The Innovation Roadmap and Value Creation for Information Goods Pricing as an Economic Commodity

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Abstract
Nowadays, most books and information resources or even movies and application programs are produced and reproduced as information goods. Regarding characteristics of information goods, its cost structure and market, the usual and traditional pricing methods for such commodity are not useful and the information goods pricing has undergone innovative approaches. The purpose of product pricing is to find an optimal spot for maximizing manufacturers' profits and consumers' desirability. Undoubtedly, in order to achieve this goal, it is necessary to adopt appropriate strategies and implement innovative strategies. Innovative strategies and tactics reflect the analysis of market share, customer behavior change, pattern of cost, customer preferences, quick response to customer needs, market forecast, appropriate response to market changes, customer retention, discovery of their specific requirements, cost reduction and customer satisfaction increase. In this research, 32 papers have been selected among 540 prestigious articles to create a canvas containing more than 20 possible avenues for innovations in the field of information goods pricing, which can be used in the companies producing information goods, regardless of their size, nationality, and type of information goods they produce. Introduction of some key ideas on how to increase both profits and customer satisfaction and also three open issues for future research in the field of information goods pricing is one of the achievements of this research.

Keywords: Innovation; Pricing; Information goods; Customer satisfaction.

1. Introduction

An exciting and rapid increase in global competition in production, marketing and sale of information products, along with a change in economy into a knowledge-based economy, creates a renewed emphasis on innovation in these scopes. This new economy, especially by those who are innovate, is driven faster than other competitors, but with respect to the growing number of types of information and the immediate exchange of it in electronic world, there has not been such a considerable need for innovations in the pricing of information goods in no time like today. Therefore, in order to be able to survive in the thriving market of information products and overcome competitors, improve customer retention and attract the new ones, traditional methods of marketing and pricing of these commodities must be abandoned and the innovative methods should be invented.

The term "innovation" is a broad concept as a process for using knowledge or information for the purpose of creating or introducing new and useful things. In other words, innovation refers to everything which is revised to become reality, and strengthens the position of the organization against competitors, and provides a long-term competitive advantage [1]. Market innovation involves up-

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to-date knowledge in distribution channels, products and its usage to meet expectations, value, and demands of customers which its main goal is to improve marketing-mix (product, price, place, and promotion). On the other hand, an appropriate and innovative pricing strategy will lead to the creation of competitive advantage for the company, as well as among the factors of marketing-mix, price is the only element of revenue-generating value which has more flexibility, because it can be quickly changed [2].

With the advent of the Internet and the creation of information products, the concept of pricing for information goods has become one of the most interesting and innovative topics in information technology management and economy. On the other hand, regarding characteristics of information goods, its cost structure and market, the usual and traditional pricing methods for such commodity are not useful and the information goods pricing has undergone innovative approaches. With this view, perhaps the most important gap in the research literature on information goods pricing is the lack of detailed and extensive research on innovations in pricing of these commodities in terms of customer satisfaction and more profit for sellers.

The purpose of product pricing is to find an optimal spot for maximizing manufacturers' profits and consumers' desirability. Undoubtedly, in order to achieve this goal, it is necessary to adopt appropriate strategies and implement innovative strategies and tactics. Accordingly, the main issue of this article is to explore innovations in the field of information goods pricing with providing several key ideas on how to increase profits and customer satisfaction. Therefore providing a marketing canvas, including more than 20 solutions for innovation in the field of information goods pricing is one of the results of this study that can be used in organizations producing information goods regardless of size and nationality, and the type of information product. The rest of this paper is organized as follows. Section 2 describes the theoretical basis of research used throughout this paper. Section 3 contains the research background and shows categorizing method for innovations that made by previous researchers in the field of pricing of information goods. Sections 4 to 5 describe research method and introduces innovation road map framework for information goods pricing along with three open issues for innovation and value creation in this field. Finally, Section 6 presents our conclusions.

2. Theoretical Basis of Research

Pricing is simply means placing a value on a product or service [3]. Pricing is an activity that needs to be repeated and is a continuous process [4]. This continuity is due to environmental and volatile market conditions that necessitate price adjustments. An innovation in pricing, for example, includes this issue that organizations in choosing pricing strategies, pricing tactics, and organizational factors act in a way that using consumers' psychology leads to a change in their perceptions of the value and price of the purchased item [5].

Information or digital goods are defined as a commodity that can be digitally transmitted through information networks such as the Internet. Examples of information goods include computer software, e-books, online magazine, databases, music, movies, television programs and search engines such as Google and Yahoo [6].

Kai and Patrick [7] have presented interesting ranking of information goods. They have divided information goods into tools and services (such as anti viruses) of content-based digital products (such as books and magazines) and on-line consulting services, and mentioned some of the unique features of information products: lack of erosion, easy copying, share ability, network effect (refers to the more people use the information, the more people will want to use it) and trial ability use. The cost structure of information goods is also such that the cost of reproducing it from the original version is negligible, and policies must be adopted so that the cost of the original version is abated according to the amount of demand on the reproduced copy.

3. Research Background

In today's complex and competitive world, innovation is vital for every type of business in the economy and technology of any society, and it can be said that without innovation, any business is condemned to destruction. The importance of innovation in the pricing of information goods due to its specific characteristics has led to valuable studies in this context. Hence, with the provision of access levels and licenses, Steele (2003) [8] has created an innovative three-dimensional model base on following dimensions; (what is sold, such as goods and services), time frame such as (One-time, Perpetual or Subscription), a pricing policy (such as Per user, Per CPU or Per use). Dixit et al. (2008) [9] introduce advances in technology, real-time computing capability, and quick access to marketing databases as key elements that have led to smart factors technology to use in performing for any innovative pricing policy. They praised the capabilities of smart mobile agents for bargaining, because they believe that intelligent agents can access competitive information and use them creatively for competitive advantage.

The wider range of innovations in information goods pricing shows that among researchers in this area, some have specially introduced innovations in retail and e-commerce. For example, [10] have grouped innovation in retail by answering the three main questions (whom to target, what promotions and pricing models to use, how design elements can increase the effectiveness of these promotions?). In order to answer the first question, they have mentioned pricing on the basis of the value of

customers, and in order to answer the second question, dynamic pricing is specifically proposed. They also suggest the use of RFID technology and trading stalls in response to the third question. Andreas Hinterhuber and his colleague Stephen Liozu [5] are among other researchers who have specially categorized innovations in pricing into three categories: Innovation in Strategy, Innovation in Tactics, and Organizational Innovations.
Since the present article introduces innovations in information goods pricing by considering its specific features based on [5] division (strategies, techniques, and organizational factors), Table 1 summarizes only three examples of research conducted. It addresses each category and the rest will be discussed in Section 5, depending on the structure of the article

Table 1-Example researches on the field of pricing information goods

Research / study	Subject/Context	Innovation category
Pascual-Miguel et al(2015)	Market segmentation based on demographic information	Strategy
Larson(2014)	Psychological pricing	Strategy
Yao(2012)	Dynamic pricing	Strategy
Carlson &Kukar-Kinney(2018)	Using creative discounts	Tactic
Morrison(2016)	Bundling for information goods pricing	Tactic
Massoud & Aboriz-ka(2012)	Price personalization	Tactic
Laatikainen & Ojala(2018)	Using Pricing Committee	Organizational factors
Wikner(2018)	Using CRM software in the organization	Organizational factors
Ahmed et al(2018)	Using key performance indicators for pricing	Organizational factors

4. Research Method

This paper is a kind of review research that in its first step, as shown in Fig. 1, the process of data collection has been done through the Internet search of (Science Direct, Google, Magiran [1] and Irandoc [2]) databases limited to Persian and English and without time limitation, with the key words of pricing information goods, innovation in commodity pricing, and their Persian equivalent, with a preliminary selection of 540 articles. In the second step, by reviewing the title and abstracts of all articles related to the field of research, the rest were excluded from the study list. In the third step, by analyzing the section of the introduction and conclusion, articles that somehow included innovations in commodity pricing, especially information commodity have been chosen. In the fourth step, with a full review of the refined articles, 21 articles completely related to the topic of the article have been selected, and in the final step, by returning to the references, among the books and the selected articles, 32 cases of authoritative and experienced authors which repeatedly were cited, were selected to provide the results of the research.

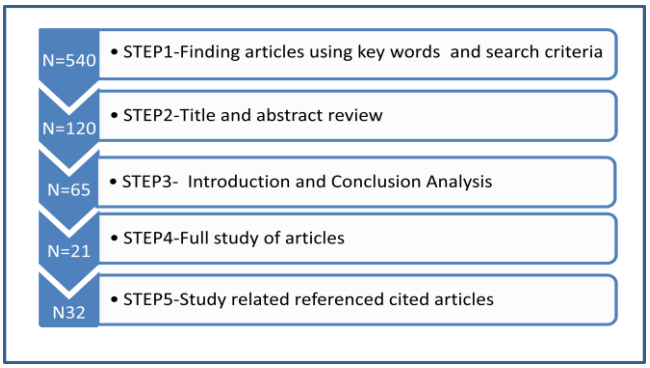

Fig 1-The process of data collection

5. The Conceptual Model of The research

The main contribution of this paper is to provide roadmap for information goods pricing so the framework presented in this study (Figure 2) has been developed with the expansion of the Hinterhuber and Liozu (2014) [5] categories for pricing innovations, considering the specific characteristics of information product for this type of commodity. These two researchers (Hinterhuber and Liozu) believe pricing strategies in organizations that do not use innovation are largely based on competitive or cost-based pricing and pricing tactics are limited to discounting. In addition, they believe that organizations that do not use innovation in pricing do not have a specific procedure to apply discounts on pricing and a sales manager is likely in charge of pricing and price regulation. With this view, the present paper, by expanding the framework provided by Hinterhuber and Liozu, categorizes information pricing innovations into three key domains of strategy, tactics, and organizational factors for successful companies in the field of information products pricing. This framework can be used as a road-map for facilitating the choice of pricing strategy and tactic, as well as creating an organizational mechanism for the proper pricing process by the managers of information-producing companies and encourage them to choose a right alternative for their current pricing strategy or tactic. In the following, the dimensions of the proposed framework will be described and while presenting objective examples, we take a glance at the innovations presented in these areas for information products pricing and then introduce some open research issues for future studies in this field.

[1] -www.Magiran.com(All Iranian Magazines & Scientific Journals)
[2] -https://irandoc.ac.ir/(Iranian Research Institute for Information Science and Technology (IranDoc))

5.1 Innovations in The field of Information Goods Pricing Strategies

Pricing with the goal of survival and subsistence of the company, to maximize the company's current profits and market share, and moving forward are done in terms of quality [11]. Therefore, selective strategies for pricing should also be chosen according to the company's goals. In the following, some of the most important innovative strategies for pricing information products will be discussed.

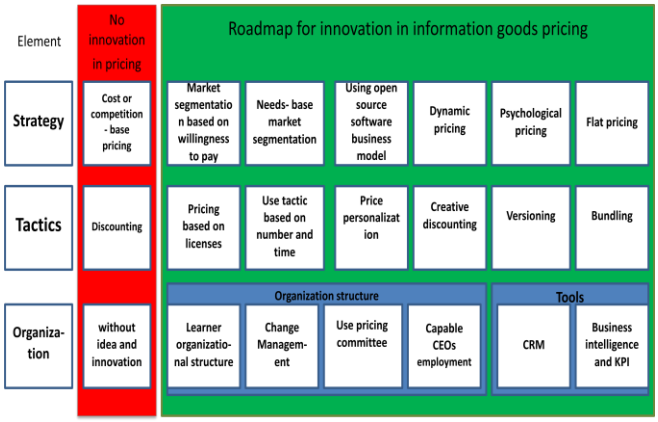

Fig 1-The framework for selecting innovations in the field of information goods pricing

5.1.1 Market Segmentation Based on Customer Willingness to Pay

Good market segmentation provides customers with products at different prices to attract them with a willingness to pay. The ability to test the information product (demo version) as a trial version, as well as the ability to restrict access to information product at times and locations makes these goods have potential to market segmentation based on customer preferences. This strategy is also called "price discrimination" in some sources. The basis of the price discrimination strategy is that the willingness to pay by different customers for a particular item is not the same. Thus, with the help of discriminatory prices, consumer groups tend to be absorbed with a willingness to pay and compared to standard prices, discriminatory prices can increase revenue and profits for the producer and utility for the consumer [6]. Pigou in [6] about price discrimination creates a useful framework for developing pricing strategies. He has divided the price discrimination into three degrees; first, second and third. In recent years, especially after Shapiro and Varian studies in 1998, these pricing methods have also been known as "full price discrimination", "menu pricing" and group pricing. First-degree price discrimination occurs when sellers receive different prices for a single item, that is, the price received, such as auctioning for each commodity unit, is equal to the maximum willingness of individuals to pay [6]. Of course, auctioning often involves the sale of antique or special goods, but nowadays companies such as eBay and Amazon have implemented the auction process with the help of Internet technology for all the products, including information goods.

Second-degree price discrimination also implies the same price of goods among different consumers. In this type of price discrimination, every consumer encounters the same price plans, and the consumer chooses which level to use [6]. Because of their own choices, this price discrimination is also called a menu pricing (such as choosing high quality music versus choosing music with lower quality). In third-degree price discrimination, the same information product is presented to different groups at different prices, so that the price is the same within the groups. For this reason, third-degree price discrimination is also called group pricing. This strategy is used when the customer groups can be easily identified [6].

5.1.2 Market Segmentation Based on Customer Needs

Market segmentation based on customer needs is defined as a process in which the market is divided into different sectors of potential customers, with the needs and / or similar characteristics. The characteristic of customers in each section is the similar shopping behaviors. The dividing the market based on customer needs is usually done by segmentation based on demographic characteristics, behavioral characteristics, psychological characteristics and geographic features.

Demographic segmentation is widely used in software corporations because information product can be produced according to age, gender, and even occupation and field of study [12]. In market segmentation based on a customer's behavior pattern, the product is actually marketed according to customer behavior. Psychological division also emphasizes the psychological aspects of consumer shopping behavior. These psychological aspects may be consumers' lifestyles, social status, activities, interests and beliefs [13]. People are also divided according to geographic area in geographical segmentation. This means that customers have different needs based on the geographical area they are in. Geographical segmentation in the field of production and pricing of information goods is very crucial because businesses are expanding locally and internationally. Hence, based on what has been said, it is possible to identify the opportunities. Moreover, information products can be produced ad priced in a way that ultimately results in more profits for sellers and more satisfaction for customers.

5.1.3 Using Open Source Software Business Model

Offering a free of charge product will increase market share, brand popularity among customers, and attract customers to other products or services provided by a

company [14]. Hence, offering free products is one of the successful strategies of information-producing companies. The free search service and advertising, internet calling service and fixed line calls at the price set by Skype, and the provision and production of open source software are examples of offering free of charge information product. Hence, offering complimentary products is one of the successful strategies of information-producing companies.
Open source software is referred to the one that people can use to copy, modify, or publish its source code using a copyright license. Awareness of open source business models and the innovative and intelligent use of these strategies can be used to price this segment of information products. Table 2 is Onetti and Verma (2009) [15] Research and includes the most prominent open source business models that are used to adopt an appropriate strategy in pricing information products.

Table 2-The Most Important Business Models for Open Source Software (Onetti & Verma, 2009)

Model	Brief description/examples of strategy choices for pricing
Independent software sales	Distribution of open source software (sales on CD instead of download), membership in software, proprietary software-based software, dual licensing (free and paid licenses), franchising, delayed presentation of successful publication
Service providing	Support Services, Maintenance Services, Database categorizing including permit, Training, Certification issuance for individuals, Open source Software components selection
Brand sales	When a company creates a well-known brand, it can be given over to another person in order to marketing in return for receiving some amount of money.
Advertising	At every step of distributing an open source component, online advertising can be done by adding links to main pages, download pages, support pages, and ...

5.1.4 Dynamic Pricing

Dynamic pricing is pricing in an environment where prices are not fixed but flexible [16]. Dynamic pricing is a strategy in which prices are changed at any given time for customers and consumers or because of the set of products and services provided. In other words, the price is not fixed in this strategy and varies in response to supply and demand conditions. Dynamic pricing in the field of information goods has many examples, such as [17] that has classified penetration price (start with low prices and rise prices according to the conditions) and price skimming (start at high prices and reduce prices according to the circumstances) as dynamic pricing strategy, but because of the particular potentiality of information goods for dynamic pricing, this strategy seriously needs innovations in this regard.

5.1.5 Psychological Pricing

Psychological pricing is a strategy in which the psychological aspects of the price that stimulate customers to buy products and services are considered. Larson (2014) [18], in a research entitled "Psychology Pricing Principle for Organization with Market Power", argues the pricing principles which are originated from the principles of psychology. He has described 51 psychological principles used in pricing and concluded that these principles would result in more profit. He also categorizes the principles of psycho-pricing into four principles including highlighting (such as price comparison, for example, less than the cost of a cup of coffee per day), proportionality (such as fairness guaranteed, for example, prices remain fixed over three months), background (such as product order, for example, attractive products are displayed at first, and the signaling theory (such as displaying small numbers in the pricing, for example, using number 9 on the right side of the price).

5.1.6 Flat Pricing

Flat pricing is a pricing strategy in which prices are offered to customers without any exceptions. This type of pricing can be popular for customers and can dramatically improve the sales of a product or service. Flat pricing is easy to be managed and advertised. Furthermore, it results in management and operational costs reduction. In addition, it can cause word-of-mouth advertisement leading to more product sales. For example, some phone operators offer the same unlimited bandwidth prices for all users. Customers also benefit from flat pricing, which can predict the exact cost of a seller's product or service, regardless of usage, which may lead to more sales. However, when the product is consumed at very different rates, the seller must have a thorough understanding of the costs for consumer goods and raise flat price high enough that consumers with high consumption do not reduce the profit [19].

5.2 Innovation Tactics Used for Information Goods Pricing

Making money from customers may be the same as creating an artwork. The art of goods pricing, especially information products, is revealed with innovative tactics. As you know, there are numerous pricing tactics for these kinds of goods that can be used. Using these tactics depends on the factors such as marketing budget, purchase behavior, perceived value, or customer life expectancy. In the following, some of the most important tactics of information goods pricing are described with respect to the specific features of this product.

5.2.1 License-Based Pricing

A license is an official permission or a software protection tool that grants users the legal right to use the software [20]. The cryptographic feature and the ability to control licenses for having access to the content of the information product have made these kinds of goods potential to use the selection of license-based pricing tactics. Figure 3 shows license attributes for information products, especially software provided by [21] for software and information goods pricing.

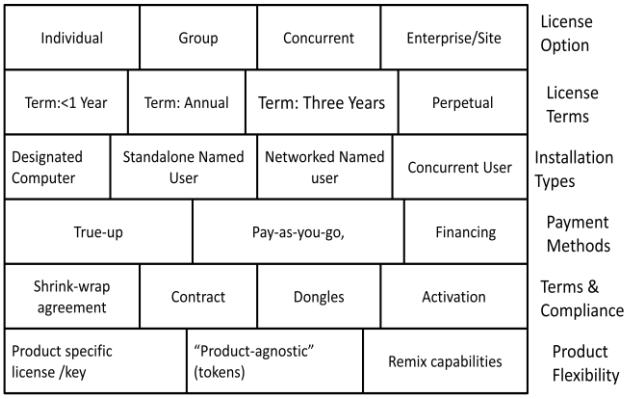

Fig 2-License attributes (Nayak, 2006)

5.2.2 Using Time-Frame and Counter-Base Tricks

The ability to control the number of allowed accesses as well as the time access control of the information goods, and also the ability to distribute information goods on the network, leads to creation some tricks for pricing information goods based on the counting and timing. Economists use the term "price elasticity" to illustrate the extent of correlation between price and demand for a commodity. In the case of information commodity, the degree of price elasticity depends on the nature of the information goods, the purpose of its creation, the circumstances in which the need is created, the person who uses it, the level or amount of processing necessary to make it useful, and the accessible time available to users. Hence, tricks have been developed to use these flexibilities. Figure 4 illustrates intellectual property that can be licensed along three dimensions for using these tricks (Steele, 2003) [8]. These dimensions include the nature of the information goods (what is being sold?) the pricing policy and strategy (such as pricing in terms of the number of clients), and the timing of the sale or possession (such as the permanent purchase or time subscription) of the information product.

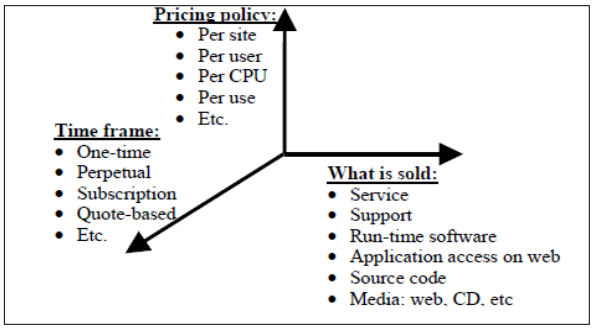

Fig 3-Intellectual property that can be licensed along three dimensions: (1) what is sold, (2) pricing policy, and (3) time frame [8].

5.2.3 Price Personalization

Price personalization can usually be done by having enough information from the customers, namely having the customer's history of purchasing, along with their profile information. The research by Massoud and Abo-Rizka (2012) [22] is a comprehensive example of price personalization by using recommender systems for customizing information goods pricing. The two Egyptian researchers have developed a three-part conceptual model consisting price controller, the customer valuation and discount category, in which users are evaluated online, and then the appropriate product is offered to customers for purchasing. A remarkable point in this research is the customer valuing segment where customer is valued based on considering sales records and user profiles, then price is personalized for customer.

5.2.4 Creative Discounting

In addition to increasing sales (i.e. massive sales and packaging several products together and making customers to buy more products), offering discount is a tactic that can gain other benefits such as the positive feelings of customers because of dealing with sellers, as well as helping them to choose sellers' products among competitors and creating a new opportunity and reaching new customers. Some of the creative discounts used for information goods include non-linear pricing (buy one for get two), permanent discounts, prize packs, purchase coupons, discounts for student or seniors [23].

5.2.5 Versioning

With this tactic, the company offers its products in various versions, among which, customers choose the right editorial version they are willing to pay for it [24]. This tactic is very effective in situations that customers are dispersed in different demographic groups and are not identifiable by the producers [6]. In this tactic, versions that are designed for people tending to pay higher prices should have advantages to versions designed for people willing to pay lower. Creating different versions of

products can be based on product quality. This method is useful especially when reducing the quality of the information goods to produce a version with lower quality is not expensive [25].

5.2.6 Packaging

Packaging means selling two or more products or services as a pack, which means selling two or more products at a price lower than the total price of each item when they are sold individually which is attractive for customers and increases profits for sellers [26]. This method allows companies to have more market share through packaging products. The positive impact of packaging or selling information goods has been proven by researchers such as [27], and is particularly common for information goods. Selling and distributing Windows software with Windows operating system on a CD is one example of using packaging tactic and successful sales of information goods.

Since most of information goods are accessible through Internet, it appears that analysis of user interactions with Internet and using filters in advisory systems can be helpful in identifying the components that should be included in a package. Whether components of the packages should be reviewed over time, as well as the number of optimal packages that the producers have to offer, are questions that need to be investigated.

5.3 Innovations Offered in the Context of the Organizational Factors of Information Goods Pricing

An innovative organization is the one that has institutionalized innovation in all parts of the organization, in all aspects of business and among all members of the work teams. An innovative organization creates an environment that is fully engaged in positive change and a culture that is rich in creativity and recreation [28]. The classification of organizational factors in the field of products pricing is one that has not been ignored. Liozu and Ecker [29] considering organizational structure, has categorized innovation for pricing into centralized, decentralized, based on pricing and support by the leader. In this paper, considering the specific features of the information goods, as well as research and analysis of the articles and selected books of organizational innovations in two areas of organizational structure, such as creating an organizational structure of the learner in the organization and tools used in the organization for pricing, such as the use of business intelligence tools will be discussed.

5.1.3 Creating a learning Organization Structure

A learning organization is the one that helps improve organizational learning through creating structures and strategies. The organization has the skill and ability to create, acquire and transfer knowledge, and modify its behavior so that it reflects up-to-date knowledge and insights. According to Peter Senge [30], the learning organization is an organization that uses individuals, values, and other sub-systems to continuously modify and improve performance by relying on the lessons and experiences it gains. Therefore, learning organizations should integrate pricing innovation with organizational learning and distributing knowledge effectively, solving issues systematically, learning from organization experiences, past events, and best actions by others in order to empower members to learn and develop their skills in pricing. Expanding the learning culture will lead the organization to choose the best pricing strategies and tactics [5].

5.3.2 Change Management

Innovation in pricing basically leads the organization to manage changes. Choosing a pricing strategy or tactic is not just a change in marketing and sales, and the complexity of its activities is more than the change in price list. Therefore, new pricing methods often require change management with new capabilities, a new organizational structure, different target and motivational systems, new processes and tools, and new organizational prerequisites, as well as a welcome to constant change in organizational structure with open arms lead the organization toward the best choice for pricing strategy and tactic. Hence, innovation in pricing should be viewed from a organizational perspective as a continuous change, rather than a short-term project process [31].

5.3.3 Using a Pricing Committee

The digitization, servicing and cloud computing, and the specific characteristics of the information goods and its related business models are shaped so that the pricing committee of these types of goods should have an acceptable understanding of its resources and pricing capabilities. Hence, the positive impact of having a pricing team for information goods has been proven not only by the investigators but also the number of members of the pricing committee, the duties and skills of each member; including technical skills such as data collection skills, software skills, analytical skills, skill and experience in pricing, management skills, creativity and risk-taking against pricing are explained in details for choosing a pricing team [32].

5.3.4 Capable CEOs Employment

Innovation is one of the key abilities of any organization's top managers which allow them to help the growth and profitability of the organization. Innovation, and consequently innovation in commodity pricing, is highly-challenging due to its closeness to risk and profitability.

Hence, the research conducted in this context shows that the positive impact of CEOs on pricing is undeniable, and their decisions significantly affect the pricing and performance capabilities of the company [33]. CEOs need to understand the importance of pricing and be enthusiastic about pricing function and providing resources to support it. Paying attention to the pricing committee, showing strength when faced with pricing barriers, identifying key players and authorities responsible for solving pricing problems and giving them confidence when these problems arise, as well as selecting and adopting an appropriate pricing strategy in a way that makes profit for company and leads to customer satisfaction is one of the major issues that is partly related to the organizational and individual innovations of CEOs.

5.3.5 Business Intelligence and KPIs

Key Performance Indicators (KPIs) are powerful and vital tools for managers and organizational leaders to understand the success rate and adopt with strategic direction of the program. Some of the indicators used for pricing goods and services, particularly related to information products, are: the number of sales, net profit, customer retention rate, customer satisfaction index, customer life span, market share, market penetration rate, Web search ranking on the Internet, click rate and customer site viewing, online customer engagement levels, software downtime, average revenue per user, support rate [34,35]. Key performance indicators are typically displayed by the Business Intelligence Dashboard which is an information management tool. Hence, successful pricing organizations can use a BI-Dashboard to view a wide range of complex data in a simple way with easy-to-understand dashboards, and make decisions on choosing a specific tactic or pricing strategy.

5.3.6 Using CRM

Having comprehensive CRM (Customer Relationship Management) software can lead CEOs to optimize pricing [36]. Microsoft defines CRM as the software used for the automation of sales and marketing activities, as well as the management of sales-related activities and services within an organization. Gartner, a giant research company in information technology, believes CRM is a business strategy that optimizes revenue and profitability while promoting customer satisfaction and loyalty [37]. CRM software provides functionality to companies in four segments: sales, marketing, customer service and digital commerce. Hence, many authors such as [38] emphasize the positive impact of CRM on business management in an organization, and have looked at it in terms of marketing mixing elements, ie, product, price, place and promotion.

5.4 Open Issues for Innovation and Value Creation in Information Commodity Pricing

Specific characteristics of information goods such as conversion of knowledge and technology to information goods, easy access, ability to transfer over the Internet and social networks, time and space restrictions removal, reduction of transaction costs and time, unnecessary intermediaries elimination and many other benefits, has increasingly led to the growth of information goods. After reviewing the compiled articles, despite the numerous needs for innovation in the field of information goods pricing, three areas of studies have been identified for pricing such goods, including; target market identification, demand estimation and using revenue management systems which will be briefly mentioned following.

5.4.1 Target Market Identification and Market Segmentation

In the past, the market was referred to a place where goods were traded. Philip kotler [39], in his marketing book, describes the market as a potential and realistic set of buyers that exists for the product. With the advent of the Internet, as well as the creation of information goods, this concept has been modified considerably. Researchers of this study believe that the target market for information goods includes those who, while interested in the product, have enough resources to buy the product and can have access to the product and are not legally prohibited to buy it. Finding such individuals in the information goods market can be done using veritable and innovative methods. Determining the target market can, in addition to generating motivation for investment, production and sales, is also a measure for decision makers of manufacturing companies in the field of information goods pricing. Therefore, according to studies conducted in this paper, research to identify the target market of information goods that may have global reach and be transmitted with one simple click to the rest of the world is open issues for future research.

5.4.2 Demand Estimation

If the sale of a new product is unlikely to reach the break-even point, the company should not bother manufacturing it. Unfortunately, there is no way to know the future status of a product sale precisely. Therefore, the only possible option is prediction and estimation. Since each information goods is designed and manufactured for its target community, estimating the demand and determining the target market plays an important role for decision making by producers as well as produced commodity pricing. Fast transfer, unrestricted access without time limitations on the Internet at any time, the impact of internet browsing by Internet users, the possibility of market segmentation

based on demographic characteristics (such as gender, age, field of study) is only one distinguishing difference in demand estimates for information goods. Hence, with regard to the domain of the subject, research is open to identifying and developing appropriate ways to estimate the demand for information goods.

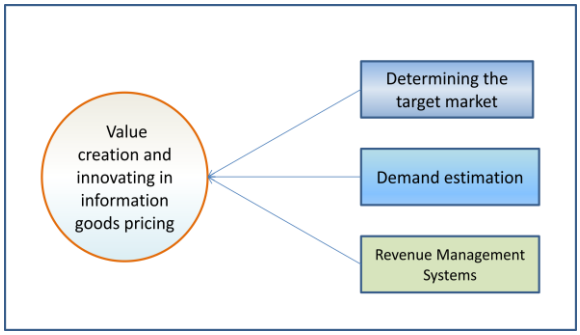

Fig 4-Open issues for innovation and value creation in information goods pricing

5.4.3 Revenue Management Systems

Revenue management systems have been used since the mid-1980s in the airline ticket sales industry. This tactic is mostly used for perishable goods or the ones with expiration date. For example, airplane seats are not worthwhile after flying. The classic model of revenue management systems is a sort of capacity allocation, which seeks to find the best way to allocate capacity based on the assumption of the definite demand. The dynamic pricing model of this solution involves selling the right product to the right buyer at the right time and price, in which the customer's desire is to pay for the issue which is in the center of attention [40,41]. This means that customers should not be alike in their desire to pay, that is, they usually offer different prices for the same goods and services. On the other hand, in this model, different groups of buyers should be identified. For example, when booking a plane ticket, a price insensitive customer to the price is only sensitive to the time and date of the flight, while the price sensitive customer seeks to minimize the cost and price. Since for information goods, a good segmentation can be done for selling right product to the right buyer at the right time and at the right price and based on customer's willingness, pricing models according to this issue, is another open issue for future studies has been neglected by the researchers of this realm.

6. Conclusion

As business environment is extremely dynamic, and only the companies that are superior in terms of competitiveness, can succeed in achieving a sustainable market, Information technology companies must seek innovative solutions for pricing their goods along with customer satisfaction and more profit. Innovative solutions that reflect the analysis of market share, customer behavior change, cost pattern, customer preferences, quick response to customer needs, market situation forecast, proper response to market changes, customer retention, discovery of specific requirements, cost reduction and increase customer satisfaction.

This article explores innovative strategies in the field of strategies, tactics and organizational factors for information goods pricing, and ideas have been presented to get more profit by sellers and increase customer satisfaction. The presentation of a canvas with more than 20 possible avenues for innovation in the field of information goods pricing, which can be used in information-producing companies, regardless of size, nationality, and type of information commodity produced. Also, the introduction of open issues for future research, including demand estimates, dynamic pricing and revenue management systems in the field of information goods pricing, are other achievements of this study which outlines a clear vision for future research. In the end it should be said, innovation in pricing process is not a phenomenon that occurs only once, but a continuous process consisting of innovation in strategies, tactics and organizational factors that must be invented and implemented at all stages, from the production stage to the sale, and even its support.

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