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MASTER'S QUALIFICATION WORK

MANAGEMENT AND TAXATION OF E-COMMERCE SMEs IN JAPAN, UKRAINE, AND THE USA (BASED ON THE EasyVending LLC CASE)

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Abstract

The war devastated many aspects of life in Ukraine. There are two economies that continually overcome destruction of civil infrastructure due to recurring natural disasters, namely Japan and the United States of America (USA). The short-term and long-term fiscal measures to overcome the destruction of infrastructure enacted by the government of Ukraine are similar to the ones undertaken by the governments of Japan and the USA. The short-term measures are comparable in all three countries and are based on short-term fiscal easing. The long-term measures seem to be absent in the USA, but in Japan and Ukraine they coincide and consist of the introduction of a special tax.

The biggest difference between the tax laws of Ukraine, Japan, and the USA is the existence of the simplified taxation system in Ukraine, which has two basic limitations: the requirement to have all operations to be conducted cash-only and the inability to claim amortization, depreciation, and deductions for tax purposes. The ability to claim losses due seems to be the main specific mechanism for the administration of fiscal aid at times of disasters in Japan and the USA. For these reasons, the general taxation system may be considered a preferable choice during the war.

Any existing vending-machine business can be enhanced with the use of the business-to-business commission agreements proposed in this work, which work as follows: the commissioner provides the client one cell in a vending machine for rent, and the client sells its goods through that cell. This way, the B2B vending-machine business receives a guaranteed income that is comparable to the number of such commission-based vending points out of the entire number of its sales points. In addition, the company frees a part of its liquidity that can be spent on other needs. From the perspective of the client, the agreement gives the ability to have a vending-machine business for only a fraction of the usual expenses, although only for a fraction of the usual profits. This means that almost any person in Ukraine may have the financial means to start such a business.

Keywords: business model, business-to-business operation, Japan, small and medium-sized enterprises, taxation, Ukraine, United States of America, vending.

Анотація

Війна зруйнувала багато аспектів життя в Україні. Є дві економіки, які постійно долають руйнування цивільної інфраструктури через повторювані стихійні лиха, а саме Японія та Сполучені Штати Америки (США). Короткострокові та довгострокові податкові заходи щодо подолання руйнування інфраструктури, вжиті урядом України, подібні до тих, які впроваджені урядами Японії та США. Короткострокові заходи схожі в усіх трьох країнах і засновані на короткострокових податкових преференціях. Довгострокові заходи, при поверхневому огляді, відсутні в США, але в Японії та Україні вони схожі та полягають у введенні спеціальних податків.

Найбільша відмінність між податковими законодавствами України, Японії та США полягає у наявності в Україні спрощеної системи оподаткування, яка має два основних обмеження: вимога здійснювати всі операції лише в готівковій формі та неможливість враховувати амортизацію та витрати. Здається, що можливість враховувати збитки є основним механізмом адміністрування податкової допомоги під час катастроф у Японії та США. Тому загальну систему оподаткування можна вважати кращим вибором під час війни.

Будь-який вендинговий бізнес можна покращити за допомогою запропонованих у цій роботі угод комісії, які працюють таким чином: комісіонер надає клієнту одну камеру в торговому автоматі в оренду, а клієнт продає свої товари через неї. Таким чином, комісіонер отримує гарантований дохід, пропорційний до кількості таких комісійних торгових точок із загальної кількості торгових точок. Крім того, компанія звільняє частину своєї ліквідності, яку можна витратити на інші потреби. З точки зору клієнта, угода дає можливість вести вендинговий бізнес лише за незначну частину звичайних витрат, хоч і лише за незначну частину звичайного прибутку. Це означає, що практично будь-яка людина в Україні може мати фінансові можливості для відкриття такого бізнесу.

Ключові слова: бізнес-модель, бізнес орієнтований на підприємства, вендинг, малі та середні підприємства, оподаткування, Сполучені Штати Америки, Україна, Японія. PHEE-institute «Ukrainian-American Concordia University»

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TASK FOR MASTER'S QUALIFICATION WORK OF STUDENT

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- analisys of adaptation of the Ukrainian digital economy to the war and the COVID pandemic

- systematization data about taxation systems available to SMEs in Ukraine, Japan, and the United States of America

- analysis of EASYVENDING LLC AND its competitiveness in the market

- overview of the proposed configuration of B2B vending-machine business model that uses commission agreements and its correspondence to the taxation options available in Ukraine

analyzes of the internal and external environments in relation to the implementation of the proposed B2B vending-machine business model that uses commission agreements 27
business model, marketing, taxation, and overall management approaches for a company that would implement B2B vending-machine business model that uses commission agreements

5. List of graphic material (with exact indication of any mandatory drawings)

- Corporate income tax rates in Japan for business years between April 1, 2021 and March 31, 2025

- Relative total sales (turnover) by business size in Ukraine, Japan, and the United States of America; drawn based on data from Annexes A, B, and C

- Relative number of active business entities generally and those engaged in information and communication technologies (ICT) in Ukraine

- Relative total sales (turnover) by business entities generally, those engaged in information and communication technologies (ICT), and natural entities-entrepreneurs engaged in ICT in Ukraine

- Relative number of business entities generally, natural entities-entrepreneurs, and natural entities-entrepreneurs engaged in information and communication technologies *(ICT)* in Ukraine

- Absolute number of business entities generally, natural entities-entrepreneurs, and natural entities-entrepreneurs engaged in information and communication technologies *(ICT)* in Ukraine

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Cu

Conclusions: The work is devoted to the current topic - the development of small and medium-sized enterprises in Ukraine, taking into account the experience of the development of e-commerce enterprises in Japan and America. The analysis of primary and secondary information is characterized by completeness, complexity and reliability. The formed recommendations are based not only on theoretical studies and practical generalizations but also take into account the latest trends in economic development, forecasts, and the specifics of the country's legislative framework.

Under the conditions of successful public protection, the work deserves the highest grade.

Consultant (signature)

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INTRODUCTION

The 2022 full-scale invasion of Ukraine by Russia devastated many aspects of life in Ukraine. One example of this is the massive-scale destruction of the civil infrastructure. Before the war, the COVID pandemic forced the Ukrainian economy to increase the robustness of its business networks, which was largely achieved through the wide-scale social popularization and adoption of the digital economy.

The digital economy does not function without a properly working physical infrastructure. In its turn, the physical infrastructure is often the most efficiently set up and maintained using the digital economy. An example of this interdependence is the sale of relatively cheap and small-scale goods, such as an uninterrupted power source, either in the form of a battery or a generator, sold by an online store to power a network of internet routers operated by a small local internet service provider - both businesses are typical examples of small and medium-sized enterprises (SMEs). Once this transaction has occurred, the communal infrastructure has been measurably restored or enhanced, allowing consumers to enter into more business deals to buy or sell goods, such as special, not widely available construction tools, materials, food, etc. Looking wider, there are many cases of this dependence [59], which revolves around goods that are not usually stored in supermarkets or open markets in any reasonable quantity, but is necessary to overcome some of the burdens of the war. Therefore, the speed and ease with which some parts of the civil infrastructure can be restored in deoccupied territories and communities that suffer heavily from missile attacks in Ukraine greatly depends on e-commerce SMEs.

The world has two very prominent economies that continually and successfully overcome massive-scale destruction of their civil infrastructure, namely Japan and the United States of America. Other economies face multitudes of natural disasters, but none of them are among the biggest, most stable, and advanced economies in the world despite the recurring natural disasters.

Japan is one of the most dangerous places on Earth to live in [89, 123], and the 2011 Tōhoku earthquake and tsunami is estimated to have caused more than \$200 billion of total damage [60, 108]. The United States of America regularly experiences Atlantic hurricanes that bring massive devastation, the costliest of which on record are the hurricanes Katrina, which occurred in 2005, and Harvey, which occurred in 2017, and each are estimated to have cost \$125 billion [72, 88].

In times of uncertainty, robustness of business networks is reduced to the ability of each business in the economy to keep operating, paying its bills and providing credit, and not going bankrupt. SMEs view the tax burden as a big part of their expenses. They typically have neither the talent nor the financial means to operate various optimized tax schemes available for large enterprises. In other words, adequate analysis of SMEs has to focus on financial ratios that include taxes because taxes are a big part of their operation. The e-commerce SMEs is an example of the most agile part of the Ukrainian economy. Therefore, the part that can help less agile businesses operate by having business connections with them and, generally, can keep the economy turning [64].

The company that provided the base of the thesis is EASYVENDING LLC. The registration information is as follows: name – TOB "I3IBEHДTHГ"; tax code 40338574; registered on March 12, 2016; registered VAT number 403385726568 since May 1, 2016; statute capital size is 5,000,000 UAH; address – Ukraine, 04080, Kyiv, Kyrylivska st. 86, office 39; contacts +380504922301, company@easyvending.com.ua, https://easyvending.com.ua/; the government does not own a part in the company; the founders and beneficiaries are the same two natural persons, who own equal shares of the company; the main economic activity is registered, in accordance with the official Classification of Types of Economic Activity, as "46.37 Wholesale coffee, tea, cocoa, and spices trade;" other registered economic activities are "46.18 Intermediaries who specialize in trade of other

goods," "46.19 Intermediaries who trade in widely used goods," "46.36 Wholesale trade of sugar, chocolate, and sweets," "46.44 Wholesale trade of porcelain, glassware, and cleaning products," "46.49 Wholesale trade of other household items," "46.69 Wholesale trade of other machines and equipment, 46.90 Wholesale trade without particular specification," "47.91 Retail trade via post or Internet," "47.99 Other variants of retail trade outside specialized stores," "70.22 Consulting on commercial activity and management," "73.20 Market studies," "77.39 Rent of other machines, equipment, and goods," "82.92 Packaging," "95.22 Repair of household items, home and garden equipment," "95.29 Repair of other household items and personal-use items" [22, 38, 40]. Vending-machine trade is included in the list of registered activities under the item "47.99 Other variants of retail trade outside specialized stores of trade is included in the list of registered activities under the item "47.99 Other variants of retail trade outside specialized stores of the outside specialized stores" [25].

The main source of information was a series of interviews with a representative of the marketing department of the company. Additionally, a phone interview was conducted with another vending-machine business, which operates in Lviv under a trade name CupClub, to provide additional information about the market. This other business is operated via a natural entity-entrepreneur, with whom the interview was conducted, and the person at the center of it has 9 employees, a network of vending machines, as well as a set of clients who rent vending machines. This business uses the second group of the simplified taxation system and is not registered for VAT; it also uses the official Classification of Types of Economic Activity item "47.99 Other variants of retail trade outside specialized stores" as its economic activity. Data about this business is clearly indicated in the text as an alternative approach or additional information.

The topic's relevance, in a wide sense, is based on the need for Ukrainian ecommerce small and medium-sized enterprises to adapt to the economic crisis brought on by the war. In a narrow sense, business-to-business vending-machine enterprises represent point of contact between various importers and a multitude of small businesses and play the role of trade nodes integrated deep into the national business network, which makes them significant for the entire national economy.

The current state of the problem is the ongoing nature of the economic crisis brought by the war, the moves by the government of Ukraine to ease the tax burden for SMEs, and the examples of tax frameworks and practices for SMEs in Japan and the United States of America that include robustness in the face of massive-scale civil infrastructure failure.

The thesis aims to define the framework for comparing e-commerce SMEs in Ukraine, Japan, and the United States of America. The latter two are success cases of SMEs that regularly face and survive massive destruction of civil infrastructure. The particular focus on e-commerce SMEs is because e-commerce is one of the most agile parts of the Ukrainian economy. An additional aim of this thesis is to describe the operation of a vending-machine business [119] oriented toward business-to-business operations [73], as well as to propose a way to improve its operation.

The subject of the study is EASYVENDING LLC (TOB "I3IBEHДИНГ"), the company where the internship took place, an e-commerce SMEs in Ukraine, as compared to the like in Japan and the United States of America, with a focus on the vending-machine market in Ukraine and an emphasis on business-to-business operations.

The object of the study is the e-commerce market and its current economic and legal frameworks in Ukraine, as compared to Japan and the United States of America.

The tasks of the study are as follows: to describe the current state of research of the problem; to briefly describe taxation of SMEs in Ukraine, Japan, and the United States of America and the respective government initiatives designed to counter the war and the recurring natural disasters; to give an overview of SMEs in Ukraine, Japan, and the United States of America; to find and compare the publicly available values of the economic performance of e-commerce SMEs in Ukraine, Japan, and the United States of America; to analyze the e-commerce market in Ukraine faced by EASYVENDING LLC with the use of PESTEL, Porter, 5-forces, and SWOT analyses; to synthesize the gathered information into a general recommendation for an average e-commerce SME in Ukraine; and to design a blueprint for improvements of various operations of the company.

The information relevant to the topic is available in the literature, but finding a synthesized version into a coherent whole isn't easy.

CHAPTER 1. THEORETICAL OVERVIEW OF SMALL AND MEDIUM-SIZED ENTERPRISES IN UKRAINE, JAPAN, AND THE UNITED STATES OF AMERICA

1.1 Adaptation of the Ukrainian digital economy to the war and the COVID pandemic

The digital economy in Ukraine has been following global trends and has seen a steady pace of development since the 1990s. In 1998 the Declaration on Global Electronic Commerce was adopted by the members of the World Trade Organization, and Ukraine as a member participated in the development of Work Programme on E-Commerce [18]. From the beginning, it is helpful to note that the definition of the digital economy or e-commerce is not very strict and rigid. Governmental and intergovernmental organizations were approaching e-commerce at its onset to boost their respective national economies and increase government revenue through taxation. This approach started well before the wide adoption of the Internet. This leads to the acceptance of an open-ended definition of ecommerce as all economic activity where production, delivery of services or goods, or connections between the clients and customers must be performed using "the electronic means" [18, 80, 122]. This all-encompassing definition is widely accepted and used by governments for their statistical reporting.

Before the COVID pandemic, e-commerce in Ukraine saw steady growth, which generally followed global trends. The market share of e-commerce compared to the general consumer market was at above 5% and growing steadily [27], following a similar pattern to the worldwide trend in e-commerce [78, 84]. In 2020 the market share of e-commerce in Ukraine grew at an increasing pace and reached an overall figure of 42% increase compared to 2019. This is similar to the growth demonstrated by e-commerce worldwide [78], where the sales by the top

13 companies grew from \$2.4 trillion in 2019 to \$2.9 trillion in 2020, an increase of 21% over the previous year, and further to \$3.9 trillion, an increase of 34% over the previous year and a 63% increase compared to 2019.

Although the economy endeavored to adapt to the challenging conditions, national governments were required to support all parts of their national economies, including those that provided basic social services but were slow to adapt. As a result, the pandemic saw a host of government policies that significantly increased deficits worldwide [52]. However, the impact could have been worse on the economy if the adoption of IT technologies was lagging. However, it is known that the digital divide between regions was reduced in the decade before the COVID pandemic [57], which could have been an additional factor in the 41% expansion of e-commerce in Ukraine in 2020 compared to 2019 [27].

It has been noted that developing countries tend to create innovative practices when faced with new problems [9]. The economy of Ukraine has shown some of these tendencies in practice. The banking sector has experienced digital transformation due to the pandemic [10], since banks' customers still require financial services. The only viable option was the adoption of digital tools in banking. The education sector and previously growing e-learning market had seen considerable growth and innovation [54]. It was mainly seen when it came to commercial enterprises that could quickly adapt to the changing situation and adopt the emerging trends in the sector. The boom in IT brought by COVID has generated increased interest in research into risk, its assessment and minimization when it comes to IT projects [55].

The tourism industry was among the ones that sustained the most significant losses due to the pandemic, prompting the need to rebuild this industry sustainably to correspond with the current business practices [61]. In parallel, digital platforms showcasing travel and the diversity of cultures in the world thrived on the influx of viewers and clients who wished to experience tourism vicariously through the digital medium.

It could also be argued that COVID was the point of disturbance [62] that forced the world and Ukrainian economies to invest fully in the digital economy and increase the robustness of business networks. For example, the beauty industry seems to view its opportunities for adaptation and thus recovery from the pandemic through sustainability and authenticity [63]. These are in essence information provided to the consumer and, as such, are either communicated through the digital tools such as the social media, or would at least benefit from such adaptation of the digital economy. Once the marketing funnel of the beauty industry has the social media and other e-commerce marketing tools fully incorporated into its business processes, the sector could interconnect with genuine e-commerce enterprises among, such as beauty product sellers or magazine publishers.

After the 2022 invasion, the Ukrainian economy and its digital sector started to adapt to this new challenge. The initial adaptation came from the government through many tax relief measures. One of the first measures was allowing natural entities-entrepreneurs not to pay the unitary payment, the social security levied by Ukraine [4]. In addition, a new tax bracket was introduced to the simplified taxation system, the 2% taxation registered as the 3rd tax group of the simplified taxation system [4, 99]. This bracket included very lenient qualifications, which allowed many businesses to change their registration and use this new taxation group. As part of this new simplified tax bracket included the suspension of valueadded tax payments, which can be seen as a very significant tax subsidy by the government to the business. It should be noted that this 2% tax bracket is expected to be revoked and should remain operational funtil Kuly 2023 [7, 42]. In addition, the government reduced duties to be paid on many imported goods essential for the economy [4], which lowered prices and stimulated international trading activity. It has been reported that the Ukrainian economy has seen imports of nearly 350 thousands generators in 2022 [15], which is an astonishing number considering that practically each car can also work as a generator in dire need. However, its

efficiency may be lower than that of a specially dedicated generator. Lastly, the Cabinet of Ministers of Ukraine expanded the direct cash support program, which started during the COVID pandemic, to include businesses that are located in the oblasts (regions) where the 2022 invasion took place [8].

The economy of Ukraine and its public sector rely heavily on allies, most notably the United States of America. They have received considerable support from the world governments in the form of gifts, grants, credits, and tax and duty easing of international trade. The biggest donors for non-targeted budget support for the public budgets are the US Government, the European Commission, governments of other partner countries, and the IMF; and for targeted non-military financial support to public budgets the expected main donors will be European Commission, partner governments, and EBRD/EIB [99]. From the perspective of this thesis, this brought additional market demand to the digital economy of Ukraine. E-commerce became for many consumers the only nexus to goods necessary to maintain living conditions and remain productive. Goods ranging from uninterrupted power sources such as batteries and generators, electric powerbanks for personal portable electronic gadgets, to tourist equipment, as well as dried foods and survival rations, all these items are not usually produced by any economy in the quantities necessary to fulfill the demand generated in times of war, and this is the case in Ukraine. In addition, many manufacturing facilities have been destroyed in Ukraine and the remaining businesses may be unable to expand their production to fill the current needs. In this manner, e-commerce became one of the biggest sellers of the needed goods produced abroad, imported into Ukraine, and sold to consumers that include people from the deoccupied territories trying to rebuild the destroyed public infrastructure by opening cafes to provide access to shelters, electricity, and internet connectivity to the general public.

The impact of the war on the digital economy has not seen considerable analysis in the scientific literature at this moment, with few very notable exceptions [99]. It is reasonable to presume this to be due to several factors. Firstly, the long duration of the review process necessary for scientific publications did not pass yet since when the first scientific articles were written and submitted to scientific journals. Secondly, the time of conception and preparation of the papers could not have started at the beginning of the war because most researchers had to adapt and survive in a material sense, and could only have started working on scientific analysis of the impact of the war on the economy later on. It is also reasonable to presume that much research will soon be published into the state of the economy and its adaptation to the war.

Considering the research methods used the most in the literature on the topic, none are experimental. This is understandable, since the only subject of the economy that is capable of modifying the situation and observing the result is the government. Still, it is never a policy of any government to voice such an opinion. Most works in the literature are either case studies, cross-sectional designs – of which this thesis should be an example – or longitudinal designs. A particular case of cross-sectional and longitudinal designed studies are governmental statistical reports on the state of the corresponding national economy or the sums of taxes levied.

Considering the possibility of controversial points, it isn't easy to find any.

Considering the gaps in the topic analysis, the war's influence on e-commerce has not yet been published widely. Moreover, most research will likely be focused either on the European integration of the Ukrainian economy or on comparing the impact of the war on the Ukrainian economy with similar effects of wars on the economies of countries that saw devastation due to wars in recent years. It is reasonable to presume that the topic of this thesis may be original.

1.2 Taxation systems available to SMEs in Ukraine, Japan, and the United States of America

Taxation systems are similar worldwide, and e-commerce is taxed in the same manner all business entities are. In general, a company has to consider three types of taxes: income tax, payroll tax, and sales tax [70]. The income tax is commonly paid on company net income, but it can be levied on gross income in some jurisdictions of under special regimes. The payroll tax is a company's duty to pay taxes on behalf of the labor employed by the company. Lastly, the sales tax, also called the value-added tax (VAT), or the consumption tax, is the indirect taxation of consumers [106] that the seller has to administer and pay to the country where the consumer is located.

There are difficulties with determining a correct procedure to administer the three types of taxes described above when applied to e-commerce enterprises. The digital economy allows consumers and sellers to connect, enter into agreements, and conduct business worldwide, which means previously trivial business activities are now the subjects of international law. From this perspective, the most accessible tax to determine the authority to pay is the payroll tax, which universally has to be paid to the authorities on which soil the employees work. Next, the income tax is more difficult to determine, because no worldwide law defines cross-border taxation and only bilateral tax treaties between nations [49]. These treaties, formally called "Conventions on the avoidance of double taxation and prevention of tax evasion," are signed bilaterally and can be based on models provided by the UN [116] or OECD [94]. The purpose of these bilateral treaties is to eliminate double taxation of businesses that have cross-border activity. Without these conventions and under the majority of laws worldwide, the seller would be legally deemed to have the duty to pay income tax both in the country of registration and where the consumer is located or the services or products were delivered. The conventions, each in its specific way, determine precisely one country where the seller is deemed required to pay taxes. In most cases, it is the country where the seller is registered that will collect taxes, unless the seller performs business in the abroad country regularly and is seen as having a permanent establishment in that country, in which case the seller has to formally register in that country via a permanent legal establishment and pay taxes there. Lastly, the value-added tax was for the longest time the source of much debate.

The biggest problem with value-added tax is the difficulty of determining, administering, and collecting it for cross-border trade made possible with ecommerce. The primary issue is the demand of the countries where the consumer is located to be able to tax the sale, which has been the issue for a very long time now [53]. Tax loss is not the only issue at stake; the possibility of tax evasion seems to be a point that strikes a chord with many researchers, such as Bach, Hubbert, Müller, Yapar, Bayrakdar, and others [53, 58, 81, 85]. The primary concern in this case of tax avoidance is the ability of a company to avoid paying the consumption tax by moving to a different country, creating an administrative difficulty in levying taxes. In other words, a government that lost tax revenue in this way would have to initiate litigation against a foreign company without any physical nexus on its soil, which would generally have poor success, since even if the government succeeds to some degree in pursuing the company. Then the company may simply seize its operations once it is understood to be under significant threat; after that the stakeholders may create a different company, leaving the prosecutors from the overseas government with the need to start from the beginning. Nevertheless, the situation with the value-added tax as it relates to digital services has moved on. Now, the value-added tax on digital services is deemed due to the country where the consumer is located in many countries, including Ukraine [6].

The law of Ukraine does not include natural entities-entrepreneurs into the category of SMEs. However, the European Commission does include self-employed persons in SMEs, which corresponds in main parts with the practices in Japan and the United States of America. Considering also the European vector of

Ukraine, it is necessary to consider the natural entities-entrepreneurs.

Taxation in Ukraine follows the general scheme prevalent in the world. The main types of taxes include income tax, the payroll tax for companies, and value-added tax for companies and natural entities-entrepreneurs that have gross sales over 1 million hryvnas and do not use the simplified taxation system [6]. Other taxes, such as land rent tax, ecological tax, etc., are not included due to their little importance for e-commerce.

Considering the income tax, Ukraine has a general and simplified taxation system, also called the unified tax [6, 30, 21]. The taxation system requires an entity to pay all taxes described in the Tax codex of Ukraine. In contrast, the simplified taxation system is designed to supplant all the specific taxes with one payment type.

The simplified taxation system has four tax groups and is designed primarily for self-employed persons. However, enterprises as legal entities can also use this system for tax reporting and payment, but are only allowed to use the groups 3d or 4th. Taxes are levied in the form of a certain amount prescribed each year, or as a percentage of the gross income, as an amount calculated based on the properties of the agricultural land for those persons or companies who choose to use the 4th tax group. Generally, the 1st and 2d tax groups are designed to help self-employed individuals for whom the administration of all taxes would be a burden, in addition to the requirement to pay all taxes. Persons can use these two tax groups if they stay within certain limits on their gross income. The 3d tax group can be used both by natural entities-entrepreneurs and companies. Taxes are levied on the gross income, and, in addition, there is an option to register and pay value-added tax, which reduces the percent-value of the unified tax paid from the gross income. Lastly, natural entities-entrepreneurs are required to pay security payments for themselves, and companies are equally needed to pay for their employees. The specific values that describe the groups from 1 to 3 are described in Table 1.1, and the 4th group is not described because the amount of the unified tax is calculated

for each individual taxpayer and this tax system is irrelevant to e-commerce. One of the two most significant limitations for business entities using the simplified taxation system [6] is the requirement to make all operations cash-only, whether electronically, via banks, or over the counter. In other words, offsetting accounts on books between two different entities are not allowed; this can be done only by making cash payments. The second most significant limitation of the simplified taxation system is the inability to claim amortization, depreciation, and deductions for tax purposes. This means that an entity that may have an overall loss in a year must still pay taxes.

Taxes levied on agricultural businesses has a variety of options that is the biggest as well as the most difficult to assess from statistical data, which has seen the creation of an unmanageable shadow economy [56]. Once a business entity chooses the simplified taxation system, the tax rate depends on both the types of crops and the types of land used by the business.

The simplified taxation system in Ukraine

Criterion	1st group	2d group	3d group		
Gross income limit	167 minimal salaries on January 1st of the reported year	834 minimal salaries on January 1st of the reported year	January 1st of the reported year		None
Number of employees	0	≤ 10	No limit		
Limitation on allowed types of business	Only retail on open markets and household services	Basic retail and manufacture	Almost all business activities are allowed, including foreign economic activity		
Tax	Not more that 10% of the minimal salary on January 1st of the reported year	Not more that 20% of the minimal salary on January 1st of the reported year	5% of gross income for entities that are not registered for VAT payments	3% of gross income for entities that are registered for VAT payments	2% of gross income and no VAT [4]

Sources: [21, 6]

Companies and natural entities-entrepreneurs can also use the general taxation system [6, 30, 44], which requires them to pay all types of taxes, including specific

taxes such as ecological tax, land rent tax, etc., beyond the scope that is relevant for e-commerce. The benefits of the general taxation system are lifting all limits on the allowed type of business activities, the ability to offset accounts between different business entities, and the ability to claim amortization, depreciation, and deductions. This allows an entity that has seen losses in a reported year to pay no income tax, which is a significant advantage compared to the simplified taxation system. The rate for income tax is 18% of net income for all types of entities. In addition, a military collection of 1.5% of net income is collected.

Value-added tax is administered by business entities that either register voluntarily or are required to register by passing the 1 million hryvnas gross income threshold while using the general taxation system or is using the 3d group of the simplified taxation system [29, 6]. The tax is levied at a 20% rate, but there are also 14%, 7%, and 0% rates for specific cases.

The payroll tax is administered by companies and generally follows the general taxation system employed by natural entities-entrepreneurs, but limited only to the income tax at an 18% rate, military collection at a 1.5% rate, and the social security payment called the unitary collection, previously called the unitary social collection [5, 41]. The social security payment is levied at 22% of the minimal salary in the months when it's administered.

Considering special measures undertaken by Ukraine's government to counter the war's economic impact, the first measures were enacted in 2014 as a military collection [3]. This measure is designed to fund the national security of Ukraine and directly counter the source of the problem. In 2022, the 2% tax bracket was introduced to lessen the tax burden on businesses [4]. This measure is designed to help the economy recover from the impact of the full-scale war by minimizing the tax burden for businesses.

Taxation in Japan follows the general scheme prevalent in the world. The main types of taxes for SMEs include income tax, the payroll tax for companies, and consumption tax [86, 87]. Tax rates for corporate income tax in Japan are

summed up in Table 1.2; the information in the Table can be applied only to SMEs that meet all three of the following conditions (cited from [69]): "paid-in capital is 100 million yen or less; corporate tax amount is 10 million yen or less per annum and taxable income is 25 million yen or less per annum; offices or factories located in up to two prefectures." The employer pays the payroll tax monthly and covers individual income tax and social security payments [71, 87]. Japan's basic consumption rate is 10%, but an 8% rate is active for some cases [86, 87]. Overall, the taxation system uses progressive tax rates for many types of taxes, and, in addition, local prefectures set different tax rates for taxes other than the income tax.

Japan does not seem to have a taxation system similar to the simplified taxation system available in Ukraine. However, self-employed individuals who do not operate through a sole proprietorship or employ others are only required to pay enterprise tax in addition to their income tax [86, 87]. Due to this, it should be noted that self-employed individuals and businesses can always count expenses associated with their business [92, 93].

20

Corporate income tax rates in Japan for business years between April 1, 2021 and March 31, 2025

Brackets of taxable income	Up to 4 million yen	Between 4 and 8 million yen	Over 8 million yen
Corporate tax	15.00%	15.00%	23.20%
Local corporate tax	1.55%	1.55%	2.39%
Corporate Inhabitant taxes: 1. Prefectural	0.15%	0.15%	0.23%
Corporate inhabitant taxes: 2. Municipal	0.90%	0.90%	1.39%
Enterprise tax	3.50%	5.30%	7.00%
Special corporate enterprise tax	1.30%	1.96%	2.59%
Total tax rate	22.40%	24.86%	36.80%

Source: [69]

Japan has two special measures in place to counter the economic impact of regularly occurring natural disasters, which consist of help to businesses and individuals who suffered from disasters and a taxation scheme to increase social reconstruction necessary after disasters. Considering the provision of help, first, there is a particular insurance system to indemnify damages caused by earthquakes [95]. In addition, businesses and individuals can claim losses due to disasters as

expenses [92, 93]. Considering the measures to increase Japan's government ability to pay for reconstruction efforts after disasters, the approach has two steps that can be illustrated based on the aftermath of the 2011 Tohoku earthquake and tsunami disaster. Firstly, the consumption tax was gradually increased to 10% [102, 112] from 5% used previously; this increase was caused by the 2011 Tohoku earthquake and tsunami disaster and other political considerations. Secondly, the Special Income Tax for Reconstruction was introduced at 2.1% of taxable income to fund reconstruction explicitly caused by the 2011 Tohoku earthquake and tsunami disaster [67]. Overall, this approach is similar to that conducted by Ukraine.

Taxation in the United States of America follows the general scheme prevalent in the world. The main types of taxes for SMEs include income tax, the payroll tax for companies, and consumption tax [50, 117]. However, the description of all taxation systems is considerably more complicated than that for Ukraine or Japan because individual states of the United States of America have considerable rights and freedoms to set tax rates. Above these state-set taxes are the federal-level taxes levied by the federal government equally on all taxpayers of all states. The taxation system uses progressive tax rates for many types of taxes. Interestingly, some states have zero sales tax. It is stated in [117] that the federal corporate income tax rate is 21%, the individual states corporate income tax.

One specific aspect of the taxation system in the United States of America is the existence of pass-through taxation, in which a company is not taxed, but the owners of the company are taxed directly. Several cases of this type of taxation are described below based on the information from [50]. S corporations and closely held corporations are not taxed; a pass-through taxation system taxes the shareholders directly and does not tax the corporations. The same happens for general partnerships, limited partnerships, limited liability partnerships, and limited liability limited partnerships, which are not taxed; the partners report gains and losses on their individual tax returns. Sole proprietorships are not taxed; the sole proprietor is taxed directly. Lastly, non-public limited liability companies also have pass-through taxation; public limited liability companies, however, do not have pass-through taxation.

The United States of America does not seem to have a taxation system similar to the simplified taxation system available in Ukraine [117]. In addition, there seem to be no special measures designed to increase government income aimed at reconstruction and reimbursement of damages caused by recurring hurricanes. However, there is a considerable demand for the redistribution of wealth via taxation in society. And one measure to ensure that is the Alternative Minimum Tax, designed to tax individuals who otherwise manage via various tax benefit mechanisms to pay very little taxes despite having very high gross incomes in a general sense [114]. Considering the measures designed to help to individuals and businesses sufferring from natural disasters, including the regularly recurring hurricanes, the United States of America has a special legislature, the Disaster Relief, and Emergency Assistance Act, to provide such help [107]. The measures range from moving deadlines for the submission of tax forms to various mechanisms to receive tax deductions for damages due to federally recognized natural disasters [79, 107].

1.3 Definitions and statistical data on SMEs in Ukraine, Japan, and the United States of America

The law of Ukraine does not consider self-employed individuals as SMEs. Per Article 58 of the Household Codex of Ukraine [1], business entities can be registered as legal entities (legal persons) or natural persons-entrepreneurs. However, the Law of Ukraine about accounting and financial reporting in Ukraine does not include natural persons-entrepreneurs in its definition of micro, small, and medium-sized enterprises [2]. This omission is due to the term "enterprise," defined in Article 62 of the Household Codex of Ukraine as a legal entity [1], which excludes natural persons-entrepreneurs, since they are described as physical entities. This practice contradicts the definition adopted by the European Commission, which explicitly includes self-employed persons into the category of enterprises to define small and medium-sized enterprises [45].

The Law of Ukraine about accounting and financial reporting in Ukraine [2] defines micro, small, medium, and big enterprises. Microenterprises must fulfill two out of three of the following criteria: balance asset value below 350 thousand euros; net income below 700 thousand euros; the average number of employees below or equal to 10. Small-sized enterprises do not meet the criteria for the microenterprises and also meet two out of three: balance asset value below 4 million euros; net income below 4 million euros; the average number of employees below or equal to 50. Medium-sized enterprises do not meet the criteria for medium-sized enterprises and also meet two out of three: balance asset value below 20 million euros; net income below 40 million euros; the average number of employees below 20 million euros; net income below 40 million euros; the average number of employees below 20 million euros; net income below 40 million euros; the average number of employees below 20 million euros; net income below 40 million euros; the average number of employees below 20 million euros; net income below 40 million euros; the average number of employees below 20 million euros; net income below 40 million euros; the average number of employees below or equal to 250. The requirements are summed up in Table 1.3.

Table 1.3

Definitions of micro-, small, and medium-sized enterprises in Ukraine	e
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Criterion	Microenterprise	Small-sized enterprise	Medium-sized enterprise
Balance asset value	< 350 euros	< 4 000 000 euros	< 20 000 000 euros
Net income	< 700 000 euros	< 8 000 000 euros	< 40 000 000 euros
The average number of employees	≤ 10	≤ 50	≤ 250

In Japan, self-employed individuals and SMEs overlap but do not seem to coincide. The definition of an SME is given in Article 2 of the Small and Mediumsized Enterprise Basic Act is as follows (cited from [46]): "The SMEs covered by the measures adopted by the State under this Law shall in general be those that fall under any of the following items, and the scope thereof shall be determined for each measure so that such measures may be effectively implemented to realize the basic principles described in the following Article: (1) Any entity which is a company whose capital or total amount of investment does not exceed three hundred million yen (300 000 000 yen), or a company or an individual whose regular workforce does not exceed three hundred persons, and which is principally engaged in manufacturing, construction, transportation or any other category of business (except those categories of business mentioned in any of items (2) to (4) below); (2) Any entity which is a company whose capital or total amount of investment does not exceed one hundred million yen (100 000 000 yen), or a company or an individual whose regular workforce does not exceed one hundred persons, and which is principally engaged in the wholesale trade; (3) Any entity which is a company whose capital or total amount of investment does not exceed fifty million yen (50 000 000 yen), or a company or an individual whose regular workforce does not exceed one hundred persons, and which is principally engaged in the service industry; (4) Any entity which is a company whose capital or total amount of investment does not exceed fifty million yen (50 000 000 yen), or a company or an individual whose regular workforce does not exceed fifty persons, and which is principally engaged in the retail trade." Therefore, the primary distinction of an SME is its size. In addition, individuals are explicitly included into the category of an SME. However, it seems that individuals are counted as SMEs only if they establish a company in the form of a sole proprietorship; this approach is similar to the one used in the United States of America. Nevertheless, self-employed individuals in all capacities are actively grouped with SMEs at least in view of the evolution of many self-employment activities into incorporated

enterprises or employed workers [65].

In the United States of America, there is no accepted definition of an SME [103]. However, there is considerable emphasis on SMEs, to the point that the Small Business Act was enacted in 1953, and created the Small Business Administration [104]. This legal framework is designed to aid small businesses through various measures, including grants, and it also explicitly includes selfemployed individuals for some programs [47]. Overall, the Small Business Administration looks at the number of employees, the type of business, its industry, and its income to define small businesses. From the business organization perspective, the US Department of State mentions that a company is defined as small when it can be described as the following (cited from [120]): "Is organized for profit; has a place of business in the US; operates primarily within the U.S. or makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor; is independently owned and operated and is not dominant in its field on a national basis. The business may be a sole proprietorship, partnership, corporation, or any other legal form. In determining what constitutes a small business, the definition will vary to reflect industry differences - especially size standards." Concerning the size standard for the classification [105], the smallest number of employees a business can have and still be classified as small is 500, and the minor annual revenue seems to be 2.5 million US dollars; however, the values depend on the industry the business operates in.

The definitions of self-employed individuals and SMEs overlap but do not seem to coincide in the US law. First, the Internal Revenue Service defines selfemployed individuals as follows (cited from [101]): "Generally, you are selfemployed if any of the following apply to you: you carry on a trade or business as a sole proprietor or an independent contractor; you are a member of a partnership that carries on a trade or business; you are otherwise in business for yourself (including a part-time business or a gig worker)." This definition includes businesses organized as sole proprietorships and partnerships; these last two forms are included in the description of a small business cited above [120]. Therefore, some self-employed individuals may be classified as SMEs in the United States of America.

Overall, the definitions of small and medium-sized enterprises and selfemployment overlap but do not seem to coincide in Japan and the United States of America. In Ukraine, these definitions do not overlap, but this contradicts the definitions given by the European Commission, and, therefore, it will likely be changed in the foreseeable future.

Data about SMEs in Ukraine, Japan, and the United States of America is collected in Annexes A, B, and C. Figure 1.1 shows sales (turnover) by business size in Ukraine, Japan, and the United States of America. In 2022 in the United States of America, 99.9% of all businesses were classified as small businesses, and the total number of small businesses was 33.2 million [68].

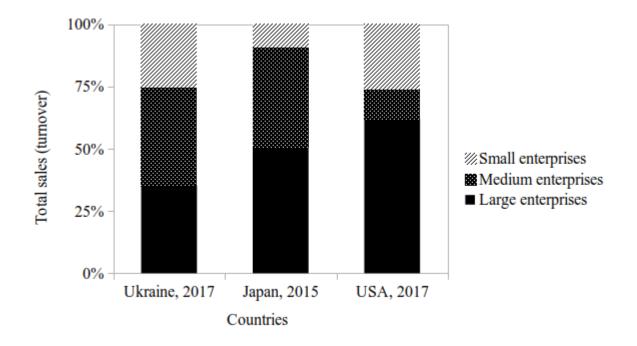


Fig. 1.1. Relative total sales (turnover) by business size in Ukraine, Japan, and the United States of America; drawn based on data from Annexes A, B, and C

Figures 1.2, 1.3, 1.4, and 1.5 show the overview of the state of e-commerce businesses in Ukraine based on official statistical information. The figures are drawn based on data from Annex A. E-commerce is defined as information and communication technologies (ICT). The part of businesses engaged in ICT has gradually been increasing in Ukraine in the past 12 years from approximately 2.5% to 12.5%. The share of total sales (turnover) by ICT has seen similar increase, although less in number. Lastly, it is interesting to note that, although the absolute numbers of registered business entities in Ukraine didn't changed too much, the number of natural entities-entrepreneurs engaged in ICT has been steadily growing.

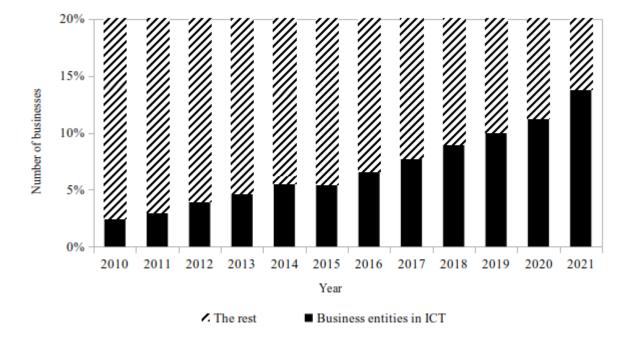
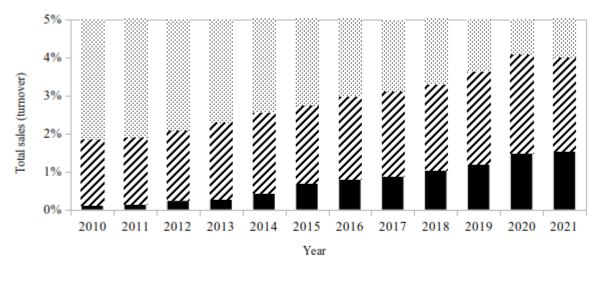


Fig. 1.2. Relative number of active business entities generally and those engaged in information and communication technologies (ICT) in Ukraine; drawn based on data from Annex A



Turnover of natural entities-entrepreneurs in ICT, bln. UAH
 Turnover of organizations in ICT, bln. UAH
 Turnover of the rest, bln. UAH

Fig. 1.3. Relative total sales (turnover) by business entities generally, those engaged in information and communication technologies (ICT), and natural entities-entrepreneurs engaged in ICT in Ukraine; drawn based on data from Annex A

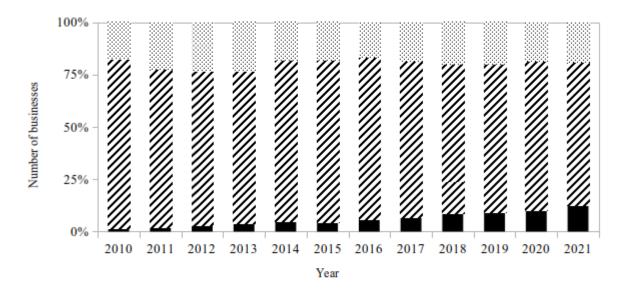
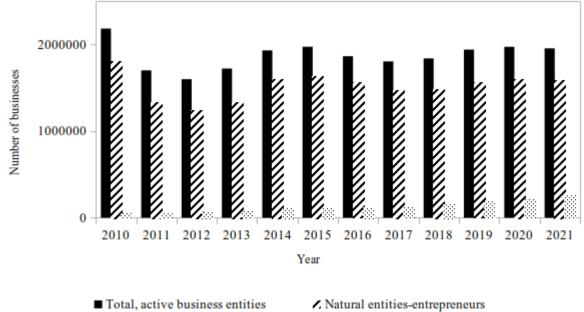


Fig. 1.4. Relative number of business entities generally, natural entitiesentrepreneurs, and natural entities-entrepreneurs engaged in information and



communication technologies (ICT) in Ukraine; drawn based on data from Annex A

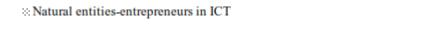


Fig. 1.5. Absolute number of business entities generally, natural entitiesentrepreneurs, and natural entities-entrepreneurs engaged in information and communication technologies (ICT) in Ukraine; drawn based on data from Annex A

CHAPTER 2. ANALYSIS OF EASYVENDING LLC AND ITS COMPETITIVENESS IN THE MARKET

2.1 Internal environment in the framework of e-commerce market trends

EASYVENDING LLC [17] started the operation with its own network of vending machines [119] in Kyiv; however, it shifted its operation toward working as a one-stop supplier of everything an ordinary vending-machine business needs; specifically, it provides machines, coffee, spare parts, and consulting services [interview]. In essence, the company is an e-commerce business with its own web site, social media profiles, and presence in various marketplaces. A significant part of its activity revolves around online communication with its customers and potential future clients.

To compare with a different business, CupClub [26] is a trade name of smaller enterprise that is operated by a person as a natural entity-entrepreneur in Lviv; it has around 150 of its own machines but also sells or rents vending machines and provides services to its business-to-business clients [interview].

The company's mission is the overall development of vending-machine culture in Ukraine; and its vision is a vending-machine market where all negotiations have a win-win outcome [34]. The goals that correspond to the mission and vision statements are to develop the team inside the company and to develop the network of businesses [34]. These statements correspond to the position of EASYVENDING LLC as a supplier to small-scale vending-machine businesses. The latter commonly have the mission and vision statements that are focused on the end-consumer. The studied company, however, has other businesses as its main clients. It wishes to create a business ecosystem where more small-scale vending businesses would be able to work at the same time. The end result of this approach is, obviously, the expansion of the number of clients the company can

sell its products to.

A SWOT analysis [51] of the intersection of the external and internal environments faced by EASYVENDING LLC is presented in Table 2.1. The chosen research design for this task is a descriptive cross-sectional design focused on a general description of the intersection of the external and internal environments faced by EASYVENDING LLC as an e-commerce SMEs in Ukraine in 2023, based on the interview, literature review and everyday knowledge.

Table 2.1

	Internal factors	External factors
Strengths / Opportunities	 The agile internal structure of a SME Small HR expenses due to the focused nature of the business Expertise of an established company 	 The industry-specific regulation allows the company to count its expenses and not pay taxes from the net sales. Information technology The company as a supplier holds the keys over the import of most vending-related items
Weaknesses / Threats	 Difficulties due to the agency problem The market is saturated at every given moment 	• Big retailers are the most cost- efficient importers and can outcompete a SME, even if the small company is focused

SWOT analysis of EASYVENDING LLC

Internal strengths of EASYVENDING LLC:

- The agile internal structure of a SME.
- Small HR expenses due to the focused nature of the business.
- The vending market in Ukraine is constantly changing [interview]. An established company can accumulate expertise and perform better with time.

Internal weaknesses:

- Having a larger structure than a sole-proprietorship, a small company can already face some difficulties due to the agency problem [97].
- The market is saturated at every given moment. The high competition requires competitive costs and value structures. This means that in the long run the company should try to outsource some of its internal tasks to other companies, otherwise it would stagnate.

External opportunities of EASYVENDING LLC:

- The industry-specific regulation allows the company to count its expenses and not pay taxes from the net sales. This provides the opportunity to outcompete rivals.
- Information technology, communication, buying access, and developed marketplaces for promotion [11] and visibility of products (which is the same as buying access) are all external opportunities that must be exploited to secure sales and outsource daily tasks.
- The company as a supplier holds the keys over the import of most types of vending machines and coffee as the most popular item sold via vending.

External threats:

• Big retailers are the most cost-efficient importers and can outcompete a SME, even if the small company is focused.

The strongest side of the company, which stems from an external opportunity, is that the company as a supplier holds the keys over the import of most types of vending machines and coffee as the most popular item sold via vending. Another strong side, which comes from the internal strengths, is the company's agility, the ability to make decisions quickly.

The weakest side of the company, which comes from as an external threat, is that big retailers are the most cost-efficient importers and can potentially outcompete a SME when it comes to importing consumed goods like coffee.

A SWOT analysis of CupClub, a proper vending-machine business that can be a client of EASYVENDING LLC, is presented in Table 2.2. Most of the analysis follows that of EASYVENDING LLC that was presented above in Table 2.1.

Internal strengths of CupClub:

- The agile internal structure. When there are few employees, the company can make quick decisions to adjust to the market at minimum spending.
- No HR expenses, except to pay the salary and taxes for the few employees.
- The market is constantly changing and renewing itself. It allows entry of new businesses, as long as they have a clear advantage. Internal weaknesses of CupClub:
- The lack of expertise that the sole owner/manager has. One person can never perform well the jobs of an entire management department of a company.
- Taxation, accounting, procurement, and market research must be performed by a single person or outsorced.
- The market is saturated at every given moment. The high competition requires competitive costs and value structures. This means that in the long run the company should have most of its internal tasks outsourced to other companies, otherwise it would stagnate.
- The market is constantly changing and renewing itself. This requires constant monitoring and adjustment of marketing strategy, which is one of the everyday tasks that have to be outsourced in the long run.

Internal factors External factors Industry-specific regulation Agile internal structure Strengths / Opportunities ۲ • Low HR expenses Information technology • The market is constantly Communication changing and renewing itself, Buying access • which allows entry of new Outsourcing logistics and sales processing businesses Lack of expertise that the owner Low disposable income • • High inflation rates has • Taxation, accounting, Suppliers hold the keys over procurement, market research all import of cheap goods from have to be performed by a single abroad Weaknesses / Threats person The market is saturated at every ٠ given moment, so high competition requires competitive cost and value structures The market is constantly changing and renewing itself, which requires constant monitoring and adjustment of marketing strategy

SWOT analysis of CupClub

Table 2.2

External opportunities:

- The industry-specific regulation allows the company to count its expenses and not pay taxes from the net sales. This provides the opportunity to outcompete rivals.
- Information technology, communication, buying access, and developed marketplaces for promotion and visibility of products (which is the same as buying access) are all external opportunities that must be exploited to secure sales and outsource daily tasks.
- Outsourcing logistics, sales processing is the simplest opportunity to outsource daily tasks of a retail store, which has to be used as soon as possible to allow the owner to focus on outsourcing more complex tasks, such as accounting and market research.

External threats:

- Low disposable income and high inflation rates are, in essence, the threats that face all retail stores in the world in some form. It may be seen as how the market is forced to renew itself.
- The suppliers hold the keys over the import of cheap goods from overseas means they are difficult to negotiate with in the questions of price and purchase on credit.

One exceptionally strong side of the company, which stems from an external opportunity, is the use of industry-specific regulation, which allows it to outcompete its rivals by pricing its goods lower than the industry. Another strong side, which comes from the internal strengths, is the company's agility, the ability to make decisions quickly, and the lack of expenses on staff.

One alarmingly weak side of the company, which comes from the internal weaknesses, is the potential lack of expertise by the sole owner to operate an entire business, and the need to perform taxation, accounting, procurement, and market research, which are complex and expensive to outsource. Another weak side, coming from the external threats, is that the suppliers hold the keys to importing cheap goods from overseas, which means it is difficult to negotiate with them.

2.2 External environment in the context of the overall e-commerce market

EASYVENDING LLC performs strategic analysis often because the vending business they compete in is constantly changing. The management performs SWOT and PESTEL analyses, compare their offering to their competitors, analyze their client base and their site [interview].

In comparison, CupClub, a traditional vending-machine business, uses Trello software to produce a yearly master plan, which is then divided into monthly goals [interview].

A PESTEL analysis [51] of the external environment faced by EASYVENDING LLC is summarized in Table 2.3. The chosen research design for this task is a descriptive cross-sectional design focused on a general description of the external environment faced by EASYVENDING LLC as an e-commerce SMEs in Ukraine in 2023, based on the interview, literature review, and everyday knowledge.

The only significant political factor is conflicts in the political arena, which translates into difficulty in predicting long-term taxation policies and may require spending on legal specialists, such as tax advisors. Overall, however, the influence is neutral.

The major negative economic trends are relatively low disposable income and high inflation rates. This translates, first, in the preference among customers of cheap goods; this aspect is not harmful. High inflation rates, however, mean the company must increase and constantly revise prices to accommodate this negative factor. Overall, the influence of these factors is negative.

The two big social factors are major world events (the COVID pandemic and the war) and buying access. Firstly, the COVID pandemic caused closure of many public spaces, which meant that many vending machines became inaccessible to customers and, therefore, stopped generating income. The war forced people not to spend on unnecessary purchases. Buying access is the ability of customers to make a purchase and quickly receive the merchandise. In Ukraine, several big companies provide relatively cheap, fast, and easy transportation, and there are also numerous ways to pay for the purchase. EASYVENDING LLC, focusing on servicing proper vending-machine businesses, can outsource transportation of goods or even spare parts for machines. Therefore, this is a positive external factor. Overall, social factors are more positive than negative for EASYVENDING LLC as an e-commerce business in essence, even though for an average proper vending-machine business, such as CupClub, these factors are negative on balance.

Table 2.3

Political	Economic
• Conflicts in the political arena	Disposable incomeInflation rates
Social	Technological
Major world eventsBuying access	Information technologyCommunication
Environmental	Legal
Customer values	Industry-specific regulationConsumer protectionFuture legislation

PESTEL analysis for EASYVENDING LLC

The two significant technological factors are the spread of information technology and the multitude of ways of communication. Information technology is the most significant positive factor for an average SME. There are many available marketplaces where the company can advertise and sell its products. There are also possibilities for advertisement, ranging from essentially free to highend. There are also many ways to communicate with customers, which requires the company to manage these communication routes, but provides customers with the best experience suitable for them. EASYVENDING LLC can not only limit itself to advertisement on its own site but use all the available marketplaces and social networks, which is generally does. Overall, the technological factors are very favorable for EASYVENDING LLC as an average SME.

The single influential environmental factor relative to the company is customer values. Customers prefer to purchase goods that are not wasteful and provide value as a way to limit future spending and waste. EASYVENDING LLC can adapt to this need by providing cups made from renewable resources and coffee produced in an environmentally-friendly way. Overall, this is a relatively positive factor for the company.

The most significant legal factor is the industry-specific regulation, which allows small businesses to operate under simplified tax procedures. However, these procedures are calculated so that the companies cannot get tax deductions for incurred costs or losses. If an average SME operates under general taxation rules, contrary to most businesses, then it would have the advantage of being profitable on lower margins than the ones intended by the simplified tax law. This way, the company can out-compete its rivals. Consumer protection and future legislation are relatively ambivalent factors that exist in some form in any country. The only noteworthy problem is that the law is constantly changing, which requires the managers to keep abreast with the changes, which is part of their work. Overall, the legal factors are positive, since they provide an opportunity to compete.

To sum up, the external factors are mostly positive or neutral, and one factor –

the industry-specific regulation, specifically the presence of several different taxation regimes – allows the company to out-compete many rivals from the start.

A Porter 5-forces analysis [51] of the market faced by EASYVENDING LLC is summarized in Table 2.4. The chosen research design for this task is a descriptive cross-sectional design focused on a general description of the market.

The rivalry among competing sellers of goods and services for vending is a significant negative external factor because the market is, at the same time, saturated and constantly renewing itself. This high competition means the marketing has to be updated quite often. On the other hand, EASYVENDING LLC as an established company with considerable expertise in the market has an advantage compared to other suppliers.

The threat of new entrants has precisely the same factors as the rivalry among competing sellers, although the magnitude of this threat is lower because EASYVENDING LLC as a supplier is competing in a relatively established and stable market compared to the proper vending-machine businesses.

The threat of substitute products or services has two negative factors. Big retailers are, in essence, the most cost-efficient importers and could potentially outcompete focused companies like EASYVENDING LLC. However, the focused nature of vending supplier should provide some advantage.

Porter 5-forces analysis for EASYVENDING LLC

Threat of new entrants

- The market is saturated at every moment (positive)
- The market is constantly changing and renewing itself (negative)

Threat of substitute of products or services

• Big retailers are the most cost-efficient importers and could potentially outcompete focused companies (negative)

Bargaining power of buyers

- Not many businesses offer vending-machine-related products and spare parts (positive)
- Buyers can go to big retailers to purchase food items (negative)

Bargaining power of suppliers

- Foreign suppliers can have monopoly-like position (negative)
- National suppliers of inedible vending-related goods can sell their products only to companies like EASYVENDING LLC (positive)

Rivalry among competing sellers

- The market is saturated at every moment (positive)
- The market is constantly changing and renewing itself (negative)

The bargaining power of buyers is relatively low because some vendingrelated goods occupy such a niche that no other type of importers or producers can have them for sale. For example, spare parts for imported vending machines are unlikely to be sold in supermarkets. On the other hand, supermarkets could, potentially, supply vending-machine businesses with food items sold very close to cost and in this particular niche outcomplete companies like EASYVENDING LLC. This is a positive factor for the company.

The bargaining power of suppliers has two factors. Firstly, some suppliers are foreign companies who produce food items or vending machines. They have a natural monopoly-like position once their customer has gone to the necessary length to establish international trade. This is a negative factor. Secondly, other suppliers are national companies, and if they produce vending machines or inedible items for vending (cups, plastic sticks to stir sugar), then it's companies like EASYVENDING LLC who are the sole buyers or the most significant buyers of those goods and can dictate terms. This is a positive factor.

Overall, there are five negative and four positive factors. Crucially, the market is saturated and EASYVENDING LLC has the necessary expertise to perform well in it.

2.3 Company's business model, marketing, and management

The revenue of the company in 2020 was 28650,500 UAH, and in 2022 it was 68,322,900 UAH, while the profit was 640,200 and 1,239,800 UAH in 2020 and 2022 respectively; the assets were 18,690,300 and 28,929,300 UAH in 2020 and 2022 respectively, and the liabilities were 11,144,200 and 17,463,600 UAH in 2020 and 2022 respectively [38].

As for the revenue of CupClub, the company taken for comparison, it is below the threshold that forces a business to switch from the 2-d to 3-d group of the simplified taxation system, which in 2022 was 5,421,000 UAH, and in 2023 was 5,587,800 UAH [43]. The number of business-to-business clients the enterprise has is around 50 per year [interview].

EASYVENDING LLC mainly offers vending machines for selling snacks and coffee-vending machines, including the ones without cash processing, which can

be installed in offices or cafes. Table 2.5 presents the value proposition canvas [113] of the main offering of EASYVENDING LLC.

Table 2.5

Product/	What creates	Winnings:	What the client
Proposition: snack	winnings:	1. Good quality	(client) needs:
machines and	1. Professional	coffee	- Provide a better
coffee-making	equipment	2. Coffee beans	service than a
machines	2. Service that	come with machine	competitor by
	includes delivery of	service	having a coffee-
	goods for sale		making machine
	What relieves pain	Pain points:	(offices, gas
	points:	1. Coffee beans	stations,
	1. Supply network	cost more than in a	supermarkets)
	structure	supermarket	
		2. The machine	
		costs more than the	
		ones that can be	
		purchased for home	
		use	

Value-proposition canvas of EASYVENDING LLC

As a conclusion, the value for a client lies in the ability to have all tasks done by contacting one business and not to have problems with the end-consumer due to the quality of the purchased vending machines.

Below is a business-model canvas [74] for the discussed commission agreement presented in the form of a text:

• Clients are from niche markets: offices, gas stations, supermarkets - they

with their own clients to spend more time on their premises [14, 20]

- Proposition: snack machines and coffee-making machines [13, 14]
- Work with clients:
 - Advertising and dissemination of information
 - Personal conversations or correspondence [20, 33]
 - Reporting on the operation of machines and sales
- Channels:
 - Advertising, own website, social media, articles/videos/blogs from thought leaders in the business
 - Information from automatic accounting systems about the sale of goods
- Key actions:
 - Relations with clients
 - Maintenance of a network of machines [16, 35]
- Key resources: employees
- Key partners: network of suppliers and producers of machines and goods for vending
- Expenditures: logistics, import duties, purchase of machines and goods for resale
- Income: sale of machines and goods, servicing of the machines

As a conclusion, the business model of a EASYVENDING LLC relies mainly on providing the clients with the ability to improve their business premises. In addition, the companye provides full-size vending machines, but currently, due to the COVID pandemic before and the war now, the most business comes from sale and leasing of coffee-making machines.

Considering the marketing management, EASYVENDING LLC uses both own transport and Nova Poshta transportation service for logistics, while CupClub uses its own transport for vending machine maintenance and resupply [interviews].

Below is an AIDA (attention, interest, desire, action) [48] analysis for a company that wishes to improve its premises by installing a coffee-making

machine of a coffee-vending machine that processes cash and uses EASYVENDING LLC as a service provider.

Situation 1 where a company manager receives first information about EASYVENDING LLC from the Internet:

- Attention: ads, headlines or video/blog/post titles from business thought leaders
- Interest: a clear understanding that the company is well established
- Desire: desire to install and run good equipment cheaply
- Action: read/watch the video/blog/post and view the website Situation 2 where a company manager communicates with a sales manager:
- Attention: from the website and social pages of the company
- Interest: many things are described in detail
- Desire: the desire to find out the answers to the questions that will arise when considering the detailed version of the contract
- Action: contact the manager again

Situation 3 where a company manager has a second talk with a sales manager

- Attention: confirmation by the manager that the offer is valid
- Interest: familiarization with the text of the contract
- Desire: to resolve issues or problems related to the contract
- Action: concluding a contract

As a conclusion, a company manager can have a clear track to purchase or lease vending equipment and service it.

Table 2.6 shows 4 Ps analysis [109], also called the marketing mix, for the proposed commission agreement.

45

Easturas quality	Past vanding machines on the market
reatures, quanty,	- Best vending machines on the market
brand, packaging,	- All necessary edible and inedible items for
services,	vending [13]
guarantees	
Pricing strategy,	- Flexible pricing that is established personally
discounts,	with each client
payment terms	
Communications,	- The company website
market coverage,	- B2B marketplaces and social media
assortment,	
transport	
Advertising,	- Social networks and the company website
marketing, public	- Continuous promotions among existing clients
relations	[11]
	brand, packaging, services, guarantees Pricing strategy, discounts, payment terms Communications, market coverage, assortment, transport Advertising, marketing, public

4 Ps of marketing (marketing mix) of EASYVENDING LLC

Considering the HR management, EASYVENDING LLC has a pool of approximately 30 employees and subcontractors registered as natural entitiesentrepreneurs; no specific human resources management information system is used, and a table of employees, in addition to regulatory and tax requirement, is used to track workers; vacancies are published on work.ua HR marketplace [interview].

CupClub, the enterprise taken for comparison, has 9 employees, including operators who stack the machines with goods, technical support who repair and maintain the machines, as well as drivers, but these roles are intermixed; in addition, there are employees who manage import of goods, vending machines, and services, and others who manage renting the machines to other businesses [interview].

Considering the IT management, to meet information-technology needs, EASYVENDING LLC uses both its own equipment, as well as contractorprovided services; it includes the hardware requirements and company accounts online and in social networks; it also uses an enterprise resource planning (ERP) information system to meet its needs to develop a supply-and-sale network in accordance with its mission and vision statements [interview]. CupClub has started to use a cloud service for its IT needs due to the electricity interruptions; and for maintenance of company accounts online it uses Chmara Agency, especially focusing on Instagram, and CupClub also uses Trello for strategic analysis and planning [interview].

As for the management of accounting and finance at the enterprise, EASYVENDING LLC uses an ERP information system, as well as an accounting system to maintain accounts [interview]. CupClub also uses a program to maintain accounts; besides that, it uses ProstoPay, which is a service to track electronic payments by consumers, as well as to record telemetry and maintenance information from its vending machines; the business is currently in the process of switching to Nayax, which is a service for all these needs because it is currently considered to be the industry standard [interview].

Considering the management of innovative activity of the enterprise, EASYVENDING LLC focuses on improving its offering – for example, importing and offering the newest equipment such as coffee-making machines, as well as keeping in track with the developments in cash and electronic-payments options [interview]. Interestingly, CupClub focuses on exactly the same areas, trying to purchase the newest machines and currently introducing Nayax telemetry and payment tracking solutions [interview].

CHAPTER 3. IMPROVEMENT OF THE CONFIGURATION OF B2B VENDING-MACHINE BUSINESS MODEL USING B2B COMMISSION AGREEMENTS

3.1 Configuration of B2B vending-machine business models using commission agreements

Any existing vending business can be enhanced with the use of business-tobusiness (B2B) [73] commission agreements [75] for vending-machine businesses, which are described, analyzed, and discussed in this section.

It is obvious that the war and the pandemic has shrank the vending-machine market in Ukraine. It is equally obvious that in the future a recovery of that market will occur. However, the speed and the ways the market will recover are not clear, so here appears an opportunity for businesses to lose or gain markets.

It is well known from marketing that a business can have the first-mover advantage just by being the first into a new market. But markets are created anew or recover from lows first and foremost due to innovations – not random attempts. Specifically, innovations in the business configuration, such as the structure, profit model, network, processes, give the biggest effect compared to their cost [115].

One way to create a configuration innovation in the vending-machine market is to create and provide business-to-business commission agreements for vending. A commission agreement [19] is made in the following way. A business-tobusiness service provider (the commissioner) is providing a client company (the client) one cell in a vending machine for rent, and the client will sell its goods through that cell. Another way of organizing it is for the commissioner to take the duty to sell goods (drinks, snacks, coffee, etc., or even cups) that belong to the client. This second example is a clear case of a commission agreement.

The commission agreement from the standpoint of the B2B company means

taking on itself the following duties of a vending-machine business generally:

to rent the space for vending machines;

to look after vending machines and resupply them;

to work with cash and electronic payments for goods.

As a reward for the commission agreement the B2B company receives the following:

a percentage from all sales to the consumers (the commission);

a reward for servicing vending machines (a guaranteed income);

a reward for working with cash and electronic payments (an additional commission).

This means that the B2B company receives a guaranteed income from its entire operation that is comparable to the number of such commission-based vending points out of the entire number of its sales points. Besides that, the company frees a part of its liquidity that can be spent on other needs, such as new equipment, advertisement, etc.

From the perspective of the client of the commission agreement, for example a natural entity-entrepreneur, the agreement gives the ability to have a vending-machine business for only a fraction of the usual expenses that are necessary for such enterprise. This means that any person that has the right to be an entrepreneur will also have the financial means to start such a business – and, therefore, to become a client of the B2B company that provides these commission agreements.

The analysis expands on the proposed blueprint for improvements based on the commission agreement.

The object of the analysis is the B2B commission agreement enhancement of vending-machine business model.

The point of view of the analysis is that of the B2B service provider, which is an established company seeking to enhance its supply network and evolve.

The potential clients of the commission agreements are microbusinesses, such as natural entities-entrepreneurs in Ukraine.

3.2 Analyses of organizational environment for implementing developed business model

Below are PESTEL, Porter's 5-Forces, and market segmentation analyses [51] for the proposed commission agreement. Their aim is to show the external environment faced by a B2B company that wishes to start offering the discussed commission agreement to its clients. Table 3.1 shows PESTEL analysis of the B2B commission agreement.

Table 3.1

PESTEL analysis of the proposed B2B commission agreement from the perspective of a B2B service provider

Political	Economic
• Entrepreneurship, especially small, enjoys preferential treatment in Ukraine compared to Japan and the USA	 Not many people have the opportunity to risk a sufficient amount and can devote enough time, which is required for a full-size vending business Almost anyone can risk an amount between 1000 and 5000 UAH, if this risk is justified
Social	Technological
 Entrepreneurship is popular Many people may think that microbusiness is not a business 	• Modern vending machines can record sales by cells

Table 3.1 Continued

Environmental	Legal
• None	 KVED 47.99, which describes B2C vending, also includes "activities of commission agents in retail trade outside stores" [25] Natural entities-entrepreneurs don't need to work with cash because there are no cash transactions Natural entities-entrepreneurs have the option not to pay some taxes until the end of the martial law and within 12 months after its cancellation, that is, such person who uses the general taxation system will not have the risk of tax debt, even if they will not have any income at the initial stage of the operation

As a conclusion, there are no good reasons against the use of the described commission agreement. The only factors against it may be the reluctance of potential principals and commission agents to participate in such deals, since individually such deals are very small.

Table 3.2 shows Porter's 5-Forces analysis of the discussed B2B commission agreement.

Porter's 5-Forces analysis of the proposed B2B commission agreement from the perspective of a B2B service provider

Threat of new entrants

• None: only 2 out of 20 B2B organizations are interested in new potential customers [from how many interviews was arranged from the total number of companies reached out to]

Threat of substitute of products or services

• Medium: on one hand, the vending market has not yet recovered, so the creation of a new organization is risky, and on the other hand, the upcoming apparent recovery creates an opportunity for a new business to have the position of the first or close to it.

Bargaining power of buyers

• Low. There are few options to invest from 1000 to 5000 UAH in business, except with a personal acquaintance with a potential commission agent.

Bargaining power of suppliers

• Medium to low. The supply of vending machines and other services is conditionally stable. In addition, the principals take over the negotiations with part of the suppliers.

Rivalry among competing sellers

• Low. Since it is not distributed, B2B business will have the advantages of the former.

As a conclusion in regard to the commission contracts, the advantages of the first business on the market apply; in addition, such an opportunity to invest money

without a significant investment of time for customers is practically absent in the mass market.

Table 3.3 shows market segmentation [90] for the discussed B2B commission agreement.

Market segmentation for the proposed B2B commission agreement from the perspective of a B2B service provider

leur (segment A)	Demographic	 A start-up FOP or a FOP without income Income level is low Education - secondary, professional, higher Any age
Natural entity-entrepreneur (segment A	Psychographic	 Values - considers entrepreneurship to be a worthwhile business, even if receiving a very low income Goals - to receive a stable income, even if it is low Needs - the ability to sell goods on the basis of very small initial costs Painful points - registration of PRO, tax and bureaucratic burden, large initial costs for running a full-fledged business related to the sale of goods
	Behaviour	 Sometimes looking for ways to do business on the Internet Discusses ways of doing business with acquaintances

Table 3.3 Continued

pany (segment B)	Demographic	 A manager who wants to get management approval for finding a new way of earning by investing money in vending Income level is low
nall com		 Education - secondary, professional, higher Any age
Manager of any small company (segment B)	Psychographic	 Values - job stability and the possibility of career growth Goals - to increase wages Needs - to have opportunities to develop professionally Painful points - lack of impact on the organization, lack of a backup work option
	Behaviour	Works during business hoursSometimes checks vacancies

As a conclusion, it is unlikely that a natural entity-entrepreneur or manager will find an opportunity to conduct commission vending on their own, since the total number of offers of anything or advertising is very large. Only a small percentage of people who casually inquire about vending can find such information unless it is advertised or offered through letters or social media.

Table 3.4 shows SWOT analysis [51] for the proposed commission agreement.

SWOT analysis of the proposed B2B commission agreement from the perspective of a B2B service provider

	Internal factors	External factors
Strengths / Opportunities	 (copy from PESTEL) Modern vending machines can record sales by cells Working vending business 	 The future intensification of vending is obvious (copy from PESTEL) Enterprises, especially small ones, enjoy great benefits in Ukraine compared to the USA and Japan (copy from PESTEL) KVED 47.99, which describes B2C vending, also includes "activities of commission agents from retail trade outside stores" (copy from PESTEL) FPOs have the option not to pay the EUV until the end of martial law and within 12 months after its abolition, that is, the FPO on the general taxation system will not have the risk of tax debt, even if it has no income at the initial stage of work
Weaknesses / Threats	 Reluctance to deal with a very large number of very small contracts Reluctance to advertise vending under a commission contract and to seek clients 	 The appearance of new companies in the vending market, which will be more active Increasing the network of kiosks and stores

As a conclusion, the threats and weaknesses are determined by the lack of great activity in the vending market; opportunities are associated with changing this state; strengths are related to the relative position of leadership in the market.

3.3 Blueprint of business model, marketing, taxation, and overall management approaches for a company

Below are the 5 Ms of marketing [111] and 4 Ps of marketing analyses that show the internal environment faced by the company that wishes to implement the discussed commission agreement and to start offering it to its clients.

5 Ms of marketing are as follows:

- Workers a lawyer (service, freelance), a customer manager, a group of forwarder drivers and technicians (service machines regardless of the way of doing business), a group of worker managers (all others)
- Materials coffee, glasses, snacks and drinks for non-rented cells; mending
- Equipment an existing network of vending machines
- Time 1 full consultation of a lawyer to form a contract; 1 full-time client manager; other employees maintain the existing machines and work independently of the vending through commission agreements
- Money if there is a network, 1 full manager's salary per month and 1 single full consultation of a lawyer

As a conclusion, if there is a network, it's necessary to create or allocate 1 full-time manager position and consult with a lawyer.

Table 3.5 shows 4 Ps analysis [109], also called the marketing mix, for the proposed commission agreement.

As a conclusion, the product is an opportunity to have a successful microbusiness; the price is sufficient for continuous business; place -- public opinion (at the initial stage); advertising -- through leaders of public opinion (news, websites, blogs, etc.).

4 Ps of marketing (marketing mix) of the proposed B2B commission
agreement from the perspective of a B2B service provider

Product	Features, quality,	- Product - sale of goods under a commission
	brand, packaging,	contract
	services,	- The sale is confirmed by electronic accounting
	guarantees	systems
		- Customers can check the fact that their goods
		have been loaded into the machine once at a
		certain time interval, or by purchasing a unit of the
		product
		- The commission agent takes over the entire
		operational component of a real vending business
		(rental of space, rental and maintenance of
		equipment, replenishment of goods in vending
		machines)
Price	Pricing strategy,	- (For the commission agent) The contract price
	discounts,	must be such that the commission agent guarantees
	payment terms	break-even in the event of no sales, as well as
		profit if the goods are sold
		- (For the client) The price should be such that the
		overall result after taxes is better than keeping
		money in a bank or buying bonds.
		- It is difficult for people without experience in the
		vending business to say

Table 3.5 Continued

Place	Communications,	- There is no such market yet
	market coverage,	- Therefore, the place is the Internet (social
	assortment,	networks, business sites, blogs and pages of social
	transport	opinion leaders)
		- Start-up micro-entrepreneurs are unlikely to visit
		business clubs, and in business clubs such a micro-
		business may be considered too small in terms of
		initial costs
Promotion	Advertising,	- Social networks and website
	marketing, public	- Advertising in social networks, business
	relations	websites, or through social opinion leaders
		- Ordering articles on blogs or business sites

The next part shows the marketing aspect of the proposed B2B commission agreement, specifically the value-proposition canvas, AIDA analysis, the business model canvas, as well as positioning, differentiation, and the type of competitive differentiation. Table 3.6 presents the value proposition canvas [113] of the discussed commission agreement.

Value-proposition canvas of the proposed B2B commission agreement from the perspective of a B2B service provider

Product/	What creates	Winnings:	What the client
Proposition: B2B	winnings:	1. Very little funds	(client) needs:
commission	1. Small amounts	are required to start	- Understand the
agreement for	of contracts	the activity	contract
vending-machine	2. The commission	2. No need to	- Buy goods from
businesses	agent works with	register PRO and	wholesale
	cash and electronic	work with cash	suppliers
	money		- Send the goods
	What relieves pain	Pain points:	to the commission
	points:	1. Receive after-tax	agent
	1. Automatic sales	losses	- Check that the
	accounting system	2. Not knowing	product is really
	2. Possibility of	whether the product	being sold
	periodic inspection	is really for sale	- Not to receive
	of machines	(loaded into the	losses after taxes
		machine)	
		3. It is difficult to	
		understand the	
		contract and	
		legislation	

As a conclusion, the value for a client lies in the ability to have a microbusiness that is easy to start and maintain. In essence, it appears more as a small-scale investment rather than a typical retail.

Below is an AIDA (attention, interest, desire, action) analysis for a natural

entity-entrepreneur as a client of a B2B company wishing to implement the discussed commission agreement.

Situation 1 where a natural entity-entrepreneur receives first information about the commission agreement from the Internet:

- Attention: Ads, headlines or video/blog/post titles from business thought leaders
- Interest: a clear understanding from the names that vending can be very cheap
- Desire: Desire to learn how to start vending with very little money
- Action: read/watch the video/blog/post and view the website of the commission company that offers commission contract execution

Situation 2 where a natural entity-entrepreneur communicates with a sales manager:

- Attention: from the website and social pages of the commissary company
- Interest: many things are described in detail, including in detail (with prescribed amounts of money) one version of the contract and the expected results are described
- Desire: the desire to find out the answers to the questions that will arise when considering the detailed version of the contract
- Action: contact the manager

Situation 3 where a natural entity-entrepreneur has a second talk with a sales manager

- Attention: confirmation by the manager that the offer is valid
- Interest: familiarization with the text of the contract
- Desire: to resolve issues or problems related to the contract
- Action: concluding a contract

Situation 4 where a natural entity-entrepreneur negotiates a contract extension with a sales manager

• Attention: checking the loading of machines with goods and monitoring

sales

- Interest: Is there a profit at the end of the contract or some notional period of time?
- Desire: if there is profit, to increase it; if there is no profit yet, but there are no losses either, then get profits
- Action: extend or stop the contract

As a conclusion, a natural entity-entrepreneur can have a clear track to establish a microbusiness based on the discussed commission agreement.

Below is a business-model canvas [74] for the discussed commission agreement presented in the form of a text:

- Clients: new natural entities-entrepreneurs
- Proposition: vending with a commission contract (your own business with minimal expenditure of money and time)
- Work with clients:
 - Advertising and dissemination of information
 - Personal conversations or correspondence
 - Reporting on the operation of machines and sales
- Channels:
 - Advertising, own website, social media, articles/videos/blogs from thought leaders in the business
 - Information from automatic accounting systems about the sale of goods
- Key actions:
 - Relations with clients
 - Maintenance of a network of machines
- Key resources: rented places for vending machines
- Key partners:
 - The client plays the role of a supplier of goods
 - Suppliers of machines and parts
- Expenditures: rental of slots for machines, service and repair of machines,

transportation and loading of goods, electronic sales accounting system and work with cash and electronic money

• Income from commission agreement: actual commission, reward for servicing machines, reward for working with cash

As a conclusion, the business model of a B2B vending-machine company relies on providing the clients with the ability to invest small amounts of money in the form of pre-purchased goods.

Considering the marketing positioning, differentiation, and the specific type of competitive differentiation of the discussed commission agreement, a company that would implement vending via the commission agreement will have the first mover advantage compared to others. The vending market in Ukraine does not utilize the ability of microbusinesses to enter it. Considering the main differentiating strategy, a vending-machine servicing company can hardly achieve the cost advantage when it comes to supplying edible goods because big retailers will always be able to outcompete it. Therefore, a differentiation strategy is the most natural choice, especially since the discussed commission agreement does not look like any other offerings on the B2B vending-machine market. Considering the type of competitive differentiation, the differentiation by product rather than reputation, price, relationships, logistics, and service, is the most natural view of vending via a commission agreement. In addition, from the 5 Ms of marketing analysis, if there is a network, it's necessary to create or allocate 1 full-time manager position and consult with a lawyer. Lastly, from the marketing mix analysis, the product is an opportunity to have a successful micro-business; the price is sufficient for continuous business; place – public opinion (at the initial stage); advertising - through leaders of public opinion (news, websites, blogs, etc.).

Financial ratios may show a clearer picture of the benefits from the proposed commission agreement, and they require market data. In Ukraine, the wholesale prices of chocolate bars are only slightly lower than the retail prices in supermarkets [39] and are between 30 and 40 UAH, while the retail prices in vending machines are normally twice that amount [personal observation]. The wholesale prices of coffee are around 250 UAH per 1 kilogram at the lower end and there are many offerings at 300 UAH [24] (and it is known that one portion of coffee takes 18 g of coffee beans, although some sources suggest only 7 to 8 g [23]), and the prices of paper cups are up to 1 UAH for a 175 ml cup with a plastic lid [28]. At the same time, it is common knowledge that the price of a cup of coffee starts at 20 UAH in supermarkets and vending machines. Lastly, the prices of used vending machines that can sell both snacks and coffee are around 50000 UAH [36, 37], which is similar to the price of used vending machines that sell either snacks or coffee. Top rent prices in Kyiv are between 3000 and 5000 UAH per square meter near the Metro subway entrances [12]. Based on extensive industry data for the USA, an average vending machine sells approximately 10 items per day [110].

The markups and margins in vending are similar in Ukraine and worldwide based on the values available in the literature. The retail markup values is defined by (3.1) as a percentage over the cost [91].

$$Retail Markup = \frac{Retail Price - Wholesale Price}{Wholesale Price} \times 100\%$$
(3.1)

The retail markup values in vending are close to 100% for snacks and bottled drinks in the USA [110, 121] and are approximately 300% for coffee in Ukraine (if the price of coffee is 250 UAH per kilogram, the portion is 18 g, the price of the cup is 1 UAH, and the retail price of the cheapest brewed coffee is 20 UAH, where the combined price of water and sugar is 1 UAH given both 5 liters of water and 1 kilogram of sugar cost 30 UAH in a supermarket).

The gross profit margin is defined by (3.2) [83, 98].

$$Gross Profit Margin = \frac{Revenue - COGS}{Revenue} \times 100\%,$$
(3.2)

where *COGS* stands for the cost of goods sold value, which for retail does not include operating expenses such as rent, salaries, etc. that are grouped into the operating expenses, or *OPEX* [76, 77].

Since the gross profit margin and the retail markup values are interdependent, it is clear that the gross profit margin values in vending are close to 50% for snacks and bottled drinks [110], and are approximately 75% for coffee. If the sales are distributed equally between coffee and snacks at the prices discussed above, then the average gross profit margin is 56%.

The operating profit margin is defined by (3.3) and includes both *COGS* and *OPEX* values [98].

$$Operating Profit Margin = \frac{Revenue - COGS - OPEX}{Revenue} \times 100\%$$
(3.3)
The efficiency ratio is defined by (3.4) [82].
Efficiency Ratio = $\frac{COGS + OPEX}{Revenue}$ (3.4)
The return on investment is defined by (3.5) [100].
Return on Investment = $\frac{Net Income}{Initial Investment}$ (3.5)

Below is a conservative assessment of the operation of an average vendingmachine business. If the number of sales is taken conservatively, and is equal to 10 items sold per day, or 300 per month, as in the market data in [110], counting the markup values cited above, the machine can generate 12000 UAH of sales per month if half of sales comes from beverages (150 items per month) and the other half comes from chocolate bars (150 bars). The cost of goods sold (COGS) value is 5250 UAH, and the gross profit is 6750 UAH. Based on the data gathered above, (i) a combined coffee and snacks machine that costs 50000 UAH is stocked monthly with (ii) 150 portions of beverages in the form of up to 1 kilograms of coffee, tea, chocolate, and dried creamer each, which can be all considered costing 250 UAH per 1 kilogram on average, as well as water (25 liters brought in in parts during the servicing), 1 kilogram of sugar, and 150 cups, and, in addition, (iii) it is stocked with six chocolate bar per each of its 25 cells (150 in total), where the wholesale cost of the chocolate bar is 30 UAH. The total cost of stock inside the vending machine is has to be equal to the COGS value, or 5250 UAH (10.5% of the cost of the vending machine). In other words, the inventory conversion period

(ratio) is set to 1 month. Continuing with the example, (iv) a conservative amount of rent is 3000 UAH per month, and (v) an operator has to come once per two weeks to check and restock the machine, which takes that person 2 hours per months and, at a salary of 14200 UAH per month and 3324 UAH of EV social security payment, which is twice the amount of the current minimal salary in Ukraine, costs 865 UAH per month. Lastly, it should be assumed that the machine in 2 years will require as many repairs as will be equal to its entire cost of 50000 UAH, or 2080 UAH per month. In this case, counting all the expenses listed above, the earnings before interest, taxes, depreciation and amortization (EBITDA) value is 805 UAH per month, and the operating profit margin value is 6.7% per month or year, which corresponds to the efficiency ratio value of 93%. The return on investment is calculated based on the initial investment of 50000 UAH to purchase the machine and 5250 UAH to purchase the goods, but does not include all other expenses. These values are grouped in Table 3.7 below. In addition, the table includes values if the sales are only half the average number, that is 5 items per day, and if the sales are twice that, that is 20 items per day, in which case the operator has to come and service the machine twice as often and the corresponding payroll expenses will be 1730 UAH per month).

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Financial ratios of an average vending-machine business per one vending machine based on a conservative assessment

Financial ratio	Value	Value	Value
	if 5 items are sold	if 10 items are sold	if 20 items are
	per day	per day	sold per day
EBITDA per month, UAH	-2570	805	6690
EBITDA per year, UAH	-30840	9660	80280
Taxes under the general taxation system using depreciation, UAH	0	0	13705
Net income per year, UAH	-30840	9660	66575
Gross profit margin, %	56	56	56
Operating profit margin, %	-43	6.7	28
Efficiency ratio, %	143	93	72
Inventory conversion period, month	2	1	0.5
Return on investment per year, %	-56	17.5	121

If the vending-machine business would implement the proposed B2B commission agreements, a part of the revenue equal to the cost of goods sold value, as well as part of the profits will be returned to the client in order to enable them to purchase and provide new goods, and another part will remain with the commissioner as payment for the services, which ultimately pays for rent, payroll, and repairs. For the sake of argument, we can specify the commission agreement to be as follows: the client receives 10% of EBITDA if the value is positive but bears all risks if it is negative. In other words, the commissioner uses the money first to pay the operating expenses, and then pays to the client the client's cost of goods sold value, and then, if the remaining amount is positive, pays 10% of that value. This situation is illustrated in Table 3.8. The break-even point for both the commissioner and the client is when approximately 7 items are sold per day, which is the same as in Table 3.7. At the rate of sales between 5 and 7 items per day the client has losses but the commissioner does not. The point when both start to have losses is when below 5 items are sold per day. In other words, the risks, in this case, are borne by the client who does not receive payment when the goods have sales below the break-even point. Table 3.9 show the financial ratios for the client that correspond to the situations in Table 3.8.

Financial ratios of a vending-machine business (the commissioner) per one vending machine based on the conservative assessment in Table 3.7 but with the use of the proposed B2B commission agreements

Financial ratio	Value if 5 items are	Value if 10 items are sold	Value if 20 items are
	sold per day	per day	sold per day
EBITDA per month, UAH	0	725	6020
EBITDA per year, UAH	0	8700	72240
Taxes under the general taxation system using depreciation, UAH	0	0	12140
Net income per year, UAH	0	8700	50100
Gross profit margin, %	56	56	56
Operating profit margin, %	0	6.0	25
Efficiency ratio, %	100	94	75
Inventory conversion period, month	2	1	0.5
Return on investment per year, %	0	17.5	100

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Financial ratios of a B2B commission-agreement client of a vending-machine business per one vending machine that corresponds to the assessment in Table 3.8

Financial ratio	Value	Value	Value
	if 5 items are	if 10 items are sold	if 20 items are
	sold per day	per day	sold per day
	(half the average	(average from	(twice the
	from literature)	literature)	average)
EBITDA per month, UAH	-2570	81	669
EBITDA per year, UAH	-30840	972	8028
Taxes under the general taxation system using depreciation, UAH	0	190	1565
Net income per year, UAH	-30840	782	6463
Gross profit margin, %	-4670	1.5	6.0
Operating profit margin, %	-4670	1.5	6.0
Efficiency ratio, %	4770	98.5	94
Inventory conversion period, month	2	1	0.5
Return on investment per year, %	-100	15	123

Reviewing the operating leverage is a better way to analyze the proposed B2B commission agreements. The operating leverage is defined by (3.6) [96].

$$Operating Leverage = \frac{Fixed Costs}{Total Costs},$$
(3.6)

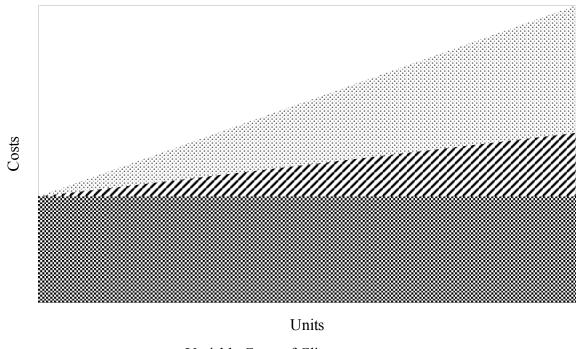
where the *Total Costs* value is equal to the sum of the fixed and variable costs, as is shown in (3.7) [96].

$$Total Costs = Fixed Costs + Variable Costs$$
(3.7)

Therefore, the formula for the operating leverage can be written as (3.8) [96].

$$Operating Leverage = \frac{Fixed Costs}{Fixed Costs + Variable Costs}$$
(3.8)

Figure 3.1 shows the total and variable costs for vending and illustrates that the proposed B2B commission agreements for vending-machine businesses aim to minimize the variable costs for the commissioner. Therefore, it maximizes the operating leverage.



Variable Costs of Client
 Variable Costs of Commissioner
 Fixed Costs (Borne by Commissioner)

Fig. 3.1. The distribution of the variable costs between the commissioner and the client in the proposed B2B commission agreements for vending-machine

businesses

CONCLUSIONS AND RECOMMENDATIONS

The war devastated many aspects of life in Ukraine. One example of this is the massive-scale destruction of the civil infrastructure. The digital economy does not function without the proper working physical infrastructure. In its turn, the physical infrastructure is often the most efficiently set up and maintained using of the digital economy. In times of uncertainty, the robustness of business networks is reduced to the ability of each business in the economy to keep operating, paying its bills and providing credit, and not going bankrupt. The e-commerce SMEs is an example of the most agile part of the Ukrainian economy and, therefore, the amount that can help less agile businesses to operate. The world has two prominent economies that continually and successfully overcome massive-scale destruction of their civil infrastructure due to recurring natural disasters, namely Japan and the United States of America. The examples of these economies are worth studying to implement the best practices in the economy of Ukraine. Likely, the majority of future research on the economic recovery of Ukraine will be focused either on the European integration of the Ukrainian economy, or on comparing the impact of the war on the Ukrainian economy with similar impacts of wars on the economies of countries that saw devastation due to was in the recent years. Therefore, it is reasonable to presume that the comparison between Japan and the United States of America proposed in this thesis may be original.

The short-term and long-term fiscal measures enacted by the government of Ukraine are similar to the ones undertaken by the governments of Japan and the United States of America. The short-term measures to overcome destruction due to the war, the recurring hurricanes, and the multitude of natural disasters, are comparable in all three countries and are based on short-term fiscal easing. The long-term measures relative to the topic seem to be absent in the United States of America. However, the long-term measures in Japan and Ukraine coincide directly

and consist in the introduction of a special tax to aid recovery and increase robustness of the economy in the face of recurring threats, respectively military and natural.

The biggest difference between the tax laws of Ukraine, Japan, and the United States of America is the existence of a simplified taxation system in Ukraine. The main reason for its introduction is to stimulate entrepreneurship in Ukraine by drastically simplifying tax administration; the price to pay for the use of this system by a business is to bear two basic limitations, the requirement to have all operations to be made cash-only and the inability to claim amortization, depreciation, and deductions for tax purposes. These limitations may be a small price to pay when the business and economy are in good health. However, during drastic economic downturns, the inability to claim losses and offset accounts on books may be the difference between running a surviving but struggling business on the one hand and facing either bankruptcy or the need to use tax fraud – for example by offsetting accounts – on another. The ability to claim losses due to destruction seems to be the main specific mechanism for the administration of fiscal help at times of disasters in Japan and the United States of America. For these reasons, the general taxation system may be considered a preferable choice during the war due to the ability to offset accounts between different business entities and to claim amortization, depreciation, and deductions. This could allow a business entity to run with little but sufficient margins and remain within the legal field. To sum up, the general recommendation for an average e-commerce SME in Ukraine is to use the general taxation system in 2023.

Any existing vending business can be enhanced with the use of business-tobusiness (B2B) commission agreements for vending-machine businesses, which are described, analyzed, and discussed in this section. One way to create a configuration innovation in the vending-machine market is to create and provide business-to-business commission agreements for vending.

Based on PESTEL analysis, there are no good reasons against the use of the

described commission agreement. The only factors against it may be the reluctance of potential principals and commission agents to participate in such deals, since individually such deals are very small. Based on SWOT analysis, the threats and weaknesses are determined by the lack of great activity in the vending market; opportunities are associated with changing this state; strengths are related to the relative position of leadership in the market. In addition, for any company that wishes to implement the proposed commission agreement, the advantages of the first business on the market apply; in addition, such an opportunity to invest money without a significant investment of time for customers is practically absent in the mass market.

Considering the marketing aspect of the discussed commission agreement, it is unlikely that a natural entity-entrepreneur or manager will find an opportunity to conduct commission vending on their own, since the total number of offers of anything or advertising is very large. Only a small percentage of people who casually inquire about vending can find such information unless it is advertised or offered through letters or social media.

The value for a client lies in the ability to have a microbusiness that is easy to start and maintain. In essence, it appears more as a small-scale investment rather than a typical retail. A natural entity-entrepreneur can have a clear track to establish a microbusiness based on the discussed commission agreement. The business model of a B2B vending-machine company relies on providing the clients with the ability to invest small amounts of money in the form of pre-purchased goods.

Considering the marketing positioning, differentiation, and the specific type of competitive differentiation of the discussed commission agreement, a company that would implement vending via the commission agreement will have the first mover advantage compared to others.

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ANNEXES

Annex A

Table A.1

Excerpt from "Indicators of activities of business entities for special aggregates (Commission Regulation (EC) № 251/2009 of 11.03.2009) in 2010–2021"

	Years	Total	Number of	Total	Turnover
		number of	only natural	turnover of	only by
		active	entities-	business	natural
		business	entrepreneur	entities, bln.	entities-
		entities, units	s, units	UAH	entreprene
					urs, bln.
					UAH
	2010	2184105	1805118	3692.6	230.4
	2011	1701797	1325925	4302.6	211.2
	2012	1600304	1235192	4563.8	256.6
	2013	1722251	1328743	4437.3	284.2
Total	2014	1932325	1591160	4609.0	289.0
	2015	1974439	1630878	5716.4	397.5
	2016	1865631	1559161	6877.1	489.2
	2017	1805144	1466803	8467.0	604.3
	2018	1839672	1483716	10148.8	760.8
	2019	1941701	1561028	10725.4	884.4

Table A.1 Continued

		1			
	Years	Total	Number of	Total	Turnover
		number of	only natural	turnover of	only by
		active	entities-	business	natural
		business	entrepreneur	entities, bln.	entities-
		entities, units	s, units	UAH	entreprene
					urs, bln.
					UAH
	2020	1973652	1599755	11285.6	1012.4
	2021	1956320	1585414	15240.0	1373.0
	2010	53643	44423	68.4	5.4
	2011	51611	41729	82.5	7.0
	2012	62896	52671	96.1	10.2
	2013	81461	69899	101.8	13.4
	2014	108661	98127	118.7	21.0
ICT	2015	109712	98714	157.9	40.1
	2016	123440	113461	206.9	56.2
	2017	140183	128912	263.4	75.3
	2018	166715	154424	335.7	104.9
	2019	196239	182718	392.8	131.3
	2020	223018	209189	464.1	170.9
	2021	269897	255857	613.8	236.2

Source: [32]

Excerpt from "Indicators activity of large, medium, small and microentrepreneurship entities in 2010-2021"

		Only by enterprises			Only by entr	natural reprene		
Year	Total	Total	Large	Mediu m	Small	Total	Medi um	Small
		Num	ber of b	usiness	entities, u	inits		
2010	2183928	378810	586	20983	357241	1805118	360	1804758
2011	1701620	375695	659	20753	354283	1325925	306	1325619
2012	1600127	364935	698	20189	344048	1235192	362	1234830
2013	1722070	393327	659	18859	373809	1328743	351	1328392
2014	1932161	341001	497	15906	324598	1591160	712	1590448
2015	1974318	343440	423	15203	327814	1630878	307	1630571
2016	1865530	306369	383	14832	291154	1559161	281	1558880
2017	1805059	338256	399	14937	322920	1466803	317	1466486
2018	1839593	355877	446	16057	339374	1483716	419	1483297
2019	1941625	380597	518	17751	362328	1561028	378	1560650
2020	1973577	373822	512	17602	355708	1599755	344	1599411
2021	1956248	370834	610	17502	352722	1585414	309	1585105

Table A.2 Continued

	Γ	1						
						Only by	natural	entities-
		C	Only by enterprises			ent	reprene	urs
Year	Total	T (1	т	Mediu	C 11	T (1	Medi	C 11
		Total	Large	m	Small	Total	um	Small
	L	I	Turno	ver, bln.	UAH			
2010	3596.6	3366.2	1401.6	1396.4	568.3	230.4	19.5	210.9
2011	4202.5	3991.2	1775.8	1607.6	607.8	211.2	11.2	200.0
2012	4459.8	4203.2	1761.1	1769.4	672.7	256.7	13.0	243.6
2013	4334.5	4050.2	1717.4	1662.6	670.3	284.2	20.8	263.5
2014	4459.7	4170.7	1742.5	1723.2	705.0	289.0	12.7	276.3
2015	5556.5	5159.1	2053.2	2168.8	937.1	397.5	15.6	381.9
2016	6726.7	6237.5	2391.5	2668.7	1177.4	489.2	14.6	474.6
2017	8312.3	7707.9	2929.5	3296.4	1482.0	604.3	18.5	585.8
2018	9966.8	9206.0	3515.8	3924.1	1766.2	760.8	30.0	730.8
2019	10524.1	9639.7	3631.4	4168.4	1839.9	884.4	26.0	858.3
2020	11062.3	10049.	3626.4	4359.4	2064.1	1012.2	25.3	987.1
	11002.5	9		1207.1	2001.1	1012.2		,,,,,
2021	14989.8	13616.	5140.4	5900.1	2576.4	1373.0	31.8	1341.2
		8						

Source: [31]

Note: the discrepancies in Table A.1 and Table A.2 are due to the sources.

Annex B

Table B.1

Excerpt from "Number of enterprises (Number of companies + sole proprietorships)", part of "Number of enterprises by industry and size(private, nonprimary industry, 2009, 2012, 2014 and 2016)"

		Total	Number of	Number of	Number of
	Year	number of	large	medium	small
		enterprises	enterprises	enterprises	enterprises
	2009	4213190	11923	4201264	3665361
Industry	2012	3863530	10596	3852934	3342814
total	2014	3820338	11110	3809228	3252254
	2016	3589333	11157	3578176	3048390

Source: [66]

Table B.1

Excerpt from "Enterprises (sales of companies and sole proprietorships)", part of "Sales by industry and size(private, non-primary industry, 2011, 2013 and 2015)"

			Sales by	Sales by	Sales by
	Voor	Total sales,	large	medium	small
	Year	bln. yen	enterprises,	enterprises,	enterprise
			bln. yen	bln. yen	s, bln. yen
T 1 4	2011	1182335	663521	518814	121684
Industry total	2013	1205936	682546	523390	121855
	2015	1427622	798609	629013	135901
Source: [((1)	•			

Source: [66]

Annex C

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Table C.1

Collected from "Updated and Expanded Small Business Statistics: Wages, Employment, and Gross Output by Industry and Enterprise Size, 2012 – 2017"

Year	Gross output	Gross output, bln. dollars							
	Total	Total Large Medium Small							
		businesses	businesses	businesses					
2012	43503.3	26734.1	4866.5	11902.6					
2017	51630.6	51630.6 32120.9 6270.5 13239.2							
0									

Source: [118]