PROSPECTS FOR RUSSIAN VENDING SECTOR DEVELOPMENT BASED ON CONSUMER PREFERENCE ANALYSIS

Z.A. Kevorkova
Financial University under the Government of the Russian Federation, Moscow, Russia

O.V. Shinkareva
Russian State Social University, Moscow, Russia

S.V. Panasenko
Plekhanov Russian University of Economics, Moscow, Russia

A.F. Nikishin
Plekhanov Russian University of Economics, Moscow, Russia

E.A. Mayorova
Plekhanov Russian University of Economics, Moscow, Russia

ABSTRACT
The purpose of the research reported in this paper is to explore the prospects for the development of the Russian vending sector based on an analysis of consumer preferences. The authors share the findings from a survey of residents of the Moscow metropolitan area who have used a vending machine. The findings indicate that the majority of consumers consider vending machines a convenience and agree that there should be more of them. Around half of the respondents said they used a vending machine at least once a week. Among the key reasons for using vending machines are time savings, proximity, and around-the-clock availability. One may discontinue the use of vending machines due to restrictions related to product range, payment options, and technical malfunctions. The most popular locations for vending machines are office buildings and educational facilities, public transportation terminals, and airports. Among the products purchased through vending machines, the way is led by snacks, beverages, and transit passes. Consumer views regarding the sale of certain product groups are mixed. Current trends in consumer wishes include getting vending machines equipped with devices that provide wider payment options and with touchscreen displays, as well as implementing various loyalty programs.
1. INTRODUCTION

In developed and developing countries, vending, or sale through vending machines, is a fairly common form of small business. The Russian standard GOST R 51303-2013 (Trade. Terms and Definitions) defines vending machines as a “movable retail facility designed as a technical device intended for automating the processes of selling, getting payment for, and dispensing portioned commercially packaged products at the place where the device is located without the participation of an attendant” [1]. Russia currently occupies leading positions in the European market in annual sales through vending machines. In terms of the number of vending machines currently in operation, Russia is in the top ranks among the BRICS nations, but is substantially behind the global market’s leaders – the EU, the US, and Japan. The rate of growth in the vending sector is projected to match in the period 2018–2021 the rate of development of the food retail sector and total 12-13%, while the number of vending machines is projected to reach 270,000 units by 2021 [2]. The significance of vending as a form of small retail business has been noted in a major document entitled ‘The Strategy for the Development of Trade in the Russian Federation for the Period 2015-2016 and through to 2020’ [3]. The recognized significance of vending gives added relevance to exploring the prospects for its development within the Russian market.

2. LITERATURE REVIEW

Vending is one of the most promising forms of Russian retail [4, 5]. Scholar Yu.A. Gorskaya considers vending a major area for the development of innovations in retail [6]. This fact has been substantiated by the findings from a patent analysis, whereby out of the 293 patents granted by the Russian Federal Service for Intellectual Property (Rospatent) in the period 2012–2017 for inventions and useful models intended for use in retail 26% are related to vending [7]. Considering that in the present-day economic environment a priority area for management is the search for and implementation of innovations [8], the enhancement of technology is a crucial condition for the development of the vending sector. A positive effect also comes from: boosts in consumer loyalty for vending machines; the use of vending machines as an additional sales channel and advertising medium; the conduct of international sports activities which help stimulate the development of infrastructure and attract consumers; the implementation of state programs on setting up vending machines at public transportation terminals and the subway; the staging of the VendExpo fair; the development of the Strategy for the Development of Automatic Vending. At the same time, there are certain factors that are impeding the development of the vending sector, like the new legal requirement to use cash registers that transmit information to the tax office in online mode; growth in prices for foreign vending machines, parts, and ingredients; declines in consumers’ purchasing activity; the complexity of getting a permit for setting up and using vending machines in public and municipal areas. Thus, on the one hand, there are favorable conditions that are being created for the development of the vending sector, and, on the other hand, there...
are a number of factors impeding it. Notably, one of the key factors influencing the development of vending is consumer preferences.

3. METHODS
To assess the prospects for the development of Russia’s vending sector, the authors conducted a survey of consumers residing in the Moscow metropolitan area. The survey initially engaged 202 individuals aged over 18. The actual survey by questionnaire featured 200 participants, who have used a vending machine at least once in their life. The questionnaire contained 8 multiple-choice questions aimed at exploring the present-day practice of using vending machines, including frequency of use, popular whereabouts, and product categories; some of the key reasons for using vending machines and refusing to use them; consumers’ perception of product mixes offered for sale via vending machines; consumers’ general attitude toward vending and wishes on enhancing it.

4. RESULTS
A significant portion of the respondents (80 individuals, or 40%) make purchases via vending machines 1–3 times a month. 60 individuals use vending machines at least once a week, and another 60 – a few times a year or less often than that. The principal factors in consumer willingness to purchase products through a vending machine are time savings, proximity, and around-the-clock availability. One may discontinue the use of vending machines due to restrictions related to product range, payment options, and technical malfunctions (Table 1).

Table 1 Reasons for Using and Refusing to Use Vending Machines

<table>
<thead>
<tr>
<th>What makes you use vending machines?</th>
<th>% of respondents</th>
<th>What makes you refuse to use vending machines?</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time savings</td>
<td>70</td>
<td>Low product quality</td>
<td>-</td>
</tr>
<tr>
<td>Proximity</td>
<td>52</td>
<td>Limited product range</td>
<td>64</td>
</tr>
<tr>
<td>Low prices</td>
<td>9</td>
<td>Limited payment options</td>
<td>59</td>
</tr>
<tr>
<td>Around-the-clock availability</td>
<td>48</td>
<td>Fear of the machine going out of order</td>
<td>57</td>
</tr>
<tr>
<td>Proper product storage conditions</td>
<td>-</td>
<td>Impossibility of taking a closer look at the product</td>
<td>11</td>
</tr>
</tbody>
</table>

Most of the respondents (95%) make purchases from a vending machine at office buildings and universities, followed by public transportation terminals and airports, and then shopping malls. Vending machines, located at public institutions, hotels, gas stations, healthcare facilities, sports centers, concert halls, and movie theaters are used by 25% to 41% of the respondents. Once again, the way in popularity is led by vending machines located at office buildings, universities, public transportation terminals, and airports (Figure 1).

Figure 1 Places where vending machines are used most frequently (% of respondents)
Nearly 90% of the consumers surveyed use vending machines to purchase snacks and beverages. About 60% also use them to buy transit passes. Around 30% have bought hot food, dairy products, ice cream, as well newspapers and magazines from a vending machine. Notice that about 30% of the respondents use vending machines to purchase transit passes and cold beverages on a regular basis. One has used a vending machine mostly 1-2 times to get hot food, dairy products, ice cream, newspapers, and magazines (Figure 2).

![Figure 2 Products purchased via vending machines (% of respondents)](image)

Among the various products sold through vending machines, chocolate and candy have proven to work best. All of the respondents who buy these products stated they either used or were prepared to use vending machines. Also, many are positively inclined toward the sale of such items through vending machines as hot and cold beverages, crackers, chips, and nuts. Notably, the respondents had mixed views with respect to the majority of non-food items, like newspapers and magazines, books, souvenirs, socks and pantyhose, personal care products, children’s toys, as well as sandwiches and ice cream. 35% to 70% of the respondents who buy the above products agree to use vending machines, while 30% to 65% refuse to do so. Many consumers (74% to 86%) are not prepared to use a vending machine to get precooked meals and hot food, pizza, fruits and vegetables, as well as minor consumer electronics. Lastly, selling through a vending machine things like dairy products, gourmet items, caviar, as well as clothing, beauty care products, and perfumes appears to be frowned upon by the absolute majority of the respondents (over 90%). On the whole, as is illustrated in Figure 3, despite the fact that there are certain product categories which the findings from the authors’ survey classify as unsuitable for vending, consumers are prepared to use vending machines to purchase a significant portion of the above-mentioned products, both food and non-food.

In the view of 95% of the respondents, vending machines should be equipped with systems that provide wider payment options, including paying by credit card, via a smartphone, etc. Over 40% of the respondents said they would like vending machines to be compatible with loyalty programs and carry a touchscreen. Of major significance to consumers is that the machine has a user-friendly interface, with 30% of the respondents adding to this cellphone charging functionality. Of the least interest are the use of vending machines as a Wi-Fi access point and the availability of voice-activated control functionality (23% and 11%, respectively). Overall, 84% of the respondents agree that vending machines are a convenience and there should be more of them. This fact attests to there being promise in the development of automatic vending and relevance in further research into the subject.
5. DISCUSSION

Success in the development of the vending business is ultimately dependent on the ability to meet consumer expectations. One may discontinue using vending machines often based on technical issues caused by the overuse of machines that have been in service for a long time [2]. Despite the prevalence of patents for inventions related to vending among all commercial patents [7], the issue of manufacture of vending machines is still a topical issue in Russia, including due to institutional gaps so characteristic of the Russian economy [9]. The development of the vending sector is also impeded by the requirement that vending machines be equipped with new cash registers. Installing a cash register on existing machines may cost more than getting new ones [2]. Since the state is responsible for the development of the business sector [10] and vending is a form of small business and is of social significance, it may have to be exempted from the requirement to implement the above innovations.

A key condition for matching consumer expectations is optimizing the product mix. The product mix currently offered within Russia’s vending sector is still narrower than its Western counterpart [11, 12]. The findings from the authors’ survey indicate that consumers perceive product categories offered through vending machines differently. The fact that many Russian consumers prefer getting certain products (e.g., vegetables, fruits, dairy products) from a supermarket makes it difficult to develop healthy vending in Russia, while it is increasingly becoming popular in advanced nations [13, 14].

6. CONCLUSION

Most consumers consider vending machines a convenience and agree that there should be more of them. Around half of the respondents use vending machines 1–3 times a week. Among the key reasons for buying things from a vending machine are time savings, proximity, and around-the-clock availability. One may discontinue the use of vending machines due to restrictions related to product range, payment options, and technical malfunctions. The most popular locations for vending machines are office buildings and educational facilities, public transportation terminals, and airports. Among the products consumers are willing to purchase through vending machines the most are hot beverages, bottled water, energy drinks, juices, and various types of snacks. Consumer views regarding the sale of certain product groups are mixed. Current trends in consumer wishes include
providing wider payment options, equipping the machines with touchscreen displays, and offering various loyalty programs. Overall, an analysis of consumer preferences attests to there currently being promise in the development of the Russian vending sector.

REFERENCES


