

# New online engine that can optimize user's expenses and time

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**Abstract:** This research paper is about software (its actuality and timeliness). An author thinks it will change the obvious way of offline shopping. Also it has many benefits for non-end users such as: suppliers, customers (FMCG, drugstores, etc.), Government and supervisory organizations. There are many online shops and E-malls in China. With the help of software and APP user can easily compare the prices for chosen goods and chose an optimal place for buying. Current innovations avoid retail stores. Retail buyer couldn't see the availability, prices and promotions in the offline shops around him. At present time an author and his colleagues are working on internet solution. This solution will optimize time and expenses for offline shopping. Also this project is supposed to be interested for many others users such as: offline stores suppliers and customers, manufacturers, government organizations, foreign investors and customers.

**Keywords:** time optimization, expenses optimization, e-commerce, retail trade, retail innovations.

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## I. INTRODUCTION

At present Ecommerce projects are high developed in China. Ecommerce can be broken into four main categories: B2B (Business-to-Business), B2C (Business-to-Consumer), C2B (Consumer-to-Business), and C2C (Consumer-to-Consumer). These categories are represented by following web sites in China:

C2C (ebay.com ...)

B2C (tmall.com, jd.com, dangdang.com, taobao.com, jd.com ...)

B2B (1688.com ...)

Besides, many of online shops sale goods (retail and wholesale) abroad (aliexpress.com, pandawill.com, sunsky-online.com ...). There are promotional web sites (meituan.com ...). Buy products and services online are usually cheaper than in physical place (offline store). There are many ways to pay online for the chosen product or service. The distinguishing feature of Chinese online payment systems is the end-user doesn't have to pay commission fee. All of mentioned above online-stores have very user friendly and intuitive control interface. Even naive user can easily use these online shops. There are many local delivery services which offer quick and non-expensive service through China. In many cases user doesn't have to pay for the delivery, price of the delivery is already included to the product price.

Although over mentioned advantages of the online stores, there are many consumers who still prefer to buy products at offline stores. Confirmation of this fact is presence of the huge amount of offline stores (hypermarkets, supermarkets, drug stores, book stores, etc.)

## II. BACKGROUND

China currently is the world largest carrier of the human industrial and intellectual potential, holding the greatest share in the world economy, research and engineering. China offers unlimited opportunities for accelerated deployment of most recent domestic and foreign industrial and intellectual accomplishments and innovations which in turn boosts the constant increase of production of goods and further expansion of services.

China also is the world trade leader. In the Author's view this immediately steps from the China government policy aimed at continuing development of applied research and its further deployment into the state economy. Throughout recent years China is demonstrating the world fastest growth in major economic indicators.

**Table.1: The dynamics of growth of economic indicators, 2015.**

Indicator/State		China	USA	Canada	Russia	India
<b>GDP growth rate, % *</b>		7,4	2,4	2,3	0,5	5,6
Volume of industrial production of goods growth rate, % *		7,3	2,8	2,0	0,6	3,8
Volume of GDP (PPP), billions \$ (2014)		17630	17460	1579	3568	7277
<b>Trade</b>	<b>Foreign export/import, billions \$ (2014)**</b>	2342/1959	1621/2416	475/475	498/308	322/463

VS 2013

WTO World Trade Report, 2015

The table clearly depicts the China's world lead in major economic indicators. However the rate of industrial growth is currently outrunning the growth of sales. A certain balance is maintained due to export.

However, in a world experts' opinion, the Chinese domestic trade market (1.32 billion of population) is underexplored, looks dramatically far from its saturation and, therefore, has a tremendous potential and offers fantastic opportunities of further economic development towards increase of citizens' well-being by means of satisfaction of growing demands of domestic consumers of goods and services. In his 2015-2016 London and Manila talks Xi Jinping, the Head of People Republic of China, stressed that the government of China intends to double the Chinese GDP by 2020 by expanding capacities of Chinese domestic markets. Currently the Chinese GDP shows the 7% growth rate despite the end of 2015 economic recession and remains the highest among GDP growth rate of developed countries. It is also worth of mentioning that according to Van Way, the Director of Market Economy Institute, the China State Council Strategic Development Research Center, the Chinese domestic market has a potential of tremendous growth which can be achieved by utilizing citizens' private savings deposited into the Chinas National Savings Bank.

The reinvestment of this money into the active business and trade requires substantial efforts in scientifically prepared informing about capabilities of the market, development of electronic marketing and sales infrastructure and other applied research and entrepreneurial innovations stimulating the growth of retail consumers' activity.

### III. STATEMENT OF THE PROBLEM

The ongoing diversification and simplification of a human access to various information resources and introduction a growing variety of information services remains one of the most important commercial, research and engineering goals of the Internet. China, as one of the largest regions of the Internet community, is developing and encouraging the interest of its citizens in maximal utilization of the Internet's tremendous opportunities and stimulating creative efforts of national users and developers in continuing deployment and expansion of new tools and services.

The current research paper reflects and generalizes the experience and accomplishments of the research and development work on these projects done by the Author as a member of a contributors' group.

### IV. SIGNIFICANCE OF THE RESEARCH

Along with the primary non-commercial, for buyers, goal the project is also envisioning a wide spectrum of commercial services to buyers and businesses. For instance, it may serve for automatic generation of various prices and sales reports for retail goods and services, pinned, if required, to chains, locations, directions, etc., in Dalian and later the whole China, immediately useful to a wide variety of government, non-government and private agencies and companies at all levels. It is also planned to serve as a frequently visited commercial placeholder for various ads.

## V. METHODOLOGY

The project, presented in the dissertation, in essence, offers a solution, allowing for optimization of the process of purchasing goods and services at no cost for domestic buyers. It proposes creation of large databases about chains of retail sellers of goods and services and convenient program environment offering a retail buyer flexible opportunities in collection and analysis of these data and orienting the buyer towards optimal prices and locations. An economy-driven retail buyer plans his purchase and forms a basket of goods in advance on his computer, tablet or mobile phone. According to the buyers selection the system suggests one or more shopping locations for buying the selected basket, as a whole or in sub-baskets, at one or multiple locations, where each of selected goods is sold at the lowest price. In addition he is offered the shortest time route to these locations in the proximity specified by the buyer. The system also shows the price for every item and the amount of costs for the whole group purchased at every shopping location all together the difference, in percentage, with the optimal purchase as a set of sub-baskets above, providing the necessary comparison, immediately confirming the optimality of the buyer's decision to buy the basket above as a set of sub-baskets at multiple stores.

## VI. FUTURE WORK

Along with the primary non-commercial, for buyers, goal the project is also envisioning a wide spectrum of commercial services to buyers and businesses. For instance, it may serve for automatic generation of various prices and sales reports for retail goods and services, pinned, if required, to chains, locations, directions, etc., in Dalian and later the whole China, immediately useful to a wide variety of government, non-government and private agencies and companies at all levels. It is also planned to serve as a frequently visited commercial placeholder for various ads.

In case of commercial success it may be also possible to transform the initially private entity into a company with public ownership, potentially traded at public exchanges. In further growth some managers can be promoted into heads of departments and awarded packages of shares. A prospect of this type can serve as the best motivator at start.

The Author is also stressing additional advantages and benefits of implementation of this project in a specific to China environment of state-planned economy and state-planned impact on all directions, sides and sectors of economy, state control of operations and development of most state- and privately owned businesses.

## VII. CONCLUSION

An author thinks that a current software will be useful and pertinent. Any rational consumer from any part of the world wants to minimize his own expenses and energy for buying goods and services. The consumer market of any country is inexhaustible. That's why after the successful launching in China the project must be launched in other countries. In this case software could gather the analytical information (about pricing, demand, availability of goods at retail stores) from all over the world. Public Administration and owners of the information could limit the access for the requested information.

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