-Hill, New York, 1939.

2. Clark, J. B., *The Distribution of Wealth—A Theory of Wages, Interest, and Profits*, Kelly & Millman, New York, 1956

3. Bain, J. S., *Pricing, Distribution, and Employment; Economics of an Enterprise System*, Henry Holt & Co., New York, 1948

4. Baumol, W. J., *Economic Dynamics: An Introduction*, 2nd ed., The Macmillan Co., New York 1959

profits as well as normal profit. Thus the entrepreneur is always under pressure to innovate and not allow his business to stagnate. Since the introduction of innovation usually requires new capital, innovation encourages the firm to accumulate capital by using its own capital and raising money by loans or stock sales.

Papandreau feels that new product and cost cutting innovations maintain competitive pressures.⁵ Vitality in the economy depends on change, which depends on innovations. Therefore, innovations keep an economy alive and growing. It is possible for this economy to maintain the goal of workable competition if buyers and sellers stay approximately equal in power.

Heady classifies farm innovations as biological and mechanical.⁶ Biological innovations increase farm output from a given land area. Mechanical innovations substitute capital for labor. Many changes are of both types. In the short-run, Heady sees innovations as reducing costs, and in the long run as increasing production.

Ruttan shows that such innovations are induced as to release constraints imposed on agricultural development by factors characterized by a relatively inelastic supply.⁷ The induced innovation model embraces as critical elements for agricultural and economic development the mechanisms of induced innovation in the private sector, induced innovation in the public sector, interaction between technical change and institutional development, and dynamic sequences of technical change and economic growth. Thus innovation as seen by Ruttan embraces the entire range of processes resulting in the emergence of novelty in science, technology, industrial management, and economic organization. He explains the induced innovation as a model of agricultural development and economic growth.

Most economists agree that innovations are important to both supply and demand. They are cost-saving if they increase output with a given input. They will not be adopted unless the expected reduction of cost justifies them, that is, there is a chance for greater profits. Innovations originating on the demand side may raise both costs and prices. These innovations are adopted to increase or maintain a share of the market. Many convenience innovations involve new or altered goods. If they appear able to produce a higher return per unit of input, some one promotes them. Product changes are important levers in the competitive struggle for firm survival.

It seems clear that innovations play a vital role in an economy. They affect the structure of an industry. As succeeding innovations jar our economy, changes and adjustments occur. A smooth absorption of change in a

5. Papandreau, A. G. and Wheeler, J. T., *Competition and its Regulation*, Prentice-Hall, Inc., New York, 1954
6. Heady, E. O., *Economics of Agricultural Production and Resource Use*. Prentice Hall, Inc., Englewood Cliffs, N. J., 1965
7. Hayami Y and V. W. Ruttan, *Agricultural Development; An International Perspective*, The Johns Hopkins Press, 1971

growing economy depends on the mobility of labor and fluidity of capital. Orderly development of innovations can offer new opportunities for investment. This smoothes the cyclical growth pattern. Investment by government and industry in research and development programs help reduce the sporadic nature of major innovations.

III. Innovations in Food Marketing

Innovations play a key role in changes that affect not only firms engaged in the marketing process but also producers and consumers of farm products. As a matter of necessity, food processors and handlers keep up to date with new ideas in their field. But farmers cannot ignore new handling and processing procedures and new uses of their products. Changes in marketing techniques may affect the relative market value of the different varieties and types of food products they produce. Consumers are always faced with numerous new products and packages. They have to choose among them. All three of these groups need to keep up with and understand the innovations that create changes in marketing. Most innovations in the marketing of farm products are adaptations of innovations from other economic sectors. Recently, innovations in food marketing have been taking place in numerous fields of marketing activities in Korea.

Important innovations have been made in the field of transportation, communication, materials-handling, food services, and business procedures. Structural changes are taking place in the marketing system. Introduction of new products is emerging. Consolidation of firms and chain-stores often alter merchandizing, purchasing, and pricing.

1. Innovations in food transportation and handling

Innovations in food transportation are adoptions of innovations from other economic sectors, particularly from the development of social infrastructures. Since 1969, expressways have been built totaling 1,142 km in 1976. The total length of roads has been increased from 35,000 km in 1967 to 46,000 km in 1976. Twenty-four percent of the roads were paved as of 1976, while only 6 percent were paved in 1967 (Table 1).

At the same time, the number of trucks has increased by an annual average rate of 15 percent over the last ten years. These improvements in road conditions and transportation facilities resulted in the movement of the majority of food products by truck. The railroad still moves a small portion of grains. Transportation by truck along express highways reduces costs and lessens the time required, especially for perishable products. Moreover, insulated and air-conditioned trucks have been introduced to move fresh foods such as meat and fish, and some processed foods like sausage and ham. The increase in demand for fresh and perishable foods has brought a need for more insulated and air-conditioned trucks.

There will be many innovations in food handling in the near future.

Table 1. Road conditions and trucks

Year	Total length of road (Km)	Express high-way (Km)	Ratio of paved road (%)	Number of trucks
1968	34,949	—	6.3	31,582
1969	37,169	458	8.0	40,134
1970	40,244	537	9.6	48,901
1970	40,244	537	9.6	48,901
1971	40,635	641	14.2	53,405
1972	42,868	641	15.8	55,116
1973	43,581	999	17.9	64,584
1974	44,178	1,013	19.6	76,833
1975	44,905	1,142	22.3	82,862
1976	45,514	1,142	24.0	93,885

Source: Ministry of Transportation; Statistics Yearbook of Transportation, 1977

Food equipment companies will develop new machines for handling food. Advances in pump development will accelerate the use of pneumatic tube and pipe handling methods for foods. These methods are innovations in the sense that they are progressively improved and used by the food industry.

Trucks and trailers of all descriptions are used for field and road hauling of farm products. Some will have built-in unloading conveyors; others will have special dump beds. Hauling units will be more specialized, expensive, and efficient, but may yield lower per unit costs since they release more than an equivalent amount of labor which is becoming more scarce and expensive.

Since our economy has expanded rapidly and urbanization has progressed, innovations in food handling are urgently needed and should be encouraged in the future.

2. Changes in food processing methods and cold storage.

There has been a continuing series of innovations in food processing. Some food processing techniques have been developed in our own way, but others have come from abroad. Industrialization in making soysauce, soybean paste, and hot bean paste has been locally developed.

Recently food technology has rapidly improved and been applied to food-processing know-how, which will become one of the nation's most valuable assets.

Canning and bottling

Canned foods were introduced in to our economy after the Korean War in 1950. Beside canned foods, most instant foods were first brought to Korea as war foods. Therefore consumers are familiar with those instant foods. Since then domestic production of canned and bottled foods has a long history, but the foreign taste and smell of those foods took a long time for domestic consumers to adjust to canned goods. The improvement of domestic

food technology has aimed at developing tastes and smells the domestic consumer will prefer. Many kinds of canned foods have come out, and disappeared. The production of canned meat has fluctuated year by year, reaching 565 M/T in 1969 and dropping to nothing in 1977. The supply conditions for fresh meat may cause the fluctuations in production.

Domestic production of canned vegetables, fruits, and fish has increased steadily. In 1975 total production of canned foods was more than 55 thousand metric tons, and is expected to increase in the future (Table 2).

Table 2. Domestic production of processed foods

	1967	1971	1973	1975	1976
Canning (M/T)					
Meat	526	251	11	18	383
Fruits	2,374	15,798	24,405	15,893	22,581
Vegetables	3,135	35,489	25,855	30,380	47,265
Fisheries	4,956	13,588	9,422	9,007	18,140
Bacon, ham & sausage (M/T)	916	1,033	1,547	3,938	4,431
Butter Cheese (M/T)	83	16	81	291	260
Ice Cream (M/T)	—	32	1,599	4,180	16,421
Milk powder (M/T)	2,130	6,533	7,203	11,188	13,689
Dried vegetables (M/T)	—	—	—	820	5,107
Frozen food (M/T)					
Vegetables	—	—	—	1,041	1,529
Fruits	—	—	—	75	932
Fish	22,136	75,377	95,187	87,251	127,428
Flour (1,000M/T)	573	1,091	1,408	1,147	1,317
Bread (M/T)	9,628	14,724	54,604	99,140	129,939
Ramyon (1,000M/T)	8	102	95	121	185

Sources: MAF: Internal data

EPB: Report on Mining and Manufacturing Survey, 1967–1976.

As the demand for canned food increases, there is a possibility that the canning industry will adopt various canning innovations. They include an innovation called high temperature-short time preservation; aseptic canning, a method in which product and can are sterilized independently; hydrostatic preservation, a canning method in which filled cans or bottles move up and down through towers which control pressure and heat; and the dehydro canning method, in which processors remove about half of the moisture from the food before canning the product.

Innovations such as the use of aluminum and the zip-top, pop-open-top and thin tin cans, plus plastic bottles, continually change the can market and keep it in a state of transition.

Frozen foods

The frozen food industry has also developed recently (Table 3). Frozen vegetables and fruits have been marketed since 1975, but frozen fish is the

most familiar food and has a long history of production (Table 2). The frozen food industry is still in a primitive stage. Much effort should be made to introduce new innovations in the freezing industry. Fluidized-bed freezing may cut down on freezing time for products such as beans and green peas and reduce investment, processing costs, and floor space requirements. Another important marketing innovation will be the introduction of partly or completely prepared frozen foods. Since these foods incorporate preparation, convenience, and chef service, they improve the competitive position of the freezing industry.

Table 3. Freezing industry capacity

	No. of Plants	Capacity			
		Freezing T/D	Cold storage M/T	Ice making T/D	Ice storage M/T
'71	117	1,480	61,322	2,698	43,796
72	126	1,958	63,842	3,265	45,786
73	144	1,787	69,968	3,104	48,393
74	197	2,434	105,485	4,170	69,611
75	221	2,792	117,993	4,167	73,382
76	250	3,127	137,072	4,696	78,405
77	276	3,551	169,290	5,121	91,565

Source: Office of Fisheries

Another innovation in the freezing industry is low-temperature freezing, and quick freezing. Nitrogen is used to lower temperatures to 200°C below zero. Processing costs are very high in developed countries so that adoption of this method on a commercial basis is still under consideration.

Dehydration

Dehydration of agricultural products has been done by sunshine, coal heat, and electric heat. The primary advance in dehydration includes new methods of heat injection and water removal, and improvements in packaging. Vacuum drying of whole milk powder may be a major innovation for the dairy industry. Fluidized-bed drying of vegetables such as onion and garlic will become important. Production of whole milk powder and dried vegetables has been introduced recently and is increasing rapidly (Table 2). Dried fish and seaweed are popular foods in Korea. Almost half of the fishery products are dried by natural and coal heat. It is very important to develop new drying methods with sanitary standards. If demand for dried food is increased and created, innovation in dehydration will take place quickly. Many techniques for dehydration have been developed in the developed countries. The freeze-drying method is applicable to specialty-items and ingredients when a high-quality dried food is needed. Innovations will allow the new processing method to be used on more foods for

more uses at lower cost.

An interesting processing development is the short-time evaporator which dries food at high temperatures in a short time. The compressor-evaporator is used for milk and ice cream milk.

Explosive-puffing has long been used in the preparation of grains such as rice, corn and barley for cake and children's snacks and may be applicable to fruits and vegetable drying.

Roast-grinding of grains for emergency foods is the most popular dehydration method in Korea. Those methods have been adopted by large business to take a advantage of economy of scale.

A dehydration innovation still in the development stage in advanced countries is the centrifuging and reverse osmosis. One of the centrifuging procedures slush-freezes the product and then centrifuges it to separate the ice-crystal bed. Reverse osmosis is a dehydration method that offers future promise. Water may be extracted from food in exactly the reverse process to the one in which they enter foods.

Other processing methods

Traditional methods of making 'kimchi' (pickled vegetable), soysauce, bean paste, and hot bean paste, have a long history, and are now being improved by business firms. The industrialization of making 'kimchi' will progress as a shortage of female labor grows in the future. Milling is the most common processing method for grains.

Irradiation and adoptions of the super power tube which generates strong microwave power will be an innovation in food processing in the future.

Nowadays price stabilization of farm products especially perishable foods over a time period is a very important issue for government and consumers as well as producers. Production of farm products is limited by the season and weather conditions. A sufficient supply of foods and their substitutes is the only way to stabilize prices of those products regardless of bumper or bad crops and seasonality of production. The shortage of a domestic supply of foods can not always be supplied by import as needed. Storage of perishable products needs a tremendous investment or is impossible so that processing methods for foods or their substitutes should be developed to maintain the quality and quantity of necessary foods.

Development of food technologies and the import of advanced food technologies applicable to processing foods are very important to our economy.

3. Innovations in food packages and containers

Innovations in food packaging are closely related to those of food processing. Straw bags were the most common containers for grains. They are now being substituted with plastic and paper bags which are easily standardized and reduce losses. But straw bags are made in the off-season by the farmer as a side job and is one of the sources of off-farm income. The

speed of substitution of straw bags by paper and plastic bags may be checked because of the reduction of farm income.

Use of paper and board containers is increasing as this type of package is improved. Crates are used for fish and fruit containers. The use of carton boxes for fruits and some vegetables is increasing but standardization of this boxing is still poor. A large fiber board box has been developed for bulk shipments of farm products. After use, the boxes are folded and shipped back for re-use.

The can, one of most important food containers, has been changed in recent years. The top-pull opener, pull strip, and plastic lid have replaced the key-type opener.

Food pouches made of laminated combinations of plastic paper and foil have been recently introduced. The increasing use of such pouches for instant coffee, sugar, powdered milk and tea can be attested to by travelers who now find them in hotels and on planes. Laminated plastic containers for preserves, catsup, spices and many other foods are also common. Bottles are made of plastic. Glass bottles are reused for beer and soft drinks but disposable glass bottles will soon be marketed. A new plastic display tray for vegetables and fruits is now being used in delicatessen stores.

Milk packing is changing from laminated plastic bags to the tetrapack paper container. The card board packing of water is a product innovation of dairy plants.

Flexible films have an important role in marketing of agricultural products and have been introduced in packaging. Those films include collophane, polyethylene, polypropylene, polystyrene, and vinyl films which have different degrees of strength, shrinkability, and heat resistance.

Self-adhering films are at the initial stage for kitchen use. They are limp and especially useful in overwrapping. Aluminium foil has been introduced for cooking. Edible film coatings for candy have been developed.

As new kinds of packages are developed, new machines are developed to fill them.

4. Innovation in food selling and food services.

Wholesale firms in the food industry are the focal point for pricing. Wholesalers are in-between men who received price commands and responses from the demand side and the supply side.

The pricing role of the wholesalers is and will be decreasing, especially for processed foods. Retailers are assuming middleman functions. This change comes partly as a result of the development of the supermarket and partly as a result of the growth in size of retail chainstores. Initially, most supermarkets and chainstores for farm products have developed along with non-food chain stores. Much progress will be made to modernize supermarkets. Marketing functions at wholesale and retail level are centralized by supermarkets and chain-stores. There are a number of advantages in centralizing these functions. Labor efficiency in distribution centers

improves as workers become specialized. As volume becomes large, labor saving devices and modernized equipment can be utilized. At the store level, merchandizing can be more effective and personalized as clerks are released from pricing, stocking selves, and packing. Inventory management can be improved, and more control can be exercised for quality control. Total costs of food distribution costs are lower. Stores making these innovations in retailing and wholesaling are able to compete more successfully.

A structural innovation within grocery stores is the increasing proportion of sales of non-food items.

Innovations in food service are very poor in Korea. Recently vending machines for hot coffee were introduced in major cities. Many efforts should be made to introduce innovations in food service.

5. Innovations in the home

Modern housewives use innovations in the home that have influenced the whole food marketing system. The introduction of the refrigerator with freezer changed the food consumption pattern. The low temperature storage of kimchi is a major factor to increase demand for chinese cabbage during summer time. As a result, the price of chinese cabbage and radish went up in the summer of 1978. And the low-temperature storage unit will be a factor in the development of the frozen food industry and change the consumers' buying pattern.

The introduction of electric kitchen tools such as electric slicing knives, can openers, blenders, timers, cookers, beaters, sifters, meat grinders, tenderizers and knife sharpeners influences food-particle size, processing methods and selling methods.

6. Other innovations in food marketing

Food innovations accentuate convenience. Most new foods are processed and convenient to serve. Soluble coffee, instant puddings, ready-to-bake bread, yogurt, boil-in-the-bag foods, frozen baked goods, sour cream, juice powder and canned kimchi are all timesaving products even if some of them have not been introduced to our consumers yet.

Another innovation in food marketing is the introduction of a new communication system. The telex system is employed by the National Agricultural Cooperatives Federation to collect and disseminate price information all over the nation. The telephone system has been developed and the number of telephones increased by an annual growth rate of 17 percent during the last decade. Newspapers, radio and TV sets are found even in remote rural areas. Mass media for market information has been rapidly developed but the information management system remains in a primitive stage.

IV. Factors Affecting Innovations

1. Environmental factors

The environmental fabric of an economy enables innovations to flourish. The texture is an intertwining of individual initiatives, an expanding population gainfully employed, and a rapid growth in income. The natural curiosity of men, coupled with dynamic scientific systems, continuously weaves strong new threads into the material of progress.⁸

Innovation takes place more frequently in some countries than in others. This means that some environmental and cultural conditions promote adoption of innovations and other conditions discourage them. The most important condition to create and adopt innovation is freedom of individual business activity. If any firm is allowed to market any product, provided it meets acceptable sanitary standards, innovation could be promoted.

The expectation of profits from innovations encourage a firm to adopt innovations even if there is the possibility of failure. Other environmental factors include a general attitude toward newness or differentness, the amount of research and development (R & D), the existing mass market which is able to absorb a large variety of new products, the general government policy, the general level of business activity, and the general level of science and technology.

2. Income of consumers

An important demand factor affecting innovations is consumer income. As income grows, demand for new and processed foods and for marketing services are accelerated. Increase in the demand encourages food marketing innovations.

The gross national product in Korea has increased about eighty times over the last two decades. The per capita disposable income was 59 thousand won in 1956 and 219 thousand won in 1975 constant price (Table 4). Per capita disposable income in 1976 was four times that of 1956.

Viewing the economy as a whole, income depends on many factors, one of which is innovation itself in all sectors. Therefore it might be said that innovations lead to innovations.

3. Changes in consumption patterns

Intermediate factors for the introduction of innovations include changes in per capita consumption and in the demand for convenience foods.

Food consumption patterns change as times change. Time involves many factors. But long-run trends of changes in food consumption patterns refer to changes of taste and preference. Increasing attention to nutrition such as protein and vitamins or to diet as a health factor accelerates change

8. Bird, K., P. B. Dwoskin, and M. E. Miller, "Marketing Innovation", *Agricultural Markets in Change*, USDA, ERS Ag. Econ. Rep. No. 95, 1966.

in food consumption patterns. Population growth and increases in real income are important causes of change in food consumption patterns. Other important factors that influence food consumption are occupational changes rural to urban population movements and changes in working population. Changes in relative prices are also important factors affecting food consumption patterns. A new product may replace another if it performs a particular function better or if it costs less.

Table 4. National income in Korea, 1956–76

Income	1956	'61	'66	'71	'76
GNP (billion won)	152	297	1,032	3,152	12,143
Disposable income (billion won)	138	248	848	2,429	8,792
Per capita disposable income (won)	6,210	9,658	28,483	73,858	245,187
Wholesale price index (1975 = 100)	10.5	14.8	31.4	45.7	112.1
Per capital disposable income at 1975 constant price (won)	58,918	65,257	90,710	161,615	218,722

source: EPB Korea Statistical Yearbook, 1956–1977.

Changes in per capita consumption of food during the last decade are shown in Table 5. Consumption of food grains except soybean as a source of protein has decreased or remains unchanged. Consumption of vegetables and fruits has steadily increased. Consumption of meat, fish, and milk has rapidly increased. New processed foods such as edible oil, ice cream, and yogurt have increased rapidly. These kinds of changes in food consumption patterns are expected to continue in the future. Some of them will be processed and others will have different packages and containers.

4. Competition and monopoly

Innovations will easily be created when there are profit motives and available funds for innovations. Competition appears to encourage innovations. On the supply side it helps keep costs at the lowest possible levels. On the demand side, it encourages firms to introduce new and different products. It leads to changes in structure and pricing policy, as firms seek to gain an advantage over their rivals in the market. If a firm does not innovate, it faces the possibility of having its cost structure or its product line become obsolete. In these cases, it may lose its competitive position and even go bankrupt. In many industries, innovation is the heartbeat that keeps the firms alive and healthy.

Because competitors are quick to adopt and copy an innovation, the

Table 5. Per capita consumption of major foods

	Unit: Kg/year					
	1962	1967	1972	1975	1976	1977
Rice	126.5	130.1	130.2	125.3	126.5	131.8
Barley	45.9	56.6	51.2	47.8	47.8	46.6
Wheat	22.0	32.6	59.9	50.1	50.7	53.8
Potatoes	14.2	31.9	21.1	15.4	20.7	18.4
Soybean	6.7	6.1	7.8	10.3	11.7	12.0
Radish	17.1	19.1	24.5	24.3	26.8	21.8
Cabbage	15.7	20.0	27.6	23.4	27.1	23.6
Cucumber	1.1	2.0	3.1	3.4	3.6	3.9
Apple	4.3	6.2	7.8	8.8	8.7	9.6
Tangerine	0.03	0.05	0.4	2.3	1.4	3.2
Beef	0.6	1.1	1.2	2.0	2.1	2.2
Pork	1.4	2.4	2.6	2.8	3.0	3.9
Milk	0.1	0.6	2.5	4.6	5.5	7.0
Fish	10.6	13.9	23.7	30.3	32.4	30.6
Oil	—	—	2.2	2.8	3.1	4.2
Icecream	—	—	0.00	0.12	0.45	0.68
Yogurt	—	—	—	0.24	0.63	1.31

Source: MAF: Internal data

time lag between the introduction and the copying of it determines the amount of profits. If there were a greater time lag between when an innovation is introduced and when it is copied, it is possible that more innovations would be developed. Since most innovations need costs for R & D, a large firm can provide this money. Since monopoly and oligopoly do extend the time lag and can provide money for R & D, it could be argued that monopoly firms might be more inclined to innovate than firms in highly competitive industries. The purpose of patents is to give monopoly use of new ideas during a limited time.

5. Population changes and working forces

Marketing innovations occur more naturally and easily in a changing economy than in a static one. Thus changes in the size or composition of population may affect the rate of innovation. In 1955 our population numbered 21.5 million, and in 1975 it totaled 34.7 million. This was an increase of more than 2.4 percent per year. An expanding population encourages development of new products and processes, and varying forms of structural organizations including providing domestic markets for new and processed foods.

Within our population regional movements took place. The percentage of city dwellers has rapidly increased during the last two decades due to rapid industrialization and urbanization. We live more and more in apartments. In 1955, a quarter of our population lived in cities. By 1975, that percentage of city dwellers has increased to 48 percent (Table 6). We expect

that about 80 percent of the total population will live in cities by 1991. City people have more sedentary work and this affects their eating habits, which in turn affects marketing practices.

Table 6. Population and working forces, selected years, 1955–1975

	Unit: thousand				
	1955	1960	1965	1970	1975
Total population (A)	21,526	24,989	29,193	31,435	34,709
City dweller (B)	5,281	6,997	9,805	12,929	16,794
B/A (%)	24.5	28.0	33.6	41.1	48.4
Working force (C)			8,423	9,745	11,830
C/A (%)			28.9	31.0	34.1
Working women (D)			2,941	3,578	4,341
D/C (%)			34.9	36.7	36.7

Source: EPB: Economic Statistical Yearbook, 1956–1976

The working force increased from 29 percent of the total population in 1965 to 34 percent in 1975. Working women also increased from 35 percent of the total work force in 1965 to 38 percent in 1975. Many young men also stay in school longer and do not have to join the work force at such an early age. Many married women are willing to work and are allowed to work by society now. At the same time the use of servants for house work is becoming less common. Development of these situations encourages the introduction of processed and convenience foods, and cooking tools and refrigerators. As a result, food marketing innovations take place. These phenomena are expected to continue and to be accelerated in the future.

6. Size of marketed surplus and subsistence farm level.

The size of the marketed surplus of agricultural products determines marketing channels and the scale of operation in marketing. Many subsistence farms in Korea produce a small amount of marketed surplus which can not take advantage of economy of scale and full capacity operation. Subsistence traders may be a bottleneck to introducing marketing innovations, especially cost-cutting innovations.

Small scale farms which cultivate less than one hectare compose about 70 percent of the total number of farms. But their proportions of total production is even less than that of the other farms.

As economy and agriculture are developed the size of the marketed surplus of each farm will grow and agricultural production will be specialized and commercialized. As a result, adjustment for scale economies may gradually take place for food marketing.

7. Education

Education contributes to scientific and technological progress and also to the general quality of the labor force. Education may influence

innovations and productivity indirectly. Highly educated administrators improve organization and operations. Educated engineers and businessmen see the need for innovations and put them into practice.

Education, incomes, and innovation mutually reinforce each other. Innovation provides higher income. Higher incomes allow young people to stay in school longer and make it easier for experienced workers to attain further education or training. Through increased knowledge and skill, these workers then contribute to further innovation.

V. Concluding Remarks

Innovation promotes economic growth. Pursuit of profits keeps them coming forward. Competition spreads the effects of innovations and other firms benefit. Important marketing innovations include new foods, handling and processing methods, packing and containers, food selling and service, and innovation in the home.

Individuals involved in food marketing make efforts to create innovations for their profits. But some are trying to make profits by cheating and cornering without innovation. Some cultural and environmental conditions make room for those negative activities. The treatment of marketing people as having a low social status and viewing them as cheaters can be an example.

Social functions to facilitate innovation in food marketing are most important. Social facilitating functions for innovations include providing freedom for market activities and competition, treatment of marketing people as efficient and economic men, supporting research and technological development, and providing marketing infrastructures such as roads, transportation and communication facilities and information.

Food marketing innovations were very important in the past and should be more and more accelerated as the economy is developed and urbanization and industrialization take place in the future. More effort should be made to introduce food marketing innovations.

Science and invention are producing ideas which will have future applications in processing, wholesaling, retailing and other aspects of agricultural marketing. But the process of innovation itself is changing, and we find that we really know little about this great economic force. How do innovations affect the marketing system, as well as the various groups involved? How can a continuous flow of innovations be maintained? How do we adjust to innovational change with a minimum of disruption and hardship? We need research to answer these questions.