MODERN TRENDS IN FEMALE CRIMINALITY IN THE REPUBLIC OF KAZAKHSTAN FROM A GENDER PERSPECTIVE

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Abstract

The changes in the socioeconomic role of women provoke an increase in female crime as well as an increase in the proportion of convicted women. In the Republic of Kazakhstan, the trend of convergence of gender and social roles leads to the lessening of the gap between female and male crime.To

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address the growing numbers of female crime in Kazakhstan, measures are being taken to humanize criminal legislation. However, the official statistics of the Prosecutor General's Office show that along with a decrease in the number of women's criminal cases, there is an increase in administrative offenses committed by women. Thus, the analysis of the quantitative and qualitative characteristics of modern female crime in the context of a gender approach allowed the authors to identify modern trends and propose measures to combat female crime in the Republic of Kazakhstan.

Key Words

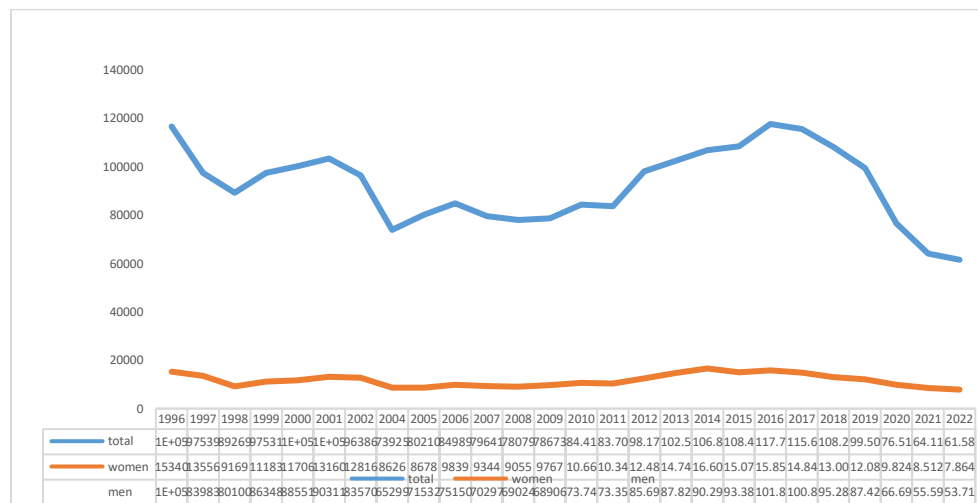Women's crime; gender gap; feminist criminology; humanization of legislation.

INTRODUCTION

Modern realities of social life demonstrate the vulnerability of women in comparison with men due to their greater work and home load, fear of losing their jobs, low wages, and weak social protections or support of motherhood. There remains an ever-increasing need for better socioeconomic conditions, which cannot be met because of the discrepancies in the status of women in the social structure. As a result of socioeconomic differentiation, tensions are increasing, which often leads to deviations among women such as domestic drunkenness, alcoholism, drug addiction, and prostitution. All of the above, along with the change in the social role of women in society, encourages more and more women to commit crimes.

Official statistics from the Committee on Legal Statistics and Special Accounts of the Office of the Prosecutor General of the Republic of Kazakhstan show swinging trends in the dynamics of both general crime and female and male crime. Female crime peaked in 1996 (15,340 crimes) and 2014 (16,608 crimes); the highest rates of crimes committed by men in 1996 were 101,327, in 2016 – 101,887.

From the end of the 2000s to 2014, there has been an increase in female crime, and since 2014, women and men have had a steady downward trend in overall crime (see Figure 1).

Figure 1: Number of crimes committed by women and men in the Republic of Kazakhstan

	1996	1997	1998	1999	2000	2001	2002	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
total	1E+05	97539	89269	97531	1E+05	1E+05	96386	73925	80210	84989	79641	78079	78673	84.41	83.70	98.17	102.5	106.8	108.4	117.7	115.6	108.2	99.50	76.51	64.11	61.58
women	15340	13556	9169	11183	11706	13160	12816	8626	8678	9839	9344	9055	9767	10.66	10.34	12.48	14.74	16.60	15.07	15.85	14.84	13.00	12.08	9.824	8.512	7.864
men	1E+05	83983	80100	86348	88551	90311	83570	65299	71532	75150	70297	69024	68906	73.74	73.35	85.69	87.82	90.29	93.38	101.8	100.8	95.28	87.42	66.69	55.59	53.71

Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

In general, over the past 25 years, there has been a stable gender gap in crime in Kazakhstan, characterized by a much lower level of female crime compared to male.

Despite the general trends in the development of crime among both sexes, each of them has its own distinctive features, factors, and quantitative and qualitative differences.

The analysis of crimes committed by women makes it possible for the State to respond by changing legislation in a timely manner. In addition, the study of the quantitative and qualitative characteristics of female crime in the context of the gender perspective helps to develop better targeted preventive measures to reduce such crimes.

LITERATURE REVIEW

The problem of female delinquency in the context of gender approach started to receive its due attention only in the 1980s in foreign Anglo-American literature.

One of the first scholarly works is the monograph "Women, Crime and Criminology" by C. Smart, first published in 1977. The author emphasizes that the lack of interest in women's crimes is explained by its insignificant scale compared to men's crimes (Smart,1977).

At the same time, the scholarly paper of the American researcher Adler Freda "Sisters in Crime: The Rise of the New Female Criminal" was published. The author divided crimes into male and female, rejecting the theory of a gender-passive female criminal. Using crimes such as prostitution and violent crimes, the researcher proved that the increase in female crime is explained by the expansion of women's empowerment. So, for example, if a woman has a body that can be sold, she can become a

prostitute... if a woman works as a clerk in a bank, this leads to her becoming able to commit bank fraud. By this, a woman who commits crimes is under the constraints of socioeconomic factors (Adler, 1975).

This position was similar to that of Rita James Simon, who, in her monograph "The Contemporary Women and Crime", suggested that "as women become freer from domestic work, they are more engaged in work and are more likely to engage in the types of crime for which the profession offers them the greatest opportunity." Rita James Simon cited statistics showing that in 1972 the most common types of crimes among women in the United States were forgery, fraud, and embezzlement (Simon, 1975), which, in conjunction with the theory of possibilities, confirmed her hypothesis.

Since the 1970s, Carlen has been researching the problem of women inmates in the UK. In her monograph "Women's Imprisonment. A Study in Social Control" the researcher emphasized that the 65% increase in the number of imprisoned women over the past 12 years had also brought up problems associated with their detention (Carlen, 1983). Later, P. Carlen in 2000, while continuing to study the English prison system based on the prison statistics of the Home Office of England and Wales, showed that between 1990 and 1998 the number of women in prisons doubled: from 1,767 to 3,110, which was 4.9% of the total number of prisoners. The researcher concluded that female prisoners are different from males, therefore, this should be reflected both in prison regimes and in policies aimed at reducing each type of crime (Carlen, 1999/2000).

The issue of gender in judicial decision-making was the subject of a collective study by Darrell Steffensmeier, John Kramer, and Cathy Streifel "Gender and Imprisonment Decisions". In their article, the researchers conclude that gender inequality is characteristic of the length of imprisonment: gender influences the decision on the length of imprisonment (Steffensmeier et al.,1993).

In the 1980s and 1990s, almost all criminologists abroad recognized the significance of feminist criminology. Heidensohn Frances emphasized the development and importance of research on women offenders, women as victims of crime, and as participants in social control (Frances,1995).

At the beginning of the 20th century, the gender approach in criminology took on more active development, and new aspects of the problem of female crime were revealed. Scholars compared patterns of female and male delinquency, identifying gender differences in the context of the nature of offenses (Steffensmeier, Allan, 2003).

Campaniello N., a researcher at the University of Essex (UK), supports the theory of possibilities and comes to two conclusions that are important for us. First, over the past 50 years, parallel with the increase in women's participation in the labor market, female crime has been growing. Secondly, men are more responsive to changes in illegal earnings: the study showed that doubling the expected illicit income increases the crime rate among men by 36% and women by 23%. At the same time, the author established that there were no gender differences in response to changes in the probability

of arrest – the expected probability of arrest reduces the crime rate by 14% for both sexes (Campaniello,2019).

In the context of our research, the study by Steffensmeier, D., Schwartz, J., Slepicka, J., & Zhong, H. is of special interest. The authors identify current trends in youth crime in the United States over the past 20 years from the perspective of a gender approach. They reach the following important conclusions: first, the rates of violence among male adolescents are significantly higher than among female adolescents, both historically and currently. Secondly, since 2010 there has been a downward trend in levels of violence among young people, both among men and women. Third, juvenile court data showed a narrowing gender gap among juveniles for simple assault but not for the other violent offenses (Steffensmeier, Schwartz, Slepicka, & Zhong, 2023).

At the same time, as noted by Puzzanchera, Charles, Hockenberry, Sarah, and Sickmund, Melissa, there is a tendency for the relative decline in male arrests to outpace the decline for females. For example, drug arrests involving males fell 58% between 2010 and 2019, compared with a 24% decline for females (Puzzanchera, Hockenberry, Sickmund, 2022).

Thus, the gender approach allowed Anglo-American researchers to formulate and substantiate new theories of female criminality that explain the causes of female criminal behavior. It marked the beginning of the development of feminist criminology. Based on the identified causes, scholars can forecast the dynamics of crime development and also influence decision-making by state authorities in the area of development and improvement of legislation, as well as development of conceptual documents aimed at combating and reducing the level of crime.

Over the past twenty years legal scholars and criminologists of post-Soviet schools of law have significantly expanded and deepened research on female crime and its aspects beyond the achievements of Soviet and foreign criminology.

In the context of our research problem, of particular interest is the study by N.M. Romanova (Romanova, 2009), devoted to the consideration of the causes of women's crimes through the prism of the gender approach. Another researcher, Kupriyanova A.V. (Kupriyanova,2008) used the scholarly and theoretical achievements of Soviet and foreign criminology in formulating the concept of "gender criminology". The author also substantiated the need to use the gender approach in the study of female crime, as well as juvenile delinquency.

Special consideration should be given to the scholarly article by M.A. Kachaeva and V.V. Rusina "Gender Aspects of the Features of Aggressive Crimes Committed by Women". The authors identify the features of female criminality, which are closely related to the historically determined place of women in the system of social relations, their social roles (gender), as well as biological and psychological features. (Kachaeva, Rusina,2010).

Our special attention was focused on the monograph of criminologists A.E. Nabatova and T.P. Afonchenko "Gender Criminology: Concept, Structure, Content" (Nabatova, Afonchenko, 2020). Based on empirical data, criminologists distinguish an independent branch of criminology – gender

criminology, which is aimed at studying the causes, factors, and conditions of female crime, as well as its prevention.

For the purpose of comparative analysis, the authors found valuable the official statistical indicators of the composition of female crime in the Russian Federation, analyzed in the research works of S.A. Styazhkina. The most common crimes committed by women the Russian Federation are crimes against property: theft (27%), fraud (4.8%), misappropriation and embezzlement (3.16%); non-payment of funds for child support (13.4%), crimes in the field of illicit trafficking in narcotic drugs and psychotropic substances (3.18%) (Styazhkina, 2021). Koveshnikova A. also offers recommendations regarding comprehensive measures to prevent crimes of various types committed by women (Koveshnikova, 2024).

Despite the rather diverse aspects of the study of female crime, no one has done the criminological analysis of the female crime in the context of the gender approach in the Republic of Kazakhstan, which gives our study relevance and novelty.

The purpose of this study is to identify current trends based on quantitative and qualitative characteristics and propose measures to combat female crime in the Republic of Kazakhstan in the context of a gender approach.

The main part of the article is devoted to the study of the crime rate among women in Kazakhstan based on official statistical data, and the analysis of the reasons for the gender gap in crime. The authors also examine the influence of socio-economic factors, changes in gender roles and women's employment, and analyze changes in legislation and their consequences. Comparative data on crime among women in Kazakhstan and foreign countries are provided and measures are proposed to reduce female crime.

RESEARCH METHODOLOGY

The dialectical and material methodological basis of the study allows us to comprehensively research the problem of female crime, determine its share in the overall structure of crimes, and identify the causes of female crime. Through general scholarly research methods of synthesis, analysis, and data processing, the authors will propose the most effective measures aimed at combating this illegal phenomenon.

The empirical basis of the article is represented by the (1) Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan on the condition and dynamics of female crime; (2) statistical compilations submitted by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan; (3) official data from the World Bank, the International Labor Organization; (4) data published in scholarly sources on women's crime in foreign countries.

DISCUSSION

In the Republic of Kazakhstan, as in many other countries, the crime rate among women is traditionally lower than among men, although women outnumber men in the general population. The latter is confirmed by the main indicators of gender statistics provided by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (see Table 1). In terms of averages, the percentage of women in the total population of Kazakhstan is 51.7%, and men - 48.3%.

Table 1: Main indicators of gender statistics

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Population, thousand people, at the end of the year	14865,6	14851,1	14 866,8	14951,2	15074,8	15219,3	15396,9	15571,5	15982,4	16203,3	16 440,5
Female	7 705,9	7 697,6	7 706,6	7 752,2	7 817,9	7 894,5	7 987,6	8 079,9	8 283,5	8 395,3	8 515,5
Male	7 159,7	7 153,5	7 160,2	7 199,0	7 256,9	7 324,8	7 409,3	7 491,6	7 698,9	7 808,0	7 925,0

|	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Population, thousand people, at the end of the year	16673,9	16910,2	17160,9	17 415,7	17669,9	17918,2	18157,3	18395,6	18631,8	18879,5	19122,4
Female	8 632,2	8 751,3	8 876,3	9 002,6	9 128,1	9 249,7	9 366,0	9 482,4	9 597,6	9 719,1	9 835,6
Male	8 041,8	8 158,9	8 284,6	8 413,1	8 541,8	8 668,5	8 791,3	8 913,2	9 034,1	9 160,4	9 286,8

Note: From "Women and men of Kazakhstan 2017-2021" by Statistical Collection Astana, 2022, 87.

The consensus among criminologists is that the gender gap in crime is universal: women are less likely to commit crimes than men in all countries, according to Pennsylvania researchers of gender and crime Darrell Steffensmeier and Emilie Allan. They partially explain this by women's lower susceptibility to focus on material success, minimal influence on women by delinquent peers, and the manifestation of stronger social ties in women, contributing to greater social control and supervision (Steffensmeier, Allan, 2003). However, statistical indicators of the proportion of female criminals in countries vary from 10% to 25%: in the United States - 24.5%, in Germany - 21.4%, Sweden - 18.2%, South Korea - 18.0%, Japan - 17.4%, France - 15.6%. (Alekseeva, 2020). In the Russian Federation, from 1990 to 2012, the share of crime ranged from 10 to 16%, and over the past decade it has been 15 to 16%. (Vakulenko, 2021).

In other words, in every country today there is a so-called gender gap in crime. The gender gap as explained by researchers Campaniello N. and Gavrilova E., is demonstrated by the proportion of the female crimes, as well as by the percentage of women in prisons (Campaniello, Gavrilova, 2018).

In our country, according to the statistical indicators of the Committee on Legal Statistics and Special Accounts of the Prosecutor General's Office of the Republic of Kazakhstan (CLS&SA GP of RK*)* in the past twenty years, the average proportion of crimes committed by men is 88.5 percent, while the proportion of women who commit crimes averages 11.5 percent of the total crime rate (see Figure 2), i.e., 2 times lower than in the USA, Germany, Sweden.

Figure 2: The proportion of women and men who committed criminal offences in the Republic of Kazakhstan
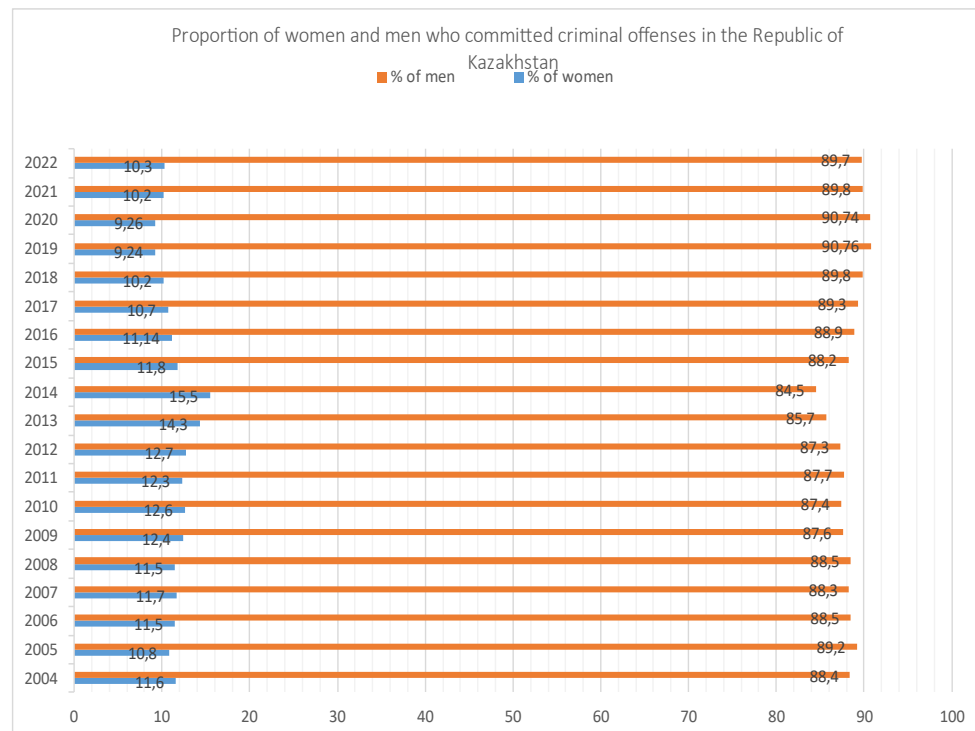
Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

From 2004 to 2014, official statistics show a slight but steady upward trend in the proportion of crimes committed by women, while the same indicators decreased among men. During this period, the number of crimes committed by women increased most sharply in 2009 and 2010, then decreased slightly in 2011, but increased again from 2012 to 2014. In 2014, the maximum proportion of crimes committed by women was 15.5 percent, compared to 11.6 percent in 2004.

This period of growth in female crime in Kazakhstan can be partly explained by the increase in women's participation in the labor market, which is confirmed by official ILO data, visualized in Figure 3 "Employment-to-population ratio, 15+, % (ILO estimate)". At the same time, not only statistical indicators but also the theory of possibilities, mentioned in the Literature Review, demonstrate a correlation between the increase in crimes committed by women and their increased participation in the labor market.

Additionally, the quantitative gap in crime is explained by scholars as related to gender roles. The traditional gender role, which focuses on such socio-cultural indicators as motherhood, marriage, beauty, and sexuality, were factors that hindered female delinquency. (Romanova, 2009).

Consequently, in modern Kazakh society, with the change in gender roles and increased number of women joining the labor force, the reverse negative effect is manifested – an increase in their representation in criminal activities. Some criminologists (Gilinsky, 2005, Kalashnikov, 2019, Skifsky, 2007, Yuzikhanova,2005), as well as economists (Fedotov,2019), who identify crime factors, use the Gini coefficient to determine the impact of population inequality indicators. The Gini coefficient reflects the degree of impact of socioeconomic stratification of society on the crime rate.

Based on the World Bank's data on the Gini coefficient in the Republic of Kazakhstan (data for Kazakhstan are publicly available only for the period from 2001 to 2018, see Figure 4), as well as visualized indicators of the Committee on Legal Statistics and Special Accounts of the Prosecutor General's Office of the Republic of Kazakhstan Figure 1."Number of crimes committed by women and men in the Republic of Kazakhstan" (Figure 1 above), it is possible to visually confirm the hypothesis that social inequality directly impacts the crime rate in the Republic of Kazakhstan. More sophisticated research would be necessary to make definite conclusion, but it should be taken into account that when the state develops measures aimed at combating female crime, it is necessary to conduct serious research related to the degree of influence of socioeconomic inequality on the crime rate and to take measures aimed at reducing inequality.

Figure 3: World Bank data on the Gini coefficient in the Republic of Kazakhstan
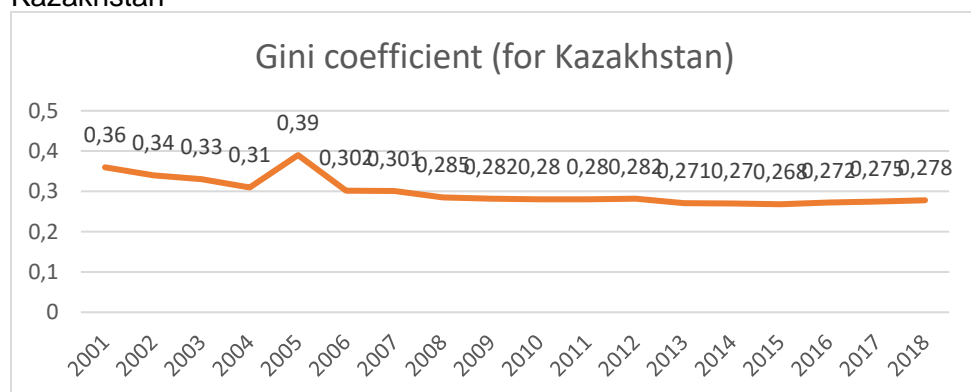
There are many other causes and factors of female delinquency, which are identified by criminologists, psychologists, sociologists, political scientists, and economists. However, for each type of criminal act committed by women, there will be individual reasons and factors. Therefore, to determine them, serious independent comprehensive research is needed in the context of quantitative and qualitative characteristics inherent in each type of criminal act. Moreover, if we conduct a retrospective analysis of female crime, we can notice a change in the causes of criminal behavior depending on the transformation of historical conditions. The scope of our study allows us only to identify the general qualitative and quantitative

indicators of female crime in Kazakhstan, on which we will continue to focus our attention further.

From 2015 to the present day, the data "Proportion of women and men who committed criminal offenses in the Republic of Kazakhstan" demonstrate a swinging but generally downward trend in the share of female crime in Kazakhstan.

One of the reasons for the decline in female crime is the adoption of the new Criminal Code of 2014 (Criminal Code of the Republic of Kazakhstan, Code of the Republic of Kazakhstan dated July 3, 2014, No. 226-V ZRK), which, along with other codes, has become the basis for a new stage in the improvement of criminal law, criminal procedure, criminal executive, and administrative legal relations. (Sartaeva, 2016). One of the main principles of the Criminal Code of the Republic of Kazakhstan of 2014 was the principle of humanization of criminal legislation, which is manifested in many institutions of criminal law, including the norms governing exemption from criminal liability. Many types of exemption from criminal liability, according to the Kazakh professor S. Rakhmetov, allow our law enforcement agencies and courts not to bring the case to punishment... (Rakhmetov, 2015). In this case, we are talking about the introduction to the Criminal Code of the Republic of Kazakhstan of 2014 of paragraph 2 of Article 68 of the Criminal Code of the Republic of Kazakhstan "Exemption from criminal liability in connection with reconciliation", which provides that "minors, pregnant women, women with young children, men raising young children alone, women aged fifty-eight and over, men aged sixty-three and over, first-time offenders who have committed a serious crime that does not involve causing death or grievous bodily harm may be released from criminal liability if they have reconciled with the victim or applicant, including through mediation, and have made amends for the harm caused...." (Criminal Code of the Republic of Kazakhstan, 2014)**.**

In this context, the position of Campaniello N. is relevant, emphasizing that, under equal conditions, the treatment of women accused of committing a crime, compared to men, is most lenient in favor of the female... (Campaniello, 2019).

Furthermore, after the adoption of the new Criminal Code of the Republic of Kazakhstan, there was a decrease in the number of crimes committed by women in subsequent years from 16,608 in 2014 to 7,864 in 2022.

However, the statistics of administrative offenses committed by women show the opposite growth dynamics. Official statistics reported for the last 10 years (Official statistics in the context of gender have been presented by the CLS&SA of GP of RK only since 2012; see Figure 5), show a growth trend in women's offenses by 5.5 times, against the background of an increase in the total number of administrative offenses by 3.4 times.

Figure 4: Number of administrative offenses in the Republic of Kazakhstan for the period from 2010 to 2022
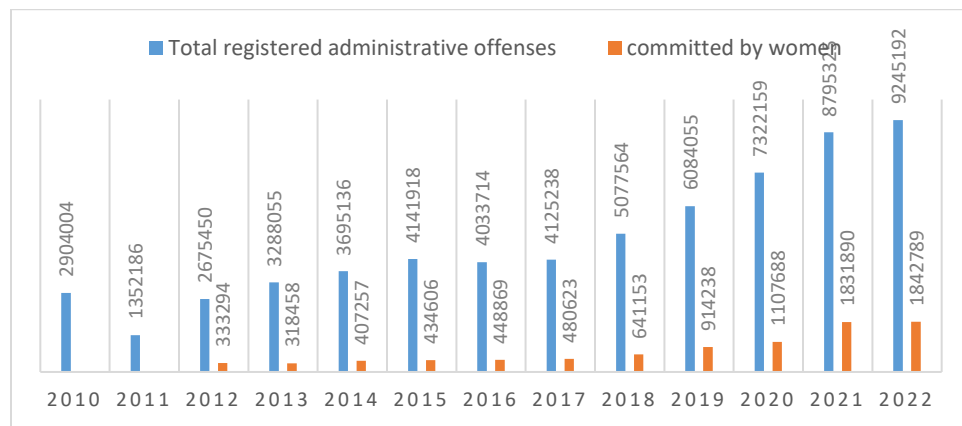
Moreover, the ongoing process of humanization of the criminal legislation of the Republic of Kazakhstan continued when in 2017 the articles "Intentional Infliction of Minor Bodily Harm" and "Battery" were moved from the Criminal Code of the Republic of Kazakhstan to the Code of Administrative Offenses of the Republic of Kazakhstan. According to the statistics below (see Table 2), the number of administrative offenses related to intentional infliction of minor bodily harm committed by women almost tripled from 2017 to 2022, and the number of cases of battery inflicted by women doubled from 2018 to 2022.

Table 2. Number of registered administrative offenses

	2017	2018	2019	2020	2021	2022
Total administrative offenses registered in the reporting period	4 125 238	5 077 564	6084055	7 322 159	8 795 325	9 245 192
Administrative offenses committed by women	480 623	641 153	914 238	1 107 688	25 339	1842789
Article 73. Unlawful Acts in the Sphere of Family and Domestic Relations (Committed by Women)	1 076	1 064	1 181	1 147	1 417	1 253
Article 73-1. Intentional infliction of minor bodily harm (committed by women)	1 514	3 005	3 116	2 850	3 624	4 144
Article 73-2. Battery (Committed by women)	0	879	1 038	1 068	1 563	1 706

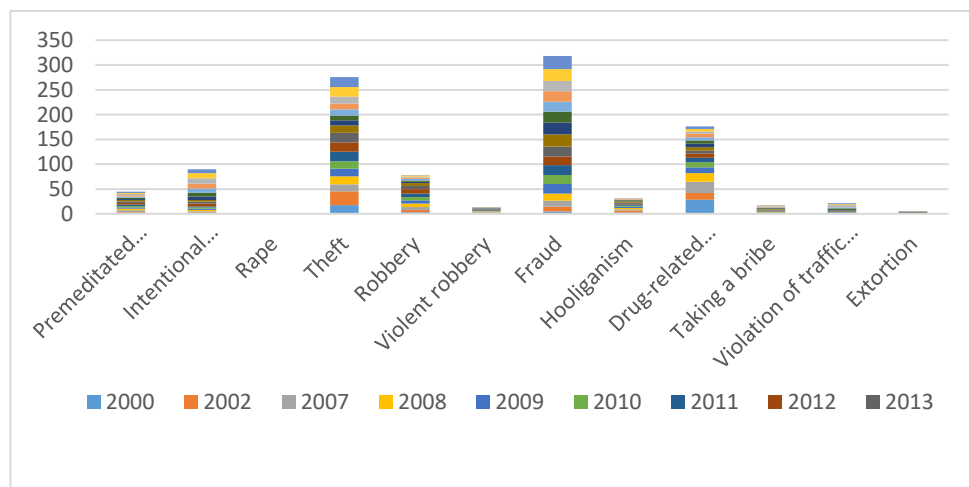| Article 73-3. Defamation (committed by women)	0	0	0	90	277	315

Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

The overall picture of female delinquency consists of two interrelated components: quantitative and qualitative characteristics. In turn, according to the authoritative Kazakh criminologist E.O. Alaukhanov, it is "the analysis of qualitative signs over a long period that helps to reveal real trends and patterns of crime" (Alaukhanov, 2004). The qualitative analysis of crime is revealed through the analysis of the composition (proportions of various types of crimes) and the nature of criminal acts (the degree of public danger).

So, let us determine the percentage of different types of crimes for which women are most often convicted. An analysis of the official statistical indicators of convicted women in the Republic of Kazakhstan gives an idea of the most frequently committed crimes by women for the period from 2000 to 2021.

Table 3 "Number of convicted women by the most frequently committed types of crimes in the Republic of Kazakhstan" and Figure 6 "Ranking of convicted women by type of crime in the Republic of Kazakhstan", compiled by the author based on data from the CLS&SA GP RK, show that women are most often convicted of fraud, theft, as well as drug-related crimes.

Figure 5: Ranking of convicted women by type of crime in the Republic of Kazakhstan

Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

Similarly, most common types of crime, such as theft, fraud, and drug-related crimes, are also committed by women in the United States, England, Wales, and Italy (Campaniello, 2019).

Before turning to the analysis of the main types of crimes for which women are most often convicted in Kazakhstan, it should be noted that from 2000 to 2021, against the background of an overall decrease in the number of convicted women, there is a 6.5-fold increase in the number of women convicted for intentional infliction of grievous bodily harm, a 3-fold increase in the number of women convicted for taking a bribe, and the number of women convicted for premeditated murder and attempted murder increased by 1.3 times. This indicates an increase in the social danger of women's crimes.

Let us also refer to the statistical data related to the categories of crimes committed by women and men, in particular, to the visualized statistical indicators given in Figure 6 and in Figure 7. An analysis of the number of women who have committed criminal offenses in the Republic of Kazakhstan, depending on the degree of public danger, shows an increase in serious crimes, while the number of similar crimes committed by men tends to decrease.

On the whole, other categories of crimes indicate that the dynamics of female crime repeat the vector of development of crime in Kazakhstan as a whole: most often both women and men commit crimes of medium and minor gravity, which tend to increase, while particularly serious crimes tend to decrease among both men and women.

Figure 6: Number of women who committed criminal offenses in the Republic of Kazakhstan (by category)
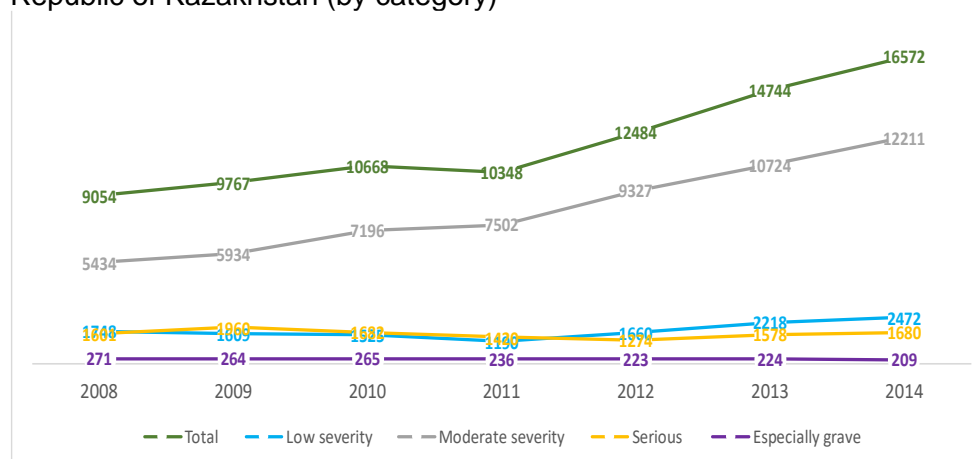
Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

Figure 7: Number of men who committed criminal offenses in the Republic of Kazakhstan (by category)
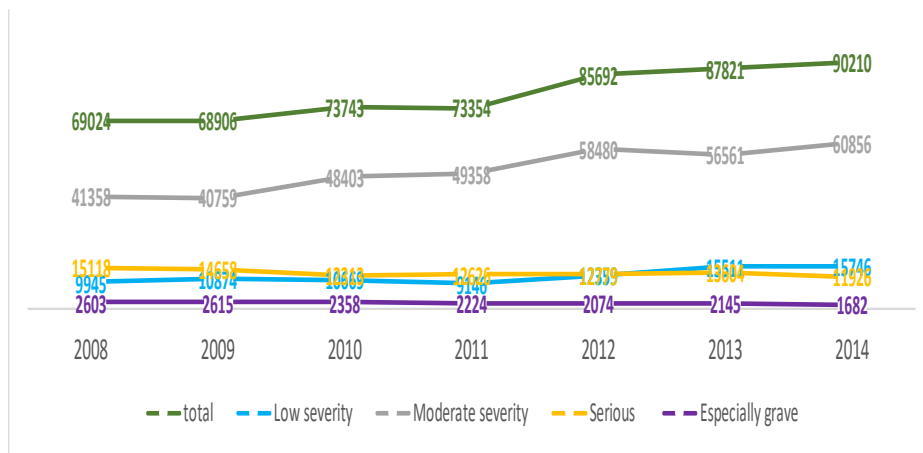
Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

Next, we will dwell in more detail on crimes against property committed by women in the Republic of Kazakhstan (using the example of fraud and theft) and propose measures aimed at combating these illegal acts.

Fraud is the most common type of crime among women in the Republic of Kazakhstan. From 2000 to 2021, there was a steady increase in the number of women convicted of fraud in the Republic of Kazakhstan by 5.4 times (see Figure 8).

Figure 8: The number of women convicted for the most frequently committed types of crimes in the Republic of Kazakhstan.
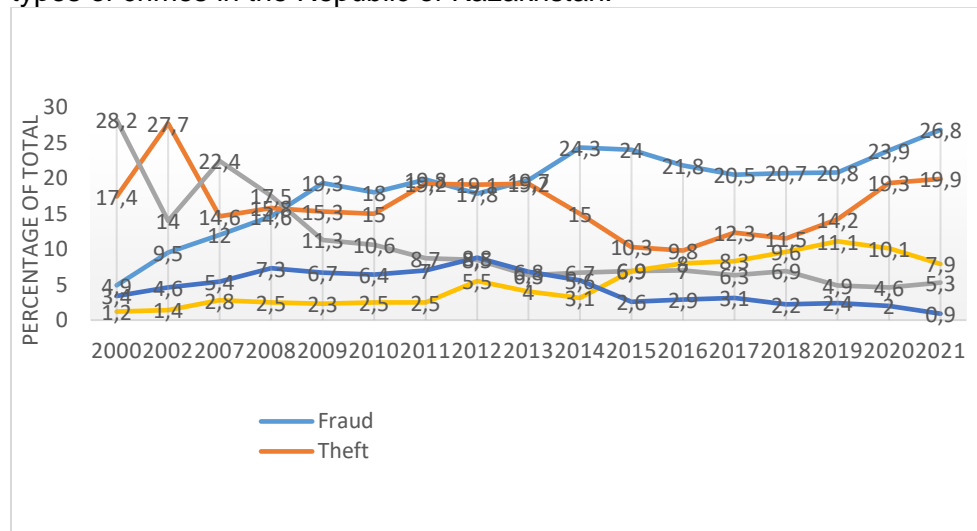

Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

The peak in the number of women convicted of fraud was reached in 2021, amounting to 26.8% of the total number of crimes committed by women, compared to 4.9% in 2000.

The example of Adler's position that if a woman works as a clerk in a bank, this can lead to the commission of bank fraud (Adler, 1975), confirms, as does the theory of possibilities, that an increase in women's participation in the labor market leads to an increase in criminal acts committed by women. This is evidenced by the official data on "Employment-to-population ratio, 15+, % (ILO estimate) » (see Figure 3 above) showing the increase in women's employment, and the statistics presented in Table 3. "Number of convicted women by the most frequently committed types of crimes in the Republic of Kazakhstan", confirming the increase in the number of women convicted of fraud.

Thus, in Kazakhstan, at least until 2019 (the period of the pandemic), it is possible to trace a correlation between the increase in women's participation in the labor market and the increase in female fraud.

However, during the COVID-19 period, labor market indicators show a decline in women's employment, with a further increase in women convicted of fraud. Moreover, over the past five years, there has been a sharp increase in this relatively new type of Internet fraud in the overall category of fraud. According to criminologists Bezborodov D.A., Gilinsky Y.I., Zarubin A.Y., Kravchenko R.M., Kraev D.Yu., Lyubavin M.A., Popov A.N., Fedyshin P.V., this is explained by the fact that the "consumption society" demands a continuous increase in spending on various types of purchases. Since not everyone manages to make money legally, and while theft or robbery on the streets is risky and not very effective, illegal "earning" with the help of a computer is both convenient and profitable. According to some reports, the total damage from cybercrime in the world exceeds 120 billion US dollars per year. Thus, significant changes in the dynamics and structure of crime will inevitably continue in our unfamiliar new world, which should be the subject of the most thorough scholarly research.

American researchers Pratt, Holtfreter, and Reisig, using a representative sample of 922 adults, conducted a survey in Florida, U.S. that proved that the results of regression models are consistent with previous studies, specifically that sociodemographic characteristics shape everyday online activities (e.g., spending time on the Internet and making online purchases). Moreover, researchers demonstrated that indicators of routine online activity predict the influence of socio-demographic characteristics on the likelihood of becoming a victim of online fraud (Pratt, Holtfreter, Reisig, 2010).

Today, in Western criminology, several theories have been developed to explain the increase in crime, which are relevant to COVID-19. One theory partially explains the situation with the increase in female fraud both during and after the pandemic. This is the *routine activities theory*, according to which "COVID-19 restrictions are reducing crime in public places... Mobility is also decreasing, while the use of online communications is increasing, leading to an increase in online crime and a decrease in offline crime (Hoeboer, Kitselaar, Henrich, 2023).

Thus, the positions of researchers of various schools of criminological thought confirm the inevitable trend of the growth of Internet fraud based on the theory of routine (everyday) activities, which in the context of the pandemic is becoming even more relevant.

The second most common type of crime among women is theft, which, like fraud, is a crime against property.

The proportion of women convicted of theft fluctuates slightly over the years (17.4% in 2000 and 19.9% in 2021), but generally remains within relatively stable limits. This is contrasted by the proportion of women convicted of fraud, which has increased by 5.5 times over 20 years.

At the same time, over the past six years, the total number of theft crimes committed by women has decreased by almost 2.5 times (see Table 4).

Table 4: Information on the number of women who have committed theft.

	2017	2018	2019	2020	2021	2022
Theft (Article 188 of the Criminal Code of the Republic of Kazakhstan)	6573	5723	5517	3875	3006	2666

Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

However, neither the number of women who have committed theft nor the number of women convicted of theft gives a complete picture of the extent of the crime.

According to an international survey of victimization in Kazakhstan (Assessment of the Level of Public Safety and Trust in Law Enforcement Agencies, 2018), only 66% of victims reported theft of a vehicle, only 32% of theft of items from a vehicle or parts of a vehicle, 56% of motorcycle theft, 30% of bicycle theft, 49% of cattle theft, 53% of burglary, and 26% of theft of personal property, which confirms the high latency of this type of crime (see Table 5). The situation is aggravated by the fact that the victims of theft themselves do not take proper measures to preserve their property.

Table 5: The proportion of crime victims in Kazakhstan and two major cities who reported the latest incident to the police

	Kazakhstan	Astana	Almaty
All crime	21	28	27
Car theft	66	54	78
Theft from the car or car parts outside	32	40	31

Motorcycle theft	56	100	84
Bicycle theft	30	44	38
Cattle theft	49	54	21

Note: From "Assessment of the level of public security and trust in law enforcement agencies", Astana, 2018, 66.

At the same time, the compensation of damages rate averages 43% *(*32 billion tenge out of 57 billion tenge over 5 years), which creates reasons for the population to express dissatisfaction with the work of the police (Project. Concept of Public Safety in Partnership with Society for 2024 – 2028, 2023). The same conclusion is confirmed by the data of an international survey assessing the level of security in Kazakhstan, according to which 44% of the surveyed victims of crimes, who reported them to the police, were very dissatisfied with the actions of the police.

Table 6: Level of satisfaction with police actions among victims of crimes who reported them to the police

	Completely satisfied	rather satisfied	rather dissatisfied	very dissatisfied	don't know/don't remember
All crime	20	12	21	44	3
Car theft					
Theft from the car or car parts outside	35	25	21	17	1
Motorcycle theft	13	13	18	54	1
Bicycle theft	59	17	3	21	0
Cattle theft	38	6	25	29	1
Break-in	9	21	9	55	6

Note: From "Assessment of the level of public security and trust in law enforcement agencies", Astana, 2018, 66.

Accordingly, the state needs to take measures aimed at combating the latency of crimes, as well as increasing the level of public confidence in law enforcement agencies by improving the quality of their work.

In presenting the criminological characteristics of crime, it is important to assess not only the quantitative and qualitative indicators of the crimes of

the type under consideration, but also of the persons who committed these crimes.

Another measure aimed at both preventing and combating female crime is the compilation of a profile of a typical female offender. Having information on the average age of a female offender, the state should take comprehensive measures aimed at working with women in this age bracket. The analysis of the report on the composition of convicts who committed criminal offenses, provided by the Criminology Service and Analysis Service of the Prosecutor General's Office of the Republic of Kazakhstan, made it possible to determine the typical statistical profile of a person who committed theft in the Republic of Kazakhstan. Age: between 21 and 39 years old; education: secondary; the primary occupation of the offender at the time of committing the criminal offenses: unemployed and not a student.

Even though men commit theft more often than women, the factors leading to the commission of the crime are practically the same (see Figure 9).

Figure 9: Composition of convicts who committed theft (Article 188, Part 1 of the Criminal Code of the Republic of Kazakhstan)
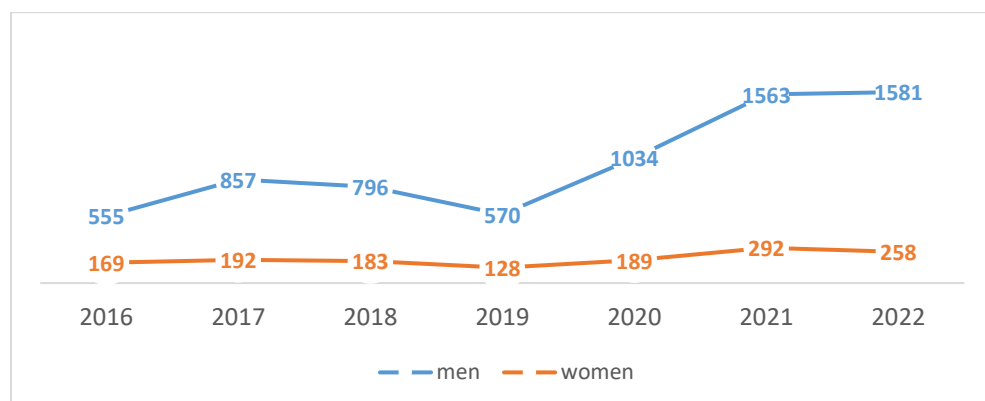
Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

Therefore, the typical profile of a person who has committed a theft would be common for women and men. The general nature of this profile is also confirmed by the analytical data on the categories of crimes given above.

Overall, having a typical profile of a person who commits a theft can help develop strategies to prevent and investigate theft and other crimes. However, for a more detailed typical description of a person who commits a particular type of crime, we would offer the following elements detailing his or her overall description:
-   socio-demographic characteristics: gender, age, place of residence, education, marital status, employment status;
-   criminal and legal characteristics: criminal record, type of offense, aggravating factors, reasons for committing the offense;

- psychological characteristics: sanity, intellectual qualities, temperament, etc.

Thus, it is necessary to improve the quality of official legal statistics in order to help solve not only the problem of the increased number of theft crimes but also to prevent other types of crimes committed by women in Kazakhstan.

Drug-related offenses are the third most common committed crime among women in the Republic of Kazakhstan.

From 2000 to 2021, there has been a significant decrease in the proportion of women convicted for drug-related crimes in the Republic of Kazakhstan.

In terms of the severity of drug-related offenses, misdemeanors, and serious crimes are the most common offenses committed by men and women (see Figures 10, 11).

Figure 10: Information on the number of women who have committed criminal offenses related to illicit trafficking in narcotic drugs, psychotropic or poisonous substances, their analogs, and precursors
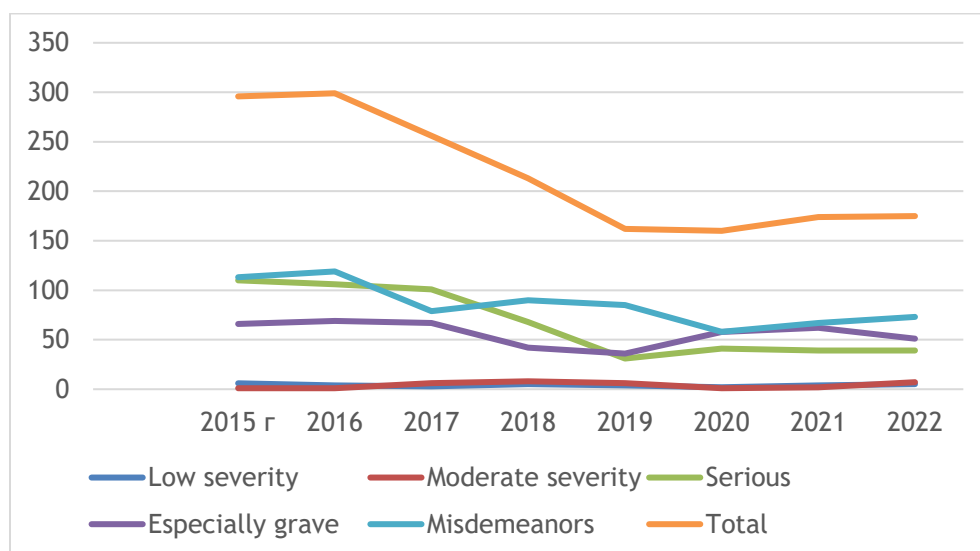
Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

Figure 11: Information on the number of men who have committed criminal offenses related to illicit trafficking in narcotic drugs, psychotropic or poisonous substances, their analogs, and precursors
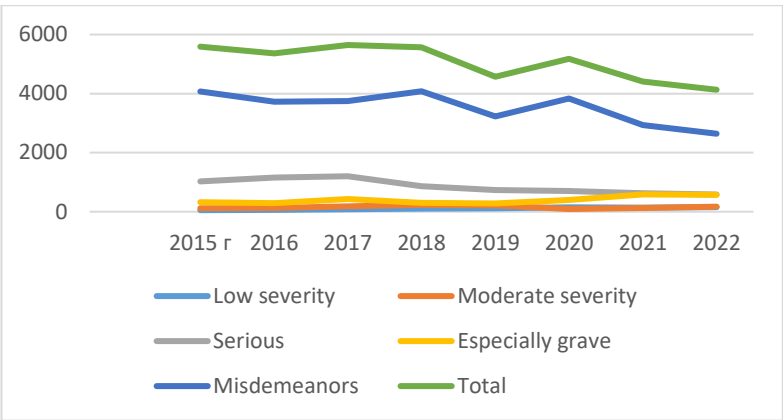
Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

In recent years, there has been a downward trend in the number of women who have committed criminal offenses while under the influence of narcotic drugs, psychotropic toxicants, and their analogs (see Table 7).

Table 7: Information on persons who committed criminal offenses under the influence narcotic drugs, psychotropic toxicants, and their analogs, precursors who were registered with the internal affairs bodies

		2016	2017	2018	2019	2020	2021	2022
1	Total offenses committed under the influence of drugs and toxic substances	1630	1708	1570	1347	1356	1120	764
2	Of these, committed by women	45	53	31	33	18	26	22
3	Total diagnosed with drug addiction	341	294	201	166	159	147	132
4	Of these, women	40	31	15	15	11	16	19

Note: Compiled by the authors based on "Statistical Indicators of the Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan" (https://qamqor.gov.kz/crimestat/statistics). In the public domain.

Official statistics show positive changes in the fight against drug addiction and the impact of institutional and legal measures aimed at preventing such crimes among women.

To date, the Criminal Code of the Republic of Kazakhstan has fourteen articles aimed at combating drug offenses (articles: 218, 262, 263, 264, 265, 286, 296, 297, 298, 299, 300, 301, 302, 303 of the Criminal Code of the

Republic of Kazakhstan). Since 1998, the Law "On Narcotic Drugs, Psychotropic Substances, Their Analogs and Precursors and Measures to Counteract Their Illicit Trafficking and Abuse" has been in force in Kazakhstan. In addition to the Act, such policy documents as Presidential Decree No. 394 of 16 May 2000 "On the Strategy for Combating Drug Addiction and Drug Trafficking in the Republic of Kazakhstan for 2001-2005" were adopted. It was repealed by the Decree of the President of the Republic of Kazakhstan dated June 18, 2009 No. 829 and replaced by the Decree on "On the Strategy for Combating Drug Addiction and Drug Trafficking in the Republic of Kazakhstan for 2006-2014", and supported by the Program for Combating Drug Addiction and Drug Dealing in the Republic of Kazakhstan for 2009-2011, the Sectoral Program for Combating Drug Addiction and Drug Dealing in the Republic of Kazakhstan for 2012-2016, the Decree of the President of the Republic of Kazakhstan dated November 29, 2010 No. 1113 "On Approval of the State Healthcare Development Program of the Republic of Kazakhstan "Salamatty Kazakhstan" for 2011 – 2015".

Since 2016, there have been no new sectoral state programs to combat the mentioned crimes but measures were taken to give the Government control over all dangerous types of synthetic substances and their analogs, and in 2021, "synthetics" were classified as hard drugs, the criminal liability for possession of which begins from 1 gram.

However, since 2021, there has been an increase in offenses related to narcotic substances. In 2023, the Government again adopts the document of the secondary legislation level "Comprehensive Plan for Combating Drug Addiction and Drug Dealing in the Republic of Kazakhstan for 2023-2025" (Decree of the Government of the Republic of Kazakhstan dated June 29, 2023 No. 508), which provides for the allocation of 53.1 billion tenge from the budget. The budget also provided almost 367 million tenge to the State State-Owned Enterprise "Center for Forensic Examinations" of the Ministry of Justice of the Republic of Kazakhstan.

In the context of our research, it should be noted that the practice of developing and implementing medium-term anti-drug state programs has a positive influence, as it reduces the level of this type of crime in Kazakhstan among both women and men. In this regard, the *theory of social control over crime (in particular, drug-related crime*) applied by the state is justified, according to Professor Y.I. Gilinsky. The theory would be applied in a narrow sense, as a set of legal means and methods aimed at influencing unlawful behavior to prevent, minimize, reduce or eliminate it (Gilinsky, 2015). In other words, the successful state policy of combating drug addiction in the Republic of Kazakhstan is based on the concept of social control over drug crime.

In the research literature, this type of control is also called legal control, or control over crime, which includes such components as the content of crime, the establishment of responsibility for the crime, the creation of state bodies and granting them special authority to combat crime, prevent and reduce crime, the mechanisms of non-state control over crime and the establishment of cooperation of non-governmental agents with state authorities to strengthen the social prevention mechanisms, etc.. Shopina

I.N., Mulyavka D.G., Grechanyuk S.K., and Fedchishina V.V. formulate the main tasks of transforming the existing models of social control as the prevention of crime. They also emphasize the importance of national and regional crime prevention programs, which, along with the main legislative framework, present the regulatory foundation for social control over crime (Shopina et al., 2019).

Once again emphasizing the importance of the measures taken by state bodies in this direction, it is necessary to focus on their shortcomings:

- The measures are legally punitive but not preventive;
- The public and non-governmental organizations are poorly involved in the prevention of drug abuse;
- There is no program for the compulsory treatment of drug addicts;
- We can also agree with the position of Y.L. Kazarinov, who proposed to intensify the fight "not only against the illegal production of narcotic drugs and their trade, but also against certain negative phenomena that nourish and support such criminal activity" (Kazarinov, 2000).

CONCLUSION

Quantitative and qualitative analysis of female crime in the Republic of Kazakhstan in the context of a gender approach allowed us to identify the following trends:

1. First, the presented statistical data indicate a relative consistency in the share of female crime in the overall composition of crime, which confirms the existence of a gender gap. The convergence of gender and social roles leads to the narrowing of the gap between female and male crime, which has been especially true over the past five years.

2. Secondly, before the adoption of the new Criminal Code of the Republic of Kazakhstan in 2014, for fifteen years there was a continuous increase of female crimes. During this period, the change dynamics of female crime, depending on the degree of public danger, is close to male crime dynamics, which is confirmed by the increase of the most frequent types of crime of medium and minor gravity and a decrease in more serious crimes among both genders. However, over the past 20 years, there has been an increase in women convicted for intentionally causing grievous bodily harm, for premeditated murder and attempted murder, which indicates a growing trend in the social danger of female crime. After the adoption of the new Criminal Code of the Republic of Kazakhstan, there has been a sharp decrease in the number of female crimes, with a simultaneous increase in administrative offenses committed by women.

3. Thirdly, over the past 20 years, women in Kazakhstan have most often been convicted of crimes against property (fraud, theft), as well as drug-related crimes. Against the backdrop of a decrease in the total number

of female crimes, the dynamics of steady growth of these three types of crimes committed by women can be traced;

4. Fourth, detailed description of female fraud demonstrates its significant increase, especially during the COVID-19 period, as well as the emergence of new types of fraud.

5. Fifth, analysis of thefts committed by women indicates the latency of this type of crime. The typical profile of the person who commits the theft has no particular gender difference: with age between 21 and 39 years old; education level – secondary; main occupation: unemployed and not a student.

6. Sixth, over the past 20 years in the Republic of Kazakhstan there has been a significant decrease in the proportion of women convicted of drug-related crimes, which parallels an identical trend among men. The severity of drug crimes is also similar, with misdemeanors and felonies most likely to be committed by both men and women.

The trends we identified allowed us to gain an understanding of the current state of female crime, its dynamics, characteristic features and to propose the following measures to combat female crime:

- identifying vulnerable groups of women who are at greatest risk of committing crimes will make it possible to direct resources and efforts to crime prevention specifically among these groups;

- based on trends, it is possible to develop targeted programs and strategies that will be most effective in combating specific types of crimes committed by women. Trends can serve as the basis for changing current legislation and developing new regulations aimed at reducing the level of female crime. This will make it possible to more rationally distribute resources aimed at combating female crime and avoid unnecessary costs. Of particular relevance is the development and implementation of social programs that support women in employment, education and entrepreneurship;

- in addition, trend analysis allows law enforcement agencies to better understand the nature and extent of female crime, which can contribute to the development of more effective methods of investigating and preventing crimes.

Thus, identifying trends in female crime is an important tool for creating a comprehensive and effective strategy to combat crime in the Republic of Kazakhstan.

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SUSTAINABILITY REPORTING STRATEGY IN UNIVERSITIES: USING THE UI GREENMETRIC TO MEASURE THE SUSTAINABILITY CONTRIBUTION OF UNIVERSITIES IN ASIA

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Abstract

This research is concerned with universities as agents of change in achieving sustainable development goals. Universities have great potential to contribute to sustainability through their innovations and programs. Sustainability reporting is one form of conveying information about universities' sustainability contributions. This study aims to analyze the relationship between university rank, region, and university size among 685 universities in Asia that participated in the UI GreenMetric during the 2022–2023 period, totaling 1,273 observations. The data were analyzed using regression analysis. The results indicate that university rank and region significantly influence sustainability reporting and that university size does not. This suggests that universities are strongly influenced by external factors, such as rankings and regional considerations, when reporting their
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sustainability contributions to fulfill the demands of external stakeholders. This research is useful in determining sustainability reporting policies for universities in the Asian region.

INTRODUCTION

Universities play a crucial role in community development and sustainable progress by preparing future graduates who will become the leaders of tomorrow (Alonso-Almeida et al., 2015). In today's world, universities must not only produce high-quality graduates capable of creating a sustainable society but also manage the economic, social, and environmental impacts of their operations, both positive and negative (Disterheft et al., 2012). As sustainability leaders and advocates, universities are expected to ensure that the needs of current and future generations are met, equipping professionals with expertise in system development to guide students in transitioning to sustainable social practices (Lozano et al., 2013). Therefore, information on the steps and actions taken toward sustainable development must be communicated to all university stakeholders.

Traditionally, information disclosure in higher education has focused on research outcomes, graduates, and financial information. Sustainability reporting in higher education should involve broader considerations, such as identifying and meeting stakeholder expectations and enhancing information transparency (Garde-Sánchez et al, 2013). Sustainability reporting can take various forms to meet the information needs of higher education stakeholders, including students, faculty staff, and the broader community (Ceulemans et al., 2015). It also provides an opportunity for universities to be transparent and accountable (Alonso-Almeida et al., 2015). Thus, sustainability reporting is considered a managerial and accountability tool, linking it to the strategic goals of the organization (Brusca et al., 2018).

In 2010, Universitas Indonesia launched the UI GreenMetric World University Ranking on Sustainability, an initiative aimed at promoting sustainability in higher education institutions globally. UI GreenMetric (UIGM) incorporates several sustainability reporting standards specific to higher education, allowing universities to share their experiences and best practices on sustainability issues. It also provides a framework for measuring sustainability policies and facilitates comparisons among universities. UIGM is the first and only ranking system that has established a voluntary standard for improving university infrastructure and fostering sustainable campuses worldwide.

The UIGM World University Ranking on Sustainability refers to several models of sustainability assessment and academic ranking of universities

using three aspects as criteria: environmental, economic, and social aspects. The environmental aspect comprises natural resource use, environmental management, and pollution control. The economic aspect includes profit and efficiency, and the social aspect encompasses education, community, and social involvement (UIGM Guideline, 2019).

The UIGM World University Ranking on Sustainability does not require reports from participants, but universities only submit sustainability information through an online survey in six main categories. The criteria and their respective weights are green statistics (15%), energy and climate change (21%), waste management (18%), water use (10%), transportation (18%), and education (18%). The UIGM World University Ranking on Sustainability represents the first effort to establish sustainable practices in universities, encouraging institutions to commit to green initiatives and promoting sustainable operations. It provides universities with an opportunity to assess their strengths and weaknesses in promoting green campuses and sustainable development (Suwartha dan Sari, 2013). UIGM was attended by 1,050 universities in 84 countries in Asia, Africa, Europe, North America, Latin America, and Oceania. Asia, comprising Central Asia, East Asia, South Asia, Southeast Asia, and West Asia, has the highest number of participants. UIGM is designed as a practical tool for beginners to assess the sustainability of higher education institutions.

Based on the above description, universities as organizations must prove their commitment to sustainability, as they are aware of the economic, social, and environmental impacts of their activities. Higher education has several similarities with other complex organizations, such as companies, government organizations, and nongovernmental organizations (Siboni et al., 2013). In addition to being complex organizations, universities are pivotal in transforming society. Universities play an active role in sustainability by educating future generations, assisting the business sector in adopting the sustainability agenda, and fulfilling their organizational responsibilities. Universities must be actively involved in planning their organizational change for sustainability by assessing and reporting efforts in education, research, community services, partnerships, and campus experiences. Sustainability reporting supports the implementation of the Sustainable Development Goals (SDGs) and provides many benefits for universities in evaluating the appropriateness of activities with prevailing norms and values in society, thus building trust and credibility.

Some previous studies (Fonseca et al., 2011; Lozano, 2011; Alonso-Almeida et al., 2015; Ceulemans et al., 2015; Sassen and Azizi, 2018; Sepasi et al., 2019) have affirmed that sustainability reporting in higher education is still in its infancy both in terms of quantity and quality. Although universities have practiced sustainability in various areas (teaching, research, governance, and institutional practices), they have been slow to adopt comprehensive sustainability reporting. This includes the publication of consistent and regular reports that meet third-party standards and the integration of sustainability reporting into their overall management systems (Bice & Coates, 2016). Additionally, there has been little effort to explore the implementation of sustainable development in higher education (Lozano,

2010), and universities are lagging in the process of SDG implementation (Leal Filho et al., 2019).

The current study aims to determine the sustainability reporting strategies of universities in the Asian region using UIGM indicators to measure their contribution to sustainability. Sustainability reporting should be able to provide information for all stakeholders and can encourage comparisons of sustainable development between universities and benchmarking activities (Lozano, 2006).

This research contributes novelty to the existing literature and bridges the gap in the literature regarding universities' contribution to sustainability through sustainability reporting. Sustainability reporting in higher education is still in its infancy, both in quantity and quality. The literature on sustainability reporting in higher education is also limited. Therefore, this study tested H1. it evaluates the disclosure of sustainability information by universities using data from the UIGM Ranking, which measures their sustainability contributions as reflected in their overall score and its impact on their reputation.

This paper is structured as follows: Section 2 reviews the relevant literature to analyze the hypotheses; Section 3 analyzes the methodology used to conduct empirical research on higher education sustainability reporting; Section 4 contains the results of this study; Section 5 presents a discussion of the research findings; and Section 6 concludes the paper.

LITERATURE REVIEW

Legitimacy theory

According to legitimacy theory, there is a contract between companies and society, and companies seek legitimacy by meeting society's expectations. This theory expands the principal agent relationship to include a broader group of stakeholders to represent society's interests and expand the role of corporate governance mechanisms to align corporate activities with stakeholder interests. Thus, managers are motivated to disclose more information to support their claims of legitimacy (Shamil et al., 2014).

This theory implies that organizations can operate only if society supports their goals. This means that legitimacy is the general perception of the organization's actions. This implies that colleges must pay attention to the rights of the broader community. If society perceives that an organization is operating acceptably, then it can pose a threat to the organization. Failure to meet societal expectations can lead to sanctions imposed by the community (Sassen et al., 2018).

Sustainability disclosure is a prerequisite for corporate legitimacy claims and provides a broader explanation for companies to disclose sustainability information. Therefore, generally accepted voluntary disclosure will strengthen the legitimacy of an organization by demonstrating that it is well organized, knowledgeable, and operates in an ethical and socially appropriate manner (Ntim et al., 2017). Thus, legitimacy strategies aim to

secure legitimacy as a valuable resource for the organization (Hahn & Kühnen, 2013).

Sustainability reporting in higher education demonstrates a university's commitment to maintaining and improving its reputation and good relations with stakeholders through transparency and communication. It also allows universities to communicate with stakeholders about their efforts in achieving sustainability goals and to respond to criticism and feedback from stakeholders. This will create a better understanding of their societal role. Additionally, it can build trust with stakeholders because universities not only take academic responsibilities but also care about social and environmental impacts.

Sustainability reporting in higher education

Sustainability reporting is a formal communication tool to disclose an organization's sustainability performance (Kaur & Lodhia, 2018). The normative foundations of sustainability and CSR explain that the economic, social, and environmental dimensions (Triple Bottom Line) are interconnected over time. Thus, sustainability and CSR are consistent concepts (Hahn & Kühnen, 2013).

Sustainability reporting is a voluntary activity that aims to provide a means of communication and accountability regarding the impact of sustainable development on stakeholders. It can also help in assessing and improving sustainability performance over time, comparing with other organizations, facilitating transparency and external audits, and demonstrating the influence of and on stakeholders (Ceulemans et al., 2015).

Moreover, sustainability reporting aims to provide information on sustainability impacts to address stakeholder needs and serve as an instrument to measure an organization's sustainability performance (Larrán Jorge et al., 2019). Sustainability reporting in higher education offers a way to assess the current state of higher education in economic, environmental, social, and educational dimensions. It also helps in communicating the intitution's sustainability efforts to stakeholders (Lozano, 2011). Furthermore, it allows an organization to communicate its values, actions, and performance through the most important goal of sustainable development, while engaging various stakeholders to achieve shared objectives (Adams, 2015).

Sustainability reporting serves as a tool for universities to assess where they are and plan future directions for system development in higher education. Changes due to sustainability reporting must be institutionalized and reinserted into the higher education system. To reach its full potential, sustainability reporting must incorporate material issues and involve external stakeholders (Ceulemans et al., 2015). Higher education must actively engage in planning its organizational change for sustainability by assessing and reporting efforts in education, research, community outreach, operations, university collaborations, institutional frameworks, educational programs, and campus experiences (Ceulemans et al., 2015). For universities, sustainability reporting is a medium to communicate more

comprehensively with stakeholders. The institution's sustainable activities positively impact the organization and its stakeholders. The information presented in sustainability reports should meet the needs and expectations of various stakeholders, offering valuable insights into the university's sustainable activities (Sassen & Azizi, 2018).

University sustainability information is commonly disclosed through platforms like UIGM. UIGM uses a ranking system to measure and compare the sustainability performance of universities around the world. Rankings are based on various indicators that reflect universities' contributions to sustainability, such as green infrastructure, energy efficiency, waste management, water use, and environmental policies. The rankings encourage universities to continuously improve their contribution to sustainability to improve their position in the rankings. The ranking system provides a benchmark for universities to compare their performance with other institutions and identify areas for improvement. Universities with low rankings can gain a competitive advantage and can position themselves internationally (Marienge, 2009).

Universities participating in UIGM comprise universities from different countries with environmental challenges. Therefore, universities tend to disclose their contributions to addressing local issues. The level of awareness and concern for sustainability issues also differs between regions, which can affect how detailed and comprehensive sustainability reporting is. As with research in the corporate sector, cross-border research is closely related to institutional arrangements that affect organizational behaviour and relationships with stakeholders (Wu, 2001). Some of the literature explaining commitment to sustainability has been supported by the principles of legitimacy theory.

UIGM as a ranking seeks to measure universities' contributions and is a tool for universities to gain international recognition. It also assists universities in reporting their sustainability contributions to both academic and non-academic activities. Thus, the more information a college reports about its sustainability activities, the more transparent it becomes. Therefore, the hypothesis of this study is as follows: There is an influence between region, ranking, and campus type on university sustainability contributions.

RESEARCH METHODS

The UIGM ranking is a ranking through online survey results related to the condition and sustainability policies of universities around the world. UIGM comprises six indicators, namely, setting and infrastructure, energy and climate change, waste, water, transportation, and education and research. It also includes 17 SDGs in each indicator. The setting and infrastructure indicator covers SDGs 11, 12, and 17; the energy and climate change indicator covers SDGs7, 11, 13 and 17; the waste indicator covers SDGs 3, 12, 14, 15, and 17; the water indicator covers SDGs 6 and 17; the transportation indicator covers SDGs 11, 13, and 17; and the education and

research indicator covers SDGs 1, 2, 3, 4, 5, 8, 9, 10, 13, 14, 16, and 17. Thus, universities that participate in UIGM are also expected to have made efforts to fulfil the SDGs.

The current research was conducted at universities participating in UIGM in the Asian region, including Central Asia, East Asia, South Asia, Southeast Asia, and West Asia. The Asian region was chosen because almost more than 50% of UIGM participants in 2022–2023 were universities in Asia. Therefore, the sample of this study amounted to 685 universities, with a total of 1,273 observations for the 2022–2023 period.

The research variables comprise the dependent variable, namely, university sustainability reporting, which is measured by the overall UIGM score and the scores for individual UIGM indicators. The independent variables encompass university rank, region, and size. College ranking is measured by the institution's position in the Asia ranking. The reason for selecting this variable is related to reputation and visibility, where higher-ranked universities tend to have greater visibility and face higher public expectations. In terms of resources, higher-ranked institutions often have access to greater resources, which may influence their capacity to undertake and report on sustainability initiatives. In addition, leading universities may have greater influence in setting trends and standards in sustainability reporting.

Furthermore, the region is divided into five, namely, Central Asia, East Asia, South Asia, Southeast Asia, and West Asia, where each region certainly has a different character in responding to sustainability. The reasons for selecting this variable include the regulatory context where different regions may have different regulations and policies related to sustainability and reporting. Furthermore, environmental conditions where specific environmental challenges in a region may influence the focus of sustainability initiatives and reporting. Even the level of economic development in different regions may affect the priorities and resources available for sustainability initiatives.

University size is measured by the type of institution, which is classified into two categories: specialized and comprehensive. The type of institution will certainly also provide a different color in its sustainability activities. College size relates to capacity and resources, with larger colleges likely to have more resources to allocate to sustainability initiatives and reporting. Size can also affect operational complexity, which impacts the type and scale of sustainability issues faced. In addition, larger institutions may have greater environmental and social impacts, increasing the need for comprehensive reporting. Colleges that have complex organizational structures will have a bearing on decision-making processes, which can impact sustainability implementation and reporting.

Therefore, to avoid data bias, data from UIGM was used. This is due to different reporting standards in each region. Table 1 presents the measurement of research variables.

Table 1. Variable measurement

Research Variable	Measurement
Dependent variable	
Sustainability reporting	Overall UIGM score, Individual UIGM score
Independent variable	
University rank	The position of university ranking in in Asia
Region	Central Asia $= 1$
	East Asia $= 2$
	South Asia $= 3$
	Southeast Asia $= 4$
	West Asia $= 5$
Size	Specialized type $= 1$
	Comprehensive type $= 2$

The present study used regression analysis to explain the effect of ranking, region, and campus type on the contribution of sustainability in higher education. The research model to test the proposed hypothesis is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon,$$

where:

Y: overall score

β_0: constant term

β_n: coefficients of independent variables

X_1: university rank

X_2: region

X_3: size

RESULTS

The results of the descriptive analysis confirm that the average overall score is 5548.05, which translates to a 55% level of sustainability information disclosure according to UIGM. Additionally, each indicator also reaches almost 50%. This illustrates that universities have tried to contribute to sustainability even though not all of them have (Table 2).

Table 2: Summary of descriptive analysis

Variable	Minimum	Maximum	Mean	Std. deviation

Overall score	475.00	8,925.00	5,548.05	1,924.58
IS	60.00	1,475.00	868.45	282.27
EC	60.00	1,950.00	1,087.60	391.14
WS	.00	1,800.00	894.28	443.71
WR	.00	1,000.00	525.60	267.49
TR	10.00	1,750.00	1,052.20	389.19
ED	25.00	1,800.00	1,120.19	429.19
University rank	1.00	685.00	320.59	186.97
Region	1.00	5.00	3.79	1.17
Size	1.00	2.00	1.69	.46

Figure 1 shows the score per indicator during 2022–2023, where the contribution of universities to education and research (ED) has the highest value compared with other indicators. This is due to the characteristics of universities engaged in education and research. The education and research indicator includes SDGs 1, 2, 3, 4, 5, 8, 9, 10, 13, 14, 16, and 17, which means that universities have a good sustainability contribution. However, there are still some things that must be improved because the contribution is still at 50%, for example, the waste indicator (WS) that includes SDGs 3, 12, 14, 15, and 17. Universities must increase their awareness of their contribution to waste management, both organic and nonorganic waste.

Figure 1. Score per indicator

The current study also analyzed universities in each region. Figure 1 shows that universities in the Southeast Asia region are represented by 38% of the total sample, followed by West Asia at 31%. Subsequently, universities

in South Asia represent 18%, Central Asia 8% and East Asia 5%. The data shows that the region that discloses the most sustainability activities through UIGM is Southeast Asia. Based on the 2022–2023 data, 38% of universities are in Southeast Asian countries, including Indonesia, Malaysia, Philippines, Vietnam, and Thailand, while the least UIGM participants are universities located in East Asian countries at 5%. This shows that the awareness of universities in sustainability in the Asian region as a whole is still uneven.

Figure 2. Campus region

■ Asia Tengah ■ Asia Timur ■ Asia Selatan ■ Asia Tenggara ■ Asia Barat
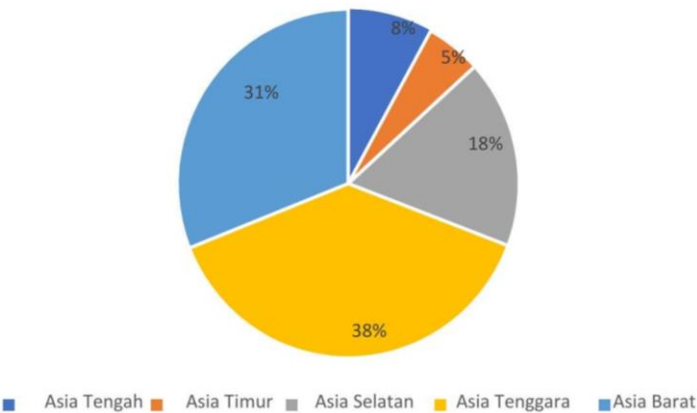
Furthermore, the Pearson correlation test was conducted to determine whether there is a relationship between the two research variables. The results of the analysis validate that the sig. > .01 value means that there is no correlation between the research variables (Table 3.)

Table 3: Correlation matrix

	Overall	IS	EC	WS	WR	TR	ED	University rank	Region	Size
Overall score	1.000									
IS	.836**	1.000								
EC	.854**	.643**	1.000							
WS	.889**	.687**	.683**	1.000						
WR	.879**	.696**	.710**	.790**	1.000					
TR	.890**	.715**	.709**	.739**	.757**	1.000				

ED	.882**	.712**	.703**	.716**	.712**	.731**	1.000		
University rank	−.978 **	−.815**	−.833**	−.878**	−.863**	−.870**	−.858*	1.000	
Region	−. 054	−.077*	−.075*	−.005	.004	−.073**	−.053	. 043	1.000
Size	.199**	.216**	.149**	.187**	.133**	.134**	.216**	−.198**	.076**	1.000

Note: This table presents the Pearson correlations (** denotes significance at the .01 level).

The regression analysis results verify that the proposed research model is feasible with a value of $F = .000$. The magnitude of the influence of the independent variable on the dependent variable is 95.7%, as shown by R^2. For the research variables, university rank and region affect sustainability reporting (overall score), but size has no effect (Table 4).

Table 4. Regression analysis

Variable	Unstandard coeff.	Standard coeff.	t	Sig.
University rank	-10.500	-.976	-164.311	0.000
Region	-19.965	-.012	-2.086	0.037
Size	27.061	0.006	1.091	.275

DISCUSSION

Universities are characterized by teaching and research, but today, they are also contributors to social change. Universities must develop effective institutional strategies based on priorities to meet current demands (Gorpe et al., 2023). Therefore, universities have a responsibility to contribute to sustainability. Rankings such as UIGM provide additional motivation for universities to develop their sustainability strategies. The United Nations developed the SDGs, where all sectors including government, companies, and communities are asked to engage in the SDGs to reduce inequality, improve health and education, and spur economic growth. As such, universities must include sustainability topics in their strategies. One way universities can contribute to the SDGs is by including them in their reporting (Leal Filho et. al., 2022).

The results of descriptive statistical analysis with a sample period of 2022–2023 affirmed that universities did not experience significant changes in sustainability contributions. The IS (setting & infrastructure) indicator covering SDGs 11, 12, and 17 has not changed, while the WS (waste) indicator covering SDGs 3, 12, 14, 15, and 17 and TR (transportation) covering SDGs 11, 13, and 17 have only increased by 1%. Furthermore, the EC (energy and climate change) indicator covers SDGs 7, 11, 13, and 17; WR (water) covers SDGs 6 and 17; and ED (education and research) covers SDGs 1, 2, 3, 4, 5, 8, 9, 10, 13, 14, 16, and 17 decreased by 1%. If we look at the number of UIGM participants in the research period, an additional 97 universities participated. However, this did not have a real impact on sustainability contributions. This means that the new participant universities have almost the same contribution or even some are still lacking in their sustainability contribution.

Testing the research model is performed with regression analysis, which shows the influence of university ranking and region variables. However, the size variable does not affect the sustainability reporting of universities. The ranking of universities shows the position of universities in the UIGM ranking in the Asian region. College rankings provide information about measurable dimensions of service quality; hence, they are highly important in public accountability (Adhikariparajuli et. al., 2021). Universities are increasingly motivated to achieve rankings to increase trust, credibility, and reputation in society. This is following legitimacy theory, where universities need legitimacy from the environment and society by disclosing their sustainability contributions in the form of sustainability reporting, where sustainability reporting reflects the strategies that have been conducted by universities in the form of sustainability activities. This will certainly provide its appeal to the community so that universities can compete with their competitors.

The region also plays a role in sustainability reporting in higher education, where each university will adjust to its location because it has different characteristics and sustainability issues to respond to. This is in line with the study of Larrán Jorge et al. (2019), which proves that there are differences in the information disclosed in sustainability reports by universities with different geographic locations. According to legitimacy theory, the disclosure of sustainability information as a form of contribution by universities is strategically done to improve their reputation in the eyes of stakeholders (Alonso-Almeida et al., 2015). The findings of the present study validate that universities in the Southeast Asia region have the most participants compared with other Asian regions. This indicates that universities in Southeast Asia are already aware of their contribution to sustainability. However, it does not rule out the possibility that universities in other regions also have the same awareness because the data used in this study are data sourced from UIGM. Southeast Asian universities also increased their participation in UIGM from 217 in 2022–269 in 2023. This is inversely proportional to East Asia, which has the least number of universities participating in UIGM; for instance, from 2022 to 2023, only one university participated in UIGM. Thus, the geographical location of a university will

affect sustainability reporting in universities by considering local cultural values and rules that apply in each region in sustainability reporting.

Campus type in this study refers to the grouping of universities based on scale and complexity according to UIGM. Specialist type universities focus on certain disciplines and have a small number of faculties, resulting in a small student population. In contrast to the comprehensive type, which offers various disciplines and many faculties, the student population is also larger. Therefore, this type of campus is related to the size of the university. The research data shows that comprehensive type colleges are more numerous at 68%, while the specialist type is 32%. The results confirm that campus type does not affect sustainability reporting, which are in line with the research of Larrán Jorge et al. (2019), who concluded that the size of the university does not affect sustainability reporting. This could be because sustainability reporting is more determined by the commitment and policies of the university and the motivation that arises from the university. Universities that have a sustainability invasion strategy will try to utilize resources efficiently and reduce negative impacts on the environment; thus, it is not determined by the size of the university.

CONCLUSION

The current study found that university rank and region affect sustainability reporting, while size has no effect. The ranking and region of universities will affect the context, resources, and external motivation in sustainability contributions through sustainability reporting. Higher-ranked universities will have more access and resources for developing and implementing sustainability programs. Colleges with different locations will also affect their sustainability program planning and sustainability reporting. However, the size of the college has no effect because sustainability contributions are more determined by internal commitments, policies, and motivations that exist in all sizes of colleges.

This research contributes novelty to the existing literature and bridges the gap in the literature regarding universities' contribution to sustainability through sustainability reporting. This research also provides implications for policymakers to consider sustainability reporting standards to be compatible with all universities. Thus, universities' sustainability reporting can be compared according to their characteristics. The implications of this research also can help universities improve the quality and effectiveness of their sustainability reporting, including improvements in data collection methodologies, reporting formats, and selection of relevant indicators.

The limitation of this research is that the data comes from secondary data published by UIGM. This study only covers two years (2022 and 2023). Future research is expected to use more comprehensive data, including primary and secondary sources, and extend the research period to obtain a deeper understanding. Future research could also take a qualitative approach by conducting in-depth case studies on universities that are

considered leaders in sustainability reporting to identify best practices and success factors.

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THE INNOVATIVE WAY OF COOPERATION BETWEEN A LARGE COMPANY AND START-UPS EXTENDS THEIR SURVIVAL PERIOD - THE EXAMPLE OF ŠTARTAJ SLOVENIJA

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Abstract

Large enterprises seek collaboration with startup companies to gain agility, relevance, and a perception of being socially responsible. For startups, collaboration with large enterprises is extremely important, as on average only 10% of startups survive their first year. This collaboration helps them accelerate development, establish market presence, and improve survival rates. This article presents the brand Štartaj Slovenija, an innovative model of collaboration between a large enterprise and startup suppliers, based on social responsibility. This model supports the thesis that such collaboration ensures startups a faster market entry, longer survival, and greater long-term resilience, while allowing large enterprises to create competitive advantages and build a reputation as socially responsible companies. Štartaj Slovenija transcends traditional partnerships by additionally involving a marketing agency and a mass media outlet in the collaboration. The article also confirms that such innovative collaborations are not risky for large enterprises.

Key Words

Start-up company; a big enterprise; innovative cooperation and partnership; innovative networking; social responsibility.

INTRODUCTION AND METHODOLOGY

The European innovation ecosystem is stronger than ever, yet, as Larkin and O'Halloran (2018) argue, the needs for available financing and collaboration remain insufficiently met. Given the scale and pace of changes brought about by the Fourth Industrial Revolution, greater efforts are needed to improve connections between traditional companies and new market players for continued success. The phenomenon of collaboration between large and startup companies raises several questions regarding the viability of such partnerships, as research indicates that these collaborations pose significant risks for large companies (Larkin and O'Halloran, 2018).

Although research on collaboration between large and startup companies is not new, it has been attracting increasing interest each year. This is evidenced by the fact that the number of scientific articles on this topic increased by an astonishing 81% between 2016 and 2020 compared to the period from 2011 to 2015. This surge coincides with the exponential growth of information and communication technologies and their profound impact on various sectors, affecting existing business models related to large corporations (Bertin, 2022).

Our research questions focused on determining whether there are innovative solutions for connecting large companies with startups, what the motivations for such connections are, what barriers exist in these partnerships, whether it is true that large companies are primarily interested in increasing sales and expanding their product range, and whether it is true that for startups, partnering with large companies is an opportunity for greater market affirmation, faster and higher-quality growth, and increased sales.

The first hypothesis posited that innovative collaboration between a large company and a startup ensures longer survival and greater long-term resilience for the latter, as defined by existing research. We aimed to refute the second hypothesis, which claimed that collaborations between large companies and startups are too risky to be worthwhile. The purpose of the article was to test the third hypothesis, which suggested that such collaborations enhance the reputation of the large company, and to determine whether a large company, through socially beneficial connections, becomes perceptually more significant compared to its competitors.

In our research, we employed a combination of qualitative and quantitative methods to gather primary and secondary data. We focused on methods of description, compilation, synthesis, and induction, which allow for general conclusions based on specific and individual facts of the case under study. The research was based on a review of articles with comparable content concerning the collaboration between large and startup companies and an analysis of a case study involving a large company that achieved a business goal through innovative collaboration with startups. This goal was not directly tied to immediate sales results and profits but rather to the strategic aim of acquiring a desired target group while also generating a goal of social responsibility. Important information was obtained through individual interviews with key personnel in the large company and the agency

responsible for designing, implementing, and monitoring the project's development. This provided the necessary details to answer the research questions and evaluate the hypotheses.

THEORETICAL FINDINGS AND KNOWLEDGE

The significance and impact of startups and the role of large corporations

Startups are classified as small enterprises whose impact on economic development and strength is crucial. They are considered the driving force behind economic growth and the generation of innovations, bringing new products, services, and technologies to the market (Mathur and Agarwal, 2023). Unlike other small businesses, their market entry is uncertain and fraught with numerous risks (Goel, 2018). As Mathur and Agarwal (2023, p. 58) note, "One of the most significant challenges faced by startups is financing. Startups often require specific capital investments to fund research and development, marketing, and operations, but they frequently lack the financial history or assets necessary to secure traditional forms of financing such as bank loans or venture capital. Another challenge they face is the ability to attract and retain top talent." Initially, researchers categorized startups based on the fact that they were at the beginning of their business journey (Freeman, 1983), which included any newly established company regardless of size and scope. Later, this was recognized as an error. Consensus emerged that a startup is a small business fundamentally driven by innovation, dictated by the complexity of demands from both domestic and international markets (Krejci, 2015). These researchers also identified a high interdependence between innovation and growth, as well as a high degree of risk and uncertainty (Ries, 2011; Boyer and Blazy, 2013; Hyytinen et al., 2015). According to Zaeem-Al Ehsan (2021), over 100 million startups commence operations annually.

Startups have a direct impact on job creation and new production, and they contribute directly to immigration and increased regional productivity (Wennekers, 1999; Carree, 2003; Fritsch and Mueller, 2004). Additionally, Fritsch and Mueller (2004) found that startups encourage larger companies to operate more efficiently, striving to be more competitive and innovative. Al Ehsan (2021) highlights the significant need for governments to promote the growth and success of startups, as their market performance is directly linked to economic growth and they are a key driving force in modern economies (Akkaya, 2019; Bosma and Schutjens, 2007; Van Stel et al., 2005). Startups excel in generating successful ideas and concepts, while larger companies are much better at implementing these successfully (Yoon and Hughes, 2016). Research results confirm that EU funds positively impact the development of companies (both small and large) and play an important role in improving their competitive market position. There is a positive correlation between economic effects related to access to European funds and the competitiveness of companies that could draw on these funds.

This is corroborated by numerous studies (Dorożyński et al., 2013; Peszko, 2014; Czauderna et al., 2016; Dubel, 2017; Bostan et al., 2019).

Some large companies have also recognized that promoting the small and medium-sized enterprise (SME) sector presents a multifaceted opportunity for them. In particular, collaboration with startups offers the acquisition of innovative products, additional impetus for the development of corporate culture, the building of a perception as an innovative corporation, brand strengthening, enhanced reputation in broader society, and increased competitiveness (Athirah binti and Ho Jo, 2023; Jamieson et al., 2012).

Understanding collaboration: a corporate perspective

Collaborations and cooperation among companies stem from the fact that firms are rarely self-sufficient in terms of resources and knowledge (Vishnu, 2023; Freel, 2003). Such collaboration is predicated on the complementarity of resources and skills that each partner brings to the partnership (Bertin, 2022). As Paul Valery famously stated, "We share the best we have and enrich ourselves with our mutual differences" (Wikipedia, n.d.). Establishing collaborations between large and small companies is consistently challenging (Giglio et al., 2023), and successful cooperation depends on each party's ability to understand the interests, expectations, incentives, culture, and work ethics of the other (Larkin and O'Halloran, 2018).

For large companies, any such collaboration represents an investment. They seek these collaborations because they can respond more swiftly to market changes and situations requiring rapid solutions (Brown et al., 2021), thereby solidifying, protecting, or enhancing their strategic position (Larkin and O'Halloran, 2018). While large companies possess more resources, they are slower to react to environmental changes (Weiblen and Chesbrough, 2015), whereas startups are inherently agile but face resource constraints in managing growth challenges (Braune, Lantz, Sahut, and Teulon, 2019). Despite this, large companies often exhibit skepticism towards collaborating with smaller firms, due to concerns about fluctuating quality, the inability to supply larger quantities in the event of rising demand, limited resources (Akkaya, 2019), weak capital bases (Amason, Shrader, and Tompson, 2006), limited external financing (Berger and Udell, 2006), potential indebtedness, poor planning, lack of long-term vision, weak business organization, lack of managerial experience, and non-compliance with regulations (Akkaya, 2019). These uncertainties can result in various consequences for large companies, including reputational damage, lost investments, uncertain outcomes, misaligned employees, and inconsistent levels of market maturity (Larkin and O'Halloran, 2018). Given that most startups fail, the skepticism of large companies is justified (Baskoro, 2022).

Understanding collaboration: the startup perspective

Every startup is a unique market entity, initially unknown in the marketplace (Crnogaj & Rus, 2023). Most selected startups consist of one, two, or a few individuals who have developed an innovative idea and realized it in tangible

products (Gmeinder, 2024). The success rate for those launching their first startup is approximately 18% (Howarth, 2023; Zhou, 2024). Research on the American economy indicates that 90% of startups fail in the long run (Howarth, 2024), with only 10% surviving their first year (Arinkina, 2023), and generally, 63% do not succeed. Many startups do not progress beyond the ideation phase and quickly fail without adequate funding and startup support (Zhou, 2024). Therefore, the fear of collaboration with startups by large companies is entirely justified (Yoon and Hughes, 2016).

Startups are eager to collaborate with large companies but identify significant barriers in establishing such partnerships, including difficult accessibility, establishing constructive dialogue, perceived arrogance, superior attitudes, and challenges in building trust (Audretsch et al., 2023; Jamieson et al., 2012). Issues in collaboration stem from unequal power dynamics, challenges in controlling collaboration, different risk tolerances, varied decision-making timescales, cultural and communication differences, sensitive intellectual property issues, potential lack of knowledge and experience (Steiber & Alänge, 2020), and differing levels of flexibility and adaptability (Csik and Torres, 2024). Significant obstacles can also include differing values, strategic goals, development perspectives, and communication methods (Kohler, 2016). Large companies aim to derive maximum business benefit from any collaboration, while startups seek partnerships with large companies to boost their relevance and attract investments, expanding their development maneuvering space, which means broader market access, distribution channels, expertise, and technology (Schuh et al., 2022). Collaborating with smaller firms provides large companies with flexibility, adaptability, innovation, lower costs, entrepreneurial spirit, and access to local resources, which they lack due to their size and rigidity (Audretsch et al., 2023; Jenkins, 2006). Innovation, in particular, is a distinguishing factor that is often underdeveloped in large companies but strongly pronounced in small firms.

Innovative methods of collaboration and connection

Collaboration between companies and startups is on the rise, as startups and large companies are complementary organizations (Dizdarevic et al., 2023; Kohler, 2016; Rothaermel, 2001). This collaboration is a unique interorganizational relationship involving two distinctly different partners: a large, established organization and a small, new enterprise working together in innovation, development, distribution, promotion, sales, education, and human resources (Weiblen and Chesbrough, 2015). The collaboration between large and startup companies can take various forms, including corporate venture capital management, corporate incubation, accelerator programs, and buyer-supplier relationships. This type of collaboration plays an increasingly significant role in the corporate innovation process and the development of new businesses (Dizdarevic et al., 2023). Steibler and Alänge (2020) add that, "collaboration between established companies and startups is increasingly considered an integral component of corporate strategy. Startup supplier programs are external programs that allow

companies to access innovations that enhance product competitiveness or process productivity by collaborating with startups based on supplier relationships." Our article describes a model of collaboration between large corporations and startup suppliers that has emerged in practice. The model complements entrepreneurial accelerators and corporate venture capital with the agility, innovation, and flexibility of startups.

Finding ways to collaborate poses a significant challenge for both large and small market players. Past practice has demonstrated that large and startup companies can collaborate in numerous innovative ways. For instance, open innovation platforms (OIPs) are described as a new generation of co-creation spaces that allow various actors within the innovation ecosystem (Nambisan et al., 2018) to interact and develop user-centric innovations (Rho et al., 2021). This approach enables large companies to leverage the creative potential of small enterprises, thereby gaining a broader array of solutions and ideas.

Online marketplaces and platforms such as InnoCentive (Suhada et al., 2021) and NineSigma (Hossain, 2012) connect large companies with smaller innovators, facilitating collaboration on specific projects. Open-source software is often used for this purpose. Another notable form of collaboration includes joint ventures and strategic alliances (Rothkegel et al., 2006), where large companies invest in small enterprises and collaborate on the development of new products and services.

A third form of collaboration is based on shared resources and infrastructure. This includes access to specific information and resources, as well as infrastructure such as laboratories, manufacturing facilities, testing equipment, and shared office spaces (Goryachev and Brooks, 2023). An increasingly relevant form of collaboration is partnerships for social impact (Childs, 2024), where small and large companies work together on projects addressing current social and environmental challenges. These partnerships aim to utilize shared resources and expertise while building a positive market perception. Encouragingly, such collaborations also involve local communities or even broader society.

Partnership for social and perceptual impact

Companies are under increasing pressure to engage in activities described as corporate social responsibility (CSR) (Tiba et al., 2018). Many of these activities fall under legal regulations, such as environmental legislation and the promotion of small business entrepreneurship. Large companies are increasingly aware that to maintain their reputation and positive market perception, they must go beyond legal requirements and seek ways to exceed and assume roles traditionally occupied by the public sector (Curran & Smith, 2000). There is also a growing emphasis on CSR in the SME sector, whose operations significantly impact society and the environment. Numerous initiatives advocate for the inclusion of SMEs in the CSR agenda (Jenkins, 2006; Fuller, 2003), including startups.

Traditionally, CSR has been the domain of large companies, as demonstrated by numerous studies (Yamout, 2023). For a company's overall

reputation, societal affirmation is crucial, which large companies demonstrate through the awards they receive for their CSR efforts (Jenkins, 2006). This raises the question of whether CSR is an ethical, altruistic, or strategic action by large companies (Lantos, 2003). Social impact partnerships address both social and environmental challenges (Heiring, 2024) and typically pursue a dual goal: to introduce positive change for people and the environment and to enhance their perceptual value in the market and society. The case study examined in this article demonstrates that CSR can be a strategic action for large companies, evidenced by the development of a unique and innovative CSR model.

PRACTICAL EXAMPLE OF INNOVATIVE COLLABORATION

Perceptual goal that has become social

The collaboration between the large enterprise Spar Slovenia and startup companies is based on an innovative form of partnership that integrates multiple principles: joint investments and strategic alliances in product development and market communication, shared resources and infrastructure, accelerator-education programs in branding and marketing, relationship building between buyers and suppliers, and partnerships for social impact. This partnership indirectly built a new perceptual value of the large enterprise as a socially responsible company. The enterprise in question, which carries the brand and project Štartaj Slovenija, leveraged its resources to support selected startups in marketing and sales. With its sales capacities, it provided shelf space for innovative products from startups in its stores. Furthermore, with the assistance of a marketing agency and a mass media outlet, it ensured that the startups received the necessary know-how.

The foundation for establishing the partnership between the Štartaj Slovenija brand owner and startups is based on the strategic goal of generating a younger customer base (aged 18 to 35) and engaging them with relevant content. To achieve this, it was necessary to change the perception of the retailer, as a perception study of large retailers in Slovenia indicated (Formitas, 2015) that the retailer in question was no longer considered a modern and preferred store among younger customers. This was confirmed by the Mediana TGI (target group index) study, which is a rich database of representative data on consumers, brands, and media (Mediana, 2015). One unexpected finding was that a majority of respondents (72%) believed there was no future or support for young entrepreneurial initiatives in Slovenia. There was a noticeable decline in confidence in values related to the career prospects of young people (employment, entrepreneurship), with high unemployment among them, many working temporarily, and only a third being employed. The study Mladina 2010, Mladina 2020 (MIZŠ, 2021) also highlighted the disinterest of young people in building a future in entrepreneurship. The findings of these studies synthesized the decision that the retailer needed to appropriately address the younger generation to restore its reputation as a modern retailer

(Formitas, 2015), persuade them otherwise with marketing messages, and demonstrate a more optimistic future for them. Thus, the primary goal of changing the retailer's perception in the eyes of the younger generation also became a socially responsible objective. Through the Štartaj Slovenija brand, the retailer raised awareness among the younger generation and the broader Slovenian public that young entrepreneurs have a bright future in Slovenia. The key challenge was determining what would convince the young and the broader public in Slovenia that the young population has a promising future in the country. The strategic decision was to join the state's initiatives supporting startups and enhance these efforts with concrete, multifaceted support for selected startups and their innovative products.

Collaboration strategy

The strategic premise was based on the question of how a large company should address the younger customer base, approach them in an unintrusive and reasoned manner, and build trust in the fact that a large company can think about the future in a modern and different way, while positioning the young entrepreneurial population as a builder of economic and societal development. The answer was to give startups the opportunity to showcase their capabilities and prove that young people can build a future in Slovenia. The retail company, as a representative of a major market player, recognized in the innovative way of connecting with startups a method to convince the younger population and the entire Slovenian public that startups have much greater chances of survival if provided with appropriate support and an adequate ecosystem (Wolinsky, 2023). As stated in the Effie compendium (SOZ, 2020), "Štartaj Slovenija, through innovative partnership, connects Spar Slovenija, the media house Pro Plus, and the marketing agency Formitas Group, thus opening the door for Slovenian startups to the world of entrepreneurship. Under the Štartaj Slovenija brand, the retailer extends a hand to startup entrepreneurs, demonstrating that success is possible in Slovenia, while also involving the broader Slovenian public, which contributes to the success of young entrepreneurs through spreading positive word-of-mouth, selecting the best products, and making purchases. In seven years, 52 startup entrepreneurs have launched 123 products on the market. After seven years, 72.8% of entrepreneurs and 82.6% of products remain on the shelves."

Table 1: Results of participating entrepreneurs over a period of seven seasons

Season	Number of all participating startups	Number of active startups	% of active startups	Number of products	Number of active products	% of active products
2016	12	6	50,0	19	10	53,0
2017	8	5	62,5	25	17	68,0

2018	8	7	87,5	26	19	73,1
2019	8	5	62,5	14	11	78,6
2020	Covid period					
2022	8	6	75,0	21	18	86,7
2023	8	8	100,0	18	18	100,00
Sum	52	35	72,8	123	115	82,6

Source: Formitas skupina; Spar Slovenija.

Over the entire period (excluding 2020 due to Covid), there were 52 participating startups, out of which 35 are active, resulting in an overall activity rate of 72.8%.

There was a total of 123 products, out of which 115 are active, giving an overall product activity rate of 82.6%. There is an increasing trend in the activity rate of startups from 2016 to 2018, peaking at 87.5%, followed by a dip in 2019, then a significant recovery and stability in 2022 and 2023. The number of active startups has generally improved over the years (growth rate 33%, average percentage of active startups per year: 72.92%), and despite the variations in the number of products, the percentage of active products has been on a general upward trend, indicating a growth rate of 80%). The data suggests a general improvement in the sustainability of both startups and their products over the years, with notable high activity rates in the most recent year (2023), mainly due to enhanced support given by the Štartaj Slovenija Programme.

Impact of the Štartaj Slovenija initiative

After seven seasons, young customers have returned to the retailer, positively impacting both its perception and sales growth (Spar Slovenija, 2024). The entire initiative, named Štartaj Slovenija, is composed of various activities within the framework of innovative collaboration: selecting promising and market-interesting startups, educating them in business operations, organization, sales skills, product equipment, marketing, and sales promotion. Additionally, a modern storytelling-based presentation (Pompe, 2024; Wilson, 2014) was created to showcase the selected startups to the younger population and the broader public. The campaign's message, which defines innovative collaboration as a constructive form of success, is clear and universally significant: "Alone we can achieve much, together we can achieve everything!" The socially responsible campaign Štartaj Slovenija has thus become an entrepreneurial movement (Cekin, 2017), providing startups and producers with an opportunity for business initiation.

The project was initiated under the auspices of three partners: the retailer Spar Slovenija, the media house Pro Plus, and the marketing agency Formitas Group (Spar Slovenija, 2024). Each partner contributed their part and assisted in the development of startups and producers. The advertiser helped entrepreneurs with product development and demonstrated what collaboration with a large company means for a young entrepreneur. The

media house prepared a special TV show format featuring their entrepreneurial stories. The marketing agency managed communication on social media, advertising, and overall communication on digital and traditional channels, providing assistance and support in packaging design and marketing activities (Spar Slovenija, 2024).

FINDINGS

Results of the Štartaj Slovenia Initiative

The results of the first five years provide evidence that innovative collaboration works (Effie, 2024), and these results are further validated in subsequent seasons. Over seven years, 52 selected startups launched 123 products. After seven years, 35 startups (72,8%) with 115 products (82,6%) remain on the shelves. This confirms the hypothesis that "innovative collaboration between a large company and a startup ensures longer survival and greater sustainability for the latter," as defined by previous research on startups. We also confirm the hypothesis that "emotional appeals through personal stories are effective," as the initiative generated above-average viewership for the Štartaj Slovenia shows, consequently creating a significant number of customers—early adopters—who ensured that sales of products from selected startups remained at a high level, despite the fact that some comparable products offered by large manufacturers were up to 50% cheaper. According to the data from the large company, 7 out of 20 newly established brands took the leading position in their product categories in sales at Spar stores. Such market response demonstrates that the market reacts favourably to activities recognized as socially beneficial and important for the future development of the economy and life in general. The success of the initiative is also supported by results from all subsequent generations of Štartaj Slovenia.

We can refute the hypothesis that "collaborations between large companies and startups are too risky to be worthwhile," as the share of sales value of all products from the Štartaj Slovenia project in the total revenues of Spar Slovenia has continuously increased.

A comparative study of the perception of Slovenian retailers showed that the advertiser, Spar Slovenia, as one of the three key partners in Štartaj Slovenia, gained in reputation (Formitas Group, 2019), as evidenced by concrete results in KPIs: best product selection — 6% growth, socially responsible company — 23% growth, innovative company — 47% growth, youthful company — 64% growth, and the company that does the most for Slovenia — 77% growth (SOZ, 2020). These results demonstrate that the hypothesis that "innovative collaborations elevate the reputation of a large company" is confirmed.

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Findings and Conclusions

The decade-long, continuous, and innovative collaboration between a major corporation and startups under the "Štartaj Slovenija" initiative has produced results that challenge the prevailing notion of startups' brief survival periods (Howarth, 2023). This partnership has proven exceptionally impactful, delivering multifaceted benefits to the participating startups and all three stakeholders involved in the Štartaj Slovenija initiative. A vibrant community has emerged among the startups, fostering the exchange of knowledge and skills. Through diverse forms of communication—including traditional and digital marketing channels, interpersonal interactions, and social media platforms—they have become role models for younger generations. Each startup has successfully charted its entrepreneurial journey, secured a market position, expanded its workforce, and developed innovative products. These achievements illustrate that while individual efforts can lead to significant progress, collaboration with a large corporation enables them to reach even greater heights. The market recognition of these startups was notably built upon the founders' personal narratives, which skillfully integrated emotional appeal with factual substance.

From the perspective of the target audience and the broader Slovenian public, the large corporation has successfully established itself as a socially responsible entity, cultivating the image of a modern enterprise committed to the holistic well-being of the Slovenian economy. Slovenian consumers have enthusiastically embraced the startup representatives and their compelling personal narratives. This engagement has spurred many to make initial purchases, while a significant number of customers have developed lasting loyalty to selected products. Consequently, several startups have transitioned into regular suppliers for the corporation. The prime-time television program *Štartaj Slovenija* has emerged as one of the most-watched shows, achieving exceptional viewership ratings. This success has enabled the media house to increase advertising sales during these coveted time slots. Furthermore, the agency responsible for the initiative received numerous accolades for its innovative marketing communication strategies, including the prestigious "Campaign of the Decade" award and The Golden Effie Slovenia award.

Discussion and new research directions

The innovative strategy of fostering collaboration between large corporations and startups has generated benefits extending beyond the marketing and promotion of unfamiliar products and brands or their broader market recognition. A particularly significant dimension is the emphasis on social responsibility, exemplified by the corporation's support for startups in achieving market readiness and integrating their products into its retail offerings. This operational and training process also encompassed the cultivation of values that strengthen societal and environmental relationships. These components present a potential area of inquiry into the challenges small and medium-sized enterprises (SMEs) encounter—or

should address—regarding social responsibility. By adopting and adapting the principles employed by large corporations in fostering social responsibility, SMEs could contribute to cultivating a deeper understanding of its critical role in ensuring the future well-being of both the economy and society. An additional avenue for future research lies in evaluating whether the initiatives undertaken by large corporations to collaborate with startups warrant their recognition as socially responsible enterprises. The question should be: How can SMEs adopt and adapt social responsibility principles from large corporations to enhance their societal and environmental impact?

Based on the analysis presented in this article, the following research questions emerge as significant areas of inquiry: How do consumer perceptions of startups' products change when they are supported by large corporations with strong social responsibility reputations? How do the social responsibility initiatives of today shape the future entrepreneurial landscape and corporate practices? What incentives could be provided to both corporations and startups to foster a culture of social responsibility? How do collaborative initiatives between corporations and startups contribute to societal and environmental well-being? How do stakeholders perceive the social responsibility initiatives of corporations that collaborate with startups? What are the measurable impacts of social responsibility initiatives on the success and sustainability of SMEs?

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VISIBLE AND INVISIBLE SYMBOLS OF ORGANIZATIONAL CULTURE IN PLITVICE LAKES NATIONAL PARK IN CROATIA

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Abstract

Human society created culture and it is the result of human physical and mental work. Every business organization or company is in a system that surrounds it, regardless of the amount of their income, invested capital or number of employees. Organizational culture as a scientific discipline represents the way of life and work of a company and is defined as the atmosphere in the organization. Organizational culture is an important factor in the business and development of a company. It is important because it defines most of what is done and how it is done, which leads to a reduction in ambiguity and guides employees on how they should perform their work. Using interviews as a research method, we investigated and analyzed visible and invisible symbols of organizational culture in the example of our oldest and largest national park in the Republic of Croatia - Plitvice Lakes National Park.

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INTRODUCTION

Organizational culture as a scientific discipline emerged in the 1980s. It represents the atmosphere, or the daily life of a company. Organizational culture is often described as the climate of a business organization.
Organizational culture is an important factor in the operations and development of a company. It is important because it defines much of what is done and how it is done, which helps reduce ambiguity and directs employees on how they should perform their tasks (Robbins, 1995).

Every company, or business organization, regardless of the size of its revenue, invested capital, or number of employees, belongs to a larger system that surrounds it. This larger system relates to the market, social, economic, political, legal, legislative, and other environments, which are the sources of constant changes and upheavals. A key factor for the survival of a business organization lies in its constant alignment with the environment (Belak and Ušljebrka, 2014).

For organizational culture to function properly, it is necessary to invest in learning, the transfer of knowledge, beliefs, and behavioral patterns that are formed over a certain period of time. It expresses the specific way of behavior and lifestyle of the organization (Žugaj et al., 1999).

Every organization depends on the human factor as its key resource, so if no change occurs in the people who make up the organization, it cannot be expected that changes will be realized at the organizational level (Belak and Ušljebrka, 2014).

THEORETICAL FRAMEWORK, EVOLUTION, AND KEY DEFINITIONS

Sikavica (1999) describes organizational culture as an inseparable part of every organization, whether it be a company or an institution, and its existence is unquestionable. The beginning of scientific research into organizational culture dates back to the second half of the 20th century. In the 1980s, it was introduced as a course at Harvard Business School. The start of research into organizational culture is linked to two significant events. The first was the oil crisis of the 1970s, and the second was when the Japanese economy experienced rapid and strong growth, propelling it to the global forefront and making it a major competitor in many areas.

Ćorić (2019) states that organizational culture is a set of behaviors and norms, attitudes and values, beliefs, and underlying assumptions that differ

across societies. Organizational culture is the result of any human gathering over a prolonged period.

There are various approaches and perspectives from which organizational culture is analyzed. To define organizational culture, it is first necessary to mention culture itself. Culture is everything that a particular group of people inherits, the patterns of thought they learn, the feelings of the group, and their actions. Symbols form the foundation of culture. Every way in which people function and behave in society has been inherited or learned through culture. Culture facilitates flexible and rapid change in the world around people.

Since there are numerous definitions of organizational culture, some of them are the following.

"Handy reduced his definition to a simple one. For him, organizational culture is a set of values, norms, and beliefs" (Kapustić, 1991).

Sholz has a slightly different view compared to Handy. He sees it as the invisible consciousness of an organization that drives the behaviour of its stakeholders and which arises from their behaviour (Vujić et al., 2012).

"Organizational culture is a set of basic assumptions and beliefs accepted by the members of an organization, i.e., organizational culture is a model of basic assumptions that a specific group of people invented, discovered, and developed through the learning process to solve their problems of adaptation to the environment and internal integration" (Vila, 1992).

According to Bahtijarević-Šiber et al. (1991), culture is a relatively stable and specific system of behaviour patterns, values, beliefs, norms, and customs that determine organizational behavior, and thinking, and guide the activities of individuals and groups that make up the organization.

"The way of working and living within a company constitutes its culture. It is a system of values, beliefs, and customs within an organization that interacts with the formal structure, producing behaviour norms. It represents the personality or character of the company" (Sikavica and Novak, 1999).

Shein (1992) offers a different definition: "Organizational culture is a pattern of values or fundamental assumptions that a certain group invented, discovered, or developed as it learned to cope with the problems of external adaptation and internal integration, and which has proven to be sufficiently good to be considered valid, and therefore, this pattern should be taught to new members as the correct way of perceiving, thinking, and feeling regarding these problems."

Wilkins and Ouchi argue that organizational culture is a set of shared viewpoints, assumptions, values, expectations, attitudes, and norms that hold the organization together and help it successfully implement its strategy (Meško Štok et al., 2010).

Organizational culture has different meanings for different organizations, and according to Sikavica and Novak (1999), the following types of organizational cultures can be distinguished: dominant/subculture, strong/weak, clear/unclear, excellent/terrible, existent/adaptable, participative/non-participative.

INFLUENCE ON BEHAVIOR AND ORGANIZATIONAL SUCCESS

Organizational culture is inevitable in all segments and activities of an organization. It defines the overall functioning and behaviour of the organization (Schein and Schein, 2017). There is a two-way relationship between culture and behaviour. Every culture is the result of certain behaviours. At the peak of the "magic triangle" stands organizational culture (Bahtijarević-Šiber et al., 1991). Some of the key roles of culture in an organization include influencing overall success and development, impacting individual behaviour, and shaping the decisions employees make. Culture contributes to the implementation of strategy and is a fundamental driving force in this process. Without an appropriate culture, it is impossible to achieve a specific strategy. Through culture, the vision for development becomes transparent and shared by all members of the organization.

Culture plays a key role in adapting the organization to its environment. With its help, the organization ensures its integrity and establishes a distinct identity, which is reflected both internally and externally. Its purpose is to "unify the social dimension of the organization." Thanks to culture, workers within an organization share a common pattern of behaviour. Culture filters and encodes the influences of the external environment on the organization itself. Furthermore, it strengthens social relationships, makes individuals more autonomous, motivates people, and stimulates activity. Culture is the primary source of purpose and stability within the organization, ensuring continuity in its operations (Bahtijarević-Šiber et al., 1991).

However, according to Smircich, organizational culture serves four main functions that differ from those previously mentioned. These functions include the identity it provides to members of the organization and the sense of belonging they feel, which leads to employees becoming loyal to the company. This creates stability within the organization and structures its workforce, thus signalling the environment in which they operate (Žugaj, 2004).

Based on the above, we can conclude some of the most important functions of organizational culture that should be emphasized. It drives creativity and innovation, fosters good interpersonal relationships, and motivates people to work in teams. It aims to align the goals of employees with those of the organization, ultimately contributing to a positive image of the company. Through culture, employees become more closely connected to the company, leading to greater dedication to their work.

Organizational culture (Schein, H.E., Schein A. P. 2017) clearly defines what is most important to achieve and, more importantly, guides employees on how to achieve it. For each worker to adapt to a particular company, they must accept the culture of that company.

The starting point for adopting and shaping these functions is recognizing the correlation between organizational culture and business success (Smircich, 1983).

According to Armstrong, there are three extremely important elements of organizational culture: organizational values, climate, and management style. Organizational values encompass everything that is considered

beneficial for a given organization. These values include trust and respect, the satisfaction of colleagues and external partners, financial stability, and long-term cooperation with other organizations and experts. Organizational values are expressed as the purpose or strategic goals of the company.

Organizational climate is reflected in how employees perceive the company as a whole. The climate encompasses the work atmosphere, which is shaped by the experiences and perceptions of the employees. Interpersonal relationships also influence the climate. The purpose of organizational climate is to ensure that each employee feels comfortable and satisfied in their workplace. Employee satisfaction affects motivation and productivity. A positive climate makes employees more creative and innovative.

The final important element of organizational culture, according to Armstrong, is management style. This refers to how managers behave within the organization. There are various management styles, with the most common being autocratic and democratic. In an autocratic style, the manager does not trust subordinates and makes decisions without their input or choice. This leader focuses solely on the success and financial profit of the company, with little concern for people or employees. The focus of this style is material and is not oriented towards the people within the organization. For such leaders, profit is more important than people.

On the other hand, the democratic management style is the complete opposite of the autocratic style. In this style, management trusts its subordinates, adopts a friendly approach, and decisions are made at all levels of the organization. This style is characterized by a focus on people and their well-being (Žugaj and Cingula, 1992).

SYMBOLS AND MANAGEMENT OF ORGANIZATIONAL CULTURE

Managers are responsible for leading, shaping, and maintaining the organizational culture within companies or organizations. These managers are often referred to as "symbolic managers" because they spend a significant amount of time reflecting on the values, key personalities, and rituals that define their organization's culture (Žugaj et al., 2004).

A modern manager's workday is typically divided into three parts. The first part consists of minor tasks, the second part includes events or matters that could be significant, and the third part consists of high-priority issues. The first part is referred to as "trivia," the second part as "events," and the third as "dramas." The main skill of any symbolic manager is the ability to differentiate between these three elements. Organizational culture plays a crucial role in determining what is important and what is not. The most critical factor in this process is the manager's intuition and ability to make the right decisions at the right time. This approach is what leads to successful business outcomes. The goal of the symbolic manager is to improve and integrate the core values and beliefs that are part of the organizational culture (Žugaj et al., 2004).

The dramatic aspect is also essential. The way managers manage can sometimes differ, especially if they draw inspiration from the dramatic style of intelligent and rational managers who are increasingly common in modern organizations. It is extremely important for a symbolic manager to focus on several key areas.

Human Resource Management

Human resource management (Dessler, 2017) is crucial for the success of any organization. It is based on the assumption that there is competition in the working environment, and therefore, employees need to adapt to changes to succeed in their careers. In this way, their contribution to the company becomes satisfying. This field of study is constantly evolving, with numerous experts contributing to its development.

As Žugaj et al. (2004) point out, "In a business organization, human resource management is subordinated to strategic goals, such as increasing productivity, quality of life, and profitability."

Hiring and Firing Employees

The recruitment process is handled by the human resources department, particularly in hiring new, often younger workers. According to Jack Welch, this is not a correct assumption. Symbolic managers are involved in the hiring process and participate in selecting new employees. In addition to hiring (Welch and Welch, 2005), these managers are also involved in the dismissal of employees. Firing someone is not an easy task, and it should be avoided whenever possible. If an employee is performing well and proving to be a valuable asset, they should be offered lifelong employment. If dismissal becomes inevitable, the reason should not be poor business performance, but rather violations of societal norms and values (Žugaj et al., 2004).

Making Strategic Decisions

Rational management science indicates that the critical role of senior managers is to make key strategic decisions that affect business operations. To make these decisions, senior management often invites external consultants to help shape critical choices. These consultants are typically brought in by the company's owners or managers when they face a problem that they cannot solve on their own (Biswas and Twitchell, 2017).

Businesses of all sizes—corporations, non-profit organizations, and even government institutions—use consultants. When dealing with unprofitable or problematic ventures, symbolic managers often form advisory committees, usually composed of respected retired company directors. If these advisors recommend discontinuing a particular business venture, the manager follows their advice (Žugaj et al., 2004).

Cost Control

Cost control is vital for any organization. It is conducted through various methods. "In addition to thorough financial analysis, quality accounting systems for tracking costs and strong budgeting processes are used. The task of the symbolic manager is to determine where costs have increased and to understand the nature of these costs" (Žugaj et al., 2004). Cutting costs in a corporation is a difficult task. American research has shown that, over the past 30 years, many companies have tried to implement cost-cutting strategies, but these efforts have often failed. For instance, stocks in companies like Sunbeam Corp. are worth less today than they were ten years ago, despite aggressive cost-cutting efforts. Some companies have ultimately gone bankrupt. Research also indicates that continual layoffs can backfire. After employees are let go, the morale of the remaining workers often plummets, which in turn reduces productivity. Negative results can also stem from buying out the pension of older workers or offering severance packages to reduce staff numbers.

Symbolic Management

The symbolic role of managers (Coyle, D. 2018) extends beyond everyday management tasks. They must also become the embodiment of the organizational culture, both internally and externally. By performing their duties in a way that reflects the core values and rituals of the organization, they reinforce these cultural elements and help cultivate a work environment that promotes the desired behaviour and attitudes. Symbolic managers play a key role in establishing and maintaining the identity of the company through the symbols, rituals, and behaviour they uphold. This includes modelling the behaviour expected of employees, creating shared meanings, and aligning the company's actions with its cultural principles.

In conclusion, symbolic managers are instrumental in shaping and managing organizational culture. They are the stewards of values, beliefs, and rituals that define the identity of the company. Through their leadership, they ensure that culture influences all aspects of organizational life, from human resources to strategic decision-making, and from hiring practices to cost management. Their ability to navigate the "dramas" of the business world with intuition and a deep understanding of the organization's culture is key to the company's long-term success.

Symbols of organizational culture

Visible symbols of organizational culture include symbols, customs and rituals, and language and communications.

Customs and rituals are the most impressive symbols of corporate culture. These are the rules that determine the behaviour in the life of the corporation, i.e. they bring order to chaos, i.e. chaos. We are talking about rituals and customs when in one company, for example, all employees gather on Fridays for a regular joint lunch, during which the entire staff

mingles with each other, of course, without respecting the formal hierarchy of positions.

Especially recognizable, although not always comprehensible even for those outside the company, is the language and communication of the company itself. Companies differ in their specific language, that is, many companies use special speech, slang, metaphors and other forms of language to send special messages to employees (Bahtijarević-Šiber et al., 1991).

Values, norms, attitudes and beliefs are invisible signs of culture. However, they have a strong influence on the overall culture of the company because they actually carry the culture itself. These include: company philosophy, maximum orientation towards the customer, stimulation of the competitive spirit and innovative process in the company, management with the help of goals, tendency to change, preference for teamwork, participation of workers in management and joint problem solving, business ethics, way of informing and communicating in to the company, support for newly employed workers, familiarization of new workers with the company, management behaviour, feeling of belonging, i.e. loyalty to the company, etc.

Status symbols are highly visible (Coyle, D. 2018) and recognizable signs of corporate culture. They talk about the social position of an individual, a group or an entire organization in relation to others.

Some typical status symbols in a company would be: the position an individual occupies, the amount of salary, the bonuses enjoyed by a member of the organization, the size of the office, the macro and micro location of the office, the equipment (furniture) in the office, the quality of the rugs and the value of pictures, or other works of art in the office, location of parking spaces, reserved parking, type (brand) of business cars, right to a secretary, right to use the directors' club, invitations to a cocktail party, privileges, including free movement at work, autonomous determination of holidays, etc. (Bahtijarević-Šiber et al., 1991).

From all these mentioned elements, it is clear that organizational culture has two fundamental approaches: the visible and the invisible part. The difference between these two approaches is that the visible signs of culture are obvious and easily recognizable, not only for employees in the company but also for people outside the company, while the invisible signs of culture are less recognizable for all members of the organization. Visible signs of culture include: ceremonies, slogans, symbols, stories, style of clothing and behaviour, and the like. The invisible part defines organizational culture as a system of values, understanding, beliefs, ethics, lifestyles, personality and character of employees in the organization (Bahtijarević-Šiber et al., 1991).

CASE STUDY ANALYZES WITH THE AIM OF INSIGHT INTO THE ORGANIZATIONAL CULTURE OF THE PLITVICE LAKES NATIONAL PARK

Plitvice Lakes National Park (Pavičić, 2019) is the oldest and largest national park in Croatia. It consists of 16 cascaded lake systems and numerous

smaller lakes. Due to their unique global value, the Plitvice Lakes are the bearers of international recognition and are included in the UNESCO World Heritage List. The public institution Plitvice Lakes National Park manages the National Park and the Natura 2000 ecological network areas and other protected areas within the National Park. The founder of the Public Institution is the Republic of Croatia, and the founding rights and duties are performed on behalf of the Republic of Croatia by the central state administration body responsible for nature protection.

Interviews with employees of NP Plitvička jezera

The methodological details of the research related to the conduct and analysis of interviews are crucial for ensuring the reliability and repeatability of the study. Given that the research focuses on organizational culture and uses interviews with employees, the methodology may include several key steps: from preparation and data collection to analysis of the results. :

The aim of our research is to get acquainted with the existing organizational culture in the Plitvice Lakes National Park, identifying symbols, values and norms and the influence of these factors on the working atmosphere, employee behaviour and their attitudes towards nature conservation. After defining the research objectives, we formulated specific research questions that were asked in the interviews with employees. Our research is qualitative because it deals with the subjective experiences of employees and their values, norms, attitudes and beliefs that shape the organizational culture. We carefully planned the sample of respondents to ensure the relevance of the data. We selected respondents who have relevant experience related to the research topic, i.e. employees of the Plitvice Lakes National Park such as guides, administrative staff, managers and technical staff. Purposive sampling was used, because the goal was to interview employees who have a direct role in preserving and promoting the park's mission. Seven were examined, which we considered sufficient to achieve data saturation.

A semi-structured interview with pre-prepared questions was used, which enables flexibility and standardization in data collection. The interviews included open-ended questions that allowed employees to freely express their opinions and feelings about various aspects of the organizational culture.

In the first part of the interview, we talked about the current tasks, responsibilities and mission of Plitvička Jezera NP. The goal was to understand how employees perceive their role in the organization and how the mission of the park is reflected in their daily work.

In the second part of the interview, we talked about visible symbols of organizational culture (uniforms, signs, educational materials, communication within the organization).

The third part of the interview focuses on invisible symbols and cultural values, such as professionalism, responsibility, innovation and competitive spirit. It also explored how change is managed, including changes in legislation and technology.

All interviews were recorded (with the prior consent of the interviewees). Thematic analysis was used to analyze the qualitative data, which involves identifying and categorizing recurring themes, symbols, values, and norms. In interviews with employees, we tested the working hypotheses:

Research Question 1 (Q1): "The organizational culture of Plitvice Lakes National Park is based on clearly defined values, norms, and symbols that positively influence the work environment and employees' daily behaviour."

Research Question 2 (Q2): "Visible and invisible symbols of the organizational culture at Plitvice Lakes National Park are interconnected and collectively shape employees' attitudes, beliefs, and work efficiency."

In this paper, we present the most interesting answers from the conducted interviews, in which we tried to cover both dimensions - visible and invisible symbols - in order to create a comprehensive insight into the organization.

In the introductory part of the interview, we asked the employees to describe their current work tasks and responsibilities in the Plitvice Lakes National Park, as well as the key missions and goals of the Plitvice Lakes National Park.

Employee: "I have been employed as a guide in Plitvice Lakes National Park for two and a half years. I guide visitors through the park, educate them about the importance of nature conservation, and provide information about the flora and fauna of the park. In addition, I help maintain the trails and regularly communicate with other teams to ensure the safety and satisfaction of visitors. The mission of Plitvice Lakes National Park is to protect the unique natural heritage but also to educate the public about the importance of nature conservation. I also think it is very important to provide visitors with an unforgettable experience, with minimal impact on the environment. Our mission includes a balance between conservation and sustainable tourism."

In the second part of the interview about the visible symbols of the organizational culture, we asked the employees to describe the main symbols and customs within the Plitvice Lakes National Park, to which information is transmitted within the organization, and how the emphasis is placed on nature protection and sustainable development in the daily practice of the Plitvice Lakes National Park.

Employee: "The main symbols that I often see are our uniformed guides and staff, as well as specific signs and educational materials that are used to raise awareness about nature protection. Information is transmitted on several levels - on the field, communicating with colleagues and on regular I meet with management or during daily briefings. I think there is a lot of room for improvement in terms of clearer internal communication between departments."

In the third part of the interview about invisible symbols and cultural values, we asked the employees to describe what fundamental values they consider to be key for the organizational culture of the NP Plitvička Jezera, how innovation and competitive spirit are promoted within the organization, and to describe the relationship between employees and management.

Employee: "One of our key values is the preservation of nature, but also the unity among employees. In addition, I think it is very important to have a high professional standard and responsibility towards visitors. Our job does not stop only at leading tours - you have to be an educator, environmental protection officer and ambassador for the whole of Croatia. I think that the managers are mostly approachable and ready to listen to our suggestions and concerns. However, I feel that the employees' feedback could be included more often in making strategic decisions. In the second part of the interview about the visible symbols of the organizational culture, we asked the employees to describe the main symbols and customs within the Plitvice Lakes National Park, to which information is transmitted within the organization, and how the emphasis is placed on nature protection and sustainable development in the daily practice of the Plitvice Lakes National Park.

In the fourth part of the interview on attitudes towards change and challenges, we asked employees to describe how the organization deals with changes in legislation, technology or environmental protection.

Employee: "NP Plitvička Jezera reacts quite quickly to changes in legislation and environmental protection. Our organization regularly educates employees about new rules."

In the fifth part of the interview, we asked the employees to describe the working atmosphere and which business ethical guidelines they consider the most important in their daily work.

Employee: "The working atmosphere is friendly in the winter, we socialize a lot outside of working hours, while in the season there is a lot of nervousness, but we don't fight. I can say that I always feel welcome, and my colleagues are ready to help, whether it's about daily tasks or to something specific."

In the sixth part of the interview, we asked the employees to describe the biggest challenges in the management and maintenance of the National Park.

Employee: "The cold maintenance plant of the entire complex is very expensive. There are about 700 full-time employees, eight boats, six buses, and six tourist trains that need to be maintained, as well as many walkways. One of the biggest challenges is balancing between preserving nature and a large number of Given a large number of visitors, it is necessary to constantly invest in the maintenance of the infrastructure and the preservation of natural resources people, and seasonal workers, so it tests how many domiciliary "pools" have the necessary workforce. Until now, the practice was that seasonal workers were from a radius of 50 km from Plitvice."

In the seventh part of the interview, we asked if there was anything that we did not cover, and which employees consider important for understanding the organizational culture of NP Plitvička Jezera.

Employee: "Perhaps I would add that it is also important for us how business ethics and responsibility are promoted. At every step, we are encouraged to do everything with maximum attention to nature and to our visitors."

The analysis of employee interviews confirms that the organizational culture of Plitvice Lakes National Park is indeed rooted in well-defined values and symbols. Employees consistently highlighted the mission of nature preservation, sustainability, and public education as core values shaping their work. Visible symbols, such as uniform guides and educational materials, reflect a professional and ethical approach, reinforcing the importance of conservation among both staff and visitors. One of the most prominent elements of the organizational culture of Plitvička Jezera NP is a strong commitment to the preservation of natural resources and sustainability.

Employees identified visible symbols, such as uniforms, signage, and eco-friendly practices, as key to communicating the park's mission to both staff and visitors. These visible elements serve as constant reminders of the park's commitment to sustainability and professionalism. Employees, as guides, play a key role in spreading awareness about nature conservation among visitors. Employees stress the importance of unity and teamwork within the organization. Employee's value open communication with management and feel included in decision-making, although there are suggestions for further improvement of feedback and involvement in strategic processes. There is a strong sense of community and professional responsibility, which contributes to a positive working atmosphere and a high level of employee motivation. In Plitvice Lakes NP, visible components of organizational culture are recognizable, such as uniform guides and educational materials that serve as symbols of nature conservation and professionalism. The biggest challenge that Plitvička Jezera National Park faces is balancing between high tourist interest and the preservation of the ecological values of the park. This challenge requires constant adaptation, harmonization of legal regulations and the implementation of innovations in the preservation of nature and the improvement of tourist services. The organizational culture of Plitvice Lakes National Park is based on several key values: responsibility, ethics, sustainability and education. Employees emphasize the importance of business ethics and responsibility towards nature and the community. In Plitvice Lakes National Park there is a high level of adaptability to external changes, such as legislative changes or innovations in technology and environmental protection. Although there are clear communication channels within the organization, employees indicated the need for greater inclusion of their feedback in the decision-making process, especially in strategic issues and long-term plans. Improving internal communication can further strengthen the sense of community and enable even greater efficiency in solving challenges, as well as in implementing new initiatives.

The findings of this study align with existing literature on organizational culture, particularly its central role in shaping societal cohesion and employee behaviour (Gutić, 2008). The Plitvice Lakes National Park case study underscores the importance of both visible and invisible symbols in fostering a strong organizational identity, resonating with previous research on how shared values and norms enhance employee commitment and

organizational success. The emphasis on teamwork, open communication, and a shared mission to balance conservation with tourism mirrors broader organizational culture theories that emphasize collaboration and adaptability in complex environments. This study also highlights the need for continuous adaptation in response to challenges like resource management and high visitor numbers, reinforcing the argument that a flexible culture is essential for long-term sustainability. The recommendations, especially those related to improving internal communication and supporting innovation, are crucial for enhancing organizational effectiveness and ensuring that the park remains a model of both environmental stewardship and operational excellence.

CONCLUSION

Based on the answers of Plitvice Lakes National Park employees, we can draw several key conclusions about the organizational culture of the park, its values, norms, daily practice and the challenges it faces. E Invisible symbols, such as shared values of responsibility, ethics, and teamwork, further reinforce employees' sense of purpose and dedication. The shared mission of balancing conservation with tourism connects visible and invisible cultural dimensions, fostering a cohesive organizational identity.

However, challenges such as high visitor numbers and resource management highlight the need for ongoing adaptability. The interconnectedness of visible and invisible symbols enables employees to address these challenges effectively, enhancing work efficiency and fostering long-term sustainability. Employees emphasized teamwork and a sense of community within the organization as vital elements of daily operations. Open communication with management contributes to a positive work environment, although some employees suggested the need for improved feedback mechanisms to further strengthen inclusivity in decision-making processes. Overall, the strong alignment of values, norms, and visible symbols confirms the hypothesis that the organizational culture positively influences the work environment and employees' behaviour.

In conclusion, both Research Questions are validated by the findings. The organizational culture of Plitvice Lakes National Park demonstrates a strong integration of values, norms, and significant challenges.

Recommendations for the further development of organizational culture consist of the improvement of internal communication channels, with the aim of greater involvement of employees in decision-making and strategic processes. Then, increase support for innovation, to enable employees to recognize and implement new ideas in the operation of the park, with the aim of further improving the preservation of the environment and the services they provide to visitors. It is important to preserve the balance between tourism and nature conservation and to systematically strengthen the education of new employees.

Whether the success will be long-term and what will be the overall efficiency of a company depends on the development of organizational

culture because it is a powerful force. Organizational culture dictates the development, success and very survival of the organization. Numerous external and internal factors affect the business organizational structure. It is important to point out how the banking sector turns to the needs of clients and is oriented towards meeting their needs. Therefore, we conclude that every company has its personality, and organizational culture contributes to that personality. The personality of a company is precisely its organizational culture.

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A COMPANY'S CREDIT RATING IN SLOVENIA: METHODOLOGY AND CASE STUDY

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Abstract

A company's ability to pay back its obligations was the main purpose of the credit rating at first, but it nowadays takes into account a wider range of elements. It relates to evaluating business excellence, the reliability of the organisation, its public reputation, and the supervision of business partners. A company's credit or financial rating is determined by analysing the financial performance of the preceding fiscal year. The research relies on a qualitative methodology, using a case study approach to calculate and compare the credit rating using three credit rating scores from Slovene rating agencies. The credit rating research is conducted by using accounting data extracted from financial statements. Every credit rating agency has certain criteria or indications to determine the credit rating. We understand that the credit rating score has been determined by the number of financial indicators or ratios used to calculate credit rating.

Key Words

Credit rating; methodology of credit rating; business indicators and ratios; calculation of credit rating.

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INTRODUCTION

The term "credit rating" originates in Latin words "credo" (believe, trust) or "bonitas" (benefit, goodness, justice, excellence) and thus reflects the positive qualities of someone (a legal or natural person) or something (a receivable, securities). Credit rating determines the quality or value of an individual, company, things, or land (Knez-Riedl, 1998, p. 18–19).

The paper aims to review the differences in credit rating methodology used by Slovene credit rating agencies and assess their credit ratings. The research examines the impact of various corporate credit rating calculations and the impact on the credit rating calculation due to the changes in indicators from financial statements. Because the effectiveness of financial markets depends on the accuracy of ratings, stakeholders need to understand the issuers' actual creditworthiness. (Klusak et al., 2024, p. 2).

Sovereign credit ratings are important for a country or a company since they imply its (credit) risk and impact the cost of financing. Therefore, we would expect that a sovereign credit rating is assigned based on thoroughly developed criteria and is supported by data. (Slapnik & Lončarski, 2023, p. 1) Unconscious and implicit biases can nevertheless affect credit rating agencies' ratings despite their best efforts to provide impartial, independent, and objective assessments of issuers' creditworthiness. (Slapnik & Lončarski, 2023). Sovereign ratings involve gathering not only hard (objective) data but also soft (subjective) information (Fitch, 2024; S&P Global, 2019). Our paper will review the methodology and calculations for hard or objective data used in credit rating calculation.

The definitions of a credit rating are still not unified today. There is no industry definition or standard to describe credit ratings nor is there a trade association of credit rating agencies (Langohr & Langohr, 2012, p. 23). There are the traditional and modern notions of credit ratings, as shown in Table 1.

Table 1: Concept of credit rating

	Traditional approach to company credit rating	Modern approach to company credit rating
Time horizon	Focused on the past	Focused on the future
Factors	Quantity	Quality
Targeting	Threats	Opportunities
Method	Financial analysis	SWOT
Tools	Financial indicators	Less common indicators

Source: Nemec, 2000, p. 498.

A credit rating relies on analysing various financial indicators, business data, balance sheets, profit and loss statements, cash flow statements, and other relevant information about a company. Important factors to be taken into account when assigning a credit rating include (AJPES, 2023):
- the financial health of the company,
- business risks,
- past payment behaviour,
- comparison with the industry.

A credit rating, therefore, has a dual function – on the one hand, it is a motivator because companies want to build a good reputation and get the highest possible rating, which opens the door to doing business and allows it to be considered a trustworthy company. On the other hand, a credit rating is an excellent risk indicator when an organisation is cooperating with a company for the first time or is unfamiliar to it as the rate can make it easier to protect an agreement with an additional contract (Achilles, 2015).

It is crucial to remember that credit ratings might differ between countries. Therefore, when engaging in international commerce, one must consider credit ratings relevant to the country, area, industry, or activity. This facilitates a more accurate assessment of the creditworthiness and reliability of a foreign business partner (Apšner, 2023).

Credit rating agencies assign ratings to businesses based on their long-term basic credit strength or how likely they are to fulfil their debt payment obligations over the long run. More precisely, ratings pertain to an obligor's overall creditworthiness or duties concerning specific debt security (subordinated and senior bonds, secured or unsecured, collateralised loan arrangements) or other special financial commitments (González et al., 2004, p. 3).

Credit rating agencies are service companies that are linked to financial markets. They are economic operators that draw up independent opinions on the creditworthiness of a particular entity. They are engaged in the external rating of the credit rating of companies, banks, insurance companies, and others. They form an industry that has developed gradually and has been important for many years (Knez-Riedl, 2004).

Today, the global credit rating agency industry is highly concentrated, with the three agencies ("the Big Three") controlling almost the entire market. These three agencies are Moody's, Standard & Poor's and Fitch. Together, they provide services to borrowers and lenders and provide the market with reliable and accurate information about the risks associated with certain types of debt (Finney, 2023). The rating market is an oligopoly system of imperfect competition in which a few companies, namely three agencies, control the market (Proença et al., 2021, p. 405).

The rating agencies assess the ability of entities to pay their debts and consider a range of underlying factors concerning financial capacity, composition of assets and reputation of the issuer, forecasts, macroeconomic factors, bankruptcy history, and economic cycle (De Moor et al., 2018).

In Slovenia, the need to process data on business entities arose relatively late, in the late eighties, with the beginning of entrepreneurship. The credit rating activity for external clients appeared for the first time in 1989 at the Social Accounting Office, the forerunner of the Agency of the Republic of Slovenia for Public Legal Records and Services (AJPES). The basis for producing credit information was financial statements and records of payment transactions. In addition, banks were also involved in credit rating to assess companies' creditworthiness and risk level (Šturman, 2004, p. 31–32).

Well-known credit rating agencies in Slovenia are:

- Prva bonitetna agencija, d.o.o., which is known for its app eBONITETE.SI and was created due to the need for data that were available in several places or could not be obtained at all, according to the company's methodology, which is also used in the eBONITETE.SI web application, the company's credit rating is expressed with numbers from 1 to 10. The method of submitting a credit rating in this form has an advantage for the user as the financial position of the business partner and the degree of default risk when doing business with it is easily deduced.
- Bisnode with Dun & Bradstreet uses the GVIN.COM application. The agency labels credit ratings with letters from A to E. The letter A indicates the class with the best credit rating, and the letter E indicates the worst.
- AJPES uses the S.BON AJPES method to classify Slovene business entities according to credit risk in 10 grades with credit ratings from SB1 to SB10. The SB1 rating is the best credit rating and the SB10 is the worst credit rating that does not yet imply the occurrence of a default event. The SB10d credit rating is attributed to business entities where a default event occurs.

The paper is structured as follows: a literature review in Section 2 and the used methodology in Section 3. In Section 4, we present a company's credit rating and review the impact of indicators on a company's credit rating calculation in Section 5. Section 6 discusses the reliability and accuracy of credit ratings using multiple data.

LITERATURE REVIEW

Historically, the credit rating agencies were founded as a mercantile credit agency, which rated merchants' ability to pay their financial obligations. Lewis Tappan founded the first rating agency in New York in 1841, after the financial crisis of 1837. The first rating was published in 1859 by Robert Dun, who acquired the first established rating agency. A similar mercantile rating agency was formed in 1849 by John Bradstreet, who published a rating book in 1857. Following the merger in 1933, the two organisations became Dun and Bradstreet, which in 1962 acquired Moody's Investors Service (Cantor & Packer, 1995, p. 11).

By providing an unbiased assessment of creditworthiness, a credit rating can be seen as a link between issuers and borrowers, minimising information asymmetries in the financial system. Since the early 2000s, the credit rating agencies have been under a lot of pressure because of their failure to foresee the fall of WorldCom and Enron in the early 2000s, and their involvement in the 2008 financial crisis (Papadimitri et al., 2020, p. 294).

Credit rating can be understood as the quality or value of an individual, company, things or land (Knez-Riedl, 1998, p. 18–19). Today, a credit rating is information about a company's financial and property condition. Since the 2008–2009 US financial crisis, credit rating agencies (CRAs) have become

increasingly prominent in policy deliberations and received significant media attention. They have been the focus of attention ever since the Eurozone financial crisis broke out in 2010. The three major US-based credit rating agencies, Moody's, Standard & Poor's (S&P), and Fitch, have received nearly all the attention. (White, 2013, p. 94) The credit rating information contributed to the global financial crisis after 2008 due to the massive downgrades by the rating agencies (Baghai et al., 2014, p. 1961).

One of the key thrusts of regulatory action after the financial crisis in the credit ratings space has been to relax barriers to entry and enhance competition. In the United States, the Securities and Exchange Commission has relaxed some barriers to entry and allowed several new CRAs in the US to obtain the Nationally Recognized Statistical Rating Organization (NRSRO) status. The European Union (EU) has gone further and has introduced new requirements as part of the amendments to the EU Regulation on credit rating agencies, the so-called "CRA-III." The new legislation seeks to place a cap on the market share of each rating agency and requires issuers to rotate credit rating agencies periodically (Camanho et al., 2022, p. 2980).

Credit rating says a lot about a company's performance and includes information about its history, management, status, major strategic plans, and organisation (Brvar, 1998, p. 26). Until the credit rating began to be established as a property of a company, this term had applied only to the benefit of persons (according to their position, personality, and profession) and, to a lesser extent, also to things (land, commodities, securities, and receivables) (Knez-Riedl, 1998, p. 19).

Credit rating agencies are independent third parties determining the credit rates of the entity based on financial performance. Credit rating agencies contribute significantly to debt processing and guide lenders on the clients' creditworthiness. Lenders often use information provided by credit rating agencies to decide upon the cost of debt in the form of either interest rate to be applied to debt, or repayment terms (Ubarhande & Chandani, 2021, p. 2).

We recognise the traditional and modern notion of perks. Narrower definitions are typical for the traditional notion of credit rating, which involves highlighting and considering only certain company features, such as liquidity, financial security, and profitability. These features equate the credit rating with the payment reliability of the company. On the other hand, the modern concept also considers the qualities and characteristics of the company and its environment. In the modern sense, the credit rating reflects the quality of operations of a company, which is reflected in reliability, prospects, and success. A newly recognised component encompasses economic, legal, and social responsibility. The topic of social responsibility also includes environmental and moral responsibility considerations. (Knez-Riedl, 2000, p. 19–20) The traditional notion of corporate credit ratings tends to consider events that occurred in the past. The main difference is that the traditional notion considers only numeric factors, while the modern notion also includes so-called "soft adjustments", i.e. qualitative qualities and potentials of the company.

Škrjanec (2009, p. 3) believes that the modern view is an upgrade of the traditional one because, in addition to assessing a company's past business, it also includes opportunities and development strategies for the company in the future. Modern assessment has expanded the range of indicators for such analysis and started using newer analytical methods. We incorporate this in our research.

Credit rating is widely recognised as one of the most critical methods for assessing creditworthiness. Following the 2008 financial crisis, strict financial regulations have emerged (Adegbite, 2018), including a creditworthiness assessment. The literature researching credit ratings highlights three elements: rating models, agencies, and credit ratings, with factors to consider when assigning ratings. Since 2001, 50 per cent of research has been given a tendency to develop a new credit rating model. (Ubarhande & Chandani, 2021, p. 2) In our opinion this could be a result of a non-standardised industry.

Although the three major credit rating agencies with a global footprint are important, they are not the only creditworthiness advisory services available for bond investors who want third-party advice (White, 2013, p. 96) and stocks and, in the last years, for ESG.

In Table 2, we will present the differences in the rating scales of the credit rating agencies and compare domestic and foreign credit ratings. We emphasise that credit ratings are comparable only to a degree, as each agency uses several factors to determine the credit rating.

Table 2: Comparison of credit ratings

Rating Explanation	S.BON	Prva bonitetna agencija	Bisnode	S&P	Fitch	Moody's
The highest rating, the risk level is minimal, and the fulfilment of obligations is high.	SB1	10	1.AAA	AAA, AA+, AA	AAA, AA+, AA, AA-	Aaa, Aa1, Aa2, Aa3
The fulfilment of obligations is high, but there is a perceived long-term risk.	SB2	9	2.AA	AA-		
The fulfilment of obligations is still high, with a low-risk probability.	SB3	8	3.A	A+	A+	A1
An adequate level of safety, the ability to fulfil obligations is slightly weaker.	SB4	7	4.BBB	A-, A	A, A-	A2, A3
Greater sensitivity to potential changes that may lead to lower solvency.	SB5	6	5.BB	BBB+	BBB+, BBB	Baa1
Ability to meet obligations but greater sensitivity to the environment.	SB6	5	6.B	BBB-, BBB	BBB-	Baa2, Baa3

Rating Explanation	S.BON	Prva bonitetna agencija	Bisnode	S&P	Fitch	Moody's
The ability to meet obligations is average, but the situation is unstable.	SB7	4	7.CCC	BB+, BB	BB+	Ba1
The ability to meet obligations is low, with a high level of risk.	SB8	3	8.CC	BB-, B+	BB, BB-	Ba2, Ba3
The situation is ripe for bankruptcy, and the probability of default is very high.	SB9	2	9.C	B	B+, B	B1, B2
Inability to meet obligations.	SB10	1		B, CCC, CC, C	B, CCC, CC, C	B3, Caa1, Caa2, Caa3

Source: AJPES, 2011.

As shown in Table 2, the ratings of Slovene credit rating agencies are comparable to those of major international credit rating agencies. The difference in ratings is observed in the first two classes, where Slovene agencies divide them into two classes, while foreign agencies do not. Among all others, Bisnode differs in the number of ratings, featuring a scale with nine ratings. In the research, we will compare our findings with Slovene rating agency S.BON.

METHODOLOGY

The paper is based on a qualitative research approach with the case study, in line with the suggestions of many researchers of management accounting (Ahrens & Chapman, 2006; Burns, 2014; Kaplan, 1984; Mat et al., 2010; Modell, 2005; Schiller, 2010; Siti-Nabiha & Scapens, 2005; Vaivio, 2008). Some of them even emphasise the use of case studies (Burns, 2014; Burns & Scapens, 2000; Humphrey & Scapens, 1996; Kaplan, 1984; Liguori & Steccolini, 2012; Siti-Nabiha & Scapens, 2005; Steen, 2011). The qualitative case study is a research approach that enables the examination of a phenomenon in its context using a range of data sources, guaranteeing that the problem is examined from multiple perspectives rather than just one, which allows for multiple facets of the phenomenon to be revealed and understood (Baxter & Jack, 2015, p. 544).

The aim of the research was to examine the impact of various calculations of corporate credit ratings and to show the impact of the change in indicators from financial statements on the credit rating calculation.

In the research, we used a qualitative methodology with a case study designed based on three research questions.

RQ1: How do different methodologies for calculating corporate credit ratings differ and affect the final credit rating?

RQ2: How are various factors, such as financial indicators, included in the model of calculating credit ratings?

RQ3: How can the reliability and accuracy of corporate credit ratings be improved using multiple data sources?

Based on the empirical calculation for Company X based on the S.BON AJPES method, which classifies Slovene business entities (companies, cooperatives, and private institutions) according to credit risk in 10 credit grades with credit ratings from SB1 to SB10, where SB1 is the best credit rating, we investigated the impact of changes in indicators on the calculation of the credit rating, being that different rating agencies use different calculation methodologies.

Initially, we reviewed the Company's financial statements, an important basis for determining the credit rating. We analysed the statement of financial position and income statement for FY 2021 and FY 2022. From the statement of financial position, items were used to calculate indicators:

- short-term financial investments, except for loans,
- short-term trade receivables,
- cash and cash equivalents,
- equity
- long-term liabilities and
- short-term liabilities.

From the set of data of the profit and loss statement, the following items were used in the calculations:

- costs of goods, materials and services,
- depreciation, write-offs, or impairments,
- other operating expenses,
- other expenses,
- net profit or loss for the financial year period.

From the above data, we calculated the indicators, which were divided into three subgroups for better transparency:

- the indicators of horizontal financial structure,
- the indicators of efficiency, profitability, and income, and
- the business performance indicators.

Table 3 shows the calculation of horizontal financial structure indicators, namely the short-term coefficient, net working capital, the quick coefficient, the accelerated coefficient, and the mezzanine ratio. The calculations are for the financial year 2022 and the comparison with the industry and financial year 2015.

Table 3: Presentation of horizontal financial indicators

Indicator	Formula

Short-term coefficient (current ratio)	current assets/current liabilities
Net working capital	current assets - current liabilities
Accelerated coefficient (Acid-Test Ratio)	money + receivables + short-term investments/current liabilities
Quick ratio (Cash Ratio)	cash + cash equivalents + marketable securities/ current liabilities
Mezzanine ratio (Debt to Equity Ratio)	total liabilities/shareholders' equity

If the short-term coefficient is less than 1, the company cannot cover all current liabilities with current assets. This indicator should be about 2, but in practice, everything depends on the industry in which the company operates. A higher value of this indicator does not always mean better solvency, as it contains some less liquid forms of assets – inventories. The difference between current assets and current liabilities is net working capital, which indicates a company's short-term financial health and operational efficiency. A better measure of solvency is an accelerated coefficient since it contains more liquid assets in the numerator. Most authors believe that the quick coefficient best indicates short-term solvency. Lower coverage of short-term liabilities with liquid assets could mean difficulties in ensuring solvency, but on the other hand, it could mean that a company invests money more profitably. Finally, we calculated an indicator that shows the debt-to-equity ratio. If the ratio is more than 1 means that the financing structure of the company is predominantly debt.

In addition, we calculate the efficiency, profitability, and profit and loss indicators, as shown in Table 4.

Table 4: Presentation of efficiency, profitability, and income indicators

Indicator	Formula
Profitability rate	net profit/total revenue*100
Return on assets (ROA)	net profit/total average asset*100
Return on equity (ROE)	net profit/average shareholders' equity*100
Operating efficiency ratio	operating income/operating costs

The higher the level of profitability, the better, since this means that the company makes more profit per unit of revenue. The net profitability of assets gives information on how successful the company has been in asset management. High values of ROA attract investors because with higher profitability of assets, the risk of financial and business problems is reduced. The net return on equity ratio is one of the most important indicators for owners as it tells how successful management is in asset management (Igličar, 2009, p. 35). Positive ROE indicates a positive result or profit. If the operating efficiency ratio is more than 1, the company has higher operating revenue than the operating costs.

The last group includes performance indicators, as shown in Table 5.

Table 5: Presentation of performance indicators

Indicator	Formula
Debt to financing ratio	total debt/total liabilities (total debt + total equity)*100
Debt servicing (Debt Service Coverage Ratio)	net operating income + write-downs/total expenses
Credit Exposure	current operating receivables/operating revenue
Coefficient of conversion	total revenue/total average asset
EBIT	operating revenue − operating expenses
EBITDA Margin	EBITDA/sales revenue*100
Profit margin	net profit/sales revenue*100

The higher value of the debt-to-financing ratio represents a higher risk for creditors, although this financing is cheaper. Debt servicing is an indicator that tells how much cash flow covers expenses. The result means the company makes enough operating profit to cover total liabilities if the coefficient exceeds 1. Credit exposure measures the liquidity of operations. The low value means a lower credit exposure. EBIT tells us what the company's profit before interest and taxes is. The EBITDA margin determines how many units of cash flow a company generates per 100 units of sales revenue.

Based on the calculated financial indicators for the selected Company, it could already be classified in a certain credit rating. However, we decided to obtain a more accurate assessment so below, we defined the so-called soft adjustments or non-financial factors, which are:
- bank account freeze,
- decision on deregistration,
- involvement of the entity in legal disputes (either as a claimant or as a defendant),
- tax non-payer or tax delinquent, and
- payment index (delays in fulfilling payment obligations).

Based on the calculated financial indicators and the determination of non-financial indicators, we assessed again and determined the credit rating for the company.

COMPANY X'S CREDIT RATING

Dynamic and static ratings calculations were considered when determining the company's credit rating. We found that the company did not have restricted transaction accounts. In 2022, the company was moderately burdened with litigation as the defendant, but otherwise, it has no significant claims in court. Neither were they tax debtors in the year under review. They had no declared claims in insolvency proceedings. The payment index showed satisfactory payment discipline.

Financial institutions also create transition (migration) matrices with which we can analyse credit rating transitions (whether the credit rating will fall or increase in the coming year). However, since credit forecasting is not the research goal, we did not use it when determining the credit rating for Company X. The assessment is shown in Table 6.

Table 6: Dynamic assessment for FY 2022

Dynamic assessment for FY 2022

Defendant	
Tax defaulter	
Bank account locks	
Payment Index	
Insolvency proceedings	

Legend:

Very good
Good
Average
Bad
Very bad
Incalculable

Then, we calculated the horizontal financial structure indicators as a part of static rating calculation, including the short-term coefficient, net working capital, the quick coefficient, the accelerated coefficient, and the mezzanine ratio. Used financial statement items are presented in Table 7.

Table 7: Financial statement items for FY 2021 and 2022

Financial statement item	2022	2021
Total assets	1.138.308,97	1.123.892,77
Long-term assets	726.850,06	736.336,34
Current assets	411.458,91	387.556,43
Short-term investments	0	0
Total liabilities	1.138.308,97	1.123.892,77
Equity	387.737,32	316.298,28
Provisions and Long-term Accrued Liabilities	6.362,85	10.321,60
Long-term liabilities	313.636,38	370.764,65
Short-term liabilities	430.572,42	426.508,24
Total revenue	2.121.804,78	1.713.169,62
Sales revenue	2.121.069,34	1.712.264,08
Total expenses	2.042.565,52	1.650.846,01

Costs of goods sold	2.037.479,32	1.646.640,51
EBIT	83.590,02	65.623,57
EBITDA	130.385,78	102.299,89

Source: Financial statements of Company X

The calculations of indicators are for FY 2022 and the results are presented in Table 8.

Table 8: Calculation of horizontal financial indicators in FY 2022

Indicator	Formula	Calculation for company X	Industry average
Short-term coefficient (current ratio)	current assets/current liabilities	0,96	1,3
Net working capital	current assets - current liabilities	-19.113	N/A
Accelerated coefficient (Acid-Test Ratio)	money + receivables + short-term investments/current liabilities	0,71	0,8
Quick ratio (Cash Ratio)	cash + cash equivalents + marketable securities/ current liabilities	0,07	0,3
Mezzanine ratio (Debt to Equity Ratio)	total liabilities/shareholders' equity	1,94	1,9

The values of Company X's first ratio indicators, such as Current, Acid-Test and Quick ratio, are less than 1. If the short-term coefficient is less than 1, the company cannot cover all current liabilities with current assets. This indicator should be about 2, but in practice, everything depends on the industry in which the company operates. A higher value of this indicator does not always mean better solvency, as it contains some less liquid forms of assets – inventories.

The net working capital calculation is negative, which means that the company's current liabilities are higher than current assets and there is potential difficulties in the financial health of the company.

A better measure of solvency is an accelerated coefficient since it contains more liquid assets in the numerator. The value of the accelerated coefficient is slightly lower than the current coefficient since inventories represent as much as 27% of current assets. The value shows that in FY 2022, Company X financed 29% of long-term assets with short-term resources.

Most authors believe that the quick coefficient best indicates short-term solvency. As seen from Table 8, this indicator is much lower than the recommended limit of 1. Lower coverage of short-term liabilities with liquid assets could mean difficulties in ensuring solvency, but on the other hand, it could mean that a company invests money more profitably.

Finally, we calculated an indicator that shows the debt-to-equity ratio. At this point, we discovered that liabilities are almost twice as high as the

shareholders' equity. This means that the financing structure of the company is predominantly debt.

Table 9: Calculation of efficiency, profitability, and income indicators in FY 2022

Indicator	Formula	Calculation for company X	Industry average
Profitability rate	net profit/total revenue*100	3,37	N/A
Return on assets (ROA)	net profit/total average asset*100	6,32	3,25
Return on equity (ROE)	net profit/average shareholders' equity*100	20,29	10,14
Operating efficiency ratio	operating income/operating costs	1,04	1

Table 9 contains the calculation of efficiency, profitability, and income indicators for financial year 2022. The level of profitability is considered to be: the higher it is, the better, since this means that the company makes more profit per unit of revenue. Company X was profitable because the result was positive. The profitability rate is 3,37, which indicates that the company could do a better job of managing costs.

The net profitability ratio of assets tells us how successful the company has been in asset management. High values of this indicator attract investors because with higher profitability of assets, the risk of financial and business problems is reduced. Company X generated 6,32 units of profit per hundred units of assets.

The net return on equity ratio is one of the most important indicators for owners as it tells how successful management is in asset management (Igličar, 2009, p. 35). ROE is positive for the company under consideration, i.e. the company had a positive operating result. Per hundred units of capital, the company generated 20,29 units of profit.

The operating efficiency ratio is more than 1, meaning that in FY 2022, the company had more revenue than expenses.

The last group included performance indicators, also calculated for FY 2022. Table 10 presents the efficiency, profitability, and income indicators calculations. The calculations pertain to FY 2022.

Table 10: Calculation of performance indicators in FY 2022

Indicator	Formula	Calculation for company X	Industry average
Debt to financing ratio	total debt/total liabilities (total debt + total equity)*100	65,38	N/A
Debt servicing (Debt Service Coverage Ratio)	net operating income + write-downs/total expenses	0,06	N/A
Credit Exposure	current operating receivables/operating revenue	0,13	N/A
Coefficient of conversion	total revenue/total average asset	1,80	0,89

EBIT	revenue − operating expenses	83.590	75.767.730
EBITDA Margin	EBITDA/sales revenue*100	6,15	N/A
Profit margin	net profit/sales revenue*100	3,37	3,7

The debt ratio in financing shows that as much as 65.38% of funds are financed by foreign capital. The higher value of this indicator represents a higher risk on the part of creditors, although this financing is cheaper.

Debt servicing is an indicator that tells to what extent cash flow covers expenses. The result means the company makes enough operating profit to cover financial liabilities. Credit exposure measures the liquidity of operations. The score of 13% is relatively low, which means a lower credit exposure, as the company has fewer open receivables.

The turnover ratio is above 1, which indicates that the company has more revenue than assets and, consequently, a shorter business turnover. For each margin, the higher it is, the more successful the company's operations. By calculating the profit margin, we found that the company generates 3.37 units of net profit per unit of turnover. EBIT tells what the company's profit before interest and taxes is. The EBITDA margin determines how many units of cash flow a company generates per 100 units of sales revenue. In our case, it is 6.15 units.

Table 11 shows the static assessment for FY 2022 shows the horizontal financial structure, cost-effectiveness, and performance indicators.

Table 11: Static Assessment for FY 2022

The lack of resources implies a fairly high rate of dependence on external sources of financing for the company. The indicators of the horizontal financial structure found that the ratio of current assets to current liabilities indicates a slightly worse situation in terms of short-term solvency. The company does not tend towards credit exposure since the receivables balance is favourable. Other performance indicators are favourable for the company, especially a high asset turnover rate.

Static and dynamic rating indicators indicate a company with an average or medium rating and an elevated default risk. This is more sensitive to possible changes that can lead to insolvency. The calculations were also compared with the results of the economic activity into which the company

is classified (F – Construction). We examined the financial indicators for the construction organisation of the implementation of building projects (according to NACE code in Slovenia, Company X belongs to F41.100). On average, most indicators perform better within the industry, which means that Company X performs slightly worse than comparable companies.

Since the weights by which financial institutions determine an accurate credit rating are a trade secret, we have created our weights for this part of the research. Dynamic and static assessments each have 40 % weights, and an industry impact has 20 %. We then determined the number of possible points the results can score for each data group and the rating scale. For the best credit rating (SB1), the company scores from 1,5 to 15 points. For an SB2 rating, the score is from 12 to 13,4 points, and so on to the worst SB10 score, into which a company is ranked with up to 1,4 points.

To simplify the calculation, we have set a maximum of 15 points for each part of the rating. We compare the calculated indicators with an average industry indicator. For the first set of assessments, i.e. financial indicators, we awarded Company X 10 points out of 15 due to poorer indicators such as short-term and quick coefficients. The dynamic rating yields 9 points out of 15 due to its having a less than outstanding payment index and that the company has already participated in litigation as the defendant. We awarded the company with 60 per cent of the total points. For the last part, i.e., comparing Company X with the industry, six more points out of 15 were added due to low EBITDA, a crucial financial metric for performance measurement, cash flow indicator, debt servicing, and operational efficiency. Below is the calculation of the weighted assessment.

Weighted assessment = $s1 \times g1 + s2 \times g2 + s3 \times g3 =$
$= 40 \% \times 10 + 40 \% \times 9 + 20 \% \times 6 =$
$= 8,8$

According to the rating scale mentioned above, Company X, with a rating of 8.8, is classified in grade (according to the AJPES model) SB5. AJPES (AJPES, 2023) describes the SB5 score as: "The ability of a business entity to settle liabilities is above average but lower than in the fourth grade. Aggravation of the situation in the business environment or other unforeseeable events can put a business entity in a position where it cannot fulfil its obligations. An entity with an SB5 credit rating achieves indicators that reflect risk factors for the occurrence of a default event that the model assessment of the occurrence of an event of default is lower than the average for all Slovene business entities."

IMPACT OF INDICATORS ON CREDIT RATING

Furthermore, we wanted to determine the impact of financial indicators on the credit rating, so we determined the credit rating for the same company for the first year of their operations, i.e. FY 2015. In this case, we excluded the dynamic assessment since the payment index is the same as in FY 2022.

From the statement of financial position and profit and loss statement for FY 2015, static rating indicators were calculated for the last year of operation.

By comparing the results, we found that as many as four indicators showed better performance in FY 2015 from a set of indicators of horizontal financial structure. A worse result is recorded only in the debt-equity ratio. This can be explained by the fact that FY 2015 is one of the first years of the company's operations as compared in table 12.

Table 12: Calculation of horizontal financial indicators in FY 2015 compared to FY 2022

Indicator	Formula	Calculation FY 2015	Calculation FY 2022
Short-term coefficient (current ratio)	current assets/current liabilities	1,23	0,96
Net working capital	current assets - current liabilities	50.108	-19.113
Accelerated coefficient (Acid-Test Ratio)	money + receivables + short-term investments/current liabilities	1,23	0,71
Quick ratio (Cash Ratio)	cash + cash equivalents + marketable securities/ current liabilities	0,09	0,07
Mezzanine ratio (Debt to Equity Ratio)	total liabilities/shareholders' equity	4,32	1,94

Among the indicators of efficiency, profitability, and income, only the level of profitability is inferior for FY 2015, but since the result is positive, it still means that the company was operating with a profit as shown in Table 13. The coefficient of operational efficiency is also slightly lower but still above 1, which means that in FY 2015, the company had more revenue than expenses. ROA and ROE are much better for the first year of business and are among the very important indicators for investors.

Table 13: Calculation of efficiency, profitability, and income indicators in FY 2015 compared to FY 2022

Indicator	Formula	Calculation FY 2015	Calculation FY 2022
Profitability rate	net profit/total revenue*100	2,0	3,37
Return on assets (ROA)	net profit/total average asset*100	13,66	6,32
Return on equity (ROE)	net profit/average shareholders' equity*100	69,76	20,29
Operating efficiency ratio	operating income/operating costs	1,02	1,04

Performance indicators for FY 2015 are also mostly better than for FY 2022. At this point, there are major differences in three indicators that all Slovene credit rating agencies include in calculating the rating. These are debt rollover, credit exposure, and turnover ratio.

Table 14: Calculation of performance indicators in FY 2015 compared to FY 2022

Indicator	Formula	Calculation FY 2015	Calculation FY 2022
Debt to financing ratio	total debt/total liabilities (total debt + total equity)*100	81,21	65,94
Debt servicing (Debt Service Coverage Ratio)	net operating income + write-downs/total expenses	7,82	0,06
Credit Exposure	current operating receivables/operating revenue	0,12	0,13
Coefficient of conversion	total revenue/total average asset	6,96	1,80
EBIT	revenue − operating expenses	31.286	83.590
EBITDA Margin	EBITDA/sales revenue*100	2,37	6,15
Profit margin	net profit/sales revenue*100	0,02	3,37

Based on these findings from table 14, we present the static assessment for FY 2015 in Table 15.

Table 15: Static assessment in FY 2015

Static assessment for FY 2015

Horizontal financial structure indicators

Cost-effectiveness indicators

Performance indicators

The lack of resources implies a fairly high degree of business dependence on external sources of financing for the company. The indicators of the horizontal financial structure found that the ratio of current assets to current liabilities indicates a good position in terms of short-term solvency. The company is not on the path towards credit exposure since the receivables balance is favourable. Other performance indicators favour the company, especially a high asset turnover rate.

Fulfilment of obligations remains high, but the likelihood of risk is low. In the same way as for FY 2022, here we compared the results with the industry and according to the same weights and scores for FY 2015 by scoring. According to the S.BON model, this rating is SB3 compared to SB5 in FY

2022. AJPES (AJPES, 2023) describes the SB3 score as follows: "The company's ability to fulfil its obligations is high. A company with an SB3 credit rating has indicators that reflect risk factors such that the model-rated probability of the occurrence of a default event is low but higher than in the second grade. Compared to companies with a higher credit rating, it is more sensitive to adverse changes in the business environment."

RELIABILITY AND ACCURACY OF CREDIT RATINGS USING MULTIPLE DATA

To determine how using more data affects the reliability and accuracy of credit ratings, we compared the calculated credit rating with eBONITETA.

In the section History of Company X, we brought up FY 2015 and compared the credit rating with the investigated credit rating. Prva bonitetna agencija d. o. o. rated Company X with 9 for that year, which, according to the S.BON AJPES method, equals the SB2 rating. According to our calculations, the rating is one class lower, SB3 (according to Eboniteta, this is a rating of 8).

Deviations between credit ratings between different credit rating agencies are due to different rating methodologies. We investigated the causes behind the difference between the ratings in our research and those of eBONITETA. The same factors were selected for the dynamic assessment, so these indicators did not affect the rating. A greater divergence arose in the selection of financial indicators. Our calculation consists of three sets of indicators, each with 4 to 6 calculations. When scoring, we evaluated one set and then awarded the total points for a static score. Prva bonitetna agencija established the methodology by using only five financial indicators and determining a static rating based on this. The financial indicators used according to the chosen methodology are the debt ratio in financing, the short-term coefficient, credit exposure, return on assets, and the ratio of turnover of assets. Compared to the investigated calculation, they did not consider the accelerated and quick ratio indicators, Debt-to-equity ratio, Operating efficiency ratio, ROA, ROE, Profitability ratio, Debt coverage, EBIT, EBITDA, and Profit margin.

From this difference, we conclude that the presented credit rating calculation is more accurate and perhaps even more reliable since the static rating was determined according to the results of fourteen indicators, not just five.

CONCLUSIONS

Credit rating is a term that refers to the positive qualities of an individual, company, thing, or land. It determines the quality or value of an entity and can be based on various factors such as financial health, business risks, past payment behaviour, and industry comparison. Credit ratings serve two purposes: as a motivator for companies to build a good reputation and get

the highest possible rating, and as a reliable risk indicator when an organisation is cooperating with a company for the first time or is not well known to it.

Credit rating agencies assign ratings to businesses based on their long-term basic credit strength or how likely they are to fulfil their debt payment obligations over the long run. They form an industry that has developed gradually and has been important for many years. The global credit rating agency industry is highly concentrated, with the three agencies (Moody's, Standard & Poor's, and Fitch) controlling almost the entire market. Rating agencies assess the ability of entities to pay their debts and consider a range of underlying factors concerning financial capacity, composition of assets and reputation of the issuer, forecasts, macroeconomic factors, bankruptcy history, and economic cycle. In Slovenia, the need to process data on business entities arose relatively late in the late eighties, with the beginning of entrepreneurship. The credit rating activity for external clients appeared for the first time in 1989 at the Social Accounting Office, the forerunner of the Agency of the Republic of Slovenia for Public Legal Records and Services (AJPES).

Well-known credit rating agencies in Slovenia include Prva bonitetna agencija, d.o.o., Bisnode, and AJPES. These agencies use various methods to classify Slovene business entities according to credit risk, with the SB1 rating being the best and the SB10 rating being the worst.

Credit rating is a crucial tool for assessing a company's financial and property condition. It provides information about a company's history, management, status, major strategic plans, and organisation. The traditional notion of credit rating focuses on certain company features, such as liquidity, financial security, and profitability, while the modern concept considers the qualities and characteristics of the company and its environment.

The modern view of credit rating is an upgrade of the traditional one, considering both the company's past business and opportunities as well as development strategies for the company in the future. Modern assessment has expanded the range of indicators for analysis and started using newer analytical methods. Credit rating is widely recognised as one of the most critical methods for assessing creditworthiness, with strict financial regulations having emerged following the 2008 financial crisis.

This research aimed to examine the impact of various calculations of corporate credit ratings and the change in indicators from financial statements on the credit rating calculation. A qualitative methodology was used with a case study designed based on three research questions: RQ1: How do different methodologies for calculating corporate credit ratings differ and affect the final credit rating?; RQ2: How are various factors, such as financial indicators, included in the model of calculating credit ratings?; and RQ3: How can the reliability and accuracy of corporate credit ratings be improved using multiple data sources?

Based on the empirical calculation for Company X based on the S.BON AJPES method, the study examined the impact of changes in indicators on the credit rating calculation.

The first research question, RQ1, was: "RQ1: How do different methodologies for calculating corporate credit ratings differ and affect the final credit rating?" The methods, information, and models that various credit rating agencies employ to evaluate a company's creditworthiness vary with regard to corporate credit rating computation. Credit rating results and interpretation may be impacted by these discrepancies. The following factors can most often influence the results:

- dynamic assessment: experts evaluate companies based on various criteria, such as financial stability, risk management, market position, payment index, and the like. Such an approach may lead to subjective assessments that differ between assessors;
- static assessment: is based on analysing figures such as financial statements and other financial matrices. Various accounting indicators and statistical models are used to calculate the rate. Different approaches can lead to different results;
- comparisons: companies can be judged against international standards and comparisons with similar companies. This may lead to divergent rates by geographical area and industry; and
- internal data and external sources: the use of internal company data and external sources, such as credit rating agencies, to assess creditworthiness. The quality and promptness of these resources can affect the accuracy of the assessment.

The impact of different methodologies on final company ratings can be significant. Different approaches can highlight the diversity of aspects of a company and lead to different creditworthiness conclusions. In addition, it is important to remember that credit ratings may also change with the changes in conditions and economic circumstances, which may further affect the interpretation of these ratings. When using credit ratings, it is therefore important to consider the methodology and monitor the different sources to obtain a comprehensive picture of the company's creditworthiness.

The second research question, RQ2, addressed: "How are various factors, such as financial indicators, included in the model of calculating credit ratings?" When calculating corporate credit ratings, various factors, including financial indicators, are used to assess the creditworthiness and risk of a company. Including these factors in the model of calculating credit ratings is the key to obtaining a comprehensive picture of a company's financial condition. The indicators were divided into several groups to facilitate the presentation of results.

We listed the most common financial indicators and demonstrated their inclusion in assessment models:

- liquidity indicators include ratios that measure the company's ability to fulfil short-term liabilities from current assets. High liquidity indicators indicate good liquidity and lower risk;
- debt indicators include ratios that measure the volume of debt versus equity and the company's total assets. Lower rates of these indicators indicate lower financial risk;
- profitability indicators: include profit margin, return on equity (ROE), return on assets (ROA), and other indicators that measure a

company's ability to make a profit. Higher profitability usually increases the credit rating;
- cash flow: cash flow data is important for assessing a company's ability to fulfil liabilities and finance expenditures. Positive operating cash flow indicates better financial stability. Usually, the debt servicing indicator is used for cash flow; and
- macroeconomic environments: some credit ratings also consider the general economic situation since economic conditions may affect the company's operations.

Credit rating models combine these and other factors to create an assessment of the creditworthiness of a company. Each model has its weights and algorithms that affect the final rating. The accuracy and reliability of a credit rating depend on how well the models take all these factors into account and how weights are set for each factor according to the specific industry and company circumstances.

The third research question, RQ3, was: "How can the reliability and accuracy of corporate credit ratings be improved using multiple data sources?" The reliability and accuracy of corporate credit ratings can be improved by using multiple data sources in several ways for the calculation of the credit rating of a company. More data sources provide a complete picture of the company's financial condition, leading to better rates. Here are some ways this can be achieved:
- diversity of data sources: the use of different types of data sources, including company financial statements, credit rating agencies, publicly available information, internal data, and sectoral reports, allows for a better variety of information used in ratings;
- keeping company data updated: Regularly updating data is crucial, as companies' financial conditions constantly change. Up-to-date data provide a better ability to assess the current financial condition of the company;
- use of advanced analytical techniques: using, for example, machine learning and big data analysis, we enable better use of available data to generate estimates. These techniques can uncover patterns and relationships that would be difficult to observe with traditional methods;
- resource weighting: different data sources may have different reliability and importance. When evaluating a company, different sources would be weighted and ranked according to their reliability in order to improve the accuracy of the estimate;
- data comparison: we compare the data between different sources and check whether they are harmonised. Any discrepancies may indicate problems in the financial statements or reliability of certain sources; and
- change control: It is important to keep track of changes in financial statements and other relevant data that may affect the credit rating. Regular monitoring allows assessments to be adjusted on time.

Using multiple data sources, analysis planning, and appropriate tools and techniques can improve the accuracy and reliability of corporate credit

ratings and reduce risks when lending or deciding on business partnerships. As already mentioned, too much irrelevant or inappropriate analysis data can lead to confusion or wrong conclusions.

The research revealed that calculating credit rating is a complex process requiring considering several factors, including past and current financial data, the economic environment, and trends. A literature review showed different approaches to defining credit rating, such as traditional and modern methods. We found that each methodology has advantages and limitations and that the optimal choice depends on the specific characteristics and data availability.

Different methodologies for calculating credit ratings offer different insights into companies' financial stability. It is important to understand that no universal methodology applies to all types of companies. The choice of the right methodology depends on the specific circumstances and objectives of the analysis. We wanted to get closer to the S.BON AJPES method, but the calculations in the paper are not the same since the methods of calculating credit ratings are usually a trade secret. Retrieving all the data we need for the final result is also difficult. Due to the development of technology and the constant change in the company's environment, it is important to adapt and update calculation models.

Credit rating calculation is a valuable process for investors, lenders, suppliers and other stakeholders, as it allows for a better risk assessment and decision to cooperate with the company. Nevertheless, it is important to note that the credit rating calculation is not the only indicator of the company's performance. We also need to consider other factors, such as governance, market competition, macroeconomic situation, and, more recently, sustainability and sustainable business.

In conclusion, we would like to emphasise that understanding the different methodologies for calculating credit ratings and financial indicators is crucial for better risk management and decision-making in the business world. Continuous monitoring and credit rating are crucial for long-term successful business operations. Our research has provided insight into the complexity of the rating calculation process and its impact on stakeholder decisions. Further research may focus on the sustainability aspect of credit ratings, or machine learning and AI scoring.

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A THE IMPACT OF FINANCIAL LITERACY ON FINANCIAL DECISION-MAKING: EXAMINING OVERCONFIDENCE AND AVAILABILITY AS MEDIATING VARIABLES AMONG GENERATION Z

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Abstract

This study aims to analyze the influence of financial literacy, overconfidence, and availability on decision-making, as well as to examine the mediating role of overconfidence and availability in the relationship between financial literacy on financial decisions. The research adopts a quantitative approach, utilizing an incidental sampling technique based on the Slovin formula to select a sample of 500 Generation Z respondents from South Sulawesi, Indonesia. Data were collected through the distribution of structured questionnaires. The data analysis was conducted using the SMART PLS application.The results of direct hypothesis testing show that financial literacy has a positive and significant effect on financial decision-making, Additionally, financial literacy positively and significantly influences availability, while overconfidence also exhibits a positive and significant effect on financial decision-making, Furthermore, financial literacy significantly impacts financial decision-making through both overconfidence and availability as mediating variables.
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INTRODUCTION

Generation Z, individuals born between 1997 and 2012, has entered the financial world with distinct characteristics and preferences that differentiate them from previous generations. Growing up in the digital age, this generation is frequently exposed to financial technology, which significantly influences their financial literacy. Social media plays a crucial role in shaping Generation Z's financial decisions. A report published in the Journal of Financial Counseling and Planning highlights that social media can influence spending behavior, with trends and peer influence exerting a significant impact on financial decision-making. Generation Z's financial behavior reflects broader shifts in their interactions with money, technology, and personal finance. Financial decision-making involves a person's tendency to make rational or irrational financial choices, influenced by multiple factors, including financial literacy, heuristic biases such as overconfidence and availability, demographics, education, income, and attitudes (Asri, 2013).

A lack of financial literacy within a community is often reflected in poor financial decision-making, particularly regarding excessive consumption and mismanagement of financial resources. Individuals with limited financial literacy are more likely to engage in consumptive behavior, make uninformed financial transactions, accumulate loans, and incur high interest rates (Lusardi, 2013). Generation Z exhibits a strong tendency toward consumption, both online and offline. This study focuses primarily on their online shopping behavior. Data from the SUSENAS survey indicate that in 2019, 17% of Generation Z engaged in online shopping, a figure that increased to 44% in 2021. This trend suggests that financial decision-making among Generation Z, including students, is closely tied to their purchasing behaviors. The increasing prevalence of online shopping is suspected to be influenced by financial literacy, overconfidence, and availability, all of which play a role in shaping their financial decisions.

Generation Z plays a crucial role in the consumer market, as this generation exhibits high purchasing power and a tendency toward a hedonistic lifestyle. Their consumption patterns significantly influence financial decision-making. Research conducted by the Consumer Association of America indicates that college students are often inclined to spend more on social experiences, such as dining out, attending entertainment events, or travelling, as part of their hedonic lifestyle. This spending behavior can create challenges in maintaining a balance between financial needs and personal desires (American Consumer Credit Counseling, 2020). The hedonistic tendencies of Generation Z are closely linked to financial decision-making. A rational approach and a strong

understanding of financial literacy play a critical role in shaping sound financial decisions. Inadequate financial knowledge or low financial literacy can lead to poor and unstructured financial choices, ultimately affecting financial stability (Yulianti & Silvy, 2013).

Financial literacy encompasses the knowledge, skills, and confidence required to manage financial resources effectively, particularly among Generation Z. It plays a crucial role in financial decision-making, as higher levels of financial literacy are associated with more informed and rational financial choices. Conversely, limited financial literacy often leads to poor or irrational financial decisions. One of the key reasons for promoting financial literacy is to ensure that individuals acquire the necessary knowledge and understanding before making financial decisions, thereby enhancing their financial well-being and stability.

According to the 2019 Financial Services Authority (Otoritas Jasa Keuangan—OJK) National Survey, the financial literacy index reached 38.03%, reflecting an improvement from the 2016 OJK survey, which reported a financial literacy index of 29.7%. This indicates an 8.33% increase in public financial literacy over three years. The growing awareness of financial literacy has been supported by various campaigns, which play a crucial role in enhancing individuals' ability to make informed financial decisions. Widayati (2014) emphasizes that financial intelligence is a critical component of modern life, as it involves the ability to manage personal assets effectively. A strong foundation in financial literacy enables individuals to make wiser and more strategic financial decisions, ultimately contributing to long-term financial stability. This financial awareness influences spending patterns and overall financial decision-making.

According to a 2020 World Bank survey, financial literacy in Indonesia remains relatively low compared to other Southeast Asian countries, with a literacy rate of approximately 20%. In contrast, neighbouring countries such as the Philippines (27%), Malaysia (66%), Thailand (73%), and Singapore (98%) demonstrate significantly higher levels of financial literacy. This disparity highlights the urgent need for enhanced financial education in Indonesia. Despite growing interest and concern regarding financial education among individual investors, many still lack awareness of how financial literacy influences financial management, particularly in decision-making (Rusmawati Nur, 2022). Financial literacy is closely linked to overconfidence. Higher financial literacy tends to be associated with increased overconfidence, whereas lower financial literacy corresponds with lower overconfidence. Additionally, financial literacy is related to availability; greater financial literacy is associated with higher availability, while lower financial literacy corresponds with reduced availability (Rusmawati Nur, 2022).

Overconfidence reflects Generation Z's tendency to perceive their financial decision-making abilities as above average. It is closely linked to financial decision-making, as individuals with excessive confidence may engage in impulsive purchases without thoroughly evaluating their decisions. In contrast, those with lower levels of overconfidence are more likely to seek references and consider multiple factors before making financial choices

(Pradikasari & Isbanah, 2018). Research by Bakar and Yi (2016) suggests that overconfidence has a positive effect on financial decision-making, indicating that individuals trust their financial choices and perceive them as correct. However, this finding contrasts with the study conducted by Wulandari and Iramani (2014), which found no significant relationship between overconfidence and financial decisions.

Higher levels of financial literacy can mitigate overconfidence, leading to improved financial decision-making. Research by Fernandes et al. (2014) emphasizes the importance of managing overconfidence to enhance the effectiveness of financial literacy. Their findings suggest that financial literacy programs should incorporate strategies to reduce overconfidence, such as providing objective feedback and accurate financial information. Based on the background and phenomena discussed, this study aims to examine "The Impact of Financial Literacy on Financial Decision-Making: Examining Overconfidence and Availability as Mediating Variables among Generation Z."

This study examines the variables of financial literacy, financial decisions, overconfidence, and availability. Financial literacy is closely related to financial decision-making, with higher levels of financial literacy leading to more informed and rational decisions. Conversely, lower levels of financial literacy tend to result in less informed and more irrational decisions. Based on the aforementioned background and literature review, as well as the theoretical frameworks discussed, the rationale for this research is as follows:

Figure 1: Empirical model
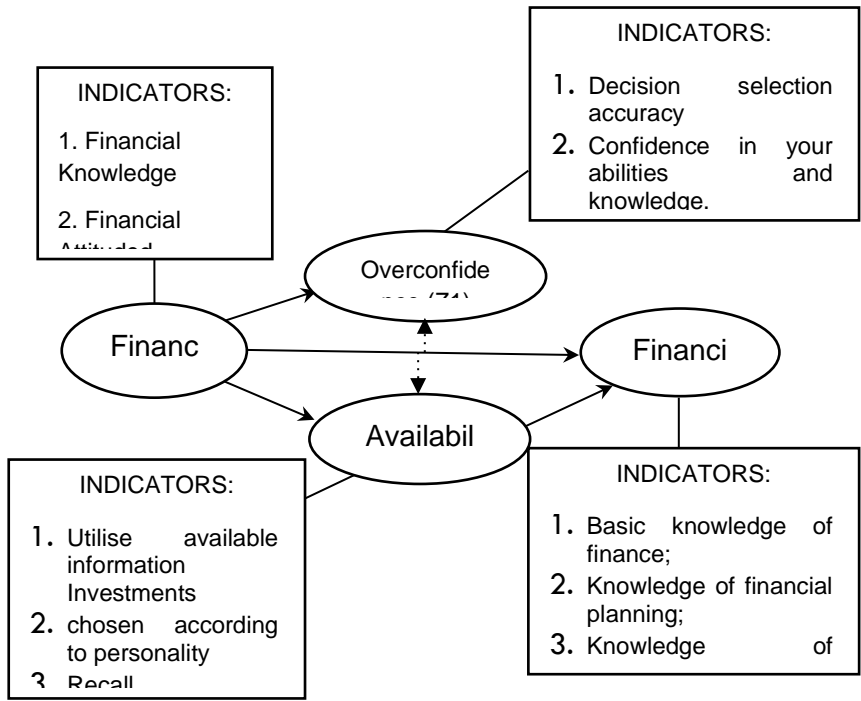
Financial literacy is closely linked to financial decision-making. Higher levels of financial literacy typically result in more informed and rational financial decisions, whereas lower financial literacy tends to lead to more inappropriate or irrational decisions. Additionally, financial literacy is associated with overconfidence; individuals with higher financial literacy are more likely to exhibit higher levels of overconfidence, while those with lower financial literacy tend to show lower levels of overconfidence. Financial literacy is also related to availability; individuals with greater financial literacy are more likely to have higher availability, while those with lower financial literacy may experience lower availability.

Availability is also closely linked to financial decision-making. Greater availability tends to result in more informed and rational financial decisions, while limited availability can lead to more inappropriate or irrational decisions. Therefore, this study aims to examine the effect of financial literacy on financial decisions through the mediating roles of overconfidence and availability, as depicted in the conceptual framework below.

METHODS

This study employed a quantitative approach, specifically the causal study method, to assess the relationships between the variables under investigation and determine whether significant effects existed. The researchers utilized the SMART PLS 4.0 application to analyze the impact of financial literacy on financial decisions, with overconfidence and availability serving as moderating variables. The research was conducted in South Sulawesi from February 2024 to August 2024. The study's population consisted of 500 active Gen Z students in South Sulawesi, including 327 males and 173 females, aged between 17 and 24 years. Data collection was carried out by randomly distributing questionnaires across several campuses in South Sulawesi. The survey consisted of 52 questions, and responses were measured using a Likert scale.

RESULTS

Convergent validity is a measure that indicates a positive relationship with alternative measures of the same construct. To assess convergent validity, researchers considered the loading factor value, Average Variance Extracted (AVE), cross-loading, and the Fornell-Larcker criterion. Two criteria were used to evaluate the outer loading for reflective constructs: the loading value was greater than 0.70, and the p-value was less than 0.05.

Table 1: Validity testing

	Validity
AVA 1	0,897
AVA 2	0,913

AVA 3	0,888
KK 1	0,747
KK 2	0,911
KK 3	0,936
KK 4	0,944
LK 1	0,942
LK 2	0,936
LK 3	0,922
OVC 1	0,921
OVC 2	0,896
OVC 3	0,926

Referring to the table above, the results of testing the outer loading for Financial Literacy (exogenous) showed that three statement items had an outer loading value ≥ 0.70, indicating that they were valid and could be tested. Similarly, for Overconfidence (Z1), three statement items had an outer loading value ≥ 0.70, confirming their validity and suitability for testing. Additionally, for Availability (Z2), three statement items also had an outer loading value ≥ 0.70, indicating that they were valid and could proceed with further testing.

Table 2: Average variance extracted

	AVE
AVA	0,809
KK	0,788
LK	0,872
OVC	0,836

Referring to the table above, all constructs showed an Average Variance Extracted (AVE) value greater than 0.50. Specifically, the Financial Literacy variable had an AVE value of 0.872, the Overconfidence variable had a value of 0.836, the Availability variable had a value of 0.809, and the Financial Decision variable had a value of 0.788. These values meet the requirement, as they exceed the specified minimum AVE threshold of 0.50.

Table 3: Fornell larcker criterion testing

	Fornell larcker
AVA	0,899
KK	0,888
LK	0,934
OVC	0,915

Referring to the table above, the results of the Fornell-Larcker criterion test show that the square root of the Average Variance Extracted (AVE) for Financial Literacy is 0.934, for Overconfidence is 0.915, for Availability is 0.898, and for Financial Decisions is 0.888. These values meet the criteria for discriminant validity and are considered acceptable. Therefore, the model exhibits a very high relationship between the variables, with the square root of the AVE construct exceeding the threshold of 0.50.

Table 4: Cross loading table

	Cross loading
AVA 1	0,897
AVA 2	0,913
AVA 3	0,888
KK 1	0,747
KK 2	0,911
KK 3	0,936
KK 4	0,944
LK 1	0,942
LK 2	0,936
LK 3	0,922
OVC 1	0,921
OVC 2	0,896
OVC 3	0,926

Referring to the table above, the results of the cross-loading test show that the outer loading values for the researcher's construct indicators are greater than the cross-loading values for the other constructs.

Table 5: Reliability testing

|	Cronbach's alpha	rho_a	rho_c
AVA	0,882	0,882	0,927
KK	0,907	0,913	0,937
LK	0,926	0,927	0,953
OVC	0,902	0,903	0,939

Referring to the table above, the results of the composite reliability test show that all constructs for each variable in this study meet the minimum value requirement. Specifically, Financial Literacy = 0.953 > 0.70, Availability = 0.927 > 0.70, Overconfidence = 0.939 > 0.70, and Financial Decisions = 0.937 > 0.70. Therefore, it can be concluded that all constructs meet the composite reliability criteria. Additionally, the results of the Cronbach's alpha test also show that all constructs meet the minimum value requirements. Specifically, Financial Literacy = 0.926 > 0.60, Availability = 0.882 > 0.60, Overconfidence = 0.902 > 0.60, and Financial Decisions = 0.907 > 0.60. Hence, all constructs have met the criteria for both composite reliability and Cronbach's alpha.

Table 6: R-Square testing

	R-Square	R-Square adjusted
AVA	0,663	0,660
KK	0,884	0,880
OVC	0,821	0,819

Referring to the table above, the results of the R-square test show that Financial Literacy affects Overconfidence, with an R-square value of 0.821. This indicates that Financial Literacy can explain 82.1% of the variance in Overconfidence. Additionally, Financial Literacy affects Availability, with an R-square value of 0.663, meaning that Financial Literacy can explain 66.3% of the variance in Availability. Furthermore, Financial Literacy influences Financial Decisions with an R-square value of 0.884, implying that 88.4% of Financial Decisions can be explained by Financial Literacy. Based on these results, it can be concluded that Financial Literacy (as the exogenous variable) makes a significant contribution to explaining Financial Decisions, both directly and indirectly, with overconfidence and availability serving as mediators.

Figure 2: Outer model
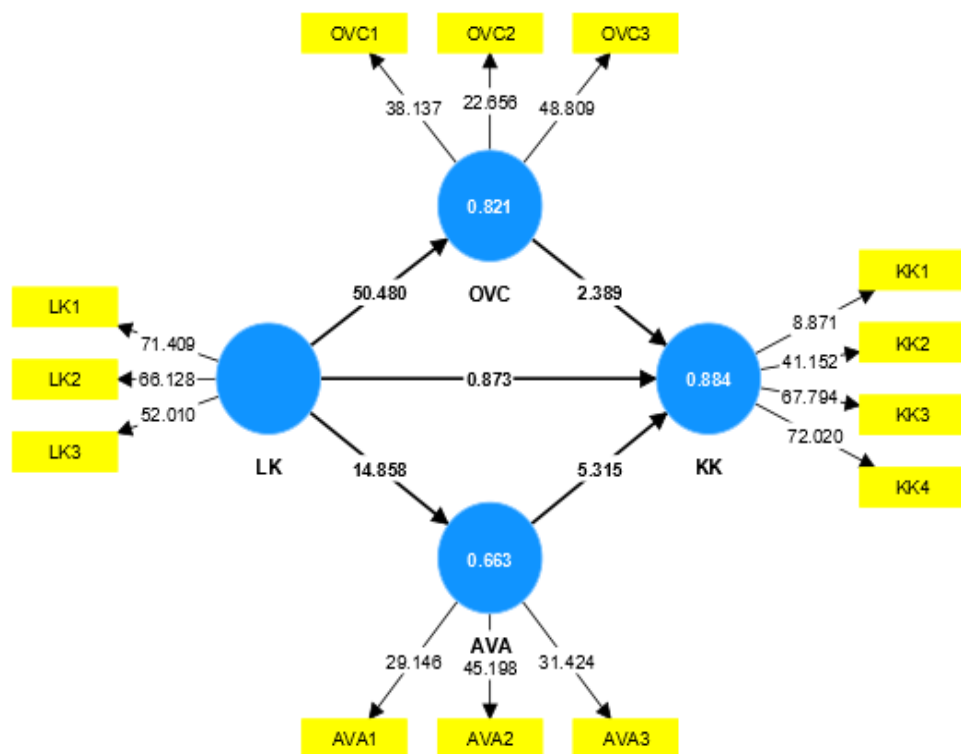
PLS Warp testing was used to analyze the direct hypotheses. The results of the analysis can be observed in the model and tables below:

Table 7: Direct hypothesis testing

	O	M	STDEV	O/STDEV	P-values
AVA > KK	0,634	0,614	0,119	5,315	0,000
LK > AVA	0,814	0,811	0,055	14,858	0,000
LK > KK	0,839	0,834	0,057	14,602	0,000
LK > OVC	0,906	0,906	0,018	50,480	0,000

| OVC > KK | 0,248 | 0,259 | 0,104 | 2,389 | 0,017 |

The table above illustrates the direct relationships between the researcher's exogenous variable, Financial Literacy, and the endogenous variables, Overconfidence, Availability, and Financial Decisions. Financial Literacy serves as the independent variable, while Financial Decisions act as the dependent variable. This relationship is further strengthened by the mediating variables, Overconfidence and Availability. Additionally, there is one causal pathway for indirect hypothesis testing (indirect effect): the impact of Financial Literacy on Financial Decisions is mediated by Availability and Overconfidence. The results of the indirect effect bi-testing are presented below:

Table 8: Indirect hypothesis testing

	O	M	STDEV	O/STDEV	P-values
LK > AVA > KK	0,516	0,494	0,085	6,044	0,000
LK > OVC > KK	0,225	0,235	0,094	2,394	0,017

Referring to the table above, the results of the indirect hypothesis testing (indirect effect) show that Financial Literacy → Overconfidence → Financial Decisions (the effect of Financial Literacy on Financial Decisions through Overconfidence) and Financial Literacy → Availability → Financial Decisions (the effect of Financial Literacy on Financial Decisions through Availability).

DISCUSSION

The results of the data analysis from the research conducted indicate that financial literacy significantly influences financial decisions among Generation Z. The findings demonstrate that individuals with a strong understanding of financial principles tend to make more appropriate and rational economic decisions. Those with higher financial literacy are better equipped to plan for the future, including the preparation of emergency funds and the management of their finances in line with their financial capacity. Moreover, they are more likely to carefully consider their purchases, evaluating whether an item is necessary or beneficial, thereby reducing impulsive spending behaviors. The financial literacy variable is closely associated with behavioral finance, as it is grounded in various assumptions and concepts from behavioral economics. This field integrates emotions, traits, preferences, and other inherent factors that influence decision-making. As intellectual and social beings, individuals interact fundamentally with these aspects when making decisions (Yasa, 2020).

The findings of this study align with the research conducted by Annamaria Lusardi (2013), which suggests that individuals who possess a solid understanding of basic financial concepts, such as simple calculations, inflation, and risk diversification, are more capable of making informed decisions regarding future spending planning. The positive impact of

financial literacy on financial decision-making underscores the importance of promoting financial literacy among the general public and students. It is crucial for educational institutions and government bodies to consider integrating financial literacy courses into the curriculum, providing students with essential knowledge and skills to manage their finances effectively in the future.

The results of the data analysis indicate that financial literacy has a positive and significant effect on overconfidence among Generation Z. A higher level of financial literacy significantly impacts an individual's level of overconfidence in managing their finances. The findings suggest that individuals with a strong understanding of financial concepts are likely to experience reduced overconfidence, as they are more aware of their financial risks and the limits of their knowledge. This heightened awareness enables them to make more rational and well-considered financial decisions.

Individuals with a high level of financial literacy tend to have a better understanding of the complexities of financial markets and the limitations of their knowledge. They are more aware of the risks involved in making financial decisions. Rather than relying solely on intuition or confidence, they base their decisions on solid analysis and relevant information. This approach helps them avoid the trap of overconfidence, which can lead to taking disproportionate risks in investments.

Financial literacy can help reduce overconfidence by providing a solid foundation of knowledge and a realistic understanding of finance. This statement is consistent with research conducted by Qurotaa'yun, Z., and Krisnawati, A. (2019), which found that a person's level of financial literacy significantly affects overconfidence in financial management. With a good understanding of financial risks, knowledge limitations, and the ability to manage financial resources wisely, individuals are able to reduce overconfidence and make more informed and balanced financial decisions. Therefore, this study accepts the hypothesis.

The results of the data analysis conducted in this study demonstrate that financial literacy has a positive and significant impact on availability. These findings suggest that financial literacy plays a critical role in how individuals, particularly those from Generation Z, utilize and interpret available financial information and options. A higher level of financial literacy enables individuals to more effectively comprehend financial data, critically evaluate financial alternatives, and make well-informed decisions. By enhancing their financial knowledge, individuals are better equipped to access and leverage relevant financial resources, thereby improving their overall financial decision-making capabilities.

Financial literacy empowers individuals to explore and critically assess the range of financial options available to them. With a robust understanding of financial concepts, individuals are able to navigate various financial products and services, recognizing both their associated risks and benefits. This comprehensive knowledge facilitates a more informed selection of financial tools that align with personal financial goals. Furthermore, financial literacy equips individuals to evaluate these options critically, avoiding common financial pitfalls and ensuring more prudent decision-making.

Without adequate financial knowledge, the abundance of available options may lead to confusion and, consequently, poor financial choices.

Financial literacy equips individuals, particularly Gen Z, with the knowledge necessary to effectively navigate and utilize the available financial information and options. A strong grasp of financial principles, coupled with the ability to critically assess various financial alternatives, enables individuals to make informed financial decisions. This, in turn, contributes to the development of a more secure and stable financial future. These findings align with the research conducted by Negara, A. K., Febrianto, H. G., and Fitriana, A. I. (2022) in their study titled Managing Finance in the View of Gen Z, which demonstrates that financial literacy has a positive and significant effect on the availability of financial options. Consequently, this study supports the hypothesis that financial literacy influences the availability of financial opportunities.

The findings of this study indicate that overconfidence has a positive and significant effect on financial decisions, particularly among Generation Z. Overconfidence, characterized by excessive self-assurance, can significantly influence an individual's financial decision-making processes. In the context of Gen Z, this overconfidence can lead to increased risk-taking and irrational financial choices. Specifically, overconfidence may result in a disregard for long-term financial planning, with individuals neglecting to consider future financial needs and risks. Furthermore, overconfidence can contribute to imprudent debt management. Confident individuals may be more likely to engage in borrowing or the misuse of credit without adequately assessing their repayment capacity, which may result in the accumulation of uncontrolled debt and subsequent financial challenges. Additionally, overconfidence can impede an individual's motivation to enhance their financial literacy and skills. Those who exhibit overconfidence may believe they possess sufficient financial knowledge, thus reducing their willingness to continuously improve their financial understanding. This complacency can hinder their ability to make sound economic decisions and effectively manage complex financial situations.

However, overconfidence can also pose a significant barrier to making sound financial decisions. It is essential for individuals, particularly within Generation Z, to recognize that healthy confidence in financial matters must be grounded in knowledge, understanding, and an objective assessment of their financial circumstances. By cultivating this approach, individuals can avoid falling into the trap of overconfidence and, in turn, manage their finances more effectively. These findings align with the research conducted by Kurniasari, F., and Utomo, P. (2022) in their study, The Key Determinants of Financial Risk Tolerance Among Gen-Z Investors: Propensity for Regret, Propensity for Overconfidence, and Income Level. The study concluded that overconfidence has a positive and significant impact on financial decisions. Based on these results, this study supports the hypothesis.

The results of the data analysis conducted in this study reveal that availability has a positive and significant effect on financial decisions among Generation Z. These findings suggest that Generation Z—individuals born between the mid-1990s and early 2010s—has grown up in an era

characterized by the widespread availability of information and financial options. The rapid advancement of technology and the internet has granted unlimited access to a wealth of financial information, encompassing areas such as money management, investing, and financial planning. Consequently, this extensive availability of financial resources plays a crucial role in shaping the financial decisions made by Generation Z.

The abundant availability of financial information enables Generation Z to become more financially literate. With easy access to a wide range of resources—such as financial articles, instructional videos, online courses, and mobile applications – Gen Z can enhance their understanding of prudent money management. Moreover, they have access to various digital banking platforms, investment applications, and other innovative financial services that can be tailored to meet their unique preferences and needs. This wealth of options allows Gen Z individuals to select financial products and services that align with their financial goals and lifestyle, thereby making more informed decisions in their financial planning.

The availability of technology significantly influences the spending behavior of Generation Z. Online shopping and digital payment systems have become increasingly prevalent among this demographic. The availability of payment services and financial applications enables more efficient financial management. However, if not used judiciously, these tools can lead to impulse buying and the accumulation of debt. As noted by Andiani, D. A. P., and Maria, R. (2023), the availability of financial information and options plays a pivotal role in shaping Gen Z's financial decisions. By effectively utilizing these resources, and underpinned by sound financial literacy, Gen Z can make informed decisions that align with their financial goals, thereby fostering a more secure financial future. Therefore, this study affirms the hypothesis.

The results of the data analysis on financial literacy and financial decisions, specifically regarding overconfidence, indicate that overconfidence can mediate the relationship between financial literacy and financial decision-making. This suggests that financial literacy exerts a complex influence on financial decisions, particularly when mediated by an individual's level of overconfidence. A higher level of financial literacy appears to reduce tendencies of overconfidence, thereby influencing individuals' financial decision-making.

Individuals with strong financial literacy typically possess a deeper understanding of the risks and consequences associated with their financial decisions. As a result, they are more likely to be cautious about excessive confidence and the tendency to engage in disproportionate risk-taking. While individuals with high levels of financial literacy may feel more confident in their financial decision-making, they are also better equipped to recognize when they are overconfident. With a clearer understanding of both themselves and their financial situation, these individuals are able to mitigate the impact of overconfidence on their financial decision-making.

Overall, financial literacy plays a crucial role in mediating the effect of overconfidence on economic decision-making. With a strong understanding of financial risks, realistic self-awareness, and the ability to manage healthy

self-confidence, individuals are better equipped to make informed financial decisions and build a more stable economic future. Consequently, overconfidence serves as a mediating factor, supporting the conclusion that the sixth hypothesis is validated.

The results of the data analysis on financial literacy and financial decisions, specifically through the lens of availability, indicate that availability can mediate the relationship between financial literacy and financial decision-making. This suggests that financial literacy plays a crucial role in shaping individual financial decisions, with the complex interactions between financial literacy and the availability of financial information and options influencing how individuals make their choices. Moreover, financial literacy helps individuals manage information overload. In an era characterized by an abundance of financial information, individuals are often confronted with numerous choices and diverse data. With strong financial literacy, they are able to filter out relevant and accurate information and evaluate financial options more thoughtfully, thereby reducing the risk of making poor decisions due to an excess of choices.

Financial literacy helps individuals critically assess financial options, avoid potential pitfalls, and make informed decisions. With a solid understanding of financial principles, individuals can better navigate the availability of diverse financial options, reducing the risk of poor decision-making. According to Sufyati, H. S., and Lestari, A. (2022), robust financial literacy enables individuals to effectively utilize digital financial technologies and services. With greater confidence and efficiency, they can engage with banking apps, investment platforms, and other financial tools, leveraging the availability of technology to support more informed and strategic financial decision-making.

Financial literacy plays a critical role in mediating the effect of information availability and financial options on individuals' financial decisions. With a strong grasp of financial concepts, individuals are better equipped to effectively utilize available information, filter out irrelevant options, and make optimal use of financial technology. This enables them to make more informed financial decisions and build a more stable financial future. Consequently, the availability variable serves as a mediator, supporting the conclusion that the seventh hypothesis is validated.

CONCLUSION

Based on the results of the data analysis and the discussion above, it can be concluded that financial literacy has a positive and significant impact on the financial decisions of Generation Z. Financial literacy enables Generation Z to make better, more informed financial decisions, positively influencing their financial choices. Additionally, financial literacy allows Generation Z to manage money wisely, create budgets, analyze market trends, and prepare for future financial challenges. Furthermore, financial literacy has a positive and significant effect on both overconfidence and the availability of financial options in Generation Z. The research findings also indicate that financial literacy

positively influences financial decisions through overconfidence, where overconfidence significantly impacts financial decision-making. Similarly, financial literacy affects financial decisions through the availability of financial information, as it helps Generation Z understand how to manage debt wisely and avoid credit pitfalls that could undermine long-term financial stability.

Based on the research findings, it is recommended that Generation Z prioritize understanding financial literacy to make informed financial decisions and avoid costly mistakes. A strong foundation in financial literacy can empower them to navigate financial choices more effectively. Future researchers are encouraged to explore additional variables beyond those examined in this study to uncover other factors that may influence financial decision-making. Expanding the scope of research could provide more diverse insights into the complexities of financial behavior. Additionally, future studies could benefit from incorporating individual and organizational variables, increasing the sample size, and conducting research with a broader demographic to enhance the generalizability and applicability of the findings.

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