From Knowledge to Wisdom

Management Studies

Volume 11, Number 6, Nov.-Dec. 2023

David Publishing Company
www.davidpublisher.com

ISSN 2328-2185
DOI:10.17265/2328-2185

Management Studies

Volume 11, Number 6, Nov.-Dec. 2023 (Serial Number 63)

David Publishing Company
www.davidpublisher.com

Publication Information:
Management Studies is published bimonthly in hard copy (ISSN 2328-2185) and online by David Publishing Company located at 3 Germay Dr., Unit 4 #4651, Wilmington DE 19804, USA.

Aims and Scope:
Management Studies, a bimonthly professional academic journal, covers all sorts of researches on Engineering Management, Project Management, Environmental Management, Technology Management, International (Business) Management, Operations Management, Financial Management, Marketing, Human Resource Management, Logistics Management, Leadership, Tourism Management, Knowledge Management, Administration Management, Information Management, Hospitality Management, Electronic Commerce, and other latest findings and achievements from experts and scholars all over the world.

Manuscripts and correspondence are invited for publication. You can submit your papers via Web Submission, or E-mail to management@davidpublishing.org, management.studies@hotmail.com. Submission guidelines and Web Submission system are available at http://www.davidpublisher.com.

Editorial Office:
3 Germay Dr., Unit 4 #4651, Wilmington DE 19804, USA E-mail: management@davidpublishing.org

Abstracted / Indexed in:
CrossRef
CQVIP
Google Scholar
SSRN
Index Copernicus, Poland
PBN, Poland
CiteFactor, USA
Jour Informatics
Open Academic Journals Index (OAJI), Russian
Academic Keys, USA
Electronic Journals Library (EZB), Germany
Scientific Indexing Services, USA
Journals Impact Factor (JIF)
InnoSpace, USA
Internet Archive
Scholar Steer, USA
Infobase Index, India
Index of Turkish Education, Turkey
Universal Impact Factor, USA
WorldCat, USA
Sherpa/Romeo, UK
Journal Index.net, Australia
Free Libs
GetCITED, Canada
Semantic scholar
Scilit

Subscription Information: Price (per year): Print $360

David Publishing Company, 3 Germay Dr., Unit 4 #4651, Wilmington DE 19804, USA
Tel: +1-323-984-7526, 323-410-1082 Fax: +1-323-984-7374, 323-908-0457
E-mail: order@davidpublishing.com
Digital Cooperative Company: www.bookan.com.cn

David Publishing Company
www.davidpublisher.com

Management Studies

Volume 11, Number 6, Nov.-Dec. 2023 (Serial Number 63)

Contents

Management Studies, Nov.-Dec. 2023, Vol. 11, No. 6, 307-311
doi: 10.17265/2328-2185/2023.06.001

Understanding the Importance of Effective Third-Party Risk Management on Data Governance

Marios E. Menexiadis
Aegean Airlines, Athens, Greece
National and Kapodistrian University of Athens, Athens, Greece
Michail Ch. Xanthopoulos
Aegean Airlines, Athens, Greece
University of Greenwich, London, UK

With a view to adopting to the globalized business landscape, organizations rely on third-party business relationships to enhance their operations, expand their capabilities, and drive innovation. While these collaborations offer numerous benefits, they also introduce a range of risks that organizations must carefully mitigate. If the obligation to meet the regulatory requirements is added to the equation, mitigating the third-party risk related to data governance, becomes one of the biggest challenges.

Keywords: third-party risk, data governance, data breach, internal control system, risk mitigation

Introduction

Third-party risk refers to the potential harm or negative impact that can arise from engaging with external entities, such as suppliers, vendors, contractors, business partners, or service providers. These risks can stem from several factors, including financial instability, operational vulnerabilities, regulatory non-compliance, security breaches, or unethical business practices.

Effectively managing third-party risk requires a comprehensive and systematic approach. Organizations need to establish robust processes, policies, and frameworks to evaluate and monitor the potential risks associated with their third-party relationships. This involves conducting thorough due diligence and risk assessments during the onboarding process and implementing ongoing monitoring mechanisms to identify emerging risks throughout the relationship lifecycle (Axson, 2010). Furthermore, organizations must establish clear contractual agreements that define the expectations, responsibilities, and liabilities of both parties. These agreements should address critical areas such as data protection, intellectual property rights, compliance with applicable regulations, business continuity planning, and incident response procedures (Bowman, 2023). Collaboration and communication play a crucial role in managing third-party risk. Organizations should foster open lines of communication with their

Marios E. Menexiadis, PhD, Group Internal Audit Director, Aegean Airlines, Athens, Greece; affiliate professor, department of Business Administration, National and Kapodistrian University of Athens, Athens, Greece.
Michail Ch. Xanthopoulos, MSc, Internal Auditor, Aegean Airlines, Athens, Greece; Global Shipping Management, University of Greenwich, London, UK.
Correspondence concerning this article should be addressed to Marios E. Menexiadis, National and Kapodistrian University of Athens, Athens, Greece.

third-party partners to ensure transparency, promote risk awareness, and facilitate the exchange of relevant information. Regular performance evaluations and audits should be conducted to assess the third party's adherence to established risk management practices and identify areas for improvement (Mishra, 2022).

Finally, organizations should have a robust incident response plan in place to effectively address and mitigate any potential risks or breaches that may occur. This plan should outline the necessary steps to be taken, the roles, and responsibilities of all stakeholders, and the communication channels to be activated in the event of a third-party-related incident. By adopting a proactive and holistic approach to managing third-party risk, organizations can strengthen their resilience, protect their assets, and maintain the trust of their stakeholders. It is a continuous process that requires ongoing vigilance, adaptability, and collaboration to navigate the evolving landscape of external relationships and safeguard the organization's interests in an increasingly interconnected world. Organizations specifically, are by definition material risk cases due to the complexity of the business.

Third Party-Risk Management and Data Governance

Third-party risk management in relation to data governance, refers to the process of identifying, assessing, mitigating, and monitoring risks associated with engaging external parties, such as vendors, suppliers, contractors, partners, or service providers, that have access to an organization's data, systems, or operations. It involves the evaluation of the potential risks that third parties pose and the implementation of measures that minimize those risks (Blokdyk, 2020). Third-party risk management has experienced significant changes and developments in recent years. Governments and regulatory authorities worldwide have recognized the importance of the effective risk management posed by third-party relationships and have consequently implemented regulations to safeguard organizations and their stakeholders.

Working with a third party can introduce risk to your business. However, if the latter has access to sensitive data, this can pose a security risk. If the third party provides a service for the business, then this leaves space for an operational risk. Risk discussions have a beginning but never an end, so this can go on and on. Third-party risk management is of extreme importance because it enables organizations to monitor and assess the risk posed by third parties to identify where it exceeds the threshold set by the business.

Third parties must have regular risk assessments performed by the organizations. These should be based on the area of risk posed by the third-party. The frequency of these assessments would be based on the tier, with the highest tier having the most frequent assessments.

It must never be forgotten that the third-party risk isn't stagnant, especially when it comes to data governance. New risks can emerge, while existing risks can evolve throughout the course of the business relationship.

Third parties should be continuously assessed, which ideally means monitoring for any changes in risk or performance. This can be done through more frequent assessments or external data feeds such as continuously updated cyber security ratings. Changes should automatically trigger an issue, assessment, and/or tier change. It is crucial to continuously monitor to ensure that all third parties are fulfilling their obligations and do not pose an undesirable risk to the organization (Simpson, 2018).

Third-Party Risk Management Metrics

The use of a third-party risk management program is quite important when mitigating the respective risk and its efficacy and achievement needs to be evaluated frequently. The complexity of third-party risk reporting arises from the need for these reports to be significant and add value for both the security team and the board.

The management of third parties inside businesses can be further complicated by the presence of extensive third-party networks, frequent changes, and limited resources.

However, regardless of the obstacles a company encounters, measures may be used to assess the efficacy of their management of third-party risk. There are two categories of metrics used in the realm of third-party risk management, namely key performance indicators (KPIs) and key risk indicators (KRIs) (Sabine, 2021).

Key Performance Indicators (KPIs) are used to assess the performance of the risk management team, while the Key Risk Indicators (KRIs) are used to quantify the inherent hazards associated with a particular situation or event. Key Risk Indicators (KRIs) serve as indicators of the level of risk associated with a particular activity and enable organizations to get a comprehensive understanding of their exposures to third-party risks.

These two metrics enable teams to simplify complex security procedures into easily comprehensible numerical values, so benefiting both the teams themselves and their governing bodies.

There are several approaches to properly report on third-party risks. The reporting of metrics to organizational boards varies depending on the manner in which a business engages with third parties and the associated risks they bring. Consequently, it is unlikely that two firms would adopt identical reporting approaches. The manner in which a risk team presents the respective findings to the board is significantly impacted by the level of security awareness possessed by the board members. Boards with less expertise may need a simplified set of criteria compared to boards that possess a comprehensive understanding of risk assessments. However, despite the potential variations in measurements, companies may adopt a standardized approach to determine the most suitable risk management measures for their specific needs. One recommended approach for selecting appropriate risk measurements is as follows.

To establish an effective risk program, it is recommended that risk teams include insights derived from various business units in order to develop a standardized approach. The potential results for any team may exhibit modest variations, nevertheless, this program aims to comprehensively outline the prerequisites of the business in effectively handling third-party risk during every stage of the third-party procedure.

Instead of rigidly establishing procedures or metrics (Zimmerbiomet, 2021), firms should see them as dynamic components of their risk program that may adapt to changes in the risk environment. The use of an always-on strategy facilitates the gradual development of metrics in tandem with the company, so assuring the firm’s sustained competitiveness amidst the dynamic landscape of threats.

The Road Ahead

Different perceptions exist on whose responsibility is the third-party risk on data governance. Although the risk and compliance officers think that it is the IT’s responsibility, the information security officers believe that it is the management’s responsibility to mitigate the respective risk. However, overall risk management is part of corporate governance and management should apply proper controls per risk case (Menexiadis, 2017). Proper risk management and effective controls is part of the internal control system. Consequently, it is not the IT’s responsibility to mitigate the third-party risk on data governance but the overall management’s.

Invest in Third-Party Risk Management Program

Organizations rely on third parties for many purposes as:

- For obtaining competitive advantage,
- For using skills and technologies to operate more effectively,

- For improvement in all aspects.

Although working with third parties offers numerous benefits, it also makes the organization vulnerable. Third parties have access to the organization's systems and sensitive data. Each third party has its own way and methodology for data-sharing, with various levels of security. However, there is no assurance that the third party is compliant with the regulations and the respective standards. It must never be forgotten that a wrong step, an incident may put compliance at risk, tarnish the organization's reputation, and negatively impact its performance. As mentioned above trainings are crucial at the daily life of the organization not only of their own employees, but also the ones of the third parties. Organizations need to consider potential threats across the business such as compliance, reputation, operations, cybersecurity.

However, threat monitoring is just one way technology can help the organization contain third-party risk (Johnsonlambert, 2023). It can also use a third-party risk management program to drive consistent and compliant performance from the third-party vendors. A robust third-party management program brings data together and delivers visibility into vendors' actions, to ensure compliance with all relevant regulations and laws. A third-party management program when managed properly through a unified platform, it helps keep every vendor aligned with your organization's goals, standards, and expectations.

Invest in Third-Party Risk Management Standards

McKinsey & Company in 2017, suggested that on a cross-industry basis, there is the opportunity to define common third-party risk management standards, which will set a course for a more secure and efficient future. They could also bring benefits such as an increase in cybersecurity and improved data management. They suggested that organizations should adopt strategies that reflect a systematic approach and help build a comprehensive framework.

Invest in Data Governance

Risks on third-party data governance are higher nowadays than ever before. Organizations operate in very complex environments, needless to say almost in digital ones. Big data is collected, stored, processed, and transferred across the industry globally. Organizations should comply with international standards, legislation, and regulations. Consequently, proper mitigation of third-party data governance is a necessity rather than a proper control to make the internal control system more effective.

References

Axson, D. A. J. (2010). *Best practices in planning and performance management.* Hoboken: Wiley.

Blokdyk, G. (2020). *Third party risk management framework: A complete guide* (2020 Edition). Queensland: Emereo Pty Limited.

Bowman, G. W. (2023). Privatizing correctional institutions. New York: Taylor & Francis.

Enforcementtracker. (2023). enforcementtracker. Retrieved from https://www.enforcementtracker.com/?insights

Johnsonlambert. (2023). Assess third party vendor risk with simple steps. Retrieved from https://www.johnsonlambert.com/insights/assess-third-party-vendor-risks/

Kezia, F. (2022). How the third-party risk management lifecycle can optimize your risk management program. Retrieved from https://www.diligent.com/resources/blog/third-party-risk-management-lifecycle

Mishra, A. (2022). *Modern cybersecurity strategies for enterprises*. Noida: BPB Publications.

Prevalent. (2023). *The 2023 third-party risk management study: How are organizations avoiding TPRM turbulence?* Definitive report.

Ryan, G., & Ortlieb, M. (2016). Sensitivity of personal data items in different online contexts. *Information Technology Journal Special Edition Usable Privacy and Security, 58*(5), 217-228.

Sabine, Z. (2021). TPRM metrics—Telling your risk story. Third party Risk Management. Shared assessment.

Tzanettis, I., Androna, M., Zafeiropoulos, A., Fotopoulou, E., & Papavassiliou, S. (2022). Data fusion of observability signals for assisting orchestration of distributed applications. *Sensors, 22*(5), 2061. Retrieved from https://doi.org/10.3390/s22052061

Vasileiou, D., Iriotis, N., Menexiadis, M., & Balios, D. (2017). *Internal audit in companies and organizations*. New York: Rossili Publications.

Wallis, T., Johnson, C., & Khamis, M. (2021). Interorganizational cooperation in supply chain cybersecurity: A cross-industry study of the effectiveness of the UK implementation of the NIS directive. *Information & Security, 48*, 36-68. doi:10.11610/isij.4812

Simpson, A. (2018). The role of transaction monitoring in ongoing monitoring: AML compliance programmes in Canada. *Journal of Financial Compliance, 2*(2), 165-175.

Zimmerbiomet. (2021). Zimmerbiomet.com. Retrieved from https://investor.zimmerbiomet.com/financial-information/annual-reports

Management Studies, Nov.-Dec. 2023, Vol. 11, No. 6, 312-321
doi: 10.17265/2328-2185/2023.06.002

A Critical Review of the Effects of Stock Returns and Market Timing on Capital Structure

YE Hongru
Keystone Academy, Beijing, China
JI Jie
Shanghai Lingke Bilingual School, Shanghai, China
ZOU Yuanyuan
The Second Middle School of Nanning, Nanning, China

Capital structure is regarded as the combination of debt and equity firms used to finance operations and investments. The choice of capital structure significantly impacts a company's cost of capital, profitability, and risk profile. Among a series of factors that affect capital structure, this paper focuses on stock returns and market timing. In this review, an array of papers is analyzed to summarize what current research claims regarding the influence of stock returns and market timing on capital structure. This paper centers on the stock return and market timing theories and also discusses other theories like the trade-off theory, the pecking order theory, and the signaling theory.

Keywords: capital structure, stock returns, market timing

Introduction

Capital structure is the ratio of debt and equity capital firms choose for financing decisions. The capital structure has a profound influence on financial stability, profitability, market position, and corporate value. Therefore, studying capital structure decisions is important in the theory and practice of enterprise financial management. Stock return and equity market timing are the two main factors affecting capital structure decisions. The level of stock return will affect the cost of debt and the feasibility of stock financing, while the equity market timing determines the timing and price of equity financing. Therefore, the correct positioning of capital structure can improve the efficiency of capital use, optimize the returns of shareholders, reduce the financial risks of enterprises, and improve the market value of enterprises. Determining the impact of stock return and equity market timing on capital structure can guide companies' financing decisions.

The research on the impact of stock return and market timing on capital structure has the following significance: (1) Guide enterprises' financing decisions. By studying the impact of stock return and market timing, guidance and suggestions can be provided for enterprises' financing decisions to avoid risks and losses caused by improper financing structure selection; (2) Promote the development of financial management theories. Studying capital structure involves theories and methods related to enterprise financing, which can promote the

Ye Hongru, High School Student Researcher, Keystone Academy, Beijing 101318, China.
JI Jie, High School Student Researcher, Shanghai Lingke Bilingual School, Shanghai 201615, China.
ZOU Yuanyuan, High School Student Researcher, The Second Middle School of Nanning, Nanning 530000, China.
Correspondence concerning this article should be addressed to Ye Hongru, Keystone Academy, Beijing 101318, China.

development of financial management theories and explore more effective means of financial management; (3) Improve enterprise competitiveness. By studying the impact of stock return and equity market timing on capital structure, enterprises can choose financing structure more scientifically and improve their financial status and competitiveness; (4) It has reference value for stock investors. Stock return is one of the important indicators concerning stock investors. It is of important reference value for stock investors to comprehend how capital structure is affected by stock returns.

We follow some main objectives when studying the effect of stock return and market timing on capital structure: First, explore the relationship between the two factors and capital structure, to analyze their respective impacts on firm decisions; Secondly, understand the types of capital structure chosen by enterprises and their changes under the circumstances of stock return and equity market timing changes; Thirdly, provide guidance and suggestions for enterprises' financing decisions, so that enterprises can choose capital structure more scientifically and reasonably to optimize their financial situation.

This paper reveals the influence of stock return and equity market timing on capital structure and provides the scientific basis for enterprises' financing decisions after modifying the following questions: (1) How will stock returns affect the capital structure? What are the effects of high and low returns? (2) What impact will the change in equity market timing have on the capital structure? How to choose the time to carry out equity financing? (3) What is the combined effect of the two factors? Where do they fit into capital structure decisions? (4) How can enterprises choose the right capital structure when stock returns and equity market timing change?

To complete the survey, the following measures are considered for reference: We are going to aim at a certain number of representative enterprises and choose a certain period like the past 10 or 20 years. Select some data from these famous firms and use statistical methods and econometrics theories and methods to analyze data, such as regression analysis, panel data analysis, time series analysis, etc. Gather an assortment of papers which was written by professionals around the world in the past 30 years and reduce the number of papers properly.

In the rest of the paper, Part 2 reviews prior literature on market timing and stock return theories, Part 3 summarizes the results of empirical tests of the theories, Part 4 analyzes and discusses the results, and finally, Part 5 concludes.

Literature Review

This literature review on the stock return and market timing theories is organized in a fashion that centers around the theories proposed by Baker and Wulger (2002) and Welch (2004). We examine the original theories first and then discuss subsequent research responding to the theories.

Market Timing Theory

Baker and Wulger (2002) investigate the importance of previous market value estimations on the present and conclude that past Market-to-Book ratios have the most explanatory power compared to other variables and the effect remains for 10 years. The authors use COMPUSTAT data with known IPO dates to test their theory. They find an obvious negative correlation between historical MB values and with current debt ratio. They also find once-lagged MB values to be more significant than asset tangibility, profitability, and size. To ensure a causal relationship, the authors develop the external finance weighted average (EFWA) MB ratio that weighs past market-to-book estimations according to the scale of the financing event. They find the EFWA to persistently explain debt ratio over 10 years while once lagged MB values diminish in explanatory power. Baker and Wulger

(2002) also believe that managers are aware of market timing practices and that they perform them successfully on average. They provide a static theory as well as a dynamic theory where the irrationality of the managers is considered; in general, they theorize that the stock changes incentivize managerial equity issuance activity which is later not reverted and thus leaves permanent impacts on capital structure.

Subsequent researchers have made various adjustments to the original model developed by Baker and Wulger (2002) and proposed methods to improve the predictability and profitability of market timing. Hull, Qiao, and Bakosova (2017) proposed a one-month market timing model including 15 variables that use weighted least squares with stepwise variable selection to predict investable positions in the subsequent month. They find that the strategy derived from their model results in 16.6% annual returns exceeding the 10% average of the S&P 500 over the 2003 to 2017 period. Bolton, Chen, and Wang (2014) propose a corporate financial strategy that incorporates market timing practices. They suggest that firms will perform market timing to build cash reserves to prepare for future financing opportunities, even if there is no present need for cash. Pesaran and Timmermann (1995) suggest that market timing should call for different prediction models because the models do not predict the stock returns but rather the changes in the expected stock returns. The paper also includes a two-stage approach model that eliminates the effects of breaks and reconsiders the time-invariant relationship between variables and stock returns. The authors find that this model is noticeably more precise when forecasting market timing opportunities. Research by Abhyankar and Davies (2002) takes a functional approach and investigates the changes in the short-run predictive ability of stock over time and the relationship between stock volatility and the profitability of market timing. Their most important finding is that market timing is usually most profitable in periods of intermediate volatility; they suggest that this will enhance the profitability of market timing for the "na ïve" investors.

Stock Returns Theory

In Capital Structure and Stock Returns, Welch (2004) theorizes stock returns changes best explain changes in the capital structure after managerial activity, overweighing financial distress costs, profitability, asset tangibility, market timing, and other proxies. As an essential part of this theory, Welch develops the implied debt ratio (IDR), which substitutes the book equity value in the denominator of the average debt ratio (ADR) for a market equity value that alters from time x to $x+t$. Welch uses COMPUSTAT data from 1962-2000 to test for the significance of stock-return-induced capital structure changes in a cross-sectional method. The tests show stock return-induced changes account for 40% of capital structure changes over five years and slightly more over a single year; the IDR also has more explanatory power of the ending ADR than starting ADR and all other proxies except for debt issuance. He finds that although managerial activities could counteract debt-ratio changes caused by stock fluctuations, the changes are persistent because of the nonaction of managers due to uncertain reasons. He states that these changes are different from Baker and Wulger's investigation on active issuance of equity after changes and investigations solely focusing on nonaction, Welch's theory focuses on nonaction and the resulting changes.

Numerous previous and contemporary studies investigate the predictability of stock returns through different variables; these studies allow for a better understanding of the mechanical changes in capital structure. These investigations can aid the formation of a more holistic market timing strategy that can predict stock value changes and devise a timing plan to produce profit for investors. Fama and French (1993) provide insight into the risk factors that affect stock returns. The paper identifies five common risk factors, including a market factor, factors

related to firm size, book-to-market equity, a factor related to maturity, and one for the risks associated with bonds. Hvidkjaer (2008) investigates small-scale trades and finds that stocks of sell-initiated trades on average outperform the stock with buy-initiated trades from the period after a month to three years after portfolio formation. He also finds that the favorability of the stock by retail investors is negatively correlated to its profitability in a few subsequent years because it tends to be overvalued and underperform. French, Schwert, and Stambaugh (1987) investigate the relationship between volatility in the market and the performance of stock returns. They find indirect evidence to support a positive correlation between expected risk premiums and volatility.

Empirical Research

Market Timing Theory

To build on the hypothesis developed by Baker and Wulger, subsequent researchers have studied empirical data in different approaches and reached very different conclusions. Some researchers claim to have disproved the market timing theory, some find the hypothesis accurate, and some question the persistence of the effects.

Mahajan and Tartaroglu (2008) observe a negative relationship between debt ratios and previous valuations but conclude that the leverage levels are not dependent on market timing attempts. They study international evidence from G-7 nations and find that market timing only imposes insignificant and rapidly reversed impacts on leverage. They offer the dynamic trade-off theory as an alternative to account for the inverse correlation of leverage ratios and previous market-to-book ratios.

Huang and Ritter (2004) examine US data and conclude historical patterns of external financing choices are consistent with the idea of market timing. It is recognized in the paper that the theory is based on the premise that the expense of external financing is not necessarily larger than internal financing, and thus firms will issue equity if the marginal gain is greater than the cost. The paper also disproves alternative theories of pecking order and trade-offs. Different from what the pecking order theory hypothesizes, researchers find that equity issuance is not rare across their data. In contrast to the trade-off theory, the effects of timing the market diminish slowly as firms readjust capital structures after the change. Tests show that equity issues substantially affect capital structure for over 10 years; firms adjust very slowly toward target leverages.

Some papers recognize the effect of market timing on capital structure but question the decade-long persistence found in Baker and Wulger (2002). Russel and Hung (2013) studied Chinese firms from 1992 to 2007 and found that the effects are evident in the first few years but disappear after IPO+3. However, Russel and Hung do recognize that the dynamics of the Chinese market could be influenced by government regulations on the timing of security issuance and market timing cannot be effectively performed, thus, influencing its impacts on capital structure. Nevertheless, Chinese data are not unaccompanied. Vallandro, Zani, and da Silva (2014) find similar results in Brazilian data in the decade before 2007. The paper recognizes that equity market timing exists in the region but finds that there are no permanent effects on capital structure. According to the paper, managers actively reduce the leverage levels of their companies at appropriate times in the market in an attempt to take advantage. However, regression tests indicate no long-run persistence of market timing effects for over two years. The paper also suggests that determinants like tangibility, liquidity, macroeconomic variables, and interest rates better explain the debt-to-equity ratio of public companies.

Based on the literature examined it can be concluded that the short-run effect of opportunistic behavior of

managers trying to time the market is observed but quickly diminishes in two to three years. However, more extensive and comprehensive empirical researches need to be conducted on worldwide and modern data to provide more insight into the short-run effects of market timing practices and their long-run persistence. Researchers also need to factor in local characteristics that might inhibit effects or persistence. The debate surrounding marketing timing theory remains unsettled, but the persistence of its effects is largely disproved.

Stock Returns Theory

According to Modigliani-Miller's (MM) capital structure theory, in a perfect capital market, a company's debt ratio does not affect its value. However, in the real world, capital structure decisions impact a company's financing costs and financial distress risks. The trade-off theory and the pecking order theory provide different explanations for the relationship between stock returns and capital structure. Firms with high volatility actively reduce leverage, matching the former theory; companies also reduce investment (strengthen maturity) and increase cash holding (improve liquidity). Chen, Wang, and Zhou (2013) also suggest that firms choose internal funds or equity before debt which supports the stock return theory. Kayhan and Titman (2007) hold that stock returns have more permanent effects on debt ratios compared to external financing and the stock return effect does not subsume other determinants through investigating leverage deficit. A study by Ovtchinnikov (2010) suggests that firms with better-performing stock prices more commonly bear additional debt because they believe that the benefits of leverage outweigh the risks.

The relationship between stock returns and capital structure is complex, and the results of empirical research are not always conclusive. However, research shows that companies with higher stock returns may have greater flexibility in capital structure selection. Therefore, changes in stock returns may affect the company's financing decisions and ultimately affect its profitability and risk status. Our research suggests that stock returns have an impact on capital structure decisions. The research results mainly support the trade-off theory and the pecking order theory. However, the exact nature of this relationship also depends on other factors, such as market conditions and sample characteristics. Financial managers and investors should consider this relationship when making financing and investment decisions. To better understand the nuances of the relationship, further research would be needed.

Analysis and Discussion

Overview of the Findings From the Literature Review

In the literature review, Baker and Wulger (2002) and Welch (2004) show that market timing actions and changes in stock returns have lasting impacts on the capital structure of a firm. The authors conclude that the timing behavior of the market does affect the capital structure of the firm. Models developed by subsequent researchers help elaborate the theories and provide more approaches to predict stock return-induced mechanical capital structure changes as well as market timing opportunities. To further explore the connection between the two theories and capital structure changes, the various relationships and capital structure changes should be examined.

Stock Returns and Capital Structure

The capital structure of a corporation outlines how it finances its operations using both equity and debt. Debt is funds borrowed by the company and must be repaid along with interest, whereas equity is ownership in the business. The capital structure of a corporation is important because it affects the cost of capital, which affects

the company's profitability and stock returns. According to the Modigliani-Miller theorem, a company's capital structure has no impact on its value or stock returns in a perfect environment without taxes, transaction fees, or other market inefficiencies. The capital structure of a company, however, can affect its value and stock returns since taxes, bankruptcy costs, and other market frictions exist in the real world. Different empirical studies explore the connection between capital structure and stock price changes.

The stock return theory is a financial theory that contends that the level of risk taken affects the return on investment. According to the theory, potential returns increase with risk. The theory is predicated on the idea that rational investors will only put their money into assets that have a higher expected return for a particular amount of risk. This theory enables investors to choose their investments with knowledge. Investors can choose better investments if they comprehend the connection between risk and return. It does have some restrictions, though. It makes the supposition that investors are logical and always choose logical courses of action. In actuality, investors frequently make irrational decisions because of emotions and other influences. Additionally, it ignores other variables like market movements and economic conditions that may have an impact on stock returns. Furthermore, this theory assumes that every investor has the same information and bases their decisions on it. In practice, some investors might have more information available to them than others, which could create an unfair playing field.

In the paper (Welch, 2004), Welch suggests that stock returns are the primary factor determining market debt ratios and that firms choose not to adjust towards target leverage after equity price shocks. These shocks consequently have a long-lasting impact on the debt ratio of corporations. The study uses information from the annual Compustat and Center for Research in Security Prices (CRSP) files covering publicly traded U.S. companies from 1962 to 2000. For any firm year with a starting equity market value greater or equal to a tenth of the S&P 500 level, the paper forecasts debt ratios. In 2000, there were 2,679 sample firms, up from 412 in 1964. The cross-sectional regression time series known as Fama-MacBeth is used to calculate the stated coefficients and standard errors. The article breaks down changes in capital structures into effects caused by the issuance of retirement activity and effects caused by stock returns. The study concludes that, over the comparatively long run, stock return impacts outweigh previously established proxies in explaining debt-equity ratios. The premise of the study is that firms do not alter their debt ratios when there are changes in stock prices. Instead, they continue to use their current financial structure despite fluctuations in stock price. The paper makes the case that over time, this inertia can significantly affect the capital structure of corporations.

There is also empirical research that disagrees with Welch. The study (Rajan & Zingales, 1995) argues that the relationship is not as straightforward as previously thought and that many factors can influence this relationship. Myers (1984) argues that firms face a tradeoff between the benefits of debt tax shields and the costs of bankruptcy and that this tradeoff can have a significant impact on corporate capital structure over time.

The ideal capital structure for a company should balance the advantages of debt (such as tax savings and cheaper capital expenses) and the disadvantages of debt (such as financial distress costs). The logic is that the cost of issuing debt is usually less expensive than the trade-off of issuing equity because interest payments can deduct taxes. Debt financing may provide an interest tax shelter, but it also increases the likelihood of expensive bankruptcy. The benefits of debt must therefore be weighed against the risks of financial distress and bankruptcy by firms. To maximize the value of the company, the ideal capital structure finds a balance between these costs and benefits. The appropriate capital structure may depend on several factors, including profitability, growth potential, and asset risk. In empirical studies that agree with the trade-off theory, the correlation between capital

structure and market valuation performance is contradictory. They have shown that more leveraged firms experience worse stock returns due to the increased risk of debt and the cost of bankruptcy. According to other studies, corporations with greater leverage tend to have higher stock returns due to tax breaks and lower capital expenses associated with debt. Due to its oversimplified assumptions that businesses have complete information and can readily change their capital structure, the trade-off theory has come under fire. Additionally, the theory ignores the influence of outside variables like market circumstances, which can alter the cost of debt and equity financing as well as the availability of money. Trade-off theory is nonetheless a helpful framework for comprehending how organizations weigh the advantages and disadvantages of capital structure decisions despite these criticisms.

According to the pecking order theory developed by Myers (1984) and Myers and Majluf (1984), businesses preferably fund their activities with internal money, with the next best alternative being debt, and the last resort being equity. The idea suggests that because of asymmetrical information between businesses and investors, organizations possess more information about their future cash flows, and agency costs and information asymmetry make external financing more expensive than internal financing. The firm's return on equity decreases as leverage increases. Firms that issue more bonds may signal to investors that they have negative information about their prospects, which leads to lower stock returns. Empirical studies support this theory, suggesting the leverage ratio of a firm is negatively correlated to lower stock returns due to the signaling effect of issuing bonds. Empirical evidence of observed financial activities backs up the theory. For example, studies on Switzerland companies (Berggren & Bergqvist, 2014) have shown that the pecking-order theory best explains financial behavior. Businesses finance their operations and investments in the order that the theory suggests, using internal funds before debt and finally equity. This is compatible with the idea that information asymmetry makes it more expensive to get financing outside than internally. The pecking order theory does not clearly explain why businesses favor debt over equity, which is one of its shortcomings. The theory suggests that firms prefer debt because it is less costly than equity. After all, interest payments are tax deductible. However, this does not explain why firms do not simply use debt to finance all their investments. Another weakness is that it does not take into account other factors that may influence a firm's financing decisions, such as market timing considerations and macroeconomic factors. For example, a firm may issue shares when the stock market is favorable, even though it has internal funds available. Overall, although the pecking order theory provides a useful framework for understanding corporate financing decisions, it has some limitations and cannot fully explain all aspects of capital structure.

Another theory, the signaling theory, suggests that a company's capital structure might educate investors about its prospects for the future. For instance, businesses may convey to investors that they have good news about their prospects by issuing more shares, which will increase stock returns. Similarly, businesses may convey to investors that they have unfavorable information about their prospects by issuing additional debt, which could result in worse stock returns. The signaling impact of capital structure on stock returns has been a subject with conflicting empirical research findings. According to several studies, the negative signaling effect of debt issuance results in worse stock returns for corporations with increasing levels of leverage. Other studies suggest that the signaling effect of capital structure is not significant and that other factors such as profitability and growth opportunities explain stock returns better.

Overall, the relationship between stock returns and capital structure is complex and depends on many factors

such as the company's profitability, growth opportunities, and riskiness of its assets. Empirical studies have found mixed results regarding the relationship between capital structure and stock returns, while the Modigliani-Miller theorem suggests that capital structure does not affect stock returns, empirical evidence suggests that there may be some relationship between the two. Therefore, firms need to consider their issuance decisions and their impact on stock returns.

The Correlation Between Equity Market Timing and Capital Structure

The relationship between market timing and capital structure refers to the idea that firms may alter their capital structure decisions based on their perceptions of market conditions. Market timing is the practice of making financing decisions based on short-term market trends rather than long-term financial considerations. The capital structure of a company has a significant impact on its equity market timing decisions. The theory outlines that firms tend to issue equity when their stock prices are high and issue debt when interest rates are low. This is because in these conditions, the cost of issuing is comparatively low, and the firm can raise capital at a lower and more profitable cost. Conversely, if the stock price is low, or interest rates are high, the firm may delay issuing equity or debt until market conditions are more favorable. The market timing theory has been criticized for being too focused on short-term market trends and ignoring long-term financial considerations. It assumes that firms have perfect knowledge of market conditions, which is often not the case. Additionally, market timing may lead to suboptimal capital structure decisions, as firms may issue equity or debt at the wrong time, leading to higher costs of capital in the long run. However, empirical studies have found support for the theory. The study by Baker and Wurgler (2002) observed firms issue more equity when their stock prices are overvalued, and less equity when their stock prices are undervalued. Meanwhile, firms tend to issue more debt when interest rates are lower and less debt when interest rates are high. It suggests that when firms are overvalued, they are more likely to issue equity. On the other hand, firms tend to repurchase equity when they are undervalued. This market timing activity has lasting effects on capital structure, meaning that current capital structure is strongly determined by historical market valuations. The paper proposes that capital structure slowly changes along with the total outcome of past attempts at market timing. The paper by DeAngelo and Masulis (1980) found that firms that issue equity when their stock prices are high have lower long-term stock returns than firms that issue equity when their stock prices are low which is coherent with the theory that believes firms issue equity when their stocks are overvalued.

In conclusion, while the market timing theory may have some validity, firms need to consider both short-term market trends and long-term financial considerations when making capital structure decisions. By taking a balanced approach, firms can make financing decisions that support their long-term growth and financial stability.

Conclusion

Research as of today validates neither market timing nor stock return theories. A review of empirical papers shows that research supporting and disproving both theories is present. Additionally, some papers question the persistence of the impacts or the significance of the changes. To further test these theories, more holistic, comprehensive research is required. Particularly, researchers have to take into account numerous time-wise factors and geo-political factors that might influence the performance of the theories. In a rapidly changing world, results of empirical tests done three years apart could have hugely differing results. Research must be continuously updated and reviewed to maintain the applicability of the derived conclusions.

The significance of stock return changes and market timing on capital structure is present, and the impact of the factors should be considered when investors are estimating debt ratios. It is shown in the paper that these variables can largely alter the debt ratio in the short run but are less impactful in the long run. Investors should consider the fact that recent fluctuations in stock prices along with market timing attempts could be important incidences that cause changes in the debt ratio, the magnitude of which depends on the specific composition of the said ratio. Although the persistence of the two theories is questioned, the short-run influence remains largely undisputed. Ignoring the presence of these variables could result in extremely inaccurate estimations and wrongly interpreted data. Therefore, investors should be aware of the effects of stock returns and market timing approaches when analyzing and using the debt ratio of a firm.

In part I, the importance of this paper was established. The research complies with the stated goals. First, this paper discusses potential flaws in the market timing and stock return theories and presents empirical tests for various perspectives. Firms should not follow market timing and stock return theories entirely without carefully determining the compatibility of these strategies with the characteristics of the firm and the market. Second, this paper promotes the development of financial management theories by recognizing areas that lack more research. For example, more holistic empirical research needs to be conducted on both theories with international data. Thirdly, this paper improves enterprise competitiveness by offering many strategic perspectives in the literature review regarding potentially profitable stock return prediction methods and market timing strategies. These perspectives are not supported by the authors of this paper but are debatable strategies to be adopted. Lastly, non-enterprise investors can also idealize their investment strategies after gaining a deeper understanding of how the observed capital structure is subject to changes in stock returns and managerial activity.

References

Abhyankar, A., & Davies, P. R. (2002). Return predictability, market timing and volatility: Evidence from the short rate revisited. *SSRN Electronic Journal*, 7-18. Retrieved from https://doi.org/10.2139/ssrn.305224

Baker, M. P., & Wurgler, J. A. (2001). Market timing and capital structure. *SSRN Electronic Journal, 57*(1), 1-32. Retrieved from https://doi.org/10.2139/ssrn.267327

Berggren, S., & Bergqvist, A. (2014). Capital structure and stock returns. Bachelor's thesis, 31. University of Gothenburg. Retrieved from https://gupea.ub.gu.se/bitstream/2077/39227/1/gupea_2077_39227_1.pdf.Sweden

Bolton, P., Chen, H., & Wang, N. (2012). Market timing, investment, and risk management. *SSRN Electronic Journal*, *109*(1), 40-62. Retrieved from https://doi.org/10.2139/ssrn.1571149

Bolton, P., Chen, H., & Wang, N. (2014). Debt, taxes, and liquidity. *Columbia Business School Research*, Paper No. 14-17, *5*. Retrieved from https://doi.org/10.2139/ssrn.2407950

Chen, H., Wang, H., & Zhou, H. (2014). Stock return volatility and capital structure decisions. *PBCSF-NIFR Research*, Paper No. 13-04, *12*. Retrieved from https://doi.org/10.2139/ssrn.2346642

DeAngelo, H., & Masulis, R. W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics, 8*(1), 3-29. Retrieved from https://doi.org/10.1016/0304-405X(80)90019-7

Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics, 33*(1), 3-56.

French, K. R., Schwert, G. W., & Stambaugh, R. F. (1987). Expected stock returns and volatility. *Journal of Financial Economics, 19*(1), 3-29. Retrieved from https://doi.org/10.1016/0304-405x(87)90026-2

Harris, M., & Raviv, A. (1991). The theory of capital structure. *The Journal of Finance, 46*(1), 297-355. Retrieved from https://doi.org/10.1111/j.1540-6261.1991.tb03753.x

Huang, R., & Ritter, J. (2004). *Testing the market timing theory of capital structure*. Retrieved from http://ssrn.com/abstract=938564

Hull, B., Qiao, X., & Bakosova, P. (2017). Return predictability and market-timing: A one-month model. *SSRN Electronic Journal, 17*(3), 47-64. Retrieved from https://doi.org/10.2139/ssrn.3050254

Hvidkjaer, S. (2008). Small trades and the cross-section of stock returns. *Review of Financial Studies, 21*(3), 1123-1151. Retrieved

from https://doi.org/10.1093/rfs/hhn049

Jenter, D. (2005). Market timing and managerial portfolio decisions. *The Journal of Finance, 60*(4), 1903-1949. Retrieved from https://doi.org/10.1111/j.1540-6261.2005.00783.x

Kayhan, A., & Titman, S. (2007). Firms' histories and their capital structures. *Journal of Financial Economics, 83*(1), 1-32. Retrieved from https://doi.org/10.1016/j.jfineco.2005.10.007

Mahajan, A., & Tartaroglu, S. (2008). Equity market timing and capital structure: International evidence. *Journal of Banking & Finance, 32*(5), 754-766. Retrieved from https://doi.org/10.1016/j.jbankfin.2007.05.007

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance, and the theory of investment. *The American Economic Review, 48*(3), 261-297. Retrieved from https://www.jstor.org/stable/1809766

Ovtchinnikov, A. V. (2010). Merger waves following industry deregulation. *SSRN Electronic Journal, 23*(1), 51-76. Retrieved from https://doi.org/10.2139/ssrn.1565650

Pesaran, M. H., & Timmermann, A. (1995). Predictability of stock returns: Robustness and economic significance. *The Journal of Finance, 50*(4), 1201-1228. Retrieved from https://doi.org/10.1111/j.1540-6261.1995.tb04055.x

Rajan, R., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance, 50*, 1421-1460. Retrieved from http://dx.doi.org/10.1111/j.1540-6261.1995.tb05184.x

Russel, P., & Hung, K. (2013). Does market timing affect capital structure? Evidence for Chinese firms. *Chinese Business Review, 12*(6), 395-400.

Myers, S. C. (1984). Capital structure puzzle. *Journal of Finance, 39*(3), 5-6. https://doi.org/10.3386/w1393

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187-221. Retrieved from https://doi.org/10.1016/0304-405X(84)90023-0

Serrasqueiro, Z., & Caetano, A. P. (2014). Trade-off theory versus pecking order theory: Capital structure decisions in a peripheral region of Portugal. *Journal of Business Economics and Management, 16*(2), 445-466. Retrieved from https://doi.org/10.3846/16111699.2012.744344

Vallandro, L. F. J., Zani, J., & da Silva, C. E. S. (2014). IPO market timing and capital structure: Evidences from Brazil. *International Business Research, 8*(1), 24-37. Retrieved from https://doi.org/10.5539/ibr.v8n1p24

Welch, I. (2004). Capital structure and stock returns. *SSRN Electronic Journal, 112*(1), 106-131. Retrieved from https://doi.org/10.2139/ssrn.298196

Management Studies, Nov.-Dec. 2023, Vol. 11, No. 6, 322-328
doi: 10.17265/2328-2185/2023.06.003

The Path to Reshaping the Structure and Chain System of the Publishing Industry in the Era of Big Data

DENG Liyan
Guangxi University of Foreign Languages, Nanning, China

Today, we are living in the era of "big data" where massive amounts of data are used for quantitative decisions and communication management. With the continuous penetration of big data-based intelligent technology in all fields of human life, the enormous commercial value inherent in the data industry has become a crucial force that drives the aggregation of new industries. For the publishing industry, the introduction of big data and relevant intelligent technologies, such as data intelligence analysis and scenario services, into the structure and value system of the publishing industry, has become an effective path to expanding and reshaping the demand space of publishing products, content decisions, workflow chain, and marketing direction. In the integration and reconstruction of big data, cloud computing, artificial intelligence, and other related technologies, it is expected that a generalized publishing industry pattern dominated by virtual interaction will be formed in the future.

Keywords: the era of big data, data analysis, scenario service, virtual publishing

On December 14, 2020, Beijing Publishing Group announced to initiate a deep-level strategic cooperation relationship with Urban Brain Co., Ltd., Beijing Zhongguancun Science City. The two parties would carry out multiple forms of cooperation in the publication of smart management systems, research on publishing big data, and the development and construction of a "publishing brain". On the part of Beijing Publishing Group, the incorporation of technological "hard power" this time would undoubtedly greatly facilitate the deep integration of the publishing industry chain and the information service technology chain with big data technology at its core, leaving a profound imprint of "big data technology" on the transformation of the structure and chain system of the publishing industry in Beijing. In the context of "the era of big data", the deep transformation of Beijing Publishing Group into the big data system is by no means an individual case. A large number of publishing companies have chosen to introduce big data and related intelligent technologies into their own product structure and business chain operation mode, as an important breakthrough to enhance their competitiveness and reconstruct the industrial value.

Status Quo of the Publishing Industry in the Era of Big Data

Definition and Application Background of "Big Data"

"Big data", also known as massive data, is a concept originated from the IT field, and refers to huge data group collected in multiple forms through multiple channels. It has such characteristics as huge amount of data, real and effective data sources, complex and diverse channels, and fast data analysis and processing speed and is

DENG Liyan, M.Sc., associate professor, Guangxi University of Foreign Languages, Nanning, China.

the outcome of the rapid development of information technology in the contemporary society. The concept of big data has been concerned about by the general public, largely due to the increasing popularity of Internet information technology. The Internet has evolved into a basic infrastructure for storing massive data and embodying the application value of big data and related intelligent technologies. In reality, in modern social life, any behavior and transaction of humans can be digitized and electronicized. Big data and related intelligent technologies have deeply explored and utilized the value of the data industry, on the basis of the collection, acquisition, screening, analysis, induction, and organization of various types of data generated in human life.

Today, people define and describe this information age that is supported and led by massive data and related innovative technologies by using the term "the era of big data". The technological background of big data also provides a driving force for the integration and upgrading of the industrial form for the publishing industry. Starting from 2014, the term "big data" has been included in the government work report successively, and the related concepts of big data have served as a guiding pointer for the adjustment of the layout of ideological and cultural industries. In 2015, with the issuance of the "Guiding Opinions on Promoting the Integrated Development of Traditional Publishing and Emerging Publishing" by the former State Administration of Press, Publication, Radio, Film, and Television and the Ministry of Finance as the landmark, publishing companies began to deeply explore the use of big data and related intelligent technologies for data analysis, scenario services, and other functions, with a view to tap the new value embedded in the publishing industry brought by "big data".

Transformation and Upgrading of Digital Publishing Driven by Big Data

Up to now, the publishing and communication industry in China has gone through the stage of digitized publishing, which involves the full-course digital processing of information content and industrial models with the help of computers or terminal devices. On this basis, the introduction of the concept of big data technology and conducting the transformation and upgrade of digital publishing has become an inevitable path to adapt to the times, embrace the changes of the thinking and behavior of the information industry. As a consequence, driven by big data and empowered by related intelligent technologies, a group of professional houses holding literature and knowledge resources have embarked on the transformation and upgrade of digital publishing, backed by financial support from government policies. They apply big data analysis, intelligent indexing, semantic search, and other related technologies to develop professional database publishing platforms that provide academic analysis, knowledge hotspot correlation, and other services for professional readers in specialized fields. For example, notable professional database platforms, such as Zhejiang University Digital Publishing Service Platform developed by Zhejiang University Press, Faxin Platform (www.faxin.cn) established by People's Court Press, and Architecture Digital Library of China Architecture & Building Press are all dedicated to offering one-stop academic services, encompassing information retrieval and research support, catering to users in fields such as education, law, architecture, and other specialized domains.

At the same time, some technology firms have also joined the fray with cutting-edge data analysis, intelligent indexing, and other technological advantages. On the one hand, they provide users with access to a vast amount of knowledge and data. On the other hand, their development focus has shifted to the integration and innovation of such knowledge and data for users. This shift has led to the establishment of well-known academic professional database platforms such as CNKI, qikan.com, CQVIP, and others, highlighting the innovative application trajectory of big data technology within the knowledge publishing industry.

Starting from 2016, Internet knowledge-paid service platforms have emerged, becoming a new vane for the integration of the digital publishing industry. Publishers are increasingly incorporating advanced technologies such as big data analysis, cloud computing, and artificial intelligence into the construction of comprehensive knowledge service platforms, to achieve the transition and upgrade from a professional knowledge digital content system to a comprehensive big data service platform. During this stage, knowledge-paid service platforms such as "Zhihu", "Dedao", "Ximalaya", and "Fandeng Reading" showcased high-quality content in a more refined manner, by leveraging big data resources on the Internet. These platforms offered integrated value-added services to users, such as information retrieval, reading information, entertainment and leisure, and knowledge elevation. At the same time, the publishing products were also expanded to encompass multiple fields such as online literature, audiobooks, animation, music, film, and television, thus forming a trend of cross-industry integration in the publishing industry. By the year 2020, the publishing industry has witnessed a convergence with state-of-the-art technologies such as big data analysis and decision-making, artificial intelligence scenario services, AR/VR virtual reality technology, and continued to optimize the product forms and industrial models, etc. This led to the emergence of publishing products in multiple formats, such as "natural resource big data platform", the AR book series of Suzhou Dreamers, and the science popularization products of HesiyiVR. The development path of the publishing industry, led by big data, is becoming increasingly clear.

Path to Adjusting the Structure of the Publishing Industry and Reshaping the Industry Chain With Big Data and Related Intelligent Technologies

At the current stage, technologies such as big data and, artificial intelligence have deeply penetrated all aspects of the publishing industry. These advancements allow for the precise identification of user demographics, collection and planning of publishing topics, market decision-making, and product marketing, thereby forming an effective path to reshaping the structure and chain system of the publishing industry.

Big Data Technology Promotes the Expansion of User Demand Space and Drives the Decision-Making of "Scenario-Based" Content Production

For the publishing industry, it is the choices and preferences of readers that ultimately determine the direction of the publishing market. However, in traditional publishing, it was impossible to define reader demands in a scientific manner. Editors and publishers can only rely on intuition, experience, and even luck to analyze reader demand space, based on limited samples of reader feedbacks. As a result, many best-selling books such as *Harry Potter* and *Sapiens: A Brief History of Humankind* almost failed to see the light of day due to misjudgments by publishers regarding reader demands. By contrast, in the era of big data, publishing companies are able to conduct market surveys using more scientifically efficient methods, for example, analyzing big data sample. This includes analyzing the real-time online search habits, reading duration, feedback, and purchase records of readers to determine their product preferences. What's more, data from positioning systems and sensors, etc. can also be adopted to perceive, record, and depict the current offline spatial location and actions of reader users. This is a new gift brought by big data and related intelligent technologies—"scenario data". Subsequently, there has been a three-dimensional description and all-round expansion of user demand space. To provide accurate and personalized "scenario-based services" has become the forefront of decision-making in the publishing industry in the era of big data.

In the era of big data, "scenario data" is a brand-new and important source of information. The "scenarios" include the content perceived by both "online virtual scenarios" and "offline real scenarios". The perception of online scenarios primarily involves sensing the virtual behaviors of users, including online browsing and social behaviors, etc., thereby determining relatively quantifiable data, such as the gender, age, hobbies, habits, and social relations of individual readers and users. The perception of offline scenarios tracks and analyzes the actual behaviors of readers and users and spatial scenarios that change at any time as the variable data, so as to enrich the existing user quantitative data module in a real-time manner, and thus achieve an "accurate portrayal" of immediate user demand in this particular time and location.

In essence, in the era of big data, efforts are made to precisely target the needs of each individual "person" as every "small data", and expand the space of early generalized and categorized reader and user needs in an all-round way. With strong support from big data analysis and other technologies, publishing companies can accurately grasp the personalized "scenario demands" formed by the behavioral habits, hobbies, and living conditions of users. In this way, they can make scientific and precise decisions on content production, including the determination of publishing topics, the control of the content to be pushed, as well as marketing decisions, such as promotion channels and interfacing strategies. This has brought equal publishing and interfacing opportunities for almost all publishing topics and works. As a consequence, we can witness the promotion of "Zhaofeng's Economics Lecture Notes" on the "Dedao" platform, which became a bestseller after getting the recognition of users, and also the exposure of a niche work entitled "Anonymous Zone". This work was a collection of emotionally-driven stories written by more than 1,000 "anonymous users" with high readership compiled by the "Zhihu" platform. In the process of making decisions on content, publishers use targeted big data analysis, AI interaction, and other technologies to provide content that suits different types and forms of publications, such as "learning", "sports", "leisure", "emotion", etc., based on the contextual dimensions of each user. This approach satisfies and serves the users' scenario states and immediate needs, thereby deeply improving their product experience, and realizing the function of scenario services under the big data technology. In the future, the publishing industry will increasingly move towards personalized and intelligent scenario-based services driven by big data and related technologies.

Empowering and Optimizing the Processes of Publishing Industry With Big Data Technology

In the traditional publishing activities, the business processes of the publishing industry mainly revolved around three elements: editing, printing, and distribution. However, as the publishing industry enters the stage of digital publishing, publishing information elements are all presented in the form of data. Based on precise positioning of user scenarios, big data and related technologies such as artificial intelligence are deeply integrated into the specific business processes of the publishing industry, such as editing, proofreading, printing, transportation, and sales. Through the intelligent monitoring, collection, and analysis of publishing information data at various steps, they facilitate the coordinated production of all elements, leading to the restructuring of the whole industrial process and the improvement of the overall efficiency of the publishing sector. For example, in the process of editing and proofreading, big data and artificial intelligence technologies, etc. can be adopted to typeset, edit, and enter data intelligently, and even conduct typesetting and editing in different formats simultaneously, such as electronic books, audio and video production, etc., so as to produce publications in different formats. In the processes of printing, transportation and sales, unified analysis across platforms can be achieved through big data analysis, and multi-dimensional analysis, including the classification and ranking of

publications, sales information, and logistics and transportation, can be carried out to determine the optimal number of copies to be printed and sales channels, thereby maximizing the benefits of publishing.

In addition to specific business processes, the constituent elements of the publishing industry chain are also becoming more and more complex, and publishing entities, such as content providers, technology service providers, content publishers, channel distributors, and equipment manufacturers cross and permeate each other, actively promoting the transformation from data production to data integration platforms. The specific approach is to connect the content production, digital operation and promotion, physical and digital distribution platforms, and other constituent elements of the industry of publishing products in series, control the big data information of publishing and distribution, and build a functionally-improved publishing and distribution big data platform with a closed loop for supply and demand. This serves as an effective path to achieve the intelligent upgrade of the chain of publishing industry. For example, Inner Mongolia Education Publishing House has developed a comprehensive content database and application platform that can store and manage its own books, materials, and resource in a digital way, edit and produce intelligently, and sets up a multi-purpose database through one-time production and multiple releases, so as to offer intelligent paper and electronic books for readers and users. China Publishing Group Digital Media Co., Ltd. has developed "Dajia Reading Platform" targeted at high-quality reading. It worked with professional and authoritative publishers, such as Zhonghua Book Company and People's Literature Publishing House, to attract numerous readers by intelligently recommending high-quality content after big data analysis. As a matter of fact, traditional publishing organizations with limited technological capabilities can also ride and wave and benefit from the empowerment of big data technology through cooperation and win-win and other strategies, by taking advantages of their content ownership. For example, in March 2020, the Baidu Intelligent Cloud joined hands with Zhiduiliu to create a platform called "Digital Intelligent Publishing Cloud". They made use of the powerful big data and cloud computing technologies of Baidu Intelligent Cloud, as well as the software development capabilities of Zhiduiliu to help traditional publishing organizations produce and distribute digital publishing products in a targeted manner. Xiaoe Tech, a technology service provider, offered UI design, mini-program development, and other technical services for many publishing companies with online business needs. CITIC Publishing Group also came up with a publishing platform plan in 2020, with an aim to leverage its strong financial and technological edges to cooperate with small and medium-sized publishing enterprises in multiple ways, and help them complete transformation and upgrading towards digitalization. Through collaborative efforts among different publishing entities, the publishing industry is able to aggregate big data information resources of the publishing industry, and develop a comprehensive and interconnected chain that combines various publishing elements in an open, multidimensional, and networked manner.

On the whole, big data technology has empowered the process of the publishing industry. This not only enables accurate docking between supply and demand sides and effectively improving the efficiency of the publishing industry, but also helps publishing companies prolong their industry chain, connect the content creators, producers, and processors, technical service providers, and end-reader and users through big data publishing platforms, ultimately improving production and operation management, as well as the profitability of the whole publishing industry.

Application of Big Data Technology Drives the Expansion of the Boundaries of Publishing and the Direction of Virtual Publishing

Nowadays, the analysis and application, data carriage and scenario service capabilities of technologies, such as big data, cloud computing, and artificial intelligence have been continuously improved, which makes the

publishing industry gradually form a new content ecosystem. The creation methods, presentation styles, and communication forms of publishing works have also become more and more diversified, with text, pictures, voice, video, and other elements serving as tangible carriers of publishing content. The boundaries and domain of the publishing products have been expanded with each passing day. At the same time, the knowledge service attribute of the publishing industry is increasingly prominent, and the publishing knowledge service system centered on users' scenario demands is evolving into a more sophisticated state. Based on the continuous integration of publishing information resources into the big data publishing platforms and the development towards a diversified, personalized, and service-oriented direction, comprehensive knowledge-paid service platforms such as Ximalaya and Zhihu have become new publishing paradigms and formed a one-stop platform for value aggregation and monetization. These platforms capture real-time needs of users in different time and space scenarios as their data foundation, and match and push knowledge services to users in an intelligent way. In the process of providing knowledge services, publishing platforms focus on reading, integrating, refining, and transforming massive fragmented data by using technologies such as big data and artificial intelligence, and then offer filtered product content in different forms that can match the scenarios to the users. This has also become a new growth point for the publishing industry in terms of market and marketing in the era of big data. With the deep fusion of technologies such as big data processing, cloud computing, VR/AR, and intelligent man-machine interaction, the forms of publishing products provided by the knowledge service platforms are increasingly diversified and aligned with the scenario experiences and emotional needs of readers. The publishing industry is undergoing a transition from physical publishing and digital publishing to the stage of virtual publishing in broad sense, that is, "intelligent technology + publishing". For example, there are audio publications that can free users from visual constraints, fill in and piece together the fragmented time of users, and even be controlled by voice. Also there are VR/AR publications that can provide immersive sensory experience, construct reading scenes that intertwine between virtual and reality, and offer users new and exciting reading experiences through their eyes and mind, etc. All of these have embodied the trend of "virtualization" in the publishing industry. In the future, publications will be capable of dynamically adjusting to users' needs based on their time and location, and offering readers with formats of knowledge product and service that meet their desires. Big data and related intelligent technologies have offered essential technical elements for the virtualization of the publishing industry layout.

Conclusion

In the environment of big data, big data and related intelligent technologies have penetrated and improved the efficiency of the publishing industry, reshaped the structure and chain system of the publishing industry, and also participate in the influence on the future development of the publishing industry. Moving forward, big data and related intelligent technologies will further strengthen their core competitiveness in terms of the sharing and openness of data resources, as well as the interactivity in the era of intelligence. They will drive the industry with technology, empower the industrial efficiency, service capabilities, and chain system of publishing companies, and ultimately create a virtualized and intelligent industrial ecology that can deliver a perfect personalized reading experience to users.

References

Gong, M. Y. (2018). The development trend of the digital publishing industry in the era of big data. *Research on Transmission Competence*, *2*(31), 147.

Sun, Y. (2019). Analysis of the development trend of the digital publishing industry in the era of big data. *Research on Transmission Competence, 3*(36), 210.

Sun, Y. L. (2017). Prospect of the development of the digital publishing industry in the era of intelligent technology. *Information on Publication, 30*(9), 13-15.

Wan, A. L., & Wang, J. F. (2019). Virtual publishing: A duet from the technological revolution to reading scenes. *Journal of Hebei University (Philosophy and Social Science), 44*(1), 146-153.

Wang, H. (2019). The future trends of the digital publishing industry in the age of big data. *Media, 21*(18), 61-63.

Zhang, H. D. (2019). Empowering the development of the digital publishing industry with big data technology. *Journalism & Communication, 26*(1), 57-58.

Management Studies, Nov.-Dec. 2023, Vol. 11, No. 6, 329-339
doi: 10.17265/2328-2185/2023.06.004

Unraveling Predatory Pricing: Insights From Case Studies and Game Theory Modeling

Panitnan Asawinchai
Cheltenham Ladies' College, Cheltenham, UK

This paper develops a game-theory model for predatory pricing via in-depth analyses of three case studies: Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., Matsushita Electric Industries Co. v. Zenith Radio Corporation, and AKZO Chemie BV v. Commission of the European Communities. This model is based on subsequent action game theory models and rational economics behavior, offering a chronological outline of the "predation" stages. It presents the predator's decisions, the prey's potential responses, possible loops, and the two distinctive outcomes. The analysis of the model in context of the three case studies demonstrates its practicality in assessing real-life predatory pricing scenarios and players' strategies. It's flexibility also allows applications in related fields. Overall, this paper offers a comprehensive framework that bridges the gap between law, economics, and game theory in the study of predatory pricing, informing future research in this area.

Keywords: behavioral and social sciences, game theory, antitrust, predatory pricing, anticompetitive practices, monopoly, business law

Introduction

"Predatory pricing" is a strategic behavior utilized by firms to eliminate competitors in a given market (Areeda, 1980). Typically, during the "predation" stage, the "predator" firm, usually the more dominant firm in a market, sets the price of a product unrealistically low. As the less dominant firm cannot match these prices, they are forced to exit the market. For the predator, the price reduction becomes profitable when added market power is gained after eliminating the rival firm, the "prey" (Hay, 1989).

The predatory pricing strategy comprises two-stages: predation and recoupment. As Funk and Jaag (2018) argue, during the predation stage, the predator firm reduces its short-term profit by offering goods or services at low prices. As a result, the equilibrium price for these goods and services adjusts, placing smaller firms and new entrants, the preys, at risk of closure, with some eventually exiting the market. The predator, unlike its less dominant counterparts, can sustain the short-term loss of profit and can successfully eliminate rival firms from the market. In the recoupment stage, the dominant firms will aim to recover their losses from the predation, usually by readjusting their prices close to the monopoly[1] price (Funk & Jaag, 2018).

Panitnan Asawinchai, student, Cheltenham Ladies' College, Cheltenham, UK.
Correspondence concerning this article should be addressed to Panitnan Asawinchai, Bayshill Rd, Cheltenham GL50 3EP, United Kingdom.

[1] A monopoly firm has exclusive control of a market or industry. Antitrust laws are in place to restrict these firms from forming (The United States Department of Justice, 2022).

Predatory pricing is prevalent in various industries, namely the airline industries and in the drug and beauty markets. It is also a common practice in the export sector, which attempts to sell products cheaply in foreign markets. An example of the latter will be explored in this paper, where a Japanese cartel faces allegations for maintaining artificially high prices in their domestic market and fixing low prices for the US exports.[2]

Nevertheless, predatory pricing is illegal in many countries as it violates antitrust laws.[3] The prosecution of antitrust violations varies among countries. The antitrust laws that are relevant to this paper include legislations in the United States and Europe. The legislations that build up the foundation of antitrust prosecution in the United States are the Sherman Antitrust Act (1980), the Federal Trade Commission Act (1914), and the Clayton Antitrust Act (1914) (The United States Department of Justice, 2022). In Europe, the EU Antitrust Policy is built on Articles 101[4] and 102[5] of the Treaty on the Functioning of the European Union (TFEU) (European Commission, 2023). Other legislations relevant to this paper include the Robinson-Patman Act (1936)[6], the Wilson Tariff Act (1894), and Article 86 of the Roman Treaty (1958).

However, it remains a subject of ongoing debate and poses challenges in prosecution. Proving predatory pricing can be difficult, as reducing prices is a common practice in competitive markets and does not necessarily indicate the intent to damage the market. Furthermore, predatory pricing itself is hard to execute as the predator must be able to withstand the damage and loss of profit during the predation stage.

This paper employs a game theory approach to examine predatory pricing, utilizing a tree model to map out the various stages of the "predation" process. The next section provides a review of pertinent literature. The third section presents the proposed model and provides a step-by-step analysis of the game. The fourth section will introduce the three case studies: Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., Matsushita Electric Industries Co. v. Zenith Radio Corporation, and AKZO Chemie BV v. Commission of the European Communities. In this section, the tree model will be examined in the context of the case studies to demonstrate its application. Limitations of the model will be discussed in Section five. Finally, Section six offers a conclusion.

Literature Review

The pertinent literature to this topic will be analyzed in three sections: law, economics, and game theory.

The legal implications of predatory pricing have been the subject of considerable attention, particularly in the context of court decisions and their effects on subsequent cases. Baker (1994), Denger and Herfort (1994), and Glazer (1994) discuss the effect that Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. case had on the prosecution of predatory pricing. Baker (1994) offers an economic view on the differences between Chicago and post-Chicago perspectives[7] on predatory pricing. He concludes that the ruling in this case neither embraced nor rejected the post-Chicago perspective. Similarly, Boudreaux, Elzinga, and Mills (1995) analyze the same

[2] Other similar cases range from Indian frozen shrimps to South African lemon juice. In both cases, the products are sold at lower-than-normal prices in the United States, but higher elsewhere. These cases, depending on the prosecution, usually end with products being withdrawn upon entry to the United States (Federal Register, 2023).

[3] Antitrust laws are used to limit market power of a firm in order to encourage competition. This usually prevents the formation of monopolies and the overconcentration of market power by mergers and acquisitions. Antitrust laws also prevent collusion and the formation of cartels which could lead to illegal practices such as price fixing (The United States Department of Justice, 2022).

[4] Article 101 prohibits the formation of cartels or anti-competitive agreements between firms.

[5] Article 102 prohibits abusive behavior from a dominant position in any market.

[6] The Robinson Patman Act is an amendment to the Clayton Antitrust Act of 1914.

[7] The Chicago (school) perspective is that predatory pricing is almost always irrational, and therefore, unlikely to actually occur. The post-Chicago perspective considers another aspect of recoupment, suggesting a new theory that if predation occurs in one market, recoupment can also occur rapidly in other markets (Baker, 1994).

case alongside the 1967 Utah Pie case[8], questioning the court's decision regarding price cutting by members of non-collusive oligopolies.[9] They highlight the difference in court ruling in the two cases, with Brooke Group Ltd. seen as a more sophisticated approach to predatory pricing as the court recognized that below-cost pricing was no longer a sufficient condition for monopolization. Boudreaux et al. (1995)'s paper provides a detailed analysis of the rebates war between Brooke Group Ltd. and Brown & Williamson Tobacco Corp. which we use to develop our proposed model. Austin (1989) takes a similar approach, discussing the law perspectives of predatory pricing, but with the Matsushita Electric Industries Co. v. Zenith Radio Corporation case instead, raising questions about the controversial nature of Matsushita's possible recoupment after two decades of predation.

The literature on predatory pricing also includes numerous economic analyses of the strategies and tests used to identify it. Funk and Jaag (2018) explore the stages of predatory pricing strategies, and take an economics-based approach in suggesting a separation between predatory pricing and discriminatory[10] or selective abuse by a dominant firm. They argue that elements from merger control laws[11] should be adopted in antitrust prosecution. Funk and Jaag (2018) also stress that economic theory does not require dominance for predation to be a rational strategy. We acknowledge this viewpoint; however, for our model's simplicity, we keep the assumption that the predator firm is the more dominant one in the market. Hay (1989) discusses the different conclusions reached by law and economic theory regarding predatory pricing as a rational or irrational strategy. They also discuss the proposed cost-based rules by Areeda and Turner (1975) and how a legal definition needs not to be identical to the economic concept of predation. Elzinga and Mills (2001) focus on the assumptions of "asymmetrical information" and predatory pricing's structural setting. These concepts are relevant to our paper and model as we utilize similar assumptions of asymmetric information and access to financial resources between the two players. Ursic and Helgeson (1994) examine the possibilities of proving the illegality of predatory pricing and aspects of consumer harm from predation. They find that proving pricing practices illegal is difficult, but courts typically rely on cost-related standards in prosecution. The Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. case discussed in our paper relies on cost-related tests in the prosecution. Ursic and Helgeson (1994) provide a baseline for the analysis and understanding of the case's eventual ruling that Brown & Williamson Tobacco Corp. was not a predator based on cost-related tests.

When it comes to a game-theory modeling approach, Moras and Phlips (1993) suggest a game theory approach with repeated games of the chain-store paradox.[12] He explores the credibility of the threats used as evidence in the AKZO Chemie BV v. Commission of the European Communities case which will be explored in

[8] 1967's Utah Pie v. Continental Baking Co. is also a case of alleged predatory pricing. Utah Pie is charged under Sections 1 and 2 of the Sherman Act and Section 2(a) of the Clayton Act, as amended by the Robinson-Patman Act (Utah Pie Co. v. Continental Baking Co., 1967).

[9] An oligopoly is a market structure with a small number of firms, all attempting to restrict output and the influence of other firms. It has competitive demand and the supply side is not monopolized (Friedman, 1982).

[10] Discriminatory pricing is a pricing strategy in which the same product is sold at different prices to different customers based on how much the customer is willing to pay (Varian, 1989).

[11] The main antitrust legislation which deals with mergers and acquisitions control is the Clayton Antitrust Act of 1914. Like predatory pricing, mergers and acquisitions are viewed as likely to decrease market competition and have the tendency to increase prices (The United States Department of Justice, 2022).

[12] The chain-store paradox is a paradox which demonstrates inconsistency between game theoretical reasoning and human behavior. The chain-store game introduces two strategies: induction theory and deterrence theory. Game theory states that the induction theory should be the optimal strategy; however, the paradox is created as the deterrence strategy seems to be the one with the higher payoff (Selten, 1978).

this paper. Moras and Phlips establish that threats of this nature are not credible in perfect sub-equilibrium games where information is perfect and complete. Moras and Phlips (1993) allow for an in-depth analysis of the process of predation in the AKZO Chemie BV v. Commission of the European Communities case, which is essential in the development of our model. Salinger (2007) acknowledges the limits of game theory in providing predictions of market outcomes by exploring the Prisoner's Dilemma and the Battle of the Sexes models. We acknowledge similar limitations in our own model. Salinger states that a firm's decisions are influenced by the expectation that other firms will behave in their own economic interest. Similarly, our proposed model follows this approach and predicts outcomes through behavioral expectations. Roberts (1986) proposes a mathematical signaling model which recognizes informational asymmetry and operates under the Cournot duopoly model.[13] Robert models a situation between an "incumbent" and a new entrant in the market and evaluates the likelihood of the entrant's exit following the level of demand and the Cournot equilibrium. Our proposed model also utilizes the Cournot duopoly model to model predation and predict outcomes.

This paper seeks to bridge the gap between the three distinct approaches to predatory pricing: law, economics, and game-theory. In terms of law, the impact of prominent cases on future prosecutions and its implications are often explored. Economic analysis typically evaluates the rationality of predatory pricing practices and employs various tests to justify their presence. Game-theory papers discuss predatory pricing in the context of other game theory models, often providing insights into potential market outcomes. By incorporating all three approaches into a model, our paper aims to offer a more comprehensive understanding of predatory pricing, integrating both legal and economic implications of such practices.

The Model

Figure 1 maps the "predation" stages of predatory pricing scenarios, and predicts possible outcomes. This model is developed using subsequent action game theory models as its base. Further refinements of actions and outcomes are made by observing cases of predatory pricing, most notably, those of the three case studies explored in this paper.

In the model above, Player A's actions are represented by the bolded letters, and Player B's actions are in italics. Court decisions are neither bolded nor in italics.

The model's assumptions are:

1. There are only two players: A and B.
2. Player A is the dominant firm. Once threatened, Player A will remain in the market indefinitely.
3. Player B has no other adaptation strategies apart from lowering prices once threatened.
4. Player B cannot lower prices into predatory pricing territory.

These assumptions are intended to prevent the over-complication of the game. The model is restricted to only two players: the predator (A), and the prey (B). This is not always reflective of real-world scenarios involving predatory pricing; however, it is maintained for the sake of simplicity. A "player" can also be used to refer to a cartel or a collective of firms, as will be exemplified in the case between Matsushita Electric Industries Co. and Zenith Radio Corporation. The restriction of Player B's adaptation strategies will allow the game to end or restart, rather than entering a continuous scenario where Player B's non-price adaptation allows it to remain

[13] The Cournot duopoly model is an oligopoly market game with two players. In a Cournot model, there are two or more players in a market where no new entrants and collusive behavior is allowed. Each player aims to maximize their own profit (Elsadany, 2015).

in the market indefinitely. Finally, the assumption that Player B is not allowed to engage in predatory pricing permits the possibility that Player B may resort to legal action after the initial response of price reduction proves ineffective. This assumption allows for consistency, as Player B, the less dominant firm, theoretically, should not be able to withstand the short-term loss of revenue from engaging in predatory pricing.

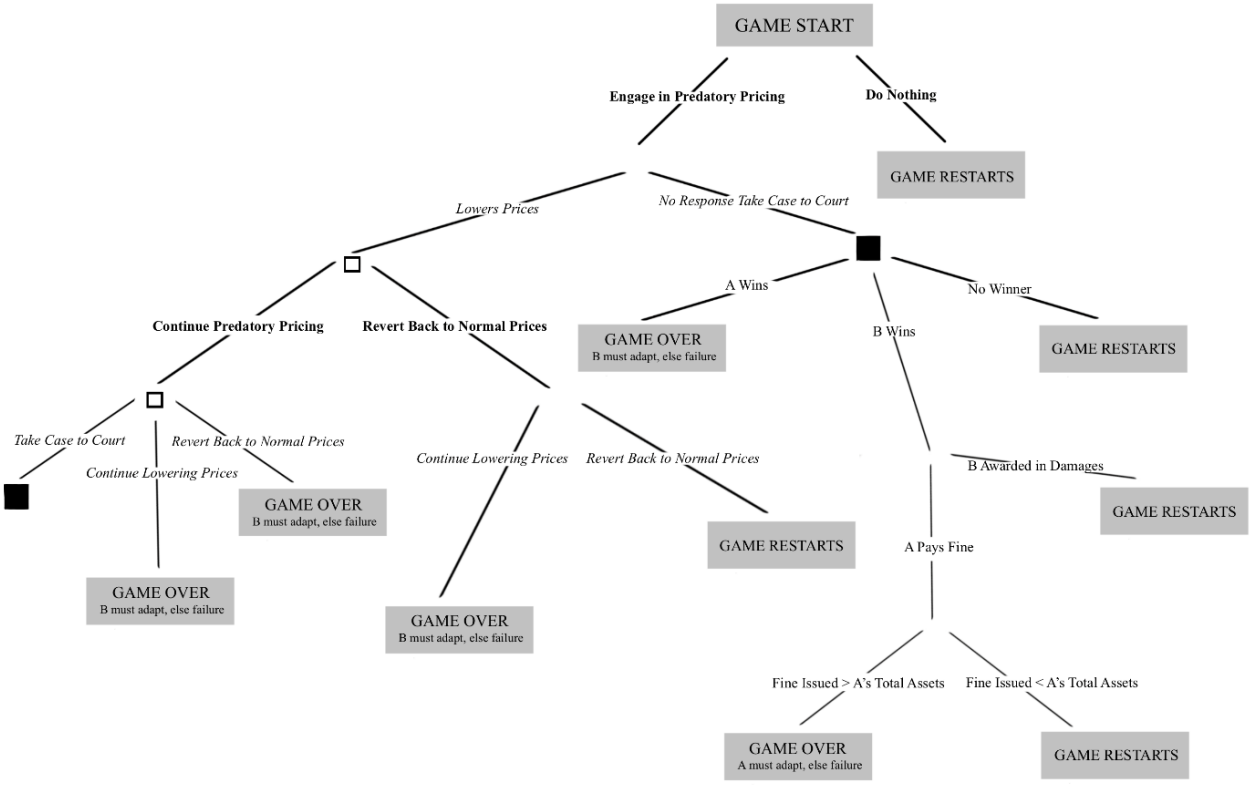

Figure 1. Predatory pricing decision tree.

The game starts with Player A's, the dominant firm, actions. To start the game, Player A has two options: either engage in predatory pricing or do nothing. In the event that Player A does nothing, the game ends, labeled as "Game Over". If Player A chooses to engage in predatory pricing, we will progress to Player B's turn. As no other adaptation strategies are allowed, Player B is presented with two choices: either lower the price to compete with Player A, or not respond and take Player A to court. If Player B decides to pursue legal actions against Player A, our analysis of the case studies has revealed three possible outcomes: Player A wins, Player B wins, and no winners. Player A winning will lead to Player B having to adapt and thus the game ending.[14] If Player B wins, there are two possible outcomes: Player A pays a fine or Player B is awarded in damages. If Player B is awarded, the market will restore to normal conditions, meaning that prices will return to the normal market level. If Player A is required to pay a fine, it will either end in Player A having to adapt or the market restoring, depending on the size of the fine issued by the court. In the case that the fine issued exceeds Player A's total assets, Player A will be forced to adapt or risk failure/bankruptcy. On the other hand, if Player A's total assets

[14] Reminder that this game allows for no other adaptation strategies. The outcome labeled "A/B must adapt, else failure" signals the end of the game. From this point on, the player is no longer bounded by the assumptions of the game. Therefore, the player must adapt, using any adaptation strategies, to avoid bankruptcy or losing their position in the market.

surpass the fine issued, the market will restore to normal conditions, allowing the game to restart. This will lead to a loop in the game. A third scenario may arise wherein there are no winners, such as when a court investigation or provisional measure is enforced. Similar to the outcome in the third option, this result leads to a loop.

This model features loops or redirections that are represented by the boxes, or labeled as "Game Restarts". As the name suggests, when the game restarts, we once again return to Player A's first option between engaging in predatory pricing or not (the very beginning of the game). In this model, in order for the game to restart, the players must return to their normal prices. For example, in the situation where Player A decides to stop predatory pricing after Player B responds by price cutting, the game can only restart once Player B has also reverted back to its normal price. If Player B continues to lower its prices, Player B will lose the market and the game ends. The redirection is represented by the filled squares in the diagram. Once the scenario has reached the filled square on the far left, the game will be moved and continued at the filled square on the right where the court decisions take place. The loop is represented by the unfilled squares and is used in the situation where a price war occurs. An example of this scenario will be shown in the case between Brooke Group Ltd. and Brown & Williamson Tobacco Corp. In this scenario, Player B's first response is to lower their prices and Player A continues to engage in predatory pricing. This will take us to the lower unfilled square. Once we reach the lower unfilled square, we will repeat the steps again starting at the upper unfilled square. This will continue until either Player B decides to take Player A to court or Player B is forced to adapt and the game restarts.

Case Studies

We have selected three case studies: Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., Matsushita Electric Industries Co. v. Zenith Radio Corporation, and AKZO Chemie BV v. Commission of the European Communities. The processes of predation in these three cases are all vastly different and result in varied outcomes. They are representative examples, chosen to demonstrate the different ways the game can be played in our proposed model.

The technical information presented in this section, unless otherwise specified, is from the following legal cases: Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. (1993), Matsushita Electrical Industrial Co., Ltd. v. Zenith Radio Corp. (1986), and Case C-62/86 (1991), respectively.

Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. (1993)

In 1993, the United States Supreme Court decided that the Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. was a case of predatory pricing. This was the first Supreme Court decision on predatory pricing in nearly three decades. The ruling in the Brooke decision required that allegations must show prices below rival's cost and that the competitor had a chance of recouping its losses, challenging an earlier view that below-cost pricing was a sufficient condition (Boudreaux et al., 1995).

The US cigarette industry is dominated by six firms, two of which are Brooke Group Ltd. (formerly known as Liggett) and Brown & Williamson Tobacco Corp. Prior to the 1980s, prices in the industry were relatively uniform; however, this pattern began to shift as smoking declined in popularity and firms suffered from excess supplies. Liggett's successful line of generic cigarettes led Brown & Williamson to also introduce its own line of generic cigarettes alongside the discounted segment. This triggered a rebates war that persisted until mid-1985.

In 1984, Liggett filed a lawsuit against Brown & Williamson, alleging that the latter's conduct during the rebates war violated Section 2(a) of the Clayton Act, as amended by the Robinson-Patman Act. Liggett claimed

that Brown & Williamson predatory scheme was to pressure Liggett into keeping high prices on its generics, thereby protecting the highly competitive profits on their branded cigarettes. Although the judges found no evidence of injury to competition, Brown & Williamson was nonetheless held liable as a matter of law. The court awarded Liggett $49.6 million in damages.

However, while it was concluded that Brown & Williamson had priced its generics below cost for 18 months, there was no clear evidence of recoupment or recovery from the pricing scheme. Some proposed that the lack of reasonable prospect for recovery could be due to Brown & Williamson's simultaneous predation-recoupment strategy. Disagreements also arose regarding Brown & Williamson's variable cost during this period, with some estimates suggesting that the company lost $8.1 million during its predatory pricing campaign, while others argued that the company actually benefitted, acquiring an estimated $3.6 million after accounting for tax benefits.

In summary, the dispute between Brooke Group Ltd. and Brown & Williamson Tobacco Corp arose from their respective entry into the generic cigarette market and the subsequent rebates war. Liggett (Brooke Group Ltd.) filed a lawsuit against Brown & Williamson, but it was ultimately ruled that Liggett had not been harmed. There was also no clear evidence that Brown & Williamson had successfully recouped any losses from its pricing scheme.

Game model walkthrough: In this case, Brown & Williamson would be Player A and Liggett would be Player B. The game starts with Brown & Williamson choosing to engage in predatory pricing. It is important to note that prior to the lawsuit, the two firms had engaged in a rebates war; therefore, in the tree game, it can be assumed that Liggett would choose to lower its prices and Brown & Williamson would continue to engage in predatory pricing. This forms a loop as shown by the unfilled square in the diagram where Brown & Williamson continues its predation and Liggett responds by also lowering its price. This loop continues until Liggett decides to file a lawsuit in 1984. This leads us to the filled square in the tree diagram, which will then take us to the other branch labeled with a filled square on the right. In this case, Liggett "wins" and is awarded in damages. The market restores to normal conditions and the game can be restarted. This demonstrates how our game model can be applied to real-world cases of predatory pricing and can be used to assess the strategic behavior of market participants.

Matsushita Electric Industries Co. v. Zenith Radio Corporation (1986)

In 1974, Zenith Radio Corporation and other American consumer electronics products (CEPs) corporations filed a lawsuit in the Federal District Court against a foreign cartel comprising 21 Japanese or Japanese-controlled CEPs corporations, including Matsushita Electric Industries Co. The lawsuit alleged that the Japanese cartel engaged in a scheme to drive the American CEPs out of their own market. The American corporations claimed that the Japanese cartel were engaging in a scheme which maintained artificially high prices in the Japanese market while fixing low prices for their United States' exports and products, violating Sections 1 and 2 of the Sherman Act, Section 2(a) of the Robinson-Patman Act, and Section 73 of the Wilson Tariff Act. These violations include engaging in predatory pricing, price discrimination, conspiracy, and attempts at monopolization.

Initially, judges found no evidence of a connection between the Japanese firms' behavior in domestic markets and its export sales, and artificially low prices could not be inferred. Matsushita Electric Industries Co. and the Japanese firms, therefore, won the judgement. On appeal, however, Zenith Radio Corporation and the American CEPs pulled in evidence from the horizontal price fixing scheme as the Japanese firms are part of a *keiretsu*,[15] which had agreed to stabilize domestic prize amongst the dominant firms. The American CEPs

[15] A *keiretsu* is a tightly-organized Japanese trade association similar to a cartel (Ahmadjian & Lincoln, 2001).

claimed that the Japanese firms used export markets to absorb the excess supply stemming from the conspiracy, and that eliminating American firms would lead to higher profitability levels. They further asserted that prices for Japanese firms in US markets were below cost and 50% lower than in Japanese markets. Despite this evidence, the Court concluded that there was no predatory conduct due to the lack of evidence on the "conspiracy" and low possibility of recoupment from the 20-year period of predation. Matsushita Electric Industries Co. and the Japanese firms were not held liable.

In summary, the Matsushita Electric Industries Co. v. Zenith Radio Corporation case starts with the American CEPs alleging that the Japanese cartel is maintaining artificially high prices in the Japanese market and fixing low prices in America. The initial judgement favored the Japanese firms due to lack of evidence. On appeal, the American CEPs presented new evidence, but it was still deemed insufficient by the court, and there was no evidence of recoupment during the 20 years of alleged predation. Therefore, the Japanese cartel won again.

Game model walkthrough: In this game, the Japanese cartel is Player A and the American CEPs are Player B. This game is much simpler. Once the American CEPs are threatened by the Japanese cartel, rather than engaging in a price war, they bring an action to the Federal District Court. Unfortunately for the American CEPs and Zenith Radio Corporation, the court's ruling was in favor of the Japanese, even after appeal. In the case of the game tree, we will be going down the path where A (the Japanese cartel) wins and results in B (American CEPs) being forced to adapt. In the case of Zenith Radio Corporation, they continue to lose money in the television industry where the "predation" had taken place as they fail to adapt suitably to remain in the market. Currently, we are at the very end of the tree where Player B is forced to adapt and the game ends. As the game ends, Zenith Radio Corporation is no longer bounded by the assumptions of the game and can utilize other adaptation strategies to avoid bankruptcy. In this case, Zenith Radio Corporation adapts by entering the computer market in 1979 (Computerworld, 1979).

AKZO Chemie BV v. Commission of the European Communities (Case C-62/86, 1991)

AKZO Chemie BV faces allegations for abuse of a dominant position held in the European Economic Community organic peroxides market by its discriminatory and below-cost pricing techniques—as well as the aim to damage and remove a smaller firm, Engineering Chemical Supplies (ECS) as a competitor. ECS started off as a small privately-owned company, mainly producing flour additives. It eventually entered as a competitor in the continental plastics market. When ECS began supplying one of AKZO's major customers in the polymer industry, AKZO responded with threats during a meeting between the two firms. These threats were used to establish the predatory intent later by the Commission. As AKZO's threats targeted the flour additives market (where the alleged predation had occurred) rather than the plastics one, the evidence was even more substantial (Moras & Phlips, 1993).

ECS claims AKZO had attempted to keep it out of business by the systematic price cutting that had started since the end of 1980. This likely started when ECS refused to follow AKZO's price increase despite past compliance, leading to a widening price gap between the two firms. Eventually, the price gap between them led to two of AKZO's main customers asking ECS for quotations on supply of flour additives. In late 1980, AKZO reacts, approaching ECS' main customer with new and lower prices. In June 1982, ECS submits a complaint stating that AKZO was abusing its dominant position via discriminatory and below-cost pricing techniques in order to exclude ECS as a competitor. In December 1982, the Commission begins investigations on AKZO

Chemie and AKZO UK. ECS made another complaint in May 1983 about how AKZO's price tactics had continued after the investigation. The Commission accepted the new complaint in July of the same year and imposed minimum prices for flour additives on AKZO as a provisional measure. AKZO was eventually fined 10 million ECU in December 1985 for infringement of Article 86 of the Roman Treaty for abuse of its dominant position.

In summary, the AKZO Chemie BV v. Commission of the European Communities case starts once ECS joins the polymer industry and starts supplying to one of AKZO's main customers. The threats used after this are used to establish predatory intent legally. AKZO's predation occurs after ECS refuses to follow AKZO's price increase and AKZO responds by using discriminatory pricing techniques. After the first investigation in 1982, AKZO continues its price tactics. The second complaint filed in 1983 led to minimum prices being imposed on AKZO. AKZO continues its predation until it is fined in 1985.

Game model walkthrough: Once again, AKZO Chemie BV, the dominant firm, is represented by Player A in the game, and ECS is represented by Player B. As the game starts, AKZO engages in predatory pricing, which in this case is AKZO approaching ECS' main customers with cheaper flour additives. In response, ECS submits a complaint to the Commission. This process in the tree game is the Commission's initial investigation of AKZO Chemie BV and AKZO UK in 1982. In this case, there is no winner. Therefore, the game restarts. AKZO chooses to engage in predatory pricing again and ECS chooses the same response of making another complaint in May 1983. There is no clear winner as the Commission merely imposes minimum prices as a provisional measure. The game restarts. AKZO chooses to engage in predatory pricing once again, and ECS continues with its chosen strategy and takes it to the Commission. This time, ECS wins the case (or Player B wins) and AKZO Chemie (Player A) pays a fine of 10 million ECU. The game can now restart if both firms return to their normal market prices. Our analysis demonstrates how our model can help in understanding real-world predatory pricing cases, including those which feature loops, and account for the strategies firms employ to adapt and survive.

Discussion

This model depicts multiple predation strategies and offers predictions regarding the possible outcomes of predatory pricing schemes. There are two possible outcomes of the game: the firms being forced to adapt in order to remain in the market, or a return to normal conditions with a game restart. As demonstrated in the walkthroughs of the three case studies, this model is effective in various situations.

Our proposed model both builds off and addresses the identified gaps in the literature. Funk and Jaag (2018) suggest including elements of merger control laws into antitrust. This model can be applied in the analysis of mergers and acquisitions, addressing Funk and Jaag (2018)'s suggestion. With the same logic, the model can be adapted to analyze market structures and predict market entry and exit. Furthermore, this model builds on Elzinga and Mills (2001)'s discussion of asymmetrical information and Salinger (2007)'s idea of behavioral expectations and how they influence decisions in the development of the model. Our model bridges the gap between these two concepts by utilizing both models as a foundation for its structure.

The application of our model is brought together through the discussion of the three case studies, all with distinct processes and outcomes. While these case studies have been previously discussed in the fields of law and economics, game theory has not been applied to them. This paper fills this gap and presents the case studies through a game theory lens. This will support the analysis of decisions and interaction between the firms in each case. In addition, this model will aid in the evaluation of past and future cases through the clear and chronological

visualization of the processes and outcomes of predatory pricing. Our model also addresses the controversial nature of predatory pricing and the court's rulings, which is often highlighted in law papers such as Boudreaux et al. (1995), Austin (1989), or Denger and Herfort (1994), but it is not usually seen in models, hence the importance of the development of a model that analyzes case studies via a legal lens.

In accordance with Salinger's (2007) views on the limitations of game theory in predicting market outcomes, this model is subject to certain assumptions that may restrict its applicability. While the assumptions allow for the model's simplicity, they may also result in certain aspects of realistic behavior to be sacrificed. For instance, the model is designed for only two players, therefore, only accounting for predatory pricing cases between two firms or cartels. An example of a case which breaches this assumption is Air Canada's predatory pricing case against WestJet and CanJet (Zhang, 2003) where there are more than two opposing players as Player A (Air Canada) has to play against two new entrants rather than just the one Player B. However, it is possible to adapt both the case and the model to make it suitable for the scenario as WestJet and CanJet could be counted as a single player similar to the Japanese cartel in Matsushita Electric Industries Co. v. Zenith Radio Corporation; or to introduce more firms or players into the model. Additionally, the model does not account for other non-price adaptations such as marketing and advertisement, product differentiation, or quality improvement. These are undeniably the strategies many firms use to respond to threats. An example of a non-price adaptation can be seen in one of our case studies, Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., where before the predation allegations, both firms attempted to regain their position in the market by introducing a differentiated product—generic cigarettes.

Further development of the model could include the introduction of a mathematical-based system. As highlighted by Ursic and Helgeson (1994), cost-based tools are common in the prosecution of predatory pricing. By incorporating mathematical calculations of payoffs or even the qualifying thresholds for a choice, this model would be more beneficial for the analysis of predatory pricing. Moreover, it is essential to keep the model updated to reflect recent court rulings and changing market conditions.

Conclusion

Our proposed model addresses a gap in the literature by bridging three prevalent areas commonly explored in predatory pricing: law, economics, and game theory. Through the incorporation of expectations regarding the competitive practices of firms in an oligopoly, as well as prosecutions of antitrust violations, our proposed model is a contribution to the field. This model outlines the predation stages of predatory pricing strategies, starting from the predator's initial decision, to a range of possible responses by the prey, and acknowledges loops that can be present during this process. It predicts possible outcomes both from rational economics behavior and from analysis of case studies with diverse processes and results. This approach to modeling predatory pricing represents a significant contribution to the field, with the potential to inform both theory and practice.

The applicability of our proposed model extends beyond the scope of predatory pricing analyses. As it maps out the possible decisions and outcomes in generic competitive settings, it will be useful in business strategies or mergers and acquisitions analyses. The flexibility of the model allows for adaptations to fit specific situations, thereby enabling closer analyses and the development of strategical approaches to business dilemmas such as pricing strategies, or bargaining and negotiations. The predictive nature of the model means the logic can be utilized in the study of market structures and can provide insights on future changes. This includes planning entries and exits in a particular market or anticipating the formation of cartels and monopolies. Overall, our model

is a comprehensive representation of the various aspects of related fields. It enables efficient analyses and studies, thereby contributing to the literature in this area.

References

Ahmadjian, C. L., & Lincoln, J. R. (2001). Keiretsu, governance, and learning: Case studies in change from the Japanese automotive industry. *Organization Science, 12*(6), 683-701.

Areeda, P. E. (1980). Predatory pricing. *Antitrust Law Journal, 49*(3), 897-910.

Areeda, P. E., & Turner, D. F. (1975). Predatory pricing and related practices under Section 2 of the Sherman Act. *Harvard Law Review, 88*, 967.

Austin. (1989). Predatory pricing law since Matsushita. *Antitrust Law Journal, 583*, 895-911.

Baker, J. B. (1994). Predatory pricing after Brooke Group: An economic perspective. *Antitrust Law Journal, 62*(3), 585-603.

Boudreaux, D. J., Elzinga, K. G., & Mills, D. E. (1995). The Supreme Court's Odyssey: From fruit pies to cigarettes. *Supreme Court Economic Review (The University of Chicago Press), 4*, 57-93.

Brooke Group Ltd. v. Brown & Williamson Tobacco Corp. (1993). 509 U.S. 209.

Case C-62/86. (1991). European Court.

Computerworld. (1979). *Zenith radio buys health.* Chicago: Computerworld.

Denger, M. L., & Herfort, J. A. (1994). Predatory pricing claims after Brooke Group. *Antitrust Law Journal, 62*(3), 541-558.

Elsadany, A. A. (2015). A dynamic Cournot duopoly model with different strategies. *Journal of the Egyptian Mathematical Society, 23*(1), 56-61.

Elzinga, K. G., & Mills, D. E. (2001). Predatory pricing and strategic theory. *The Georgetown Law Journal, 89*(8), 2475-2494.

European Commission. (2023). *Antitrust.* Retrieved from https://competition-policy.ec.europa.eu/antitrust_en (accessed on 21/04/2023)

Federal Register. (2023). *International trade (anti-dumping).* Retrieved from https://www.federalregister.gov/international-trade-anti-dumping- (accessed on 21/04/2023)

Friedman, J. (1982). Oligopoly theory. In K. J. Arrow and M. D. Intriligator (Eds.), *Handbook of mathematical economics* (pp. 491-534). Amsterdam: North Holland.

Funk, M., & Jaag, C. (2018). The more economic approach to predatory pricing. *Journal of Competition Law & Economics, 14*(2), 292-310.

Glazer, K. L. (1994). Predatory pricing and beyond: Life after Brooke Group. *Antitrust Law Journal, 62*(3), 605-633.

Hay, G. A. (1989). Predatory pricing. *Antitrust Law Journal, 58*(3), 913-919.

Matsushita Electrical Industrial Co., Ltd. v. Zenith Radio Corp. (1986). 475 U.S. 574.

Moras, I. M., & Phlips, L. (1993). The Akzo decision: A case of predatory pricing? *The Journal of Industrial Economics, 41*(3), 315-321.

Roberts, J. (1986). A signaling model of predatory pricing. *Oxford Economics Paper, 38*, 75-93.

Salinger, M. A. (2007). The legacy of Matsushita: The role of economics in antitrust litigation. *Loyola University Chicago Law Journal, 38*(3), 475-490.

Selten, R. (1978). The chain store paradox. *Theory and Decision, 9*, 127-159.

The United States Department of Justice. (2022). *Antitrust laws and you.* Retrieved from https://www.justice.gov/atr/antitrust-laws-and-you#:~:text=The%20three%20major%20Federal%20antitrust%20laws%20are%3A%201,Clayton%20Act%203%20The%20Federal%20Trade%20Commission%20Act (accessed on 01/05/2023)

Ursic, M. L., & Helgeson, J. G. (1994). Using price as a weapon: An economic and legal analysis of predatory pricing. *Industrial Marketing Management, 23*(2), 125-131.

Utah Pie Co. v. Continental Baking Co. (1967). 386 U.S. 685.

Varian, H. R. (1989). Price discrimination. In R. Schmalensee and R. Willig (Eds.), *Handbook of industrial organization* (pp. 597-654). Amsterdam: North Holland.

Zhang, Y. (2003). The problem of predatory pricing: The Air Canada case. Department of Economics of the University of Iowa.

Management Studies, Nov.-Dec. 2023, Vol. 11, No. 6, 340-349
doi: 10.17265/2328-2185/2023.06.005

The Impact of Destination Image on Tourist Willingness to Revisit: A Case Study of Nanning Garden Expo

WAN Peng
Guangxi University of Foreign Languages, Nanning, China

The researcher aims to examine the impact of destination image of Nanning Garden Expo on tourist willingness to revisit. In this study, Nanning Garden Expo, a famous comprehensive park in Nanning, Guangxi, is selected as the research object. Based on previous literature and theories, the author analyzes and explores the relationship between the destination image of Nanning Garden Expo and tourist willingness to revisit. The research tool is questionnaire and the sample size of the survey data is calculated by Cochrane formula, and the data collection volume is 385. The statistics used in the data analysis are descriptive statistics including frequency distribution, percentage, mean, standard deviation, and inferential statistic for testing hypothesis. The researcher applies multiple regression analysis models to examine which independent variables have strong or weak relationships with dependent variables. Hypothesis test indicates that destination image has a significant positive impact on tourist willingness to revisit. Based on the results of the empirical study, relevant suggestions are proposed for how to enhance tourist willingness to revisit for Nanning Garden Expo and promote the healthy and sustainable development of tourism.

Keywords: destination image, tourist willingness to revisit, Nanning Garden Expo

Introduction

With the continuous development of tourism, tourism has played an increasingly important role in the economy, and there has been more fierce competition among tourist attractions. Therefore, many tourist destinations start from their own natural resources, human resources, and other resources, develop a variety of tourism products that can meet the different needs of people to attract tourists to travel here, in order to improve the status of tourist destinations in the hearts of tourists, and enhance their competitiveness among peers (Li, Wang, & You, 2022). The various images of tourist destinations can have a direct impact on the mood of tourists and whether they are willing to travel there again next time. Whether the image of each dimension of the tourist destination is good or not can directly determine whether tourists are willing to visit it again (Bao, 2008). Through the objective evaluation obtained from the perspective of customers, enterprises can better understand their brand's position in the industry. Through the evaluation of this product, customers will decide whether to buy the brand again, or whether to recommend the brand to relatives and friends. The above behavior caused by satisfaction will have a direct impact on the performance of the firm. The same is true of tourist attractions, only

WAN Peng, M.Sc., lecturer, School of European-American Languages & Culture, Guangxi University of Foreign Languages, Nanning, China.
Correspondence concerning this article should be addressed to WAN Peng, School of European-American Languages & Culture, Guangxi University of Foreign Languages, Wuhe Avenue 19, Qingxiu District, Nanning 530022, China.

in all dimensions of the tourist destination image left a good impression on tourists, and tourists are more satisfied with the tourist destination, they will choose to visit again (Li, 2017).

The Nanning Garden Expo was completed and opened in 2018. It not only serves as a carrier to show the living environment and the image of the city during the expo, but also fully retains and utilizes this high-quality resource after the expo to provide people with an important popular science venue for learning about different regional cultures and garden knowledge. Therefore, the Nanning Garden Expo has become a unique public green space of the city and an important place for tourists to carry out daily recreational activities. In the era of fierce competition in tourist attractions, the development and structural transformation of modern tourism as well as the consumption demand of tourists have changed in all aspects. How to improve the number of tourists and the rate of tourists' revisiting in urban parks has become an important concern (Li, 2020).

Although there are a lot of researches on destination image, there are few researches on the destination image of Nanning Garden Expo, and the influence of destination image on tourist willingness to revisit. Therefore, this study takes the tourists of Nanning Garden Expo as the research object, through the method of questionnaire survey, it finally finds out the influence of destination image of Nanning Garden Expo on their willingness to revisit, which enriches the research results of this type of paper and improves the relevant literature, so as to better guide the practical activities of Nanning Garden Expo and provide references for its marketing practice.

Researchable Questions

What is the impact of destination image on tourist willingness to revisit?

Research Objectives

To investigate the influence of destination image on tourist willingness to revisit.

Research Scope

Scope of Population

This research is only for domestic tourists visiting Nanning Garden Expo.

Scope of Content

On the basis of consumer behavior theory, this study examines the relationship between tourist satisfaction and willingness to revisit by examining the conceptual frameworks of tourist satisfaction and willingness to revisit, so as to understand whether the destination image will affect tourist's willingness to revisit a destination.

Literature Review

Consumer Behavior Theory

The development of tourist destination is to attract tourists and meet the travel needs of tourists, so tourists are the main body in the tourism process, and the various needs of different tourists should be fully considered in the development of tourism resources, so as to carry out the development of tourism resources. The activity behavior of tourists can be roughly divided into three levels, namely the basic level, the higher level, and the special level. Only when the motivation of tourists is fully considered, tourist destinations can develop suitable tourism products to attract tourists to visit again (Li, 2017).

Destination Image

The concept of tourist destination image has been put forward by foreign scholars as early as the 1970s, and has been a hot topic in various disciplines such as tourism, geography, and society, but there is no consensus on the concept of tourist destination image in academic circles (Lv, 2015).

This study summarizes some foreign literature on the concept of tourist destination image. Hunt (1971) thinks the tourist destination image is the impression that people have about where they live. Tasci, Gartner, and Cavusgil (2007) proposes that destination image is a dynamic process, which is the experience of tourists to the specific situation of the destination and the feelings and feedback caused by it. Chen and Lai (2016) believes improving the image of a destination can promote the marketing of the destination by showing potential visitors the unique tourism advantages of the place.

Most domestic scholars believe that the image of tourist destination is from the perspective of object, and the contents of the image are composed of geography, context, social psychology, and folk customs. A good and unique image of tourist destination can significantly improve the interest and willingness of tourists to travel here (Deng, 2004). Liao (2005) believed that the image of a tourist destination includes tourists' macro impression and specific perception of all tourism elements of the destination. In the same year, Bian (2005) pointed out in the article that tourist destination image would affect the tourism development of the destination from the overall and macro aspects.

From the concept of different scholars, it can be seen that the definition of tourism destination image mainly refers the sum of cognition and impression of the subject (tourist) on the object (tourist destination).

Willingness to Revisit

As for the study on the willingness to visit again, as early as 1989, some scholars found in their research that several tourists who returned to Britain from Spain expressed that they would like to visit Spain again (Gyte, 1989). Subsequently, Erickson (1989) found that many tourists indicated that they would choose a new destination for their next trip, but some tourists would also choose to go back to the previous place. Through research, Paul (2002) found that social activities and travel experience are important factors for tourists to re-visit. However, Gitelson and Crompton (2007) believed that one of the conditions that can make tourists have the willingness to visit again is that the travel experience of the destination can make tourists satisfied. Choy (2008) believed that tourists' participation in the tourism process and their familiarity with the scenic spot could affect their willingness to visit again. Activities such as leisure and visiting relatives and friends can improve tourists' satisfaction and thus increase their willingness to visit again (Wilson, 2013). Gitelson and Crompton (2007) were the first foreign researchers to study the factors affecting the willingness to re-visit. Through interviews with tourists and data analysis, they found that the main factors affecting the willingness to re-visit include risk aversion, emotional attachment, social needs, etc. Most scholars have recognized the correlation between satisfaction and willingness to revisit in the research on factors affecting willingness to revisit. Nieder, Parmelee, Stolfi, and Hudes (2005) believed that satisfaction has a significant impact on tourists' willingness to visit again. Some scholars also believed that the influence on tourists' willingness to re-visit was more based on other factors. For example, Davidson (2011) believed that the perceived attractiveness of a tourist destination has a greater impact on the willingness to re-visit than the overall satisfaction.

Wang and Zhen (2010) mentioned in his article that tourists' willingness to revisit refers to the fact that tourists have visited a certain tourist destination once or many times and hope to visit it again. Therefore, he thought that tourists' willingness to re-visit was not behavioral loyalty, but a kind of intention loyalty, which was also the attitude and emotional tendency of tourists towards the tourist destination. Lv's (2015) research on Nanxun Ancient Town and other empirical studies on Xi'an Qujiang Tang Cultural Theme Scenic Spots proved that there was a positive correlation between destination image and willingness to revisit. Some domestic scholars believe that revisiting intention is the willingness of tourists to go to a tourist spot again; Other scholars believe that revisiting intention should include revisiting and recommendation. In summary, this article defines revisiting intentions as the idea and likelihood that tourists want to visit a destination again and recommend to others after the experience of visiting it.

Previous Research

Assaker (2011) studied the effects of novelty seeking, tourist destination image, and overall satisfaction on the willingness to revisit. In this study, the willingness to revisit was divided into four periods, namely, one year, three years, five years, and ten years. The results suggest that novelty seeking and low satisfaction moderate travellers' willingness to revisit in the near future. On the contrary, a positive image of the destination strengthens the intention to revisit in the near and long term.

Wu and Ma (2011) studied the relationship between tourists' perception, tourism destination image, and satisfaction, and found that tourists' satisfaction came from the comparison of tourists' feelings about tourism destinations before and after travel**.** Through the comparison, whether they were satisfied with the image of tourism destinations was obtained, and it was also proved that a good image of tourism destinations would have a positive impact on tourists' satisfaction**.**

Li (2017) studied the impact of destination familiarity on tourist destination image. The article pointed out that destination image is an impression of tourists based on their own knowledge background, emotion, and overall perception of the destination, which will affect tourists' behavioural decision-making at different stages of tourism, so as to form the value perception of the tourist destination. Tourists' perception of a good tourist destination image will affect whether tourists will choose to travel there again.

Through the classification, collation, and analysis of relevant literature, this study found that the researches on tourist destination image and tourist willingness to revisit have been continuously improved. Most scholars study the influencing factors of tourist destination image, willingness to revisit from different perspectives, and constantly create various relationship models for verification. However, there are more theoretical studies on the relationship between them, and less empirical analysis. Therefore, starting from the image of tourist destination, this paper studies the variables affecting tourists' willingness to revisit and establishes the influence mechanism model of this study based on the existing mature models and the difference of destination resources to explore the influence of destination image of Nanning Garden Expo on tourist willingness to revisit**.**

Research Framework

According to the existing research models, this study takes the image of tourist destinations as the key point of the research, and finally forms the research model of this study and applies it to the empirical research of the destination image of Nanning Garden Expo.

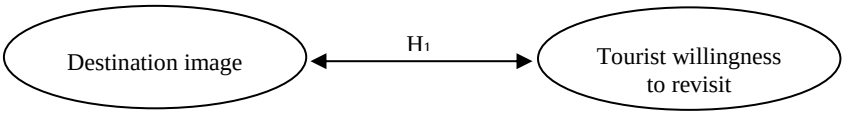

Figure 1. Research framework.

Hypotheses

Based on the correlation analysis of the variables presented in the previous section, a regression analysis was conducted to explore the causal relationship between the variables. There is one hypothesis to be tested in this study, which is to examine the influence of destination image on tourist willingness to revisit. In this hypothesis, destination image is the independent variable, and tourist willingness to revisit is the dependent variable. This study proposes the hypothesis as follows:

H_1: Destination image has a positive impact on tourist willingness to revisit.

Research Methodology

Population and Samples

In this case, the target population was domestic tourists who had visited Nanning Garden Expo, that was unknown population. And the sampling method for calculating the sample size was Cochran's 1997 sample size method. For the unknown population, the value of *z* was 1.96 according to *z*-score of 95% confidence level putting in the formula which got the result of 385 sampling size.

Data Collection Instruments

In this paper, the data collected through the questionnaire were quantitative data, and the data were imported into statistical software for analysis. The frequency and percentage analysis was done for the demographic information variables in the first part of the questionnaire, followed by the mean and standard deviation analysis for the variables of destination image and tourist satisfaction in the second part. The Cronbach's Alpha reliability test was used to determine the reliability of the data. The validity test was carried out using factor analysis. Finally, it was decided to test the hypothesis through an inferential statistic.

Data Analysis and Interpretation

The purpose of this study was to examine the impact of the destination image of Nanning Garden Expo on tourist willingness to revisit. This study was a quantitative survey of tourists who had visited Nanning Garden Expo (n = 385). Descriptive statistics, correlation coefficients, and regression were used for analysis. First, descriptive statistical analysis was carried out on the obtained questionnaire data to understand the frequency of the sample data. Second, mean and standard deviation analyses were done for variables of destination image and tourist satisfaction. In addition, this paper analyzed whether there was a linear relationship between the independent variable (destination image) and the dependent variable (tourist willingness to revisit) by analyzing correlation coefficients. Finally, this paper used linear regression and proposed one hypothesis about whether destination image had a positive impact on tourist willingness to revisit.

Research Results

Study Results of Descriptive Statistics

First, the results showed that the majority of tourists coming to Nanning Garden Expo were female, that is 235 out of the 385 respondents were female (61.04%) and 150 were men (38.96%). 240 respondents were in the

age group between 30-49 years old, accounting for 62.34% of the total respondents, as the overall style of the Nanning Garden Expo was also more attractive to this age group for leisure and recreational activities. There were 203 respondents with a bachelor's degree, amounting for 52.73%. In terms of occupation, a largest number of respondents were freelancers (89), accounting for 23.12% of the total and the vast majority of the respondents have visited Nanning Garden Expo only one time over the past three years.

Secondly, the average mean of destination image was 3.212 and the average mean of tourist willingness to revisit was 3.248. As can be seen from the data, average mean values of two dimensions were lower than 3.40, so we can infer that the vast majority of visitors had an average overall experience of the Nanning Garden Expo. The details will be in Tables 1 and 2.

Table 1

Descriptive Statistics of Destination Image

Variable	Mean	S.D.	Interpretation
1. The air quality in Nanning Garden Expo is very good.	3.818	1.174	Agree
2. The plant landscape is very beautiful in Nanning Garden Expo.	2.823	1.152	Neutral
3. Nanning Garden Expo has a good landscape architecture.	3.291	0.728	Neutral
4. The theme of each exhibition park is distinctive.	3.275	0.751	Neutral
5. There are excellent public infrastructures in Nanning Garden Expo.	3.174	0.752	Neutral
6. It is very convenient to get to Nanning Garden Expo.	3.366	1.258	Neutral
7. The inside traffic of Nanning Garden Expo is very smooth.	3.426	1.250	Agree
8. Public security management in Nanning Garden Expo is good.	2.691	1.155	Neutral
9. Tourist consultation and reception services in Nanning Garden Expo are very good.	3.104	0.774	Neutral
10. Cultural festival activities are rich and colorful in Nanning Garden Expo.	3.151	0.759	Neutral
Average of the image destination	3.212	0.829	Neutral

As shown in Table 1, except for the average values of air quality and smoothness of transportation in Nanning Garden Expo, the average values of the other items are neutral, indicating that the overall experience of visitors to Nanning Garden Expo is average. The average values of plant landscape, landscape architecture, and the theme of each exhibition park are 2.823, 3.291, and 3.275 respectively, which indicates that the Nanning Garden Expo should make more efforts in the construction of the landscape environment.

Item 5 is about the public infrastructure in the Park, and the mean value of this item is 3.174, indicating that as a large park, there is still room for improvement in the demand for public facilities in the Nanning Garden Expo.

Items 6 and 7 are about the public traffic in Nanning Garden Expo, and the means of this two items are 3.366 and 3.426 respectively. Most tourists live far away from the park in the urban area, and they have to drive far away and take a long time, while those who take public transportation need to turn around and take a longer time, so the external traffic has not reached the satisfactory level.

Items 8, 9, and 10 are about the service management of Nanning Garden Expo, and the average values of the three items are 2.691, 3.104, and 3.151 respectively, of which the mean value of item 8 is the lowest, which indicates that the Nanning Garden Expo cannot give visitors enough security, and as for the cultural festival activities of Nanning Garden Expo in item 10, because the activities are only held in specific periods, some visitors said that their feelings about them are also shallow, so there is much room for improvement.

According to the Table 2, there are no anomalies in the current data, so the analysis can be described directly against the average. The average value of these three items is 3.248, and according to the total mean of each variable, tourists are interested in going to Nanning Garden Expo next time, but they have no intention of visiting the Nanning Garden Expo more often in the future and the willingness to recommend it to relatives and friends is average.

Table 2

Descriptive Statistics of Tourist Willingness to Revisit

Variable	Mean	S.D.	Interpretation
11. I am interested in going to Nanning Garden Expo next time.	3.449	1.215	Agree
12. I will visit the Nanning Garden Expo more often.	3.153	1.348	Neutral
13. I would like to recommend friends and family to visit Nanning Garden Expo.	3.143	0.783	Neutral
Average of willingness to revisit	3.248	1.044	Neutral

Study Results of Inferential Statistics

The value of regression coefficient of destination image is 0.784 (t = 36.499, p = 0.000 < 0.01), which means that destination image will have a significant positive impact on tourist satisfaction. The details will be in Tables 3 and 4.

Table 3

Pearson Related to the Destination Image and Tourist Willingness to Revisit—Standard Format

		Destination image	Tourist willingness to revisit
Destination image	Correlation coefficient	1	
	p-value	0.000	
Tourist willingness to revisit	Correlation coefficient	0.861**	1
	p-value	0.000	0.000

* p < 0.05; ** p < 0.01.

Based on the above correlation analysis, the correlation coefficients among destination image and tourist willingness to revisit are obtained. The above table shows that the correlation between destination image and tourist willingness to revisit was investigated by using the correlation analysis.

The correlation coefficient between destination image and willingness to revisit is 0.861 and is significant at the 0.01 level, thus indicating a positive relationship between destination image and willingness to revisit.

Table 4

Linear Regression Analysis of Destination Image and Tourist Willingness to Revisit (n = 385)

	B	S.D	Beta	*t*	*p*	VIF
Constants	-0.235	0.109	-	-2.159	0.031*	-
Destination image	1.084	0.033	0.861	33.075	0.000**	1.000
R^2	0.741					
Adjustment R^2	0.740					
F	$F(1, 383) = 1093.930$, $p = 0.000$					
D-W values	2.191					

Note. Dependent variable: tourist willingness to revisit; D-W: 2.191; * p < 0.05; ** p < 0.01.

As can be seen from Table 4, the linear regression analysis was conducted with destination image as the independent variable and tourist willingness to revisit as the dependent variable, and as can be seen from Table 4 above, the model formula is: willingness to revisit= -0.235 + 1.084 ×destination image, and the model *R*-squared value is 0.741, which means that the destination image explains the reason for 74.1% of the change in willingness to revisit. The *F*-test of the model found that the model passed the *F*-test ($F = 1093.930$, $p = 0.000 < 0.05$), which means that the destination image must have an impact relationship on the tourist willingness to revisit, and the final specific analysis can be seen: the value of regression coefficient of destination image is 1.084 ($t = 33.075$, $p = 0.000 < 0.01$), which means that destination image will have a significant positive influence on the tourist willingness to revisit. To summarize the analysis, it can be seen that all items of the destination image will have a significant positive influence on the tourist willingness to revisit.

Conclusion and Suggestions

Conclusion

The research objective of this study aims to examine the impact of the destination image of Nanning Garden Expo on tourist willingness to revisit. The respondents are tourists who have travelled to Nanning Garden Expo. The research tool is questionnaire. The online questionnaires are collected by using the questionnaire star in the form of single-choice questions and Likert scale questionnaires. The statistics used in the data analysis are descriptive statistics including frequency distribution, percentage, mean, standard deviation, and inferential statistic for testing hypothesis. The researcher will apply multiple regression analysis models to examine which independent variables have strong or weak relationships with dependent variables.

The value of regression coefficient of destination image is 1.084 ($t = 33.075$, $p = 0.000 < 0.01$), which means that destination image will have a significant positive influence on tourist willingness to revisit. To conclude the results of study, it can be seen that destination image will have a significant positive impact on tourist willingness to revisit. This result is consistent with Wang and Zhen (2010), who mentioned in his article that tourists' willingness to revisit refers to the fact that tourists have visited a certain tourist destination once or many times and hope to visit it again. Therefore, he thought that tourist willingness to re-visit was not behavioral loyalty, but a kind of intention loyalty, which was also the attitude and emotional tendency of tourists towards the tourist destination. Lv's (2015) research on Nanxun Ancient Town and other empirical studies on Xi'an Qujiang Tang Cultural Theme Scenic Spots proved that there was a positive correlation between destination image and willingness to revisit.

Recommendations

Strengthen the construction of landscape environment of Nanning Garden Expo. This study shows that the average values of plant landscape, landscape architecture, and the theme of each exhibition park are 2.823, 3.291, and 3.271 respectively, which indicates that the image of landscape environment of Nanning Garden Expo is not recognized by the public, and the garden managers should increase the investment in this area, especially strengthen the construction of plant landscapes to enhance visitor satisfaction.

Further improve the public infrastructure of Nanning Garden Expo. Park managers can pay more attention to two elements of recreational and interactive facilities and food and beverage facilities in the park and improve them from the perspective of visitors' needs. First of all, for the entertainment and interactive facilities, some studies have shown that the emotional interaction between parents and children and the cultivation of

children's knowledge have a greater impact on their recreational satisfaction (Yang & Wu, 2015), while the existing recreational environment is difficult to provide rich interactive conditions for parents and children, and needs to be optimized and upgraded. The park can consider adding some temporary recreational facilities or organizing relevant fun activities to meet the needs of visitors, especially for parents and children traveling tourists, as far as possible to meet the child's curiosity and the need to play, and large children's facilities next to the appropriate addition of interactive accompanied by the place to enhance the spatial closeness between the child and the parent; Secondly, the park managers should also expand the coverage of food and beverage shopping, during the peak period of tourists' travel, mobile stalls can be set up to meet the catering needs of tourists in various landscape areas, and during the off-season, the number of vending machines can be considered to increase, so as to facilitate tourists' purchase of snacks, drinking water, etc., and at the same time, the labor cost can also be reduced.

Enhance the transportation convenience outside the Nanning Garden Expo. First of all, the park can cooperate with the relevant government departments to improve the bus lines that can reach the Nanning Garden Expo, effectively covering the main administrative districts, reducing the frequency of special lines on weekdays, and increasing the frequency of buses according to the passenger flow appropriately on weekends, holidays, and during the holding of thematic activities to attract young people to participate in the Nanning Garden Expo, so as to flexibly satisfy and facilitate the travel needs of the people. Secondly, in the context of the rapid development of the sharing concept, shared bicycles, shared trams, and shared cars are more convenient transportation facilities, and parking spots for shared cars or electric cars can be added near the park to facilitate college students to drive shared transportation to the park.

Further perfect service management of Nanning Garden Expo. Items 8, 9, and 10 of destination image are about the service management of Nanning Garden Expo, and the average values of the two items are 2.691 and 3.104 respectively, of which the mean value of item 8 is the lowest, which indicates that the Nanning Garden Expo cannot give visitors enough security, the author suggests that the park managers should strengthen the supervision and maintenance of the park facilities, once there is damage to the facilities, make timely repairs to ensure the safety of tourists, and strengthen the maintenance and management of plants in July and other hot weather, and deploy more staff at the entrances and exits to strengthen the guidance of parking and entry to the park during the festivals and activities when there is a large flow of tourists. Referring to the other aspects of service management, the park can provide appropriate preference care, flexible project management, expand the mode of popularization of science and theme cultural activities according to the difference in the time dimension, and make innovations and improvements, adjust flexibly according to the different needs of tourists in each period, and create a more distinctive and comfortable open space. Park managers should make full use of the existing advantages and features of Nanning Garden Expo to call on like-minded people to participate in these activities, increasing visitors' sense of community and sense of belonging to the park, thereby effectively enhancing satisfaction.

References

Assaker, G. (2011). Examining the effect of novelty seeking, satisfaction, and destination image on tourists' return pattern*:* A two factors, non-linear latent growth model. *Tourism Management, 32*(4), 1-12.

Bao, G. M. (2008). Study on the influence of tourism destination image on tourists' post-purchase behavior*:* Based on the perspective of tourists to Hangzhou, Japan and South Korea. *Tourism Tribune, 10*(2), 40-46.

Bian, X. H. (2005). Research on the correlation between tourism destination image, quality, satisfaction and post-purchase behavior. *East China Economic Management, 1*(1), 84-88.

Chen, C. C., & Lai, Y. H. (2016). Tourism between divided nations*:* An examination of stereotyping on destination image. *Tourism Management, 55*(2), 25-36.

Choy, D. J. L. (2008). Examining the structural relationships of destination image, tourist satisfaction and destination loyalty*:* An integrated approach. *Tourism Management, 29*(4), 624-636.

Davidson, L. K. (2011). A 3-year experience implementing blended TBL: Active instructional methods can shift student attitudes to learning. *Med Teach, 33*(1), 750-753.

Deng, M. Y. (2004). Discussion on the positioning of tourism image of Emei Mountain. *Journal of Southwest University for Nationalities* (*Humanities and Social Sciences Edition*), *26*(4), 177-179.

Erickson, B. (1989). A repertory grid analysis of Austria's image as a summer vacation destination. *Journal of Travel Research, 28*(3), 3-23.

Gitelson, R. J., & Crompton, J. L. (2007). Destination image representation on the web*:* Content analysis of Macau travel related websites. *Tourism Management, 28*(1), 118-129.

Gyte, P. (1989). *Tourism and recreational development*. Copenhagen: Architectural Press.

Hunt, J. D. (1971). *Image: A factor in tourism*. Upper Saddle River, N.J.: Prentice Hall.

Jacob, G. B., & Mounir, G. R. (1980). Measuring leisure satisfaction. *Journal of Leisure Research, 12*(1), 20-33.

Li, D., Wang, Y. Q., & You, Y. N. (2022). Tourism involvement, destination image and revisiting intention*:* A moderated mediating role model. *Journal of Central China Normal University* (*Natural Science Edition*), *68*(22), 1-22. Retrieved frm http://kns.cnki.net/kcms/detail/42.1178.n.20210915.0945.002.html

Li, J. L. (2017). Study on the impact of destination familiarity on tourist destination image. Doctoral dissertation, Shaanxi Normal University, 2017.

Li, Y. N. (2020). Investigation and analysis of garden plant diversity in Nanning International Garden Expo. Doctoral dissertation, Guangxi University, 2020.

Liao, W. H. (2005). Image composition and measurement method of tourist place. *Jiangsu Business Review, 22*(1), 140-144.

Lv, L. H. (2015). Research on the influence of tourist image on tourists' post-purchase behavior*:* A case study of Nanxun Ancient Town. *Social Science Front, 12*, 5.

Nieder, G. P., Parmelee, D. X., Stolfi, A., & Hudes, P. D. (2005). Team-based learning in a medical gross anatomy and embryology course. *Clin Anat, 18*(1), 56-63.

Paul C. F. (2002). Destination image analysis—A review of 142 papers from 1973 to2000. *Tourism Management, 23*, 541-549.

Tasci, A. D., Gartner, W. C., & Cavusgil, S. T. (2007). Conceptualization and operationalization of destination image. *Journal of Hospitality & Tourism Research, 31*(2), 194-223.

Wang, X., & Zhen, F. (2010). Drivers of residents' satisfaction in tourism development*:* A case study of Yangshuo County, Guangxi. *Geographical Research, 29*(5), 841-851.

Wilson, D. (2013). The influence of leisure involvement and place attachment on destinationloyalty*:* Evidence from recreationists walking their dogs in urban parks*. Journal of Environmental Psychology, 33*(3), 76-85.

Wu, J., & Ma, Y. F. (2011). The relationship between tourist perception and destination image, satisfaction and loyalty*:* A case study of Xi'an. *Tourism Forum, 4*(4), 43-47.

Yang, W. W., & Wu, E. (2015). Study on the influencing factors of parent-child families' satisfaction with urban park recreational opportunities—Beijing Olympic Forest Park as an example. *Human Geography, 30*(1), 154-160.

Management Studies, Nov.-Dec. 2023, Vol. 11, No. 6, 350-359
doi: 10.17265/2328-2185/2023.06.006

Factors Which Are Connected With Deviated Behaviors of High School Students

Bashkim Rakaj
International University of Novi Pazar, Novi Pazar, Serbia

The school is an educational institution, where students are educated and learn under the guidance of teachers, but in some cases, students do not respect the rules set by the school. In many cases, students, while being in the school, during or out of the learning process, cause trouble, presenting behaviors that are contrary to the rules of the school, but also of the society in general. Students, trying to be as active as possible, present deviant behavior, not fulfilling the obligations presented by teachers, hindering the learning process, harassing others, and engaging in other behaviors, which are detrimental to the individual, the school, and society as a whole. The school should play a key role in creating a suitable and educational environment for students, in order to create valuable generations for the country. There are a number of internal and external factors that influence the behavior of individuals. In many cases, family factors and demographic factors in general play an important role in student behavior in the classroom. Parental education, employment, housing, and many other factors influence student behavior. The study of this problem aims to clarify the correlation of factors with deviant behaviors of students in the classroom. The focus of the study is on high school students. From the empirical results, it was found that there is a correlation between student residence and deviant behavior, student school level and deviant behavior, family structure and student behavior in the classroom.

Keywords: deviant, factor, classroom, student, behavior

Literature Examination

Deviate Behaviors of Students

The process of forming consistence human behaviors, which are harmonized with the requirements and norms of the social environment, is complex and difficult. During this process, not everyone is able to form regular behaviors. Some students form persistent negative behaviors, which conflict with their circle.

In some cases, students, by their own behavior, violate social norms and conflict with the school environment and the social circle. Such students, in some cases, are part of a group that causes violence against others, consume alcohol, tobacco, and drugs, and do not respect school rules, not fulfilling their obligations to learning, they have inappropriate behavior towards friends and in some cases to their teachers.

Definitions for deviation. There are definitions of deviation from many authors, but we will try to present only some of the definitions of these authors.

Bashkim Rakaj, PhD candidate, International University of Novi Pazar, Novi Pazar, Serbia; master of Social Policy Analysis, University of Tirana, Tirana-Albania.
Correspondence concerning this article should be addressed to Bashkim Rakaj, Center for social work, Prizren, Kosovo.

According to Durkheim, deviance is an inevitable and normal aspect of social life. As one of the leading representatives of structural functionalism, he sees deviant behavior as "an integral element in any healthy society" (Durkheim, 1982, p. 98).

Deviation is a natural component of social activity that "makes people more aware of common interests" (Erikson, 1966, pp. 3-4). Although deviance is a daily element of social life, the definitions of which phenomenon is deviant are various.

Given the diverse and variable nature of deviance, it is understandable the reason for its many definitions, both by sociologists and researchers in other fields. Although, not all researchers use the same terminology, in the field of sociology, in general, there are two major perspectives on the definition of deviation: the normative perspective and the relativistic or situational perspective. Thus e.g. Clinard and Meier (2007, pp. 4-8) differentiate between the "normative" and the "reactive" or "relative" definition.

The first definition assumed by these two researchers is directly related to social norms and rules, the violation of which causes deviation, while the second definition does not pay attention to the normative system but emphasizes the importance of social reactions to different behaviors, reactions which classify and label behaviors as conformist or deviant, making them distinct from each other.

Jensen (2011, p. 12) identifies two main directions regarding the definition of deviation: (1) Deviation as a norm-violation behavior and (2) Deviation as a reaction construct.

According to the normative perspective, deviation is any thought, feeling, or action that members of a social group judge as something that has violated the norms or rules of this group (Douglas & Waksler, 1982, p. 10).

It has long been pointed out that deviation has its roots in norms, classified as traditions, customs, and laws, which determine what is right or wrong in a given society (Sumner, 1907, p. 521).

Norms are defined as "statements made by a number of members of a group and not necessarily by all members of the group, which point out that group members must behave in a certain way in a given situation" (Homans, 1961, p. 46), and as "standards and rules that point out what human beings should and should not think, say, or do in a given situation" (Blake & Davis, 1964, p. 456; Pfuhl & Henry, 1993, pp. 8-12).

From a relativistic point of view, deviation is not simply a violation of norms, but a consequence of a social reaction. Thus, what is deviant in one situation and at a given time is not deviant in one situation and at another time. Both norms and deviations result from social interaction; they are socially formed on the basis of negotiation or consensus (Pfuhl & Henry, 1993, pp. 8-12).

Inappropriate behavior. There are many behaviors, which can be the result of actions under the influence of various factors, and which have a negative impact on their relationships with other students and other participants in the learning process. In the context of these behaviors, we considered that they could include: quarreling with others, taking other people's things, not doing homework, not doing class assignments, insulting students and teachers, quarreling with teachers, running away from lessons, etc.

- Students' quarrels at school can be caused by the individual, or even by a group of students, who, trying to imitate the behavior of "gangsters" in movies, behave as such, and quarrel with others who "get in their way".
- Taking things from others is inappropriate behavior, which over time can cause students to become delinquent and perpetrators of various criminal offenses.
- Students who do not complete homework and those in the classroom, mostly have poor learning results, do not have the right attitude with others, and are not interested in learning.

- Students who use insults against other students and teachers may be students who consume alcohol, drugs, but may be students who do not use any of these, but who behave rudely towards others for other reasons, including but not excluding parental divorce, domestic violence.
- Leaving classes can be caused by many problems, ranging from alcohol and drugs, including failure to complete tasks, but there can be many other causes, which can be unknown.

Factors related to student behavior. There are many factors which can be determined, but there are also factors that are difficult to determine and which have an impact on student behavior. The focus of factor impact testing has been mainly on family and personal circumstances, without directly linking it to social factors in school and the environment.

- Gender is an important factor, as in many studies, men are more likely to engage in inappropriate behavior.
- Employment and education of parents, in many cases, play an important role in students' behavior in the classroom.
- The school level, lower and upper secondary school, is related to the age of students. Mostly high school students show more inappropriate behavior.
- Family structure is very important. In families where both parents and children live, and there is no major disagreement, the chances are high that students will behave appropriately, while in families where children live with one parent, the chances are higher that children will behave inappropriately.

Methodology and Methods

The Objective of the Study

The objective of the study of this topic is to find the factors that influence the deviant behaviors of high school students.

Research Questions and Hypotheses

Research questions:

- Is there a correlation between gender and deviant student behavior?
- Is there a connection between the place of residence and the behavior of the students?
- Is there a connection between the level of the school where they learn and the deviant behavior of students?
- What is the relationship with the family structure and deviant behavior of students?

Research hypotheses:

- Male students tend to behave more inappropriately than girls.
- There is a statistically significant relationship between residence and students' behavior in the classroom.
- High school students have more inappropriate behavior than primary school students.
- There are statistically significant correlations between family structure and students' behavior in the classroom.

Representative Group

The representative group consists of 258 students, where, 117 are male, 141 are female, 151 are lower secondary school students, 107 are high school students, 112 are rural students, and 146 live in the city. In terms of living with parents, 245 students live with both parents, 11 live with their mother, and two live with their father.

Research Instrument

The research instrument is an instrument modified and adapted to the needs of the study and consists of two parts. In the first part, the demographic data of the students are presented, while in the second part, 12 questions of the Likert scale are presented, which are related to the deviant behaviors of the students in the class, etc.

Reliability of the Research Instrument

The overall Cronbach's Alpha coefficient of measurement reliability is 8.22, which is high value and indicates that the meter is very reliable. Based on the reliability result obtained from the Cronbach's Alpha, it can be concluded that the reliability of the instrument is high.

Table 1

Reliability Statistics of Alpha Cronbach's model

Cronbach's alpha	Cronbach's alpha based on standardized items	*N* of items
0.822	0.828	12

Methods of Statistical Data Analysis

The data were analyzed through the statistical package for social sciences (SPSS). To test the internal consistency of the instrument, Alpha Cronbach was used, taking the value above 0.7 as a value that proves whether or not the questionnaire has internal consistency as well as the parallel model.

To compare deviant behaviors, female and male students used the *t*-test. The Mann-Whitney *U* test was used to compare students' behavior based on school level (lower secondary, upper secondary) and their place of residence.

The Kruskal-Wallis test was used to test the hypothesis: The relationship between family structure and student behavior.

Results

In the framework of this chapter, the frequency results will be treated, where through the percentage, these data will be presented. Also, through statistical tests, the data of the results related to the research hypotheses are presented.

Frequency Results

Based on the results, regarding the deviant behaviors of students in the classroom, it turns out that 0.8% of students always take things that are not theirs, 1.5% of them have taken things several times, 14.3% their own, have taken the things of others sometimes, and 83.4% of the participating students have never taken the things of others.

In the case: You are careless with school books/items, 1.2% of students have expressed that they are always careless, 1.2% of them have expressed that they are often careless, 3.1% have shown that several times they have been careless, 23.9% of the students have shown that they have sometimes been careless, and 70.3% of the participating students have shown that they have never been careless with school books/items.

The results show that 0.4% of students always quarrel with others, 2.7% of them sometimes are busy with other students, 27.4% of them have shown that sometimes they are busy with other students, and 69.5% of students have indicated that they have never been involved with other students.

From the results it was found that 1.2% of the participating students always use heavy or inappropriate words, 0.4% of them often use heavy words, 1.5% of them have admitted that they have used words several times severe or inappropriate, 12.7% of students have several times used heavy words or inappropriate language, while 84.2% of them have never used nasty words or inappropriate language.

The results show that 0.4% of students always go to school without doing homework, 1.5% of them often go to class without homework, 4.2% several times have gone homeless, 40.9% have sometimes gone to school without homework, while 52.9% of students have never gone to school without doing homework.

The results showed that 1.5% of students do not always do the tasks assigned by the teacher in the classroom, 0.4% of students often do this, 2.3% of students have done so several times action, 19.1% of students have never completed class assignments, while 76.1% of students have never been left without completing the assignments assigned to them by the classroom teacher.

The results showed that 1.2% of students always play with others when the teacher explains the lesson, 1.9% of them often do this action, 0.8%, several times they have done this action, 15.4% of the students, have sometimes played with others, while 80.7% of students have never played with others while the teacher has been explaining the lesson.

The results showed that 0.4% of students always get in trouble with the teacher, 0.4% often get in trouble, 1.5% sometimes get in trouble with the teacher, and 93.8% of the students have never been in trouble with the teacher.

The results showed that 0.8% of students go to class late, 3.9% sometimes go late to school, 28.2% of students often go late to school, while 67.2% of students never go to school late.

The results showed that 0.4% of students are absent from illegal teaching, 1.9% of them are sometimes absent from illegal teaching, 18.9% of them are sometimes absent without permission, while 78.8% of students have never been absent from school without permission.

The results showed that 0.8% of students always speak at a time when another student is speaking, 0.8% of

Table 2

Frequency Results

Questions	Almost always	Frequently	Several times	Sometimes	Never
	%	%	%	%	%
Takes things in the classroom that do not belong to you (which are not yours)	0.8	0	1.5	14.3	83.4
He/she is careless with school books/items	1.2	1.2	3.1	23.9	70.3
He/she quarrels with classmates/students	0.4	0	2.7	27.4	69.5
Uses harsh words or speaks inappropriate language in the classroom	1.2	0.4	1.5	12.7	84.2
Goes to classroom without homework	0.4	1.5	4.2	40.9	52.9
He/she does not do his/her homework to be assigned by the teacher in the classroom	1.5	0.4	2.3	19.7	76.1
Plays with others at the time the teacher explains the lesson	1.2	1.9	0.8	15.4	80.7
You quarrel with the teacher	0.4	0.4	1.5	3.9	93.8
Enters in the classroom late	0.8	0	3.9	28.2	67.2
Absent from lessons without permission	0.4	0	1.9	18.9	78.8
He/she speaks while another student is speaking	0.8	0.8	4.6	31.3	62.5
Uses mobile phone or i-Pod, MP3, etc., at the time when the class is taught	0.8	0.4	2.7	6.9	89.2
Overall results	0.80%	0.60%	2.6%	20.3%	75.7%

Hypothesis Results

Hypothesis 1:

- Alternative hypothesis (HA): Male students tend to behave more inappropriately than girls.
- Zero hypothesis (H0): There is no gender difference in behavior based on gender.

Empirical results showed that the mean score for male students was $M = 55.46$, while the standard deviation was DS = 5.12, the mean score for female students was $M = 57.13$, the standard deviation was DS = 3.213.

The results of the basic *T*-test assumption, Levene's test for variance homogeneity, showed that $F = 10.588$, while $p = 0.01 < 0.05$, so we can say that variances are not homogeneous.

Regarding deviant behaviors, in female and male students, for equal variances assumed, $p = 0.03 < 0.05$, while for equal variances not assumed, $p = 0.04 < 0.05$. Both values for both assumed equal variances and not equal assumed variances are less than 0.05, within the 95% confidence interval. This result shows that male students have more inappropriate behaviors than female students.

Table 3

Group Statistics

Group statistics					
	Sex	*N*	Mean	Std. deviation	Std. error mean
Deviation	Male	117	55.46	5.120	0.473
	Female	141	57.13	3.213	0.271

Table 4

T-Test for Hypothesis Testing

Independent samples test									
Deviant behavior	Levene's test for equality of variances		*T*-test for equality of means						
	F	Sig.	*t*	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
								Lower	Upper
Equal variances assumed	10.588	0.001	-3.182	256	0.002	-1.666	.524	-2.697	-0.635
Equal variances not assumed			-3.056	187.614	0.003	-1.666	.545	-2.742	-0.590

Hypothesis 2:

- Alternative Hypothesis (HA): There are statistically significant correlations between student residence and classroom behavior.
- Zero Hypothesis (H0): There is no correlation between student residence and classroom behavior.

To test this hypothesis, the nonparametric test, Mann-Whitney *U*, was used. The results showed that the average of the village students, $M = 112$, while for students living in the city, $M = 146$, $U = 6277.5$, $Z = -3.228$, $p = 0.001 < 0.05$. The results showed that there are statistically significant differences between student residence and deviant behavior in the classroom.

Table 5

Ranks Group

Ranks				
	Residence	*N*	Mean rank	Sum of ranks
Deviant behaviour	Village	112	112.55	12,605.50
	Town	146	142.50	20,805.50
	Total	258		

Table 6

Mann-Whitney U Test

Test statistics[a]	
	Deviant behavior
Mann-Whitney *U*	6,277.500
Wilcoxon *W*	12,605.500
Z	-3.228
Asymp. Sig. (2-tailed)	0.001

[a] Grouping variable: residence.

Hypothesis 3:

- Alternative Hypothesis (HA): High school students behave more inappropriately than lower secondary school students.
- Zero Hypothesis (H0): There are no differences between school level and student behavior.

The test for the behavior of primary school students and high school students was done through the nonparametric test Mann-Whitney *U*. The average score of 6-9 grade students, $M = 149.28$, while for grade students 10-12, $M = 101.58$, $U = 5091$, $Z = -5.111$, $p = 0.000 < 0.05$. The results showed that there are statistically significant differences between students in grades 6-9 and those in grades 10-12 in terms of classroom behavior. From the average results, it is noticed that students in grades 10-12 have more inappropriate behavior than students in grades 6-9.

Table 7

Ranks

Ranks				
	Class	*N*	Mean rank	Sum of ranks
Behavior	6-9	151	149.28	2,2542.00
	10-12	107	101.58	10,869.00
	Total	258		

Table 8

Mann-Whitney U Test

Test statistics[a]	
	Deviant behavior
Mann-Whitney *U*	5,091.000
Wilcoxon *W*	10,869.000
Z	-5.111
Asymp. Sig. (2-tailed)	0.000

[a] Grouping variable: class.

Hypothesis: 4

- Alternative Hypothesis (HA): There are statistically significant correlations between family structure and student behavior in the classroom.
- Zero Hypothesis (H0): There is no correlation between family structure and student behavior in the classroom.

Data on study variables that determine the factors associated with deviant behavior of high school students were tested for their normal distribution through the Kolmogorov-Smirnov test. The normality test for deviant

behavior, as seen in Figure 1 shows that M = 56.37, while DS = 4.26, absolute value 0.198, positive 0.197, negative -0.198, statistical test 3.182, while p = 0.000 < 0.05.This result explains abnormal distribution as the values of this test for normal distribution should have been in the value $p > 0.05$.

Testing the correlation of students' deviant behavior in the classroom with factors was done through the Kruskal Wallis Test.

As per the relationship between living with both parents and the behavior of students in the classroom, χ^2 = 6.424, while p = 0.040 < 0.05.

From these results we can conclude that there is a statistically significant relationship between family structure and student behavior in the classroom. Based on the results averages, it is more appropriate for students who live alone with their mother, M = 75.41, then those who live alone with their father, M = 105.25, while the average, most appropriate behavior is for students who live with both parents, M = 132.13.

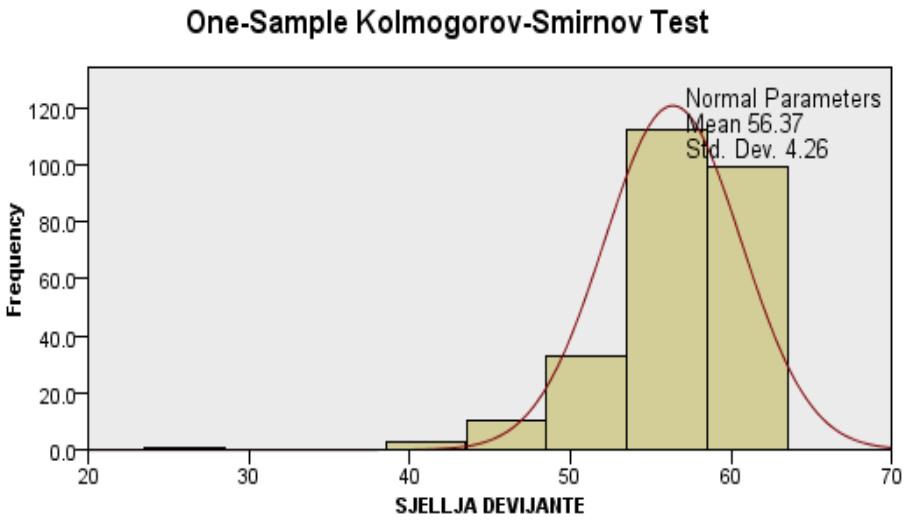

Figure 1. One-sample test Kolmogorov-Smirnov Test.

Table 9

One-Sample Test Kolmogorov-Smirnov Test

Total		258
Most Extreme Differences	Absolute	0.198
	Positive	0.197
	Negative	-0.198
Test Statistic		3.182
Asymptotic Sig. (2-sided test)		0.000

Table 10

Ranks

Ranks			
	Do you live with both parents?	*N*	Mean rank
Deviant behavior	Yes, I live with both parents	245	132.13
	I live alone with my mother	11	75.41
	I live alone with my father	2	105.25
	Total	258	

Table 11

Kruskal Wallis Test

Test statistics[a,b]	
	Deviant behavior
Chi-square	6.424
df	2
Asymp. Sig.	0.040

[a] Kruskal Wallis Test.

[b] Grouping variable: Do you live with both parents?

Conclusions

From the empirical results, some conclusions have been drawn.

Conclusions Regarding Empirical Results

According to empirical results, about 75.7% of high school students never engage in deviant behavior, while only 0.8% of them behave almost always deviantly. From these results we can conclude that only a small number of students have inappropriate behavior almost constantly.

Conclusions Regarding the First Hypothesis

Based on empirical results, it was found that the average score for high school women is higher than that of men, $p < 0.05$. From these results it was found that females behaved more appropriately than males of their age. In a study conducted by Borg and Falzon (1989), it was found that boys are more involved in deviant behavior than girls.

Conclusions Regarding the Second Hypothesis

Based on empirical research, it was found that students living in the village have a lower average than students living in the city, while $p < 0.05$. From this result it can be concluded that students living in the city, have more appropriate behavior than students living in the countryside. The exact reasons cannot be found, however, one of the reasons may be that high school students were also involved in the research. As it is well known, these schools are mainly concentrated in cities, so students traveling from the countryside, in many cases, fail to adapt to the new environment, and behave more inappropriately.

Conclusions Regarding the Third Hypothesis

Differences in the behavior of students in grades 6-9 and 10-12, also mean the age differences of these students. Based on empirical results, the average score for students in grades 6-9 is higher than in students in grades 10-12, $p < 0.05$. From these results it can be concluded that younger students (grades 6-9) have more appropriate behaviors than older students (grades 10-12).

In a study conducted by Walker, Ramsey, and Gresham (2004), they noted that as students get older, their deviant behavior in the classroom increases.

Conclusions Regarding the Fourth Hypothesis

Family structure and family functionality have a major impact on the right education and behavior of students. From the empirical results, it was found that the average score of students living with both parents is higher than that of students living with one of the parents, and of these, the lowest average is the number of students living with the mother, $p < 0.05$. From these results it was found that there is a correlation between family structure and student behavior in the classroom.

Testing has been done to link parental employment and schooling. The results showed that there was no statistically significant relationship between these factors and the behavior of students in the classroom.

References

Banham Bridges, K. M. (1927). Factors contributing to juvenile delinquency. *Journal of the American Institute of Criminal Law and Criminology, 17*(4), 531.

Blake, J., & Davis, K. (1964). Norms, values and sanctions. In Robert E. L. Faris (ed.), *Handbook of modern sociology*. Chicago: Rand McNalley & Co.

Borg, M. G., & Falson, J. M. (1989). Primary school teachers' perceptions of pupils' undesirable behaviours. *Educational Studies, 15*(3), 251-260.

Clinard, M., & Meier, R. (2007). *Sociology of deviant behavior* (13th ed.). Belmont CA.: Wadsworth Cengage Learning.

Çollaku, H. (2015). Efikasiteti I Procedurës Penale Për të Mitur dhe Ruajtja e Dinjitetit të të Miturit. Retrieved from https://dokumen.tips/documents/efikasiteti-i-procedures-penale-per-te-mitur-dhe-ruajtje-e-dinjitetit-te.html?page=1

Douglas, J. D., & Waksler, F. C. (1982). *The sociology of deviance*. Boston: Little, Brown and Company.

Durkheim, E. (1982). *The rules of sociological method and selected: And selected texts on sociology and its method.* S. Lukes (ed.). New York: The Free Press.

Erikson, K. T. (1966). *Wayward Puritans: A study in the sociology of deviance*. New York: Wiley.

Fraboni. F., & Minerva, F. P. (2003). *Manual i përgjithshëm i pedagogjisë së përgjithshme.* Tiranë: ISP.

Homans, G. C. (1961). *Social behavior: Its elementary forms.* New York: Harcourt, Brace and World. Retrieved from https://www.ncjrs.gov/pdffiles1/Digitization/47664NCJRS.pdf h.

Jensen, G. (2011). Deviance and social control. In C. D. Bryant (Ed.), *The Routledge handbook of deviant behavior* (pp. 11-16). London: Routledge.

Nushi, P. (2002). *Psikologjia, "Libri shkollor".* Prishtinë

Pango, Y. (2003). *Rreth agresivitetit e kriminalitetit në moshat e vogla e në adoleshencë. "Revista Pedagogjike"* (nr. 1). Tiranë: ISP.

Pfuhl, E. H., and Henry, S. (1993). *The deviance process* (3rd ed.). New York, NY: Walter de Gruyter.

Sumner, W. G. (1907). *Folkways: A study of the sociological importance of usages, manners, customs, mores, and morals.* Boston: Ginn & Co.

Sylaj, V. (2014). *Besimi i familjes në shkollë-faktor me rëndësi në bashkëpunimin për parandalimin e dhunës ndërmjet nxënësve. "Kërkime Pedagogjike"*. Prishtinë: IPK.

Walker, H., Ramsey, E., & Gresham, F. (2004). Heading off disruptive behavior: How early intervention can reduce defiant behavior-and win back teaching time. *American Educator, 26*(4), 6-45. http://www.aft.org/newspubs/periodicals/ae/winter0304/walker.cfm

Woolfolk, A. (2011). *Psikologji edukimi (botimi i njëmbëdhjetë).* Tiranë: CDE.

Management Studies
Volume 11, Number 6, Nov.-Dec. 2023
David Publishing Company
3 Germay Dr., Unit 4 #4651, Wilmington DE 19804, USA
Tel: 1-323-984-7526, 323-410-1082; Fax: 1-323-984-7374, 323-908-0457
http://www.davidpublisher.com, www.davidpublisher.org
management@davidpublishing.org, management.studies@hotmail.com

ISSN 2328-2185
12
9 772328 218238