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THE COMMODITY VENDING MACHINE

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Abstract

This paper describes the groups of players in the vending market and introduces a typology of vending machines. From a commodity perspective, vending includes the discussion of the types of vending machines and their technical demands for storing and preparing goods and services and for installing the vending machine at a certain location. From a marketing perspective, vending is defined as the distribution and selling of goods and services by a vending machine. In addition, a vending machine is seen as a distribution channel of a retailer. In the vending market, four groups of players can be differentiated: (1) the producers of the vending machines and the accessories as well as the goods; or the service providers; (2) the site lessors; (3) the operators, merchandisers and maintenance people; and (4) the customers.

The different types of vending machines can be categorized into product-oriented and service-oriented machines. Product-oriented vending machines offer both cold and hot food as well as non-food items. Service-oriented vending machines offer different kinds of services, e.g. entertainment (jukeboxes, slot machines) and non-entertainment (telephones or scales). In addition, from packaging refund machines the customer can get the packaging deposit back.

Keywords: vending, vending machine, distribution, operator, site lessor

Introduction

The first vending machine was constructed by Heron of Alexandria (Mechanicus, about 100 BC). After inserting a coin, holy water was dispensed.¹ For more than 100 years people have been able to buy goods and services from vending machines. The first commercial vending machines were built at the end of the 80's of the 19th century.² On 13 March 1908, the first stamp and postcard-vending machine of the world was installed in front of the Hotel des Postes.³

Vending machines are used in different markets, in the retail trade for the selling of food and non-food items as well as convenience products. Selling cold and hot drinks was the predominant business in the past, but at present, the variety of goods and services marketed with vending machines is steadily increasing. Vending Associations in different countries define vending differently.

Basically, vending is defined as the selling of products through vending machines⁴, which are "coin operated machines for the sale of small articles"⁵. Additionally, vending machines can be designed for the sale of large quantities of various products, e.g. in Japan, one can buy ten-kilo bags of rice from a vending machine⁶. Furthermore, for a couple of years, it has been possible to pay for goods and services by credit card which has to be put in the vending machine's slot for cards.

The American Association NAMA (National Automatic Merchandising Association) states that "vend is the delivery of a single unit of merchandise"⁷. In the US, vending is highly connected with the slogan "Coffee, Candy, Cola"⁸. "Coffee" symbolises the sale of hot drinks like coffee, hot chocolate, tea, but also soups; the term "Candy" represents sweets, and "Cola" replaces the enumeration of different soft drinks. In the very beginning, the vending industry started with the 4-Cs-concept, coffee, cup soda, candy and cigarettes, and later on the range grew to almost 8 Cs - coffee, candy or confections, chips, cold drinks, canned drinks, cigarettes, cold cup and commissary.⁹

In Europe vending includes a wider range of products (EVA, European Vending Association)¹⁰. The Vending Association in Germany (BDV, Bundesverband der Deutschen Vending Automaten-Wirtschaft e.V.) defines vending as the selling of everyday essentials, especially food and drinks through vending machines. Producers of machines, operators and different associations use the term vending for all kinds of food and drinks, but they include non-food products as well.

The Austrian Association (ÖVV, Österreichische Verkaufsautomaten Vereinigung) defines all machines that sell goods, including food, drinks, photos, parking-tickets as vending machines; but

copying-machines, telephones, lockers, washing-machines, pin balls, slot machines, etc. are also included.¹¹ The BDV excludes machines which offer amusement features from the vending industry.¹²

From a marketing point of view, vending machines are defined as a store format of the retail trade industry with an automatic selling procedure – the customer has to select the product, to take it with him/her and to pay for it, everything is done by him-/herself.¹³

In the US, a vending machine utilizes a full glass front to merchandise the product selection inside the machine. Most often the product is delivered via spirals and is dispensed to a delivery pan located at the bottom of the machine.¹⁴

Summarising, in this article vending is defined as the selling of goods or services by a vending machine at which the customer has to administer the selection of the product or the service, to pick up the product and carry it away and to pay for the product or service on the spot – either in cash, by credit card or by means of other electronically available kinds of payment, e.g. text messaging.

The Vending Market

In the vending market, four groups of players can be differentiated:

- the producers of the vending machines, the accessories and the goods, as well as the service provider,
- the site lessors,
- the operator (the merchandisers and maintenance people), and
- the customers (see figure 1).

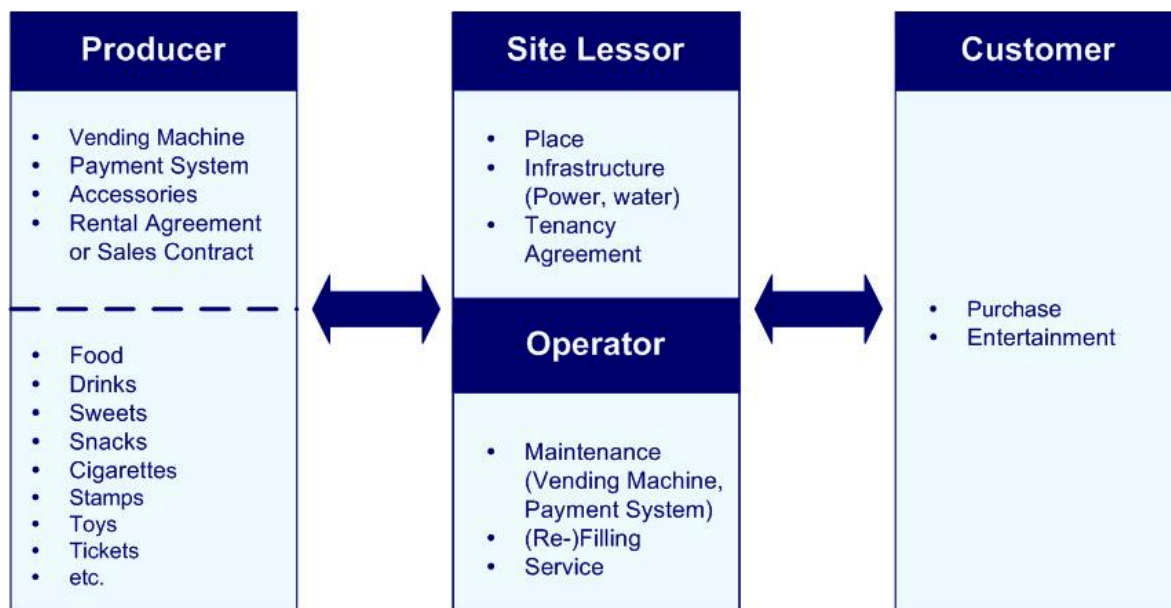


Figure 1: Vending Market Players

The Producer of the Vending Machine

Besides the technical functions (power, water supply, distribution and payment unit), marketing-relevant aspects (e.g. accessories like spoons, cups, serviettes) have to be considered for the design of the vending machines. Due to both the high costs of the maintenance and the strong influence of the functional efficiency on customer satisfaction, the technical equipment and the payment system as well as the distribution comfort are very important. Therefore, the handling features must be designed carefully, particularly to protect the vending machines against vandalism or technical breakdowns.

The Producer of the Merchandise

Goods and accessories must serve both the technical demands of the vending machines (size, durability, handling) and the needs of the customers (attractiveness, simple opening to pick up selected goods, etc.). The packaging must guarantee that the goods do not break, and do not stick in the spiral when selected and delivered.

The Operator

The operator has to look after the (re-)filling, the cleaning and the functional efficiency of the vending machine as well as the cost-, and benefit-efficiency of the housing.¹⁵ Usually, the operator assembles the assortment and decides about the payment system (cash, credit card, internet, text messaging, etc.).

The operator has to know the needs, wants and attitudes of the customers. Without any data about customer profiles, who buys when, what, in which quantity, one cannot conclude from turnover to the actual customers' wishes and needs¹⁶. This lack of information is one of the main problems of the vending business. Thus, the customer is left alone when buying from the vending machine, and the operator very often does not know too much about the motives and attitudes of the customer. In general, it can be stated that from the point of view of the customer, the image of this distribution channel should be improved.

The Site Lessor

The site lessor is the owner or tenant of the place where a vending machine is installed. He/she lets the place to the operator and gets paid for it. Usually, vending machines can be found in three different markets:

- the business market (office, factory, surgery, etc.),
- the catering market (restaurant, cafe, kiosk, etc.),
- the public market (public building, school, university, shopping mall, sports centre, railway station, airport, street, etc.).

The Customer and the Buying Situation

The customer selects goods from the vending machine, pays for them either in cash, by credit card or by other means and takes the goods from the delivery unit, either for immediate or later consumption.

Purchasing from a vending machine can be seen as a particular buying situation. The customer cannot ask for any help, and he/she is doing the purchase by him-/herself without any advice from a shop assistant. If the vending procedure works well, the customer is served quite quickly. In the case of a problem, he/she has to find out how to deal with the situation. Usually, the operator's phone number is written on a sign that is affixed to the vending machine. That is, the customer has to make and to pay for the phone call and ideally the problem can be solved immediately. If the customer wants to complain about the goods' quality, the handling comfort of the delivery unit or anything else, first he/she has to figure out how she/he can get in touch with the contact person. The buying situation is characterised by indirect communication, the active search for information, and the customer's risk of leaving with the problem unsolved. On the other hand, the particular buying situation can also be seen positively. The customer can select, pick up the product, and pay without being disrupted or manipulated by a shop-assistant*.

* On the other hand, the reasons for customers not to buy goods from a vending machine are manifold. Some people prefer to be served. Moreover, in a study by Buber, R. et al. the customers argued that self-service is not as attractive and the service as well as the ambience of a cafe are more appealing (Buber, R./Ruso, B./Gadner, J./Gruber, S./Atzwanger, K. (2004): Measuring Consumer Behavior in Recreational and Sales Areas of Shopping Malls. Band 52 der Schriftenreihe Handel und Marketing (ed. by Schnedlitz, P.), Wien (interview 11, line 78).

Types of Vending Machines

Product-oriented and Service-oriented Vending Machines

The silent shop assistant is part of our life. 24 hours a day he/she offers different goods, e.g. photos for passports, business cards, parking tickets, condoms, cigarettes, sweets, food, hot and cold drinks. On other machines you can play a videogame, make copies, wash your clothes, make a phone call, gamble, etc.¹⁷

Vending machines can be categorized into product-oriented and service-oriented machines. Product-oriented vending machines are machines that offer both cold and hot food as well as non-food goods. This category includes packaging refund machines where the customer gets the bottle deposit back.

Service-oriented vending machines offer different kinds of services, entertainment (e.g. jukeboxes, slot machines) and non-entertainment (e.g. telephone or scales).

Figure 2 gives an overview of the different types of vending machines.

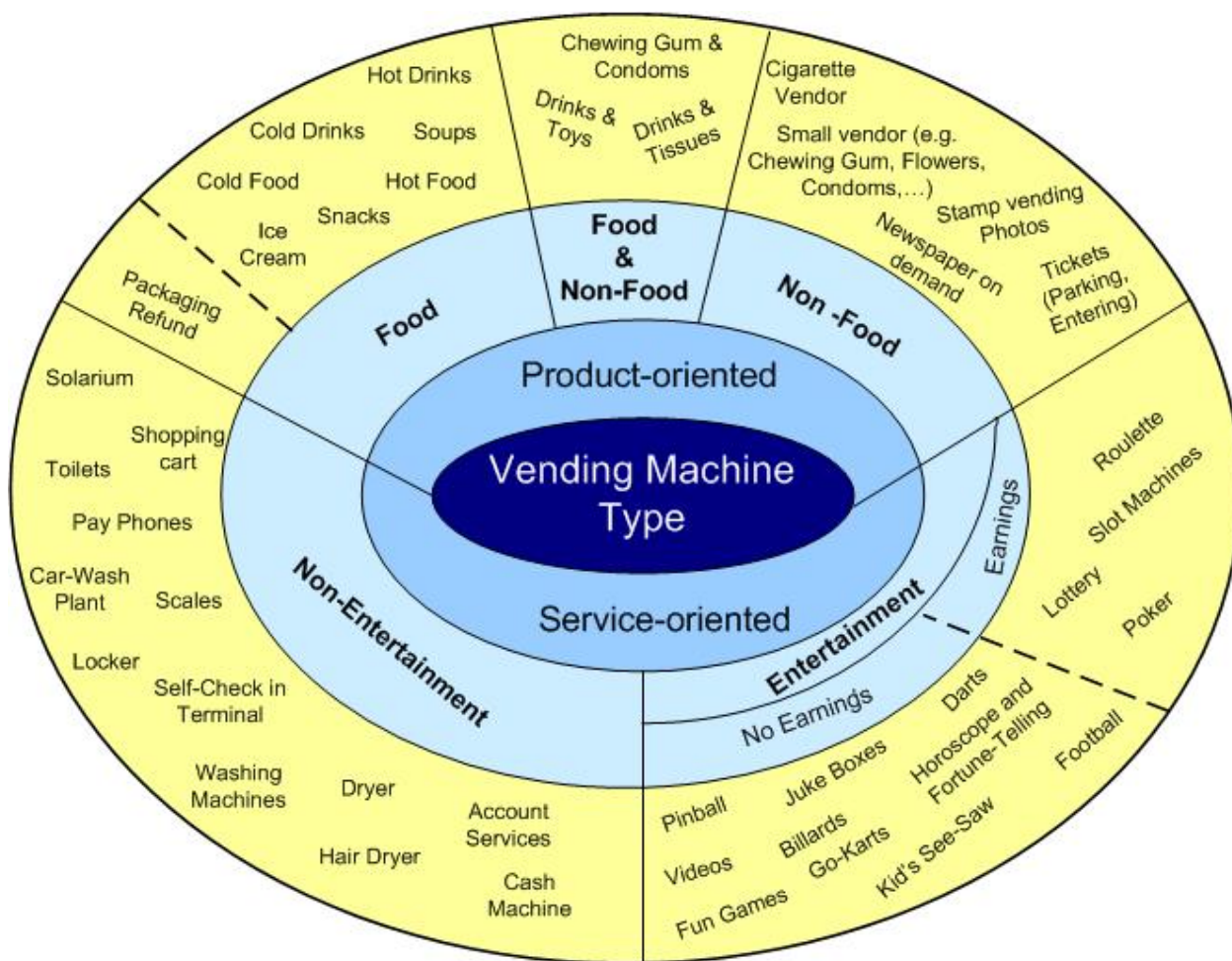


Figure 2: Types of Vending Machines and Typical Examples

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